

Building Skills for the

TOEFL® iBT

LISTENING

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The TOEFL® iBT Listening Section

In the listening section of the TOEFL® iBT, you will hear a variety of conversations and lectures, each of which lasts from three to six minutes. A total of six listening passages will be presented. After each passage, you will then be asked to answer five to six questions about what you heard. Like the reading section of the TOEFL® test, the questions are designed to assess your understanding of the main idea and factual information and to assess your ability to infer. You will not be asked questions regarding vocabulary or sentence structure.

● Passage Types

1. Conversation—Two people discussing a campus-related problem, issue, or process
2. Lectures—A professor presenting information related to an academic topic
3. Classroom interaction—Similar to a lecture, but with some interaction between the professor and one or more students

● Question Types

Questions for the listening section of the TOEFL® typically appear in the following order:

Question	Type	Description
1	Main Idea	Choose the best phrase or sentence.
2-3	Factual Information / Detail / Content	Choose the statement that is true according to what was said. Select multiple answers to complete a chart.
4	Purpose / Inference / Organization	Recognize the speaker's purpose, draw an inference, or explain how the speaker communicated certain information.
5-6	Repeated Listening	Hear a particular portion of the listening passage again and recognize the speaker's purpose, attitude, or the implied meaning of a statement.

Study Tips for Listening

- Practice listening to North American English as much as possible. For the purposes of the TOEFL®, educational programs, documentaries, and news programs are excellent sources.
- When you are practicing for the listening section of the TOEFL®, listen to the material only once and then answer the questions. Then review the answers while listening a second or third time. Remember, though, during the real test you are only permitted to hear the conversation or lecture once before answering the questions.
- Pay attention to how pauses and intonation are used to organize the passage, emphasize important information, and show transitions.
- Make a recording of the programs you use to practice listening: Replay any sections you have difficulty understanding.
- Keep in mind such things as the main idea, the development and support of the main idea, and the speaker's reasons for mentioning certain points.
- Develop your note-taking skills. While you are listening, try to write down key words in an organized, graphic way that makes sense to you.
- Create a list of vocabulary words related to university campus life as well as various academic subjects.

Test Management

- A picture will be shown on the screen to allow test takers to recognize each speaker's role and the context of the conversation. Along with this picture, a subject title will be given for each lecture.
- Before you begin the listening section, listen to the headset directions. Pay particular attention to how you change the volume. It is very important that you are able to hear clearly during the listening section of the test.
- If you miss something that is said in a conversation or lecture, do not panic. Simply keep listening. Even native speakers do not hear everything that is said.
- Note-taking during the lecture is permitted. Paper will be provided by the test supervisor. These notes can be studied while answering the questions, and will not be seen by test graders.
- Like the reading section, questions cannot be viewed until after the lecture or conversation has been completed.
- In the listening section, you must answer each question before moving on; you cannot return to a question later. If you are unsure of an answer, guess.

Preview Test

Track 68

Directions

You will listen to two lectures and one conversation. You will hear each lecture and conversation one time.

After each listening passage, you will answer some questions about it. Most questions are worth one point, but some questions are worth more than one point. The directions indicate how many points you may receive.

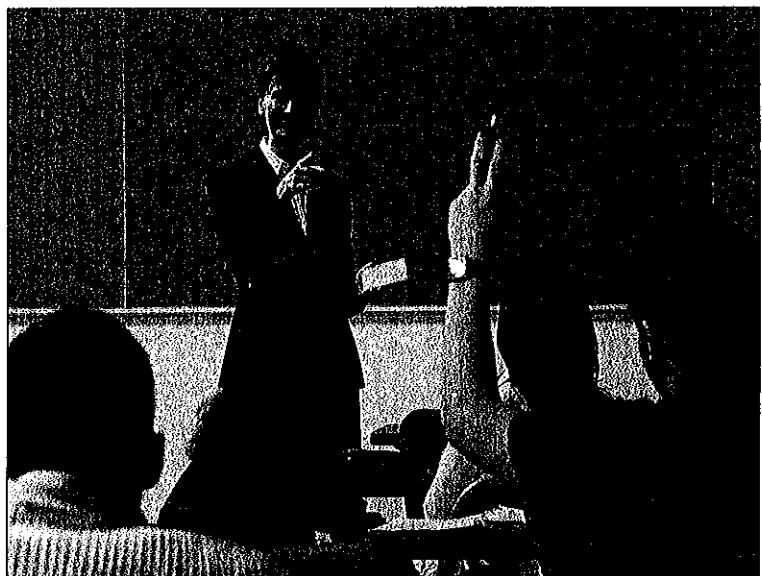
You will have 15 to 20 minutes to both listen and answer the questions. The questions ask about the main idea and supporting details. Some questions ask about a speaker's purpose or attitude.

You may take notes while you listen. You may use your notes to help you answer the questions. Your notes will not be scored.

In some questions, you will see this icon: . This means you will hear part of the lecture or conversation again.

When you are ready, press **Continue**.

Listen to a lecture in a science class.



1. What is the main topic of the talk?
 - (A) How tundra plants are pollinated
 - (B) Ways that tundra wildlife stay warm
 - (C) Types of flowering plants in the Arctic
 - (D) How plants survive in cold environments

2. Listen to part of the lecture again. Then answer the question. 

Why does the professor say this? 

 - (A) To set a scene
 - (B) To introduce a solution
 - (C) To explain a concept
 - (D) To give an example

3. What can be inferred about the Arctic tundra from the passage?
 - (A) Too much snowfall kills tundra plants.
 - (B) Temperatures there never reach above freezing.
 - (C) Trees are not often found on the tundra.
 - (D) Most tundra wildlife has fur to keep warm.

4. According to the lecture, how does snow help tundra plants to survive?
 - (A) It warms the plants underneath.
 - (B) It keeps the plants moist.
 - (C) It protects the plants from the cold.
 - (D) It hides the plants from foraging animals.

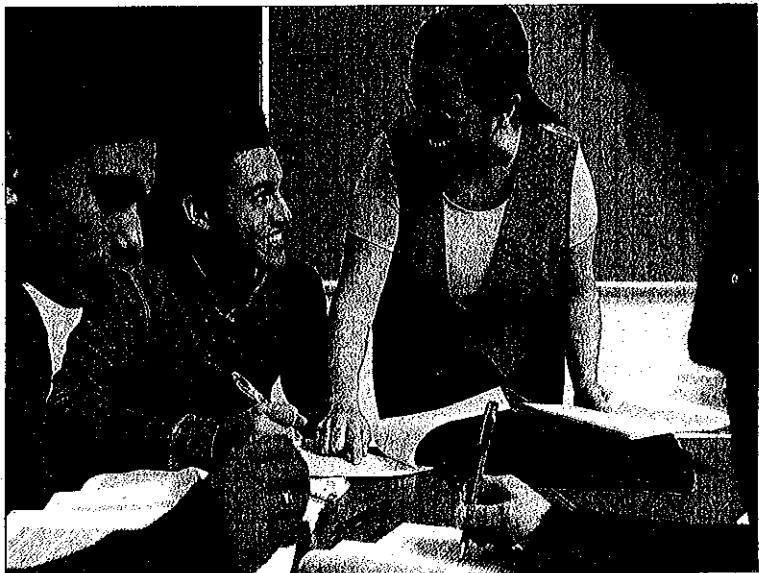
5. Why does the professor talk about crowds of people?
 - (A) To get her students involved in the lecture
 - (B) To familiarize her students with an idea
 - (C) To switch to a new topic of discussion
 - (D) To express to her students a well-known fact

6. Match the characteristics of each plant.

For each characteristic, place a check mark in the correct plant column.

	Labrador Tea	Saxifrage	Marsh Marigold
Has hairy leaves			
Grows in clumps			
Flowers follow the sun			
Grows close to ground			

3 Listen to a discussion in a geography class. Track 69



1. What is the discussion mainly about?
(A) The similarities between the Himalayas and Appalachians
(B) The definition and process of continental collision
(C) A description of the process that formed the Himalayas
(D) An explanation of how volcanic mountains are formed
2. What is the process of orogeny?
(A) How volcanic action forms mountains
(B) How young mountains start to form
(C) Why mountains get smaller over time
(D) When plates collide to form mountains
3. Listen to part of the discussion again. Then answer the question. 
Why does the professor say this? 
(A) To introduce a contrasting point
(B) To see if the students are paying attention
(C) To try and remember what she was saying
(D) To ask the students about her location
4. Why does the professor talk about the Appalachian mountains?
(A) To compare their formation to that of the Himalayas
(B) To explain why younger mountains are often taller
(C) To describe the complex process of orogeny
(D) To suggest that they are older than they appear
5. What can be inferred about old mountain ranges?
(A) They were once much taller.
(B) They have more folds than the Himalayas.
(C) They were produced by orogeny.
(D) They have not experienced erosion.
6. Why are the Himalayas folded?
(A) They experience much volcanic action.
(B) India and Asia continue to collide.
(C) The mountains are younger than most.
(D) They have not undergone erosion.

Listen to a conversation between a student and a counselor. Track 70



1. Why does the woman visit the counselor?
- (A) To conduct a mock interview
 - (B) To receive advice on job possibilities
 - (C) To get information on graduation
 - (D) To create a list of companies
2. What is one quality the woman is looking for in a career?
- (A) A full-time job
 - (B) A teaching position
 - (C) A career in fine arts
 - (D) A chance to advance
3. What can be inferred about the woman?
- (A) She won't apply for a job at the Youth Center.
 - (B) She has been having trouble locating a good job.
 - (C) She is excited about her upcoming career opportunities.
 - (D) She doesn't have enough money to go to graduate school.
4. Listen to part of the conversation again. Then answer the question. 
- Why does the counselor say this? 
- (A) He's hinting at the right answer.
 - (B) He's reminded of a previous question.
 - (C) He's telling the student that she's correct.
 - (D) He's answering the student's question.
5. Which of the following does the counselor suggest the woman do?
- For each action, place a check mark in the YES or NO column.

	YES	NO
Look up companies in the phone book		
Make and sell her own artwork		
Apply to teach art to kids		
Schedule a mock interview		

Chapter 1

Main Idea Questions

Necessary Skills

- Understanding the overall topic or basic idea of a lecture or conversation
- Understanding the speaker's general purpose in giving a lecture or having a conversation
- Inferring the speaker's purpose or main idea when it is not directly stated

Example Questions

- What is the main topic of the lecture?
- What is the main topic of the conversation?
- What are the speakers mainly discussing?
- What aspect of _____ does the professor mainly discuss?
- What aspect of the problem does the _____ help with?
- What features of each type of _____ does the professor focus on?
- What is the woman's main concern about _____?
- What concerns does the student have about _____?
- Why did the professor mention _____?
- What is the student's motivation for _____?

Strategies

- Pay attention to expressions that indicate the topic:
 - Today's talk is on . . .
 - Today we're going to talk about . . .
 - Now we are going to discuss . . .
- In a conversation, listen for cues that will indicate a speaker's main purpose.
 - How can I help?
 - What do you need?
 - Can you help me with . . .
- Listen for key words that are emphasized or repeated.
- Keep in mind that two or more major ideas together may define the overall topic.

01 Music

Listen to a lecture in a music class, and fill in the diagram with the information that you hear.

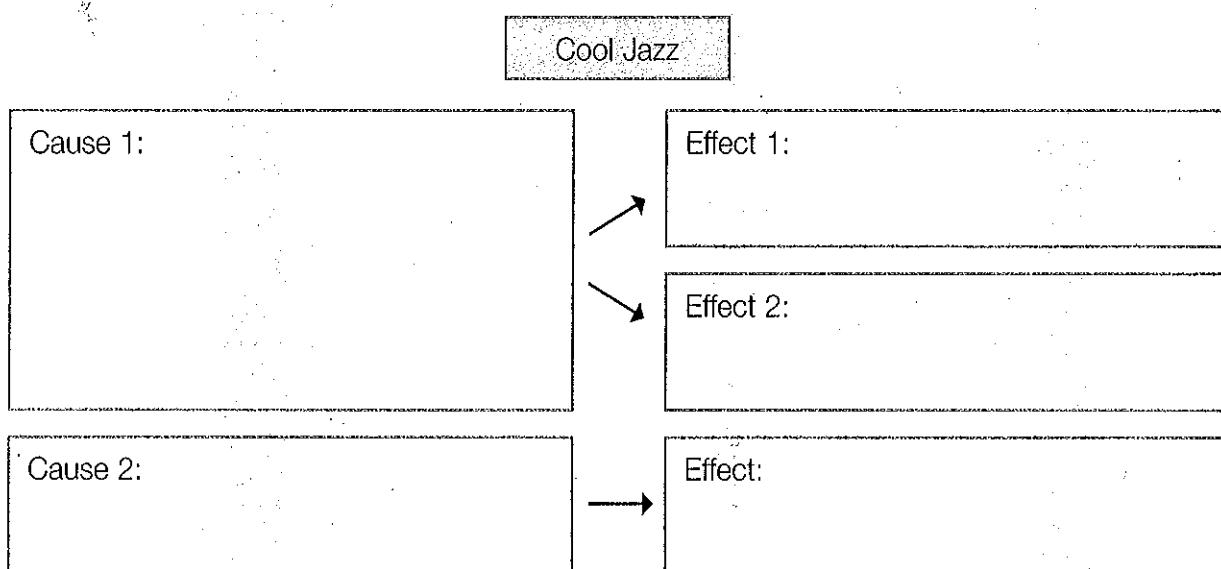
Track 71

Key Vocabulary

icon: an object or person that has an uncritical following
orchestrate: to write and arrange music for an orchestra
tuba: a large, metal, wind instrument that is shaped like a tube with a wide open end

recognition: specific notice or attention

recording: a copy of music onto a CD, tape, record, etc.



1. What is the main topic of the lecture?

- (A) The effects of cool jazz
- (B) The origins of a type of music
- (C) A form of musical theory
- (D) A comparison of two band leaders

2. What is the main idea of the lecture?

- (A) How cool jazz changed jazz music
- (B) A jazz musician and his influences
- (C) Why cool jazz had a slow tempo
- (D) The type of instruments cool jazz used

Fill in the blanks to complete the summary.

The professor is talking about cool jazz from the 1940s and '50s. This jazz had more classical European influences than earlier forms of jazz. This meant that jazz musicians could also use instruments like flutes and _____. The music sounded lighter and softer and jazz bands became bigger. Bands grew to be mid-sized _____ groups and also gave individuals more focus. The first true cool jazz _____ was Miles Davis. He made a famous _____ that brought him much _____ as a musical artist.

Listen to a lecture in a geology class, and fill in the diagram with the information that you hear. **Track 72**

Key Vocabulary

carbon: a nonmetal element that can exist as diamonds, coal, or organic compounds

crystallize: to cause the formation of crystals

erupt: to burst out suddenly and violently

magma: hot, liquid rock that is contained within the Earth

weather: to expose something to the open air so that it breaks down

How Diamonds are Formed

Step 1:

Step 2:

Step 3:

Step 4:

1. What is this lecture mainly about?
- (A) A natural process that results in a transformation
 - (B) How to classify different types of diamonds
 - (C) A comparison of how coal and diamonds are formed
 - (D) The geological process that results in volcanoes

2. What aspect of diamonds does the professor discuss?
- (A) How they are cut
 - (B) Where to find them
 - (C) How they are created
 - (D) Why they are valuable

Fill in the blanks to complete the summary.

The professor explains how diamonds are formed from lumps of coal. Coal is made from _____ molecules that change due to heat and pressure. The coal lumps are found about 160 kilometers inside the Earth. The temperature here is about 2200 degrees Fahrenheit. These conditions change the molecules of coal which _____ to form a diamond. When volcanoes _____, molten rock, or _____, containing diamonds is pushed upwards. The rock then hardens and _____ away over time to reveal the diamonds.

03 Office Visit

Listen to a conversation between a student and a professor, and fill in the diagram with information that you hear. **Track 73**

Key Vocabulary

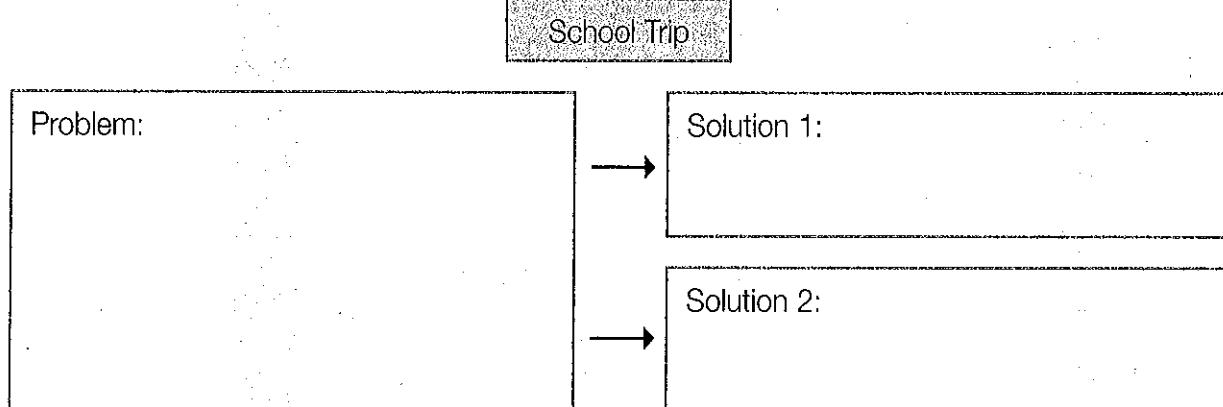
apply: to make a request especially in the form of a written application

appreciate: to be thankful for

GPA: grade point average; the grade points a student earns divided by the number of credits

recommendation: a praise or commendation of one as being worthy or desirable

scholarship: a fund of money awarded to a student for school



1. Why does the student go to the professor?
 - (A) To pick up an application form
 - (B) To talk about her class grade
 - (C) To discuss an upcoming trip
 - (D) To ask for a recommendation
2. What are the speakers mainly discussing in the passage?
 - (A) If the student is eligible to study abroad
 - (B) How to apply for scholarships
 - (C) Information on funding opportunities
 - (D) How to collect information about a scholarship

Fill in the blanks to complete the summary.

A student speaks to her professor about going on a summer trip to study the Great Barrier Reef. Kim is in college, and this trip is organized by her school. She can't afford it, so the professor tells her to _____ for a _____ that is awarded to ten students per semester. She needs a _____ of 3.0 to get it, and her's is _____. The professor agrees to write her a _____, and Kim says she _____ his help.

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(E)
(C)
(D)

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04

Service Encounter

Listen to a conversation between a student and a librarian, and fill in the diagram with information that you hear. **Track 74**

Key Vocabulary

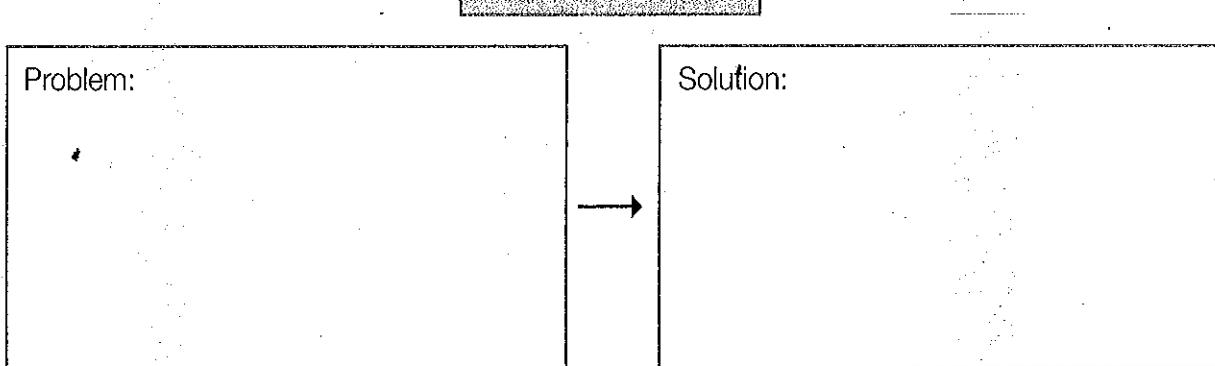
biography: the written history of a person's life

call number: a number used by libraries to classify a book and indicate its location on the shelves

catalogue: a complete set of items that has been arranged by a system of numbers

database: a large collection of information organized for quick use on a computer

document: an important piece of paper that contains written information



1. Why does the student talk to the librarian?
 - (A) To ask about a poet
 - (B) To get help finding a book
 - (C) To learn about the electronic reserve
 - (D) To ask about the library's resources

2. What are the speakers mainly discussing in this passage?
 - (A) How to use call numbers to find catalogued books
 - (B) The library's new database of electronic reserves
 - (C) Where to find a biographical source on James Wright
 - (D) How to print electronic reserves in the library

Fill in the blanks to complete the summary.

A student is searching the library for a _____ of poet James Wright. He asks the librarian for help so she asks him for the book's _____. She uses this number to search the library _____ for the book. The librarian cannot find it there but realizes it may have been scanned as a _____. By checking the computer _____, she finds it. Now the student can print it out to complete his paper on time.

05

History

Listen to a discussion in a history class, and fill in the diagram with the information that you hear. **Track 75**

Key Vocabulary

convinced: sure of something

disprove: to prove that something is wrong

evidence: something that can be used as proof of something else

predate: to happen at an earlier time than something else

outsider: someone who is not part of a core group of individuals

Who Discovered America?

Theory 1:

Support 1:

Theory 2:

Support 2:

1. What is this discussion about?
 - (A) The Polynesian effect on the Americas
 - (B) What caused Columbus to discover America
 - (C) Evidence that supports a new theory
 - (D) A comparison of two theories of discovery
2. What is the main idea of this passage?
 - (A) Columbus brought Polynesian chickens to America.
 - (B) Polynesians came to the Americas before Columbus.
 - (C) DNA is now used to solve mysteries of discovery.
 - (D) A chicken bone has been discovered in Polynesia.

Fill in the blanks to complete the summary.

A history professor is talking about Christopher Columbus. He believes Columbus was not the first _____ in the Americas. He says new _____ has shown that Polynesians came there before 1492. Scientists know this from a chicken bone found in Chile. The bone was from a chicken from the Polynesian Islands. One of the students is not _____ that the bone _____ Columbus was there first. The professor explains that the bone _____ Columbus's arrival by more than one hundred years.

06 Biology

Listen to a lecture in a biology class, and fill in the diagram with the information that you hear. **Track 76**

Key Vocabulary

genetic: relating to, caused by, created by, or affected by genes

immune: having a high level of resistance against something harmful

inherit: to obtain a trait genetically from one's parents

parasite: an organism that needs to live in, on, or with another

animal or person in order to survive

trait: an inherited characteristic

Sickle-Cell Trait

Cause:

Effect 1:

Effect 2:

1. What is this lecture about?
 - (A) A new theory that refutes an old theory
 - (B) The positive and negative effects of a trait
 - (C) A comparison of two deadly parasites
 - (D) The classification of the sickle-cell trait
2. What is the main idea of the passage?
 - (A) Dangerous diseases found in Africa
 - (B) A means of protection against malaria
 - (C) The harmful effects of sickle-cell disease
 - (D) How to inherit the sickle-cell trait

Fill in the blanks to complete the summary.

The biology professor is discussing sickle-cell disease. This disease is _____, which means you _____ it from your parents. If you get it from both your parents, you will get sick and die. If you get the sickle-cell _____ from only one parent, you will live. You will also be _____ to malaria, another dangerous disease. Malaria is a _____ disease carried by mosquitoes.

07 Office Visit

Listen to a conversation between a student and a professor, and fill in the diagram with the information that you hear. **Track 77**

Key Vocabulary

assistant: someone whose job is to help out another individual

culture: the behaviors and beliefs characteristic of a particular social, ethnic, or age group

fascinate: to interest

tribal: relating to a social group of people consisting of several families or clans

warrior: someone from a group who participates in fighting against another group

Retaking a Class

Problem:

Solution:



1. Why does the student talk to the professor?

- (A) To ask about becoming a teacher's assistant
- (B) To discuss a course she needs for graduation
- (C) To change the focus of her college major
- (D) To ask if she can retake his class

2. What is the student's problem?

- (A) She didn't receive credit for her class.
- (B) The course won't count for credit.
- (C) The professor already has an assistant.
- (D) She's not allowed to take the class.

Fill in the blanks to complete the summary.

Brenda is talking to Professor Brown about his _____ course. She is _____ by it and wants to repeat the class. Professor Brown tells Brenda about his course for the next semester. It will focus on a tribe of African _____ called the Masai. He also tells her she will not get any credits for taking his class a second time. He suggests that she become his teacher's _____. Then she will get a credit for repeating his class.

List
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(B)
(C)
(D)

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08

Service Encounter

Listen to a conversation between a student and a university employee, and fill in the diagram with the information that you hear. **Track 78**

Key Vocabulary

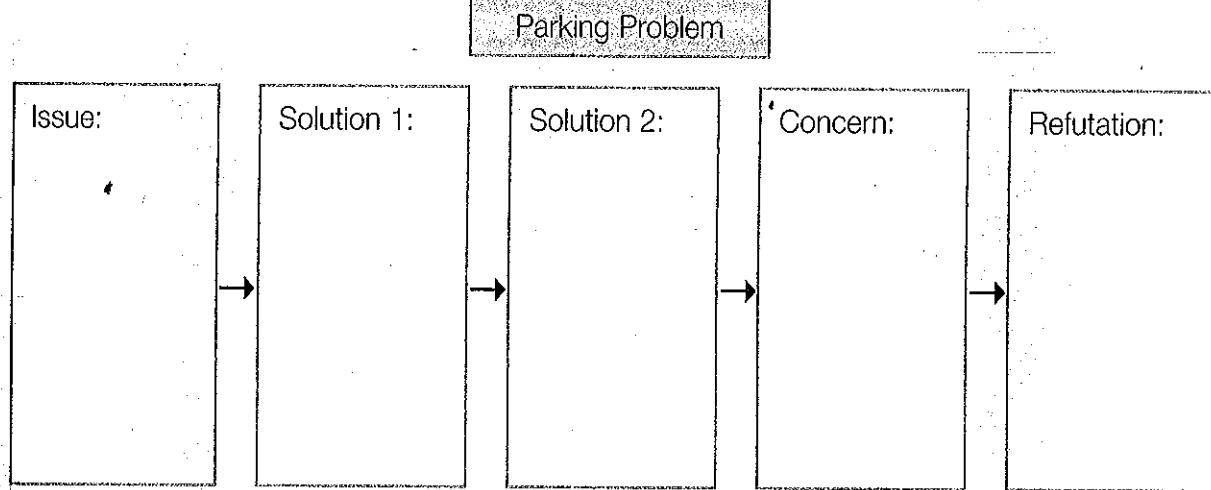
increment: a specified amount of something being gained

parking meter: a device that allows someone to pay for temporary parking

permit: a written license that allows someone to do something

structure: a building

tow: the act of pulling something away, like a truck taking away a car



1. Why does the student go to the Department of Transportation?
 - (A) To complain about parking
 - (B) To buy a permit for her car
 - (C) To find out where to park
 - (D) To ask about the parking structure
2. What is the student's major concern?
 - (A) Inconvenient parking spots
 - (B) A costly ticket fee
 - (C) A damaged car
 - (D) The costs of parking

Fill in the blanks to complete the summary.

A student wants to buy a parking _____ for one semester. The student does not want to pay for the whole year because she is going to graduate soon. The man explains that the university doesn't sell semester _____ and tells her to try the _____. The student says she won't have time to fill the meter. She is scared her car will be _____ or ticketed. The man says she could park at the visitor's parking _____.

09 History

Listen to a discussion in a history class, and fill in the diagram with the information that you hear. **Track 79**

Key Vocabulary

analyze: to observe and study

sediment: dirt and other material that settles at the bottom of water

core: the central or innermost part

segment: a small part of a whole

drought: a long period of time when there's no rain

Mayan's Disappearance

Theory:

Support:



1. What is the main topic of the discussion?

- (A) The economics of an ancient society
- (B) The effects of a natural disaster
- (C) A new theory on the Mayans
- (D) An archeological experiment

2. What is the main idea of the discussion?

- (A) A series of droughts destroyed the Mayans.
- (B) Spanish invaders conquered the civilization.
- (C) Corn was a major source of Mayan income.
- (D) New methods have improved archeology.

Fill in the blanks to complete the summary.

The professor explains to his history class that _____ destroyed the Mayan people. They needed water to produce corn. Without water, their major food source did not survive and so their civilization perished. Scientists have made some amazing discoveries to prove this. They _____ parts of _____ of the ocean floor near Venezuela. The _____ of the ocean floor are made of layers of light and dark _____. The layers show how little rain fell there hundreds of years ago.

10 Zoology

Listen to a discussion in a zoology class, and fill in the diagram with the information that you hear.

Track 80

Key Vocabulary

defend: to avoid or drive away a dangerous attack

dialect: regional versions and varieties of a language

distinguish: to tell one thing apart from another

oval: an elongated circle

sophisticated: complicated and well developed

The Complex Language of Prairie Dogs

Theory 1:

Support 1:

Theory 2:

Support:



1. What is the discussion mainly about?
 - (A) The complex language of prairie dogs
 - (B) Experiments involving desert reptiles
 - (C) Different languages found in nature
 - (D) Prairie dogs' main source of food
2. Why is the professor discussing prairie dogs?
 - (A) To explain a new theory
 - (B) To show the effects of communication
 - (C) To contrast two major assumptions
 - (D) To show the pros and cons of language

Fill in the blanks to complete the summary.

The professor says prairie dogs may have the most _____ language in the animal world. Scientists recorded their barks and yips and analyzed them. They found that these dogs use nouns, verbs, and adjectives and _____ between colors. Their language is not universal, and they use different _____ in different areas. The dogs also make up new words. During a test, they made up a word for an _____ shape. They use their language to _____ themselves.



Chapter 2

Detail Questions

Necessary Skills

- Taking note of major points and important details of a lecture or conversation
- Listening for signal expressions that identify details, such as the following: *for example, the reason is, on the other hand, I would say*
- Eliminating incorrect answer choices
- Identifying a statement that is not mentioned

Example Questions

- According to the lecture, what is _____?
- According to the lecture, which of the following is true?
- What does the speaker say about _____?
- What connection does the speaker make between _____ and _____?
- What does the professor suggest the student do?
- Which of the following is true of _____?
- What advice does the professor give to the student about _____?
- According to the discussion, how did _____?
- According to the speaker, why do _____?
- According to the conversation, why must the student _____?
- According to the speaker, who were _____?
- According to the lecture, what kinds of _____? Choose 2 answers.

Strategies

- Since answers to questions are generally found in order in the passage, it is helpful to take notes in the order of what you hear.
- Detail questions do not require inference. Choose what speakers actually say.
- In a lecture, detail questions are about information related to the following: new facts, descriptions, definitions of terms/concepts/ideas, reasons, results, and examples.
- Incorrect choices may repeat some of the speakers' words but do not reflect correct information from the lecture or conversation.

01

Astronomy

Listen to a lecture in an astronomy class, and fill in the diagram with the information that you hear.

Track 81

Key Vocabulary

atmosphere: a cover of cloud, made by gases, that surrounds a planet

greenhouse gas: gas in the Earth's atmosphere which reduces the loss of heat into space.

distance: the amount of space between two objects

surface: the exterior of an object

evaporate: to change from a liquid or solid state into a gas

Why Venus is Hotter than Mercury

Cause:

Effect 1:



Effect 2:

- What is one characteristic of the planet Mercury?
 - It is filled with greenhouse gases.
 - It has extreme temperatures of hot and cold.
 - It is the hottest planet in the solar system.
 - It has an atmosphere of carbon dioxide.
- What does the thick cloud of sulfur dioxide around Venus do?
 - It keeps heat from escaping.
 - It reflects lots of sunlight.
- Why is Venus so hot?
 - It has lots of volcanic activity on its surface.
 - It has no vegetation to regulate temperature.
 - It contains a large amount of greenhouse gases.
 - Its atmosphere keeps sunlight from escaping.

Fill in the blanks to complete the summary.

A professor explains to his astronomy class why Venus is hotter than Mercury. Venus is twice the _____ from the sun than Mercury is, yet it is much hotter. This is because Venus has a thick _____ while Mercury has none. The sun's heat is thus trapped on the _____ of the planet by carbon dioxide gas. Venus used to contain water like Earth, but it _____ long ago. This helped create a lot of _____ which trap heat.

02 Botany

Listen to a lecture in a botany class, and fill in the diagram with the information that you hear. **Track 82**

Key Vocabulary

absorb: to soak up

rigid; stiff; inflexible

membrane: a thin layer that helps a cell process energy

skeleton: a structure of bones that gives animals their shape and support

organelle: a part of a cell whose specific function helps the cell survive

Functions of Cell Walls and Chloroplasts

Plant Part 1:



Role 1:

Role 2:

Plant Part 2:



Role 1:

Role 2:

1. What is one function of cell walls?
 - (A) Giving plants their loose structure
 - (B) Making up the plant's skeleton
 - (C) Protecting the plant's cell membrane
 - (D) Keeping out harmful substances

2. According to the lecture, what is one difference between plant cells and animal cells?
 - (A) How they protect themselves

3. What gives a plant its green color?
 - (A) A characteristic of cell walls
 - (B) The food that the cell creates
 - (C) A feature of chloroplasts
 - (D) The sunlight the cell absorbs

Fill in the blanks to complete the summary.

The teacher is discussing the differences between plant and animal cells. Animals have _____ to give their bodies shape and structure. Plant cells have cell walls to provide shape and structure. The cell walls are _____ structures around the cell _____. They give cells support and stop harmful substances from getting in. Plant cells also contain _____ called chloroplasts which _____ sunlight. They use this light along with water and carbon dioxide to make food for the plant.

03 Office Visit

Listen to a conversation between a student and a professor, and fill in the diagram with the information that you hear. **Track 83**

Key Vocabulary

due: owed

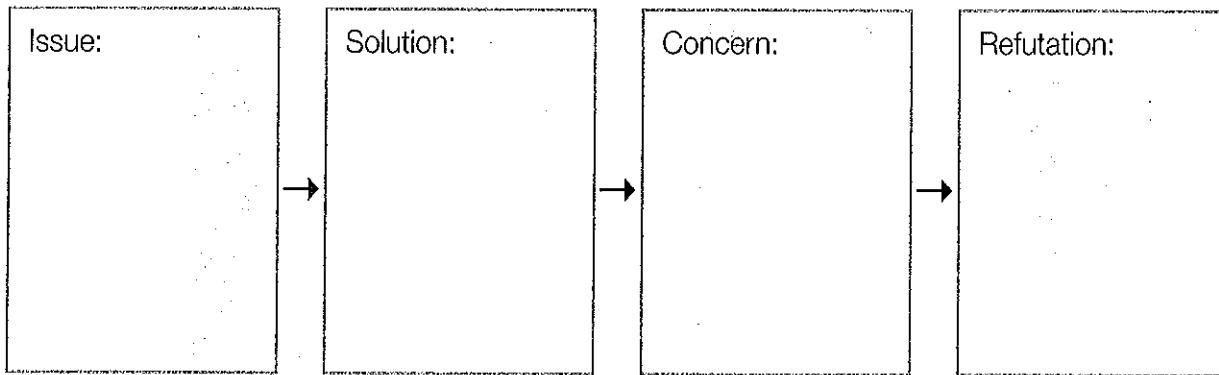
enforce: to carry out with force

neighbor: a person that lives close by

recession: a period of reduced economic activity

skip: to miss out on

Turning in a Late Project



1. Why didn't the student turn in his project?
 - (A) He was at home sick.
 - (B) He ate lunch with friends.
 - (C) He had no Internet access.
 - (D) He had a broken-down car.
2. Why doesn't the professor want to accept the student's project?
 - (A) It's against her policy.
 - (B) It's against school rules.
 - (C) He purposefully skipped class.
 - (D) He turned in late projects before.
3. Why didn't the student contact the professor?
 - (A) He was delayed by a traffic jam.
 - (B) His computer wasn't working.
 - (C) He didn't have access to the Internet.
 - (D) The phone number in the syllabus was wrong.

Fill in the blanks to complete the summary.

A student's essay on the economic _____ is late. The professor is not happy because the student _____ class. The student tells the professor he was sick the day the essay was _____. He says he knows that the professor likes to _____ the rule about late work. He says that he worked really hard and couldn't find a number to call. The professor tells him it's okay but that next time he should email her from a _____ house.

04

Service Encounter

Listen to a conversation between a student and a university employee, and fill in the diagram with the information that you hear. **Track 84**

Key Vocabulary

case: situation

committee: a group of people who make decisions about something in particular

drop: to stop attending

review: to look over

transfer: to move the value of one thing into that of another

Scholarship

Problem:

Solution:



1. What problem does the woman mention?
 - (A) She isn't going to receive a scholarship.
 - (B) She won't earn 15 credits for the semester.
 - (C) She can't drop her algebra class.
 - (D) She isn't able to retake the class.

2. What must the student do to gain permission?
 - (A) Get approval from her algebra professor
 - (B) Fill out the necessary application
 - (C) Write to the scholarship committee
 - (D) Talk to the department head

3. What will the student do if she receives permission?
 - (A) Take on an extra class
 - (B) Retake the Algebra course
 - (C) Take a summer class
 - (D) Transfer to another course

Fill in the blanks to complete the summary.

A student must _____ a class due to a work conflict. If she stops taking the class, she will lose her scholarship. It's also too late in the semester to _____ to another course. The registrar suggests she take a summer course that will give her the credits she needs. To get into this program, she needs to write a letter to the university's scholarship _____ . She must explain her situation, and then they will _____ her and decide.

05 Literature

Listen to a discussion in a literature class, and fill in the diagram with the information that you hear.

Track 85

Key Vocabulary

greed: a desire to possess something that one does not need or deserve

virtue: a good quality or trait

morality: right and wrong conduct

villain: an evil person in the story that goes against the main character

vice: a bad quality or trait

Greek and Roman Plays vs. Morality Plays

Greek and Roman Plays 1:

Both Plays:

Morality Plays 1:

Greek and Roman Plays 2:

Morality Plays 2:

1. What do Greek and Roman plays have that Morality plays do not?
 - (A) Developed characters
 - (B) Moral decisions
 - (C) Main characters
 - (D) Villains
2. What is the Everyman?
 - (A) An actor
 - (B) A generalized character
3. Generally speaking, what does the Everyman face?
 - (A) A flaw within himself
 - (B) An outside vice
 - (C) An invading army
 - (D) A complex villain

Fill in the blanks to complete the summary.

This literature class is studying _____ plays from the Middle Ages. The professor explains that many characters in these plays were simple and not complex. They represented good qualities called _____, or bad qualities called _____. The most evil character represented vices like _____. He was the _____ of the play. He always tried to make the main character, Everyman, follow him. Everyman had to choose between following him and doing the right thing.

06 Geology

Listen to a lecture in a geology class, and fill in the diagram with the information that you hear.

Track 86

Key Vocabulary

chain: a series of closely connected things

lava: hot liquid rock, or magma, that leaves the earth

produce: to make or create

spew: to send or give out

stream: a flow of a liquid

Formation of the Hawaiian Islands

Step 1:



Step 2:



Step 3:



Step 4:

1. What does the professor say about the Hawaiian hotspot?
 - (A) It moves a few centimeters each year.
 - (B) It is created by the eruption of lava.
 - (C) It continually forms new islands.
 - (D) It takes hundreds of years to form islands.
2. What role does a plate play in the formation of the Hawaiian Islands?
 - (A) It creates the hotspot.
 - (B) It moves the islands.
3. What does the professor mention about the Midway Islands?
 - (A) They are currently active volcanoes.
 - (B) They are part of the Hawaiian Island chain.
 - (C) They were formed by the Hawaiian hotspot.
 - (D) They slowly moved with the hotspot.

Fill in the blanks to complete the summary.

The professor mentions that there is a volcanic hotspot located under the Hawaiian _____ of islands. This hotspot formed these islands. How this works is that a _____ of hot _____ erupts onto the ocean floor. The lava cools and hardens, forming a volcano. This lava keeps _____ out until the volcano builds up to such a size then an island is _____. When this island moves, more lava produces more islands in the gap. Then an island chain is formed.

Listen to a conversation between a student and a professor, and fill in the diagram with the information that you hear. **Track 87**

Key Vocabulary

conflict: a problem or opposition

final: the last test of an academic course

mandatory: being something that is required

recital: a public performance given by students of music or dance

reschedule: to set up a new time for a previously scheduled event

Rescheduling

Problem:

Solution:



1. Why can't the student miss the recital?
 - (A) He's receiving a special honor.
 - (B) It counts as his dance final.
 - (C) It's required for his major.
 - (D) He can't let his partner down.

2. What does his professor say to the student?
 - (A) He can make up the English final.
 - (B) His English grade is more important.
 - (C) He should talk to the department head.
 - (D) He can take the final later in the week.

3. What will the student need to provide as proof?
 - (A) A written document
 - (B) A schedule of his recital
 - (C) A phone call from the dance professor
 - (D) A note from the English professor

Fill in the blanks to complete the summary.

Steven is a dance major who wants to _____ his English _____. This is because he has a _____ dance _____. There is a scheduling _____ between the two exams. His professor tells him he will have to talk to the head of the English department. He must prove that the dance exam conflicts with the English one by getting notes from his dance teachers.

08 Service Encounter

Listen to a conversation between a student and a university employee, and fill in the diagram with the information that you hear. **Track 88**

Key Vocabulary

capacity: the maximum amount that can be contained by something

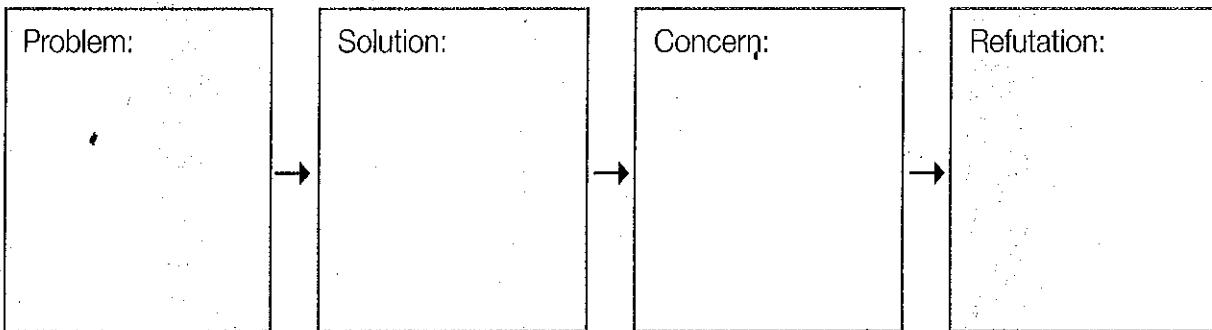
register: to sign up for something, like classes

credit: to add an amount to an account

student ID: a school-distributed identification card

disenroll: to be removed from classes in school

Disenrollment



- Why was the student disenrolled?
 (A) He didn't pay for a class on time.
 (B) He accidentally dropped all his classes.
 (C) The student had dropped his Yoga class.
 (D) A class was filled to capacity.
- Why does the cashier need the student's ID?
 (A) To re-enroll the student
 (B) To credit his account
 (C) To find his information
 (D) To pay a late fee
- What does the cashier recommend that the student do?
 (A) Sign up for classes again
 (B) Pay the overdue Yoga fee
 (C) Ask his professor for help
 (D) Credit the class to his account

Fill in the blanks to complete the summary.

A student has been _____ from his classes. The cashier uses his _____ to check what the reason is. She tells him this has happened because he owes \$75 for a yoga class which he forgot to pay. He will also have to _____ again for all his classes. He has been _____ for what he's paid so he won't have to pay again. To keep his class that's filled to _____, he must explain the situation to his professor.

09 Botany

Listen to a discussion in a botany class, and fill in the diagram with the information that you hear. **Track 89**

Key Vocabulary

agonizing: very painful

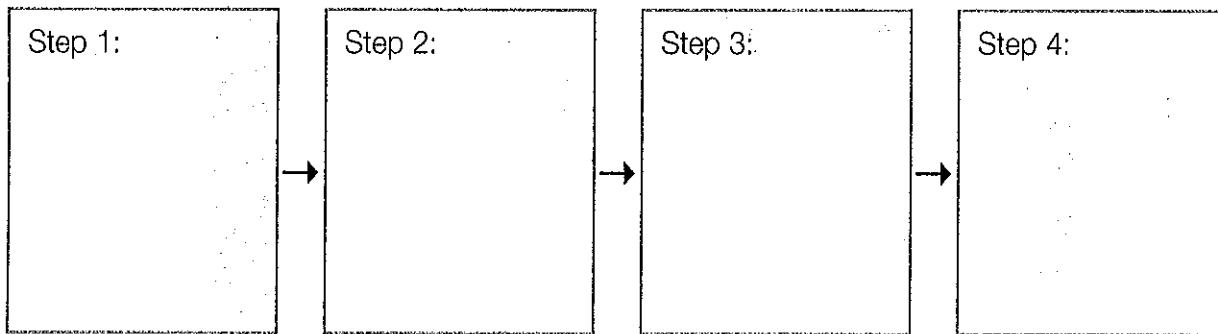
canopy: the uppermost part of a forest; the top of the trees

merge: to connect

encase: to close around something like a case

rot: to decay

How a Strangler Vine Kills a Tree



- How does the strangler vine seed start growing?
 - An animal drops it on the ground.
 - It grows downward from the tree's canopy.
 - It grows out of the fruit from a fig tree.
 - It begins to grow at the base of a tree.
 - What happens to the vine after the tree dies?
 - It starts to die along with the tree.
 - It attaches itself to a new tree host.
 - How does the vine kill the tree?
 - It blocks the tree's roots from getting water.
 - It squeezes the tree's roots until it dies.
 - It blocks the tree's branches from sunlight.
 - It eats away at the tree for over a century.

Fill in the blanks to complete the summary.

The professor is talking about the strangler vine. Plants killed by this vine experience an _____ death. The vine's seeds grow on top of the leaf _____ in South American rainforests. They then begin to grow downwards. Once they are rooted in the ground, they _____. They get thicker and flatten out so that they can _____ trees completely. The trees die from being squeezed or getting no sunlight. Then they _____ away, leaving the vine in their form.

10 Fine Arts

Listen to a discussion in an art class, and fill in the diagram with the information that you hear.

Track 90

Key Vocabulary

checkered: patterned with alternating dark and white squares

depressing: causing sad feelings or gloom

mourn: to grieve over the loss of someone

optimistic: hopeful or positive

pigment: color

Picasso's Rose Period

Definition:



Characteristic 1:



Characteristic 2:

1. What event inspired Picasso's Rose Period?
 - (A) His affection for a woman
 - (B) His success as an artist
 - (C) His job as a circus performer
 - (D) His recovery from a friend's death
2. What is a harlequin?
 - (A) A checkered pattern worn by circus performers
 - (B) An artist who lives outside of normal society
3. How did Picasso become commercially successful?
 - (A) People loved his Blue Period paintings.
 - (B) He was able to sell his work at the circus.
 - (C) He painted more mainstream art in the Rose Period.
 - (D) A former circus performer displayed his art.

Fill in the blanks to complete the summary.

The professor is discussing the work of Pablo Picasso. Students have learned that during his "blue" period, Picasso painted using dark, _____ colors. This was because he was _____ the death of a close friend who died in 1901. When Picasso fell in love around 1904, he became more _____. In his "rose" period, he used happy pink _____ and joyful oranges. He started painting circus performers in their _____ patterned clothing. These happy paintings sold well.

Vocabulary Review 1

Instructions: Choose the best word or phrase to complete each sentence.

1. Jim knew that he would need a _____ from his boss to apply for a new job.
(A) recording
(B) increment
(C) recommendation
(D) database
2. William Shakespeare _____ some of the greatest plays in the world.
(A) applied
(B) produced
(C) disproved
(D) mourned
3. Mahatma Gandhi is an _____ of peace for many people who admire him.
(A) icon
(B) organelle
(C) evidence
(D) outsider
4. A series of _____ may have caused the collapse of the largely agricultural Mayan society.
(A) traits
(B) segments
(C) structures
(D) droughts
5. The man was now _____ to the disease because he had gotten it as a child.
(A) immune
(B) genetic
(C) optimistic
(D) sophisticated

11. The _____ that is underneath the Earth sometimes rises to the surface.

- (A) carbon
- (B) greenhouse gas
- (C) magma
- (D) greed

12. According to my mother, I _____ my eyes from my grandfather.

- (A) enforced
- (B) credited
- (C) registered
- (D) inherited

13. I received a _____ that allowed me to park anywhere on campus.

- (A) call number
- (B) sediment
- (C) permit
- (D) recession

14. **Instructions:** Choose the word or phrase closest in meaning to the underlined part.

15. 9. The Spartan culture consisted mostly of fighters who fought in great battles.

- (A) warriors
- (B) assistants
- (C) committees
- (D) skeletons

10. Attendance was required in Ms. Randall's class.

- (A) due
- (B) depressing
- (C) mandatory
- (D) checkered

11. The outside area of the planet is made up of a thin outer layer of rock.
- membrane
 - pigment
 - surface
 - oval
12. Over time, the marble statue slowly wore away until there was hardly anything left.
- weathered
 - predated
 - crystallized
 - absorbed
13. Jonathon examined the data carefully, but he still couldn't figure out the answer.
- distinguished
 - transferred
 - evaporated
 - analyzed
14. Joseph had to read the whole life story of Albert Einstein for his project.
- scholarship
 - documentary
 - biography
 - recognition
15. Yesterday, my two sisters had a huge disagreement which made both of them cry.
- dialect
 - conflict
 - recital
 - vice

Instructions: Write the missing words. Use the words below to fill in the blanks.

canopy	encase	merge
parasite	defend	

Every day, plants must 16. _____ themselves against different enemies. Yet, sometimes, the worst enemies of plants are other plants. This is true for the trees in Costa Rican rainforests. They often become the victim of the dreaded strangler vine. The strangler vine is a 17. _____ that uses trees in order to grow. First, a seed of the strangler vine is dropped onto the tree's 18. _____. The vine then grows downward. It spreads out across the tree's trunk, forming many smaller vines. Eventually, these vines 19. _____ together until they completely 20. _____ the tree. Finally, the tree itself dies. The strangler vine, on the other hand, continues to live on.

Instructions: Label each pair of words as similar (S) or opposite (O).

- | | | |
|-----------|------------|-----------|
| 21. _____ | fascinate | bore |
| 22. _____ | neighbor | foreigner |
| 23. _____ | agonizing | painless |
| 24. _____ | appreciate | value |
| 25. _____ | case | situation |

Mini Test 1

01 Biology

Listen to a lecture in a biology class. Track 91

Key Vocabulary

ancestor: forefathers and mothers; a family member that came before us

descendant: an offspring; one that comes from an older generation

gene: a part of human DNA that passes characteristics from parent to child

mutation: something that changes form

outbreak: sudden case of disease or violence

plague: a deadly epidemic; a disease that affects many

possess: to have or own

strike: to hit, deliver, or inflict

survive: to live on after something life-threatening has happened

victim: a person who experiences illness or suffering

1. What is the lecture mainly about?
 - (A) How people survived the plague
 - (B) Plague outbreaks throughout the ages
 - (C) The consequences of plague in England
 - (D) The true origin of the plague
2. What directly caused the plague in humans?
 - (A) Rats
 - (B) Bacteria
 - (C) Fleas
 - (D) A virus
3. What is the main topic of the lecture?
 - (A) The impact plague had on Europe
 - (B) The effect of a genetic mutation
 - (C) The process of how people got sick from plague
 - (D) An explanation of why plague is so deadly
4. How do scientists know that some 14th century Europeans possessed delta 32?
 - (A) By interviewing plague survivors
 - (B) By looking through old records
 - (C) By testing their descendants
 - (D) By examining a mutation
5. How did the gene protect some survivors from the plague?
 - (A) By signaling the immune system to destroy it
 - (B) By removing the plague from the body
 - (C) By preventing it from coming into cells
 - (D) By attacking and killing the disease

02 History

Listen to a discussion in a history class. Track 92

Key Vocabulary

alternative: a choice, something one can do instead of something else.

backtrack: to go back or return to an earlier point

bridge: a structure that allows one to cross over something (e.g., a river)

estimate: to judge, ascertain, or calculate

evidence: facts or materials we use to prove something true

ice age: a long period of time when large parts of the Earth were covered with ice

migration: the movement of many animals or people from one place to another

strait: a narrow area of water or ice that connects bigger parts of water

suspect: to mistrust or doubt something

theory: an unproven idea about something

1. What is the lecture mainly about?
 - (A) How the first people came to the Americas
 - (B) What happened during the world's last ice age
 - (C) The first human settlements in America
 - (D) Why humans migrated to North America
2. Why is the Bering Strait land bridge no longer around?
 - (A) It eventually fell apart.
 - (B) It was flooded by water.
 - (C) It collapsed in an earthquake.
 - (D) It was covered with ice.
3. What is the main topic of the lecture?
 - (A) The complete refutation of a theory
 - (B) The process of a great human migration
 - (C) Support for an alternative theory
 - (D) The role of the Bering Strait land bridge
4. According to the professor, how did the first people come to the Americas?
 - (A) Across the Bering Strait land bridge
 - (B) By boat from Europe
 - (C) Across the ice glaciers
 - (D) By boat from Asia
5. What does the professor say about the Bering Strait land bridge?
 - (A) It only existed for a short time.
 - (B) People probably went across it.
 - (C) The earliest Americans crossed it.
 - (D) The theory is entirely inaccurate.

03 Service Encounter

Listen to a conversation between a student and a university employee. Track 93

Key Vocabulary

amendment: correction, change or improvement

application: a formal document requesting something (e.g., a job)

complicate: to make complex or more difficult

deny: to turn down, refuse, or reject

full time: occupied for the full amount of time

income: earnings; money made from working

rent: money paid to hire something (e.g., a room or car)

status: your standing, position, or rank

submit: to offer or put forward

tuition: teaching or instruction

1. Why does the student visit the financial aid advisor?
 - (A) She needs information about financial aid.
 - (B) She hopes to change to a full-time student.
 - (C) She wants to complain about a letter.
 - (D) She wants to submit a new application for financial aid.
2. What is the main idea of the conversation?
 - (A) Why the woman can't get financial aid
 - (B) How to correct the woman's file
 - (C) Alternative ways to apply for aid
 - (D) How to pay for her school fees
3. Why does the student require assistance?
 - (A) So her parents don't have to pay tuition
 - (B) So she doesn't have to work any more
 - (C) So she can get help paying her rent
 - (D) So she can afford to go to school full time
4. Why does the student need to fill out the extra paperwork?
 - (A) To prove her parents don't support her financially
 - (B) To choose which kind of financial aid she wants
 - (C) To show she is now a full-time student
 - (D) To submit a new application for financial aid
5. What does the financial aid advisor say he'll do for the woman?
 - (A) Make an amendment to her file
 - (B) Allow her to reapply for aid
 - (C) Fill out the necessary paperwork
 - (D) Look over her original application

Chapter 3

Function Questions

Necessary Skills

- Understanding what a speaker is trying to achieve through what is said
- Inferring a speaker's reason for saying a certain sentence or phrase
- Using the context to figure out the real meaning of a sentence or phrase
- Recognizing the tone of voice, intonation, and sentence stress that a speaker uses to show his or her intended meaning

Example Questions

Function questions will not appear during the test. You will only hear them.

- Listen again to a part of the conversation. Then answer the question.

You will hear a few lines of the lecture or conversation again.

- Why does the _____ say this:

You will hear part or one line of the previous excerpt again.

- The following types of function questions may appear during the test:

- What is the purpose of the _____ response?

- What does the _____ imply when he/she says this?

- What can be inferred from the _____ response to the _____?

Strategies

- Listen for the overall organization of the lecture or conversation and think about whether the purpose is to describe, explain, compare, or give an opinion.
- Consider the relationship between the speakers and the context in which the speakers meet.
- Use clues like intonation to help you understand the meaning behind the words.

01 Biology

Listen to a lecture in a biology class, and fill in the diagram with the information that you hear. **Track 94**

Key Vocabulary

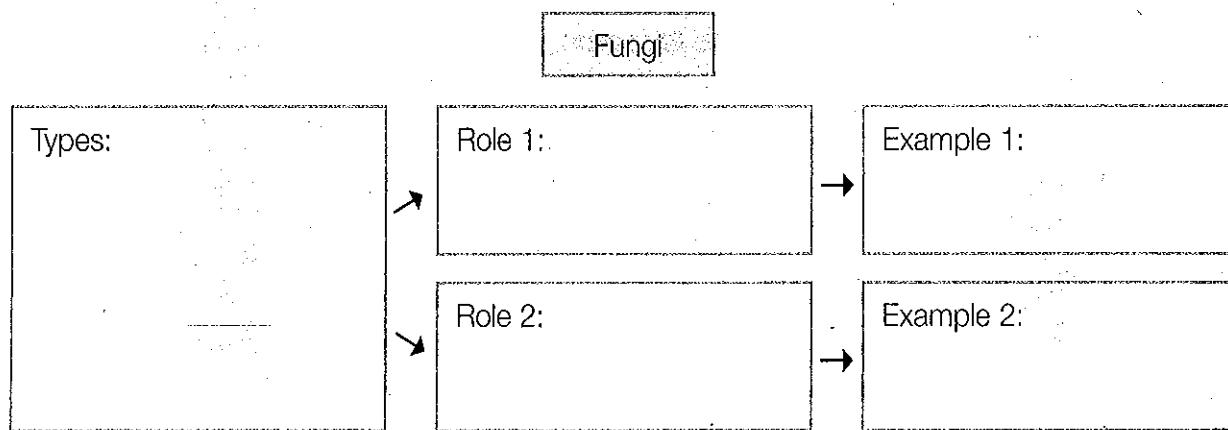
acid: a very sour substance; a chemical with a pH value of 7 or lower

disgusting: gross, unpleasant, and sickening

mold: a green, blue, or white substance that grows on old food or on things that are not kept dry

organism: a living creature

stale: no longer fresh



1. Listen to part of the lecture again. Then answer the question. ()

Why does the professor say this? ()

- (A) To ask his students for an answer
- (B) To establish a drawback of fungi
- (C) To introduce what he will be discussing
- (D) To address an unrelated thought

2. Listen to part of the lecture again. Then answer the question. ()

Why does the professor say this? ()

- (A) To help his students focus
- (B) To suggest a discussion topic

- (C) To emphasize important information
(D) To transition to an interesting fact

3. Listen to part of the lecture again. Then answer the question. ()

Why does the professor say this? ()

- (A) This fact is important for the students to know.
- (B) Fungi are not common ingredients of soda.
- (C) This information may be surprising to some students.
- (D) He's afraid his students didn't hear him the first time.

Fill in the blanks to complete the summary.

The biology teacher is discussing types of fungi. Fungi are living _____ that have many uses. The professor says that _____ growing on _____ food like old fruit and bread can sometimes save lives. Some, like penicillin, fight infections. Other types of fungi are used to make breads, candy, or soda by producing a special kind of _____. Fungi also give soy sauce its tasty flavor. So, while they may often seem _____, they are really quite useful.

02 | Astronomy

Listen to a lecture in an astronomy class, and fill in the diagram with the information that you hear. **Track 95**

Key Vocabulary

illusion: something that looks real but isn't

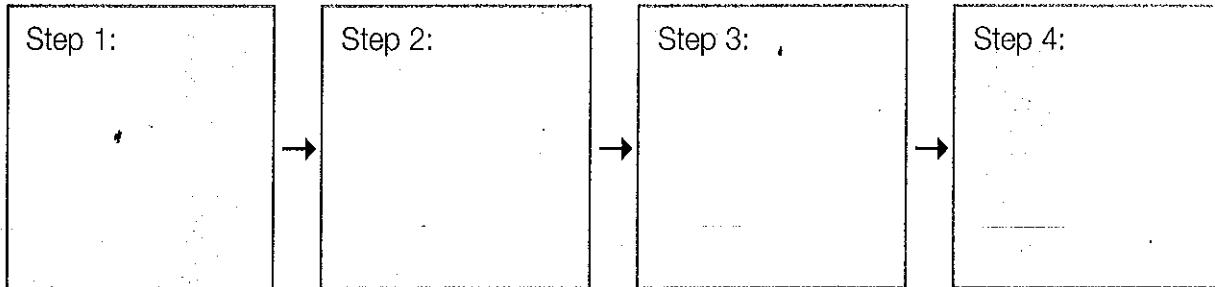
molecule: a type of particle that makes up all substances

random: without a specific pattern

ray: a narrow beam of light

uniform: always the same

The Process of Atmospheric Distortion



1. Listen to part of the lecture again. Then answer the question.

Why does the professor say this?

- (A) To give students a command
- (B) To begin the subject of his lecture
- (C) To explain an in-class activity
- (D) To point out a strange event

2. Listen to part of the lecture again. Then answer the question.

Why does the professor say this?

- (A) It will probably be on an upcoming test.
- (B) It might be hard for the students to understand.

- (C) It's important to know for the process she's about to describe.

- (D) It's something that most people don't know about.

3. Listen to part of the lecture again. Then answer the question.

Why does the professor say this?

- (A) The light isn't actually coming from many directions.
- (B) Her students might see stars differently than she does.
- (C) The eye is very good at detecting starlight.
- (D) Not everyone notices the stars twinkling.

Fill in the blanks to complete the summary.

The professor explains that when stars twinkle, it is an _____ called atmospheric distortion. When stars give off _____ of light, the rays travel into the Earth's atmosphere. The atmosphere is not one big _____ blanket of _____. It is made up of air currents called "pockets" that move at different speeds. When starlight enters the atmosphere and hits these pockets, the light bends in _____ directions. Then, when it enters our eyes, it appears as if the stars are twinkling.

03 Office Visit

Listen to a conversation between a student and a professor, and fill in the diagram with the information that you hear. **Track 96**

Key Vocabulary

alter: to change

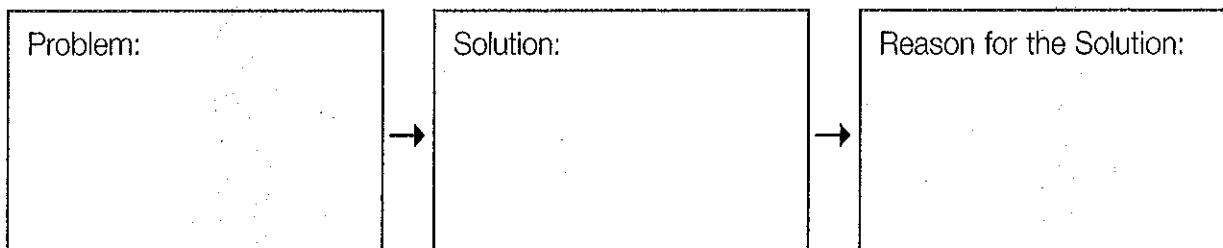
dilemma: a problem

familiarize: to make known

post: to put up

proceed: to go ahead

Hard to Understand Professor's Lectures



1. Listen to part of the conversation again. Then answer the question. Why does the professor say this?
(A) To ask the student to come into his office
(B) To encourage the student to continue talking
(C) To request something from the student
(D) To assure the student that he can help her

2. Listen to part of the conversation again. Then answer the question. Why does the professor say this?
(A) To test what the student knows
(B) To offer a suggestion to the student's problem

- (C) To determine if the student has a suggestion
(D) To find out which solutions the student has tried

3. Listen to part of the conversation again. Then answer the question. Why does the student say this?
(A) To apologize for not knowing the vocabulary
(B) To ask the professor to clarify what he said
(C) To request that the professor help her
(D) To explain that she can't understand his lectures

Fill in the blanks to complete the summary.

Anja wants help from her English professor. He asks her to _____, so she explains that she struggles to understand his English classes. This is because English is her third language. The professor understands Anja's _____ but says he can't _____ his lectures just for her. He suggests that she check the class website before lectures. The professor _____ lecture notes there which Anja can use to _____ herself with class vocabulary.

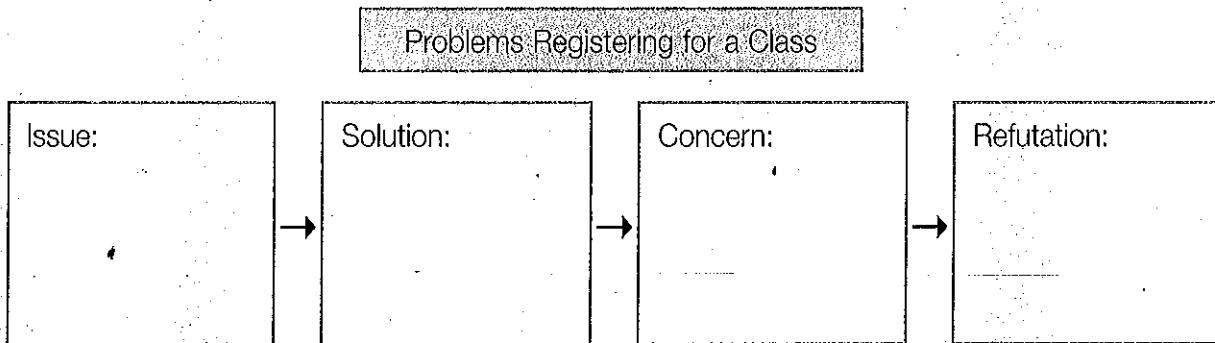
04 Service Encounter

Listen to a conversation between a student and a counselor, and fill in the diagram with the information that you hear. **Track 97**

Key Vocabulary

admit: to let in
ensure: to guarantee
restricted: limited

sophomore: a student in the second year of college
strategy: a plan or method for achieving something



1. Listen to part of the conversation again. Then answer the question. Why does the counselor say this?
(A) To find out if the student is enrolled in business school
(B) To determine if the student is eligible for the course
(C) To figure out if the student is graduating soon
(D) To see if the student is older than he looks
2. Listen to part of the conversation again. Then answer the question. Why does the counselor say this?
(A) To indicate that the student must apply to business school
3. Listen to part of the conversation again. Then answer the question. Why does the student say this?
(B) To state that only business students can take these courses
(C) To describe the process of registering for classes
(D) To explain why the student cannot register

Fill in the blanks to complete the summary.

A student tells the counselor that he tried to register online for a course called "Marketing _____." The course is currently _____ for freshmen. Only _____ and upper class business school students can register for this course. A freshman who has not been _____ to the business school has to wait to register. First, the older students must sign up for the classes they need. This _____ that business students can take the courses they need.

05 Fine Arts

Listen to a discussion in an art class, and fill in the diagram with the information that you hear. **Track 98**

Key Vocabulary

embrace: to accept

reject: to refuse to accept

excess: a larger amount of something than is necessary

somber: serious and troubling

opposition: resistance; something that opposes

Pop Art vs. Dadaism

Pop Art 1:

Both 1:

Dadaism 1:

Pop Art 2:

Both 2:

Dadaism 2:

1. Listen to part of the discussion again. Then answer the question.

Why does the professor say this?

- (A) To support a key definition
- (B) To give examples of Dada art
- (C) To explain the uses of Pop Art
- (D) To get the students' attention

2. Listen to part of the discussion again. Then answer the question.

Why does the professor say this?

- (A) She is not sure if she has the right information.
- (B) She wants to find out if the students agree with her.

1. (C) She expects the students to already know what she's telling them.

- (D) She is asking the students to look up the answer in their books.

3. Listen to part of the discussion again. Then answer the question.

Why does the professor say this?

- (A) She forgot what she was going to say.
- (B) She is trying to find out where she should go.
- (C) She is not sure that what she's saying is correct.
- (D) She is introducing a new point.

Fill in the blanks to complete the summary.

The professor is talking about Dadaism and Pop Art. She says that both movements developed in _____ to "high art." Both _____ high art concerns like beauty and technique. The two movements were also different in many ways. Dadaists wanted to show the _____ and wastefulness of society. Their art was often _____ whereas Pop Art was more playful. Pop artists _____ pop culture and its products.

06 Biology

Listen to a lecture in a biology class, and fill in the diagram with the information that you hear. **Track 99**

Key Vocabulary

deform: to distort or bend

desirable: worth having

generation: the entire body of individuals born and living at about the same time

muscle: flesh that connects one bone to another and is used for bodily movement

psychological: mental

Single-Trait Breeding

Advantage 1:

Disadvantage 1:

Advantage 2:

Disadvantage 2:

1. Listen to part of the lecture again. Then answer the question. 
Why does the professor say this? 
(A) The student guessed correctly.
(B) The definition makes the term obvious.
(C) The students called out the right term.
(D) The professor expects students to reply.

2. Listen to part of the lecture again. Then answer the question. 
Why does the professor say this? 
(A) He thinks single-trait breeding is convenient.
(B) He believes it's easy to make a mistake.

- (C) He doesn't want to ask for anything else.
(D) He feels that single-trait breeding is common.

3. Listen to part of the lecture again. Then answer the question. 
Why does the professor say this? 
(A) He wants the students to look at a photograph.
(B) He is going to introduce a new concept.
(C) He is trying to change the subject.
(D) He is about to give an example.

Fill in the blanks to complete the summary.

In order to increase _____ traits in animals, breeders carefully choose which animals to mate. An example would be to breed chickens with big _____. This technique is called single-trait breeding. This process is so quick that in one year they can breed two _____. There are also dangers to this breeding style. For example, fat chickens will have _____ legs because they are so heavy. It can also cause _____ damage to animals.

07

Office Visit

Listen to a conversation between a student and a professor, and fill in the diagram with the information that you hear. **Track 100**

Key Vocabulary

access: the ability to use something

generate: to make

install: to put in place

purchase: to buy

require: to make necessary

Expensive Software

Problem:

Solution:

1. Listen to part of the conversation again. Then answer the question. Why does the professor say this?
 - (A) He is making a joke.
 - (B) He is asking the student's opinion.
 - (C) He thinks the student doesn't like him.
 - (D) He doesn't want to teach the course.

2. Listen to part of the conversation again. Then answer the question. Why does the professor say this?
 - (A) He wants all his students to have the same software.
 - (B) He's telling the student what item to purchase.

- (C) He's hoping the students will buy similar materials.
- (D) He wants all his students to turn to a certain page.

3. Listen to part of the conversation again. Then answer the question. Why does the student say this?
 - (A) To convince the professor to loan her the software
 - (B) To complain that the course requirements are unfair
 - (C) To explain the reason she came to speak with him
 - (D) To ask permission to purchase a less costly item

Fill in the blanks to complete the summary.

A student wants to take a computer graphics course. She is worried because the software she needs to _____ on her computer is expensive. The professor tells her this software is _____ so that students can _____ graphics on their computers. Without _____ to the software, the class will not be of much use. The professor says the student can _____ the software for half price at the university bookstore.

08 Service Encounter

Listen to a conversation between a student and a counselor, and fill in the diagram with the information that you hear. **Track 101**

Key Vocabulary

attend: to be present at

budget: money set aside for a specific purpose

contribute: to add or donate

sponsor: to fund a person or event

Student Senate: a governing body at universities elected to represent the students

How to Get Funds to Attend a Conference

Problem:

Solution 1:

Solution 2:

1. Listen to part of the conversation again. Then answer the question. Why does the counselor say this?
 - (A) To guess what the student will ask
 - (B) To interrupt the student
 - (C) To ask the student where he wants to sit
 - (D) To invite the student into her office

2. Listen to part of the conversation again. Then answer the question. Why does the counselor say this?
 - (A) To encourage the student to go to the conference
 - (B) To convince the student to pay the high conference fee

- (C) To answer the student's question about the conference
- (D) To help the student choose which conference to attend

3. Listen to part of the conversation again.

Then answer the question.

Why does the student say this?

- (A) He wants to know the exact number of students applying.
- (B) He wants to ask the counselor for another suggestion.
- (C) He wants to find out whether it would be worth applying.
- (D) He wants to know more about the application procedure.

Fill in the blanks to complete the summary.

A student wants to _____ a conference in Houston but is worried about money. He wants to know how to raise the money to go. The woman tells him that the science department _____ \$100 to every student who goes to a conference. She says he can also apply to the _____. They usually _____ academic projects or trips, and they have a large _____.

Listen to a discussion in an economics class, and fill in the diagram with the information that you hear. **Track 102**

Key Vocabulary

corporation: a large company or business organization

immoral: wrong; lacking morals

offender: someone who does wrong

pool: to contribute to a common stock

standard: level or quality

Trade Associations

Advantage 1:

Disadvantage 1:

Advantage 2:

Disadvantage 2:

1. Listen to part of the discussion again. Then answer the question. (U)

Why does the professor say this? (U)

- (A) To explain her own confusion
- (B) To encourage a student to speak
- (C) To decide whether to define a term
- (D) To determine what she should say

2. Listen to part of the discussion again. Then answer the question. (U)

Why does the professor say this? (U)

- (A) She is getting off the main topic.
- (B) She is trying to think of examples.
- (C) She wants the students to pay attention.
- (D) She wants the students to look at something.

3. Listen to part of the discussion again. Then answer the question. (U)

Why does the professor say this? (U)

- (A) Big corporations can often influence public policy on their own.
- (B) Business owners must expand to influence public policy.
- (C) Most big corporations don't need to join trade associations.
- (D) Small businesses aren't involved with government decisions.

Fill in the blanks to complete the summary.

The professor is talking about trade associations. They form when businesses work together and _____ resources. By doing this, they have more influence. Huge _____ have power to act alone, but small businesses need help. Trade associations set _____ for good conduct. They don't support businesses that act in _____ ways. The problem with these groups is that they sometimes stop new businesses from _____ them. They also don't have much power to punish _____.

10 Biology

Listen to a discussion in a biology class, and fill in the diagram with the information that you hear. **Track 103**

Key Vocabulary

crustacean: a type of aquatic arthropod including crabs and lobsters

edible: fit to eat

host: a plant or animal that a parasite lives on

predator: an animal that kills other animals for food

prey: an animal that is hunted by another animal

Aggressive Mimicry

Definition:

Role 1:

Role 2:

1. Listen to part of the discussion again. Then answer the question.

Why does the professor say this?

- (A) To congratulate the students on turning in their assignments
(B) To show that he's impressed with how much the students know
(C) To encourage the students to participate in the discussion
(D) To find out whether the students did their homework

2. Listen to part of the discussion again. Then answer the question.

Why does the professor say this?

- (A) To review the previous topic of discussion
(B) To direct the students to a new point

- (C) To find out if the students read the material
(D) To ask the students to summarize what they read

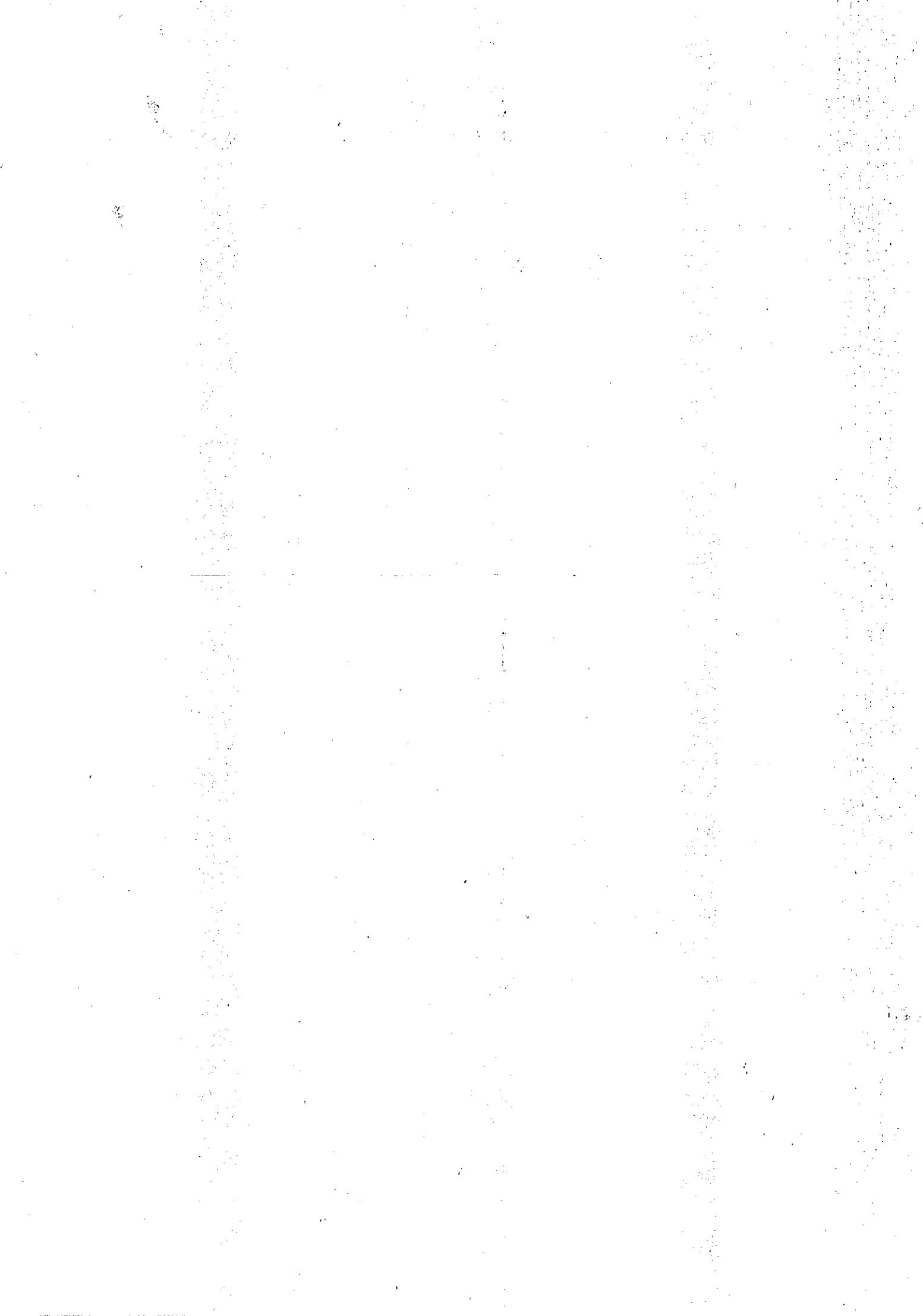
3. Listen to part of the discussion again. Then answer the question.

Why does the professor say this?

- (A) To emphasize that the student's answer is wrong
(B) To point out that this information doesn't seem logical
(C) To indicate that the student isn't making any sense
(D) To convince the student to agree with his opinion

Fill in the blanks to complete the summary.

The professor is discussing aggressive mimicry which is when a _____ acts harmless to get near its _____. Then the organism it is hunting doesn't get scared or run away. Examples of this are turtles whose tongues look like worms and help them catch fish. Sometimes parasites look _____ because they want to get eaten so that they can live off their _____. Examples are worms that look like small _____. They get eaten by large fish and live off them.



Chapter 4

Stance Questions

Necessary Skills

- Understanding the speaker's general feeling about what is discussed
- Recognizing words or phrases that indicate the speaker's feeling or opinion
- Recognizing tone of voice, intonation, and sentence stress that the speaker uses to show his or her feeling or opinion

Example Questions

- Which of the following best describes the professor's opinion?
- What is the professor's opinion of _____?
- What is the student's attitude toward _____?
- What is the woman's initial attitude toward the student's request?
- What is the student's attitude toward the suggestion of _____?
- How sure is the man that the woman can _____?
- How certain is the professor that the student can _____?
- What can be inferred about the student?
- Listen again to part of the _____, then answer the question.
You will hear a sentence or a few lines again.
What does the professor mean when he/she says this:
- What does the student mean when he/she says this:

Strategies

- Pay attention to adjectives and verbs related to feelings. These may help you recognize words or phrases that indicate the speaker's feeling or opinion.
→ Example: A: *The course Chemistry 204 was very helpful.*
 B: *Yeah, I really enjoyed the classes with Professor Jones.*
- Guess the speaker's attitude by the tone of voice, intonation, and the sentence stress that the speaker uses to show his or her feeling or opinion.
→ Example: (With surprise) *You liked it?* (The speaker does not agree.)
 (Happily) *You liked it!* (The speaker is pleased.)
- Consider the degree of certainty in what a speaker says.
→ Example: *You want to know when it was discovered? Hmm, let me think.*
 Probably around 1600. (The speaker is not sure of the information.)

01 History

Listen to a lecture in a history class, and fill in the diagram with the information that you hear. **Track 104**

Key Vocabulary

anchor: to secure or hold

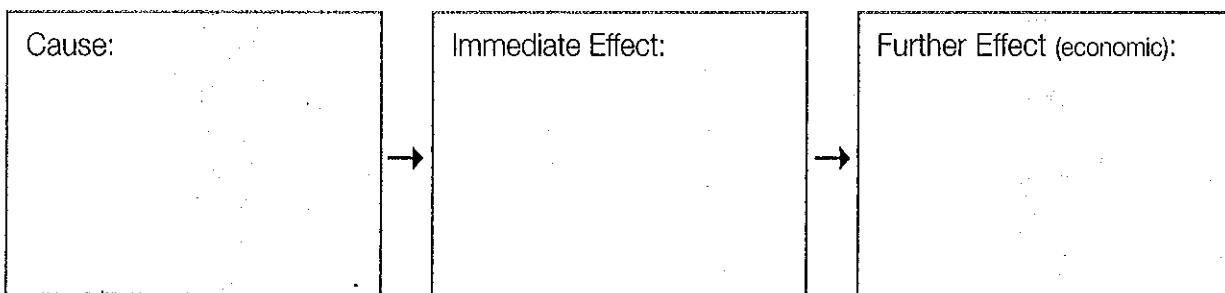
excessive: a ridiculous amount of something

plain: large area of flat treeless land

plow: to turn over the soil before planting seeds using a piece of farming equipment

soil: the top layer of earth that is dug or plowed away to plant crops

How Over-Plowing Caused the Dust Bowl



- What attitude does the professor have toward over-plowing?
 - He blames it for causing the Dust Bowl.
 - He thinks that it was developed too fast.
 - He feels that farmers shouldn't have used it.
 - He believes it did nothing to help farmers.
- Listen to part of the lecture again. Then answer the question. How does the professor feel about this?
 - Disappointed that farmers over-plowed their fields
- (B) Angry about the needless plowing that occurred
 (C) Annoyed with farmers for their bad decisions
 (D) Uncomfortable with the concept of over-plowing
- How does the professor feel about the Dust Bowl?
 - It forever changed the way people farm.
 - It made the Great Depression worse.
 - It wouldn't have been so bad at a different time.
 - It forced farmers into the Depression.

Fill in the blanks to complete the summary.

The professor is discussing the causes of the Dust Bowl, a period of dust storms that destroyed many crops during the Great Depression of the 1930s. The professor explains that the crop failure was the result of farmers _____ the Great _____. By doing an _____ amount of this, grasslands were left exposed. Farmers could not always afford to seed them. Without grass, there was nothing to _____ the _____. When disastrous droughts came, winds blew it away.

02 Biology

Listen to a lecture in a biology class, and fill in the diagram with the information that you hear. **Track 105**

Key Vocabulary

aphid: a type of small bug often preyed on by ladybugs
contaminate: to soil; stain; or corrupt
ladybug: a bug that is red with black spots

plight: a difficult situation
starvation: death by lack of food

GMOs

Advantage 1:

Disadvantage 1:

Advantage 2:

Disadvantage 2:

1. How does the professor feel about farmers living in poverty?
 - (A) She feels there are other ways to help them.
 - (B) She is sympathetic toward their condition.
 - (C) She believes they require encouragement.
 - (D) She believes they are wrong to use GMOs.
2. How does the professor feel about the effects of GMOs?
 - (A) She's uncertain about their effects.
 - (B) She's scared about their outcomes.
 - (C) She's anxious about their consequences.
 - (D) She's excited to see the results.
3. What's the professor's attitude toward the facts found in the article?
 - (A) She thinks they're unimportant.
 - (B) She finds them to be inaccurate.
 - (C) She believes they're unclear.
 - (D) She finds them troubling.

Fill in the blanks to complete the summary.

The biology professor is discussing Genetically Modified Organisms, special types of plants like cotton or corn. They have been modified in labs to grow better. This was done to help countries that struggle with _____ and poverty. The professor understands the _____ of the poor. She is also worried about GMOs' long-term effects. She uses the example of _____ that ate _____ that fed off these plants. Their lifespan was reduced by half. GMOs also _____ natural crops.

03 Office Visit

Listen to a conversation between a student and a professor, and fill in the diagram with the information that you hear. **Track 106**

Key Vocabulary

director: someone who is in charge of something

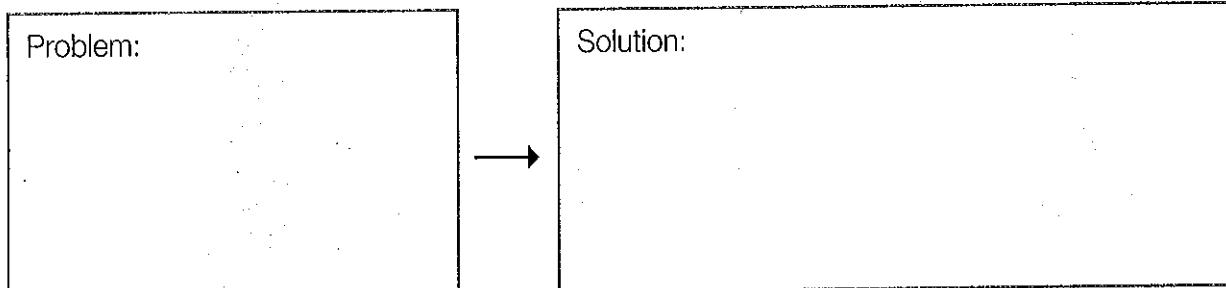
exception: something that is different from other things and cannot be included in a general rule

internship: an opportunity for a student or graduate to gain experience in a desired field

offer: to present or put forth

quality: to meet the requirements

Applying for an Internship



1. What is the professor's stance on writing the letter?
 - (A) He is happy to write a recommendation for his student.
 - (B) He thinks there are better ways to achieve the student's goal.
 - (C) He believes it will help the student to achieve an internship.
 - (D) He feels that it will not do much good for the student.
2. Listen to part of the conversation again. Then answer the question.

How does the professor feel when he says this?

- (A) Slightly confused
 - (B) Somewhat irritated
 - (C) Highly honored
 - (D) Very proud
3. How does the student feel by the end of the conversation?
 - (A) She's hopeful that she'll get the internship.
 - (B) She's angry that the professor won't write the letter.
 - (C) She's excited to be taking the internship.
 - (D) She's grateful for the professor's kindness.

Fill in the blanks to complete the summary.

Jill wants to take an English _____ her university _____. In order to _____ for it, she needs to have taken a special English course. Her professor is not the _____ of the program, but Jill thinks he can help her. She hopes the university will make an _____ for her. This is because her English course is very similar to the required course. Her professor agrees to give his recommendation by visiting Mr. Peterson personally.

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04 Service Encounter

Listen to a conversation between a student and a resident advisor, and fill in the diagram with the information that you hear. **Track 107**

Key Vocabulary

bug: to annoy

dormitory: a place of living with many sleeping rooms, especially at a university

intervene: to come in a situation in order to stop, settle, or change it

ordinance: a law, regulation, or rule

violate: to break, or fail to keep

Noisy Roommate

Problem:

Solution 1:

Solution 2:

1. How does the student feel at the beginning of the conversation?
(A) Ashamed
(B) Unconcerned
(C) Annoyed
(D) Disappointed
2. How does the resident advisor feel about the student's roommate?
(A) He feels that she's rude for being so noisy.
(B) He thinks that she deserves to be punished.
3. What emotion best describes the student at the end of the conversation?
(C) He believes that she is unaware of her actions.
(D) He thinks that she won't change her behavior.

Fill in the blanks to complete the summary.

A student wants some advice from her Resident Advisor. She lives in a _____ and has problems with her noisy roommate, Susan. The advisor says that if Susan keeps _____ the university's noise _____, she will be fined \$30. The advisor suggests that the girl first speak to Susan and explain things. He says Susan may not know that she is _____ the girl. He wants them to talk before he _____.

Listen to a discussion in a biology class, and fill in the diagram with the information that you hear. **Track 108**

Key Vocabulary

adaptation: the process of changing something

evolution: the process or development in a species

flawed: having less than perfect traits

fossil: ancient remains of animals, plants, or humans

gradual: happening over a long period of time

Darwinian Evolution vs. Punctuated Equilibrium

Darwinian Evolution:

Both:

Punctuated Equilibrium:

1. What is the professor's opinion in regards to Darwin's theory?
 - (A) She feels that Darwin was completely wrong.
 - (B) She believes Darwin's theory is more logical.
 - (C) She thinks Darwin was only slightly accurate.
 - (D) She feels Darwin's theory needs to be modified.
2. How does this student feel about the theory of punctuated equilibrium?
 - (A) Optimistic
 - (B) Unconvinced
 - (C) Satisfied
 - (D) Unimpressed
3. What does the professor conclude about both theories?
 - (A) Each is partially correct.
 - (B) Neither makes much sense.
 - (C) One is better than the other.
 - (D) They should be discarded.

Fill in the blanks to complete the summary.

The teacher is discussing two different theories of _____. One of these is Darwin's idea. His theory states that _____ happen slowly. He believed change took a long time. Another theory says changes happen quickly. This theory states that _____ evolution does not happen. The professor says that Darwin's theory is _____ but not wrong. She says _____ records show that changes usually happen slowly.

06 | Astronomy

Listen to a lecture in an astronomy class, and fill in the diagram with the information that you hear. **Track 109**

Key Vocabulary

creature: a living thing

eject: to throw out or expel

groove: a line cut into the surface of something

meteorite: a small rock that falls from outer space and hits the earth

microscope: a lab tool that's used to see tiny objects that the eye cannot see by itself

Life on Mars

Support 1:

Criticism 1:

Support 2:

Criticism 2:

- What were the scientists' reactions when they first announced their findings?
 (A) They were skeptical.
 (B) They were overly excited.
 (C) They were slightly doubtful.
 (D) They were interested.
- How did the other scientists feel about the announced discovery?
 (A) Critical
 (B) Supportive
 (C) Fascinated
 (D) Indifferent
- What is the professor's opinion of the public's reaction to claims of life on other planets?
 (A) He feels people are accurate in their judgments.
 (B) He thinks that people's reactions are unpredictable.
 (C) He believes that the public's reaction was abnormal.
 (D) He thinks that people believe what they want to believe.

Fill in the blanks to complete the summary.

The professor is talking about the 1996 discovery of a _____ in Antarctica. This space rock was _____ from the planet Mars about 10,000 years ago. Scientists found calcium carbonate in cracks on the rock. This is often made by tiny living _____ called microorganisms. The scientists got excited and looked at the rock through a powerful _____. They found tiny _____ in the rock's cracks. They thought this showed there was life on Mars, but they were wrong.

07

Office Visit

Listen to a conversation between a student and a professor, and fill in the diagram with the information that you hear. Track 110

List
dia

Key Vocabulary

additional: more

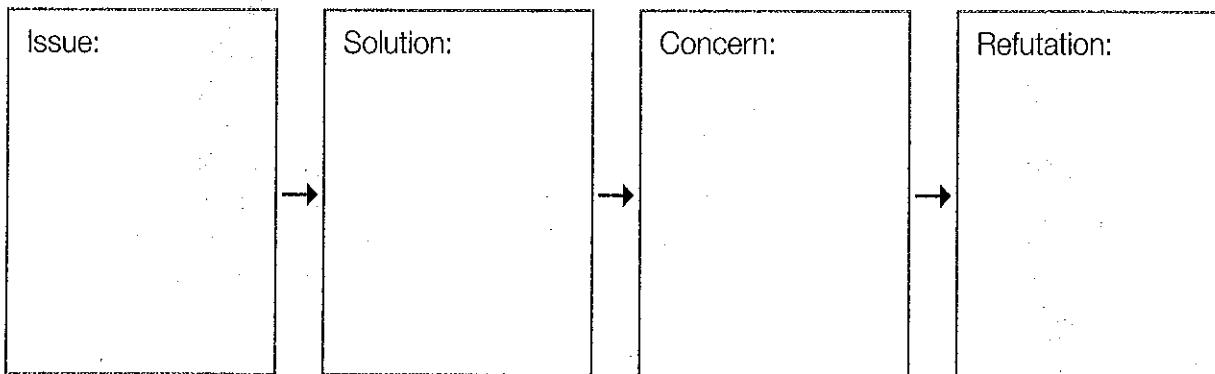
concept: a general idea or notion

grasp: to understand

participate: to include oneself in an activity

volunteer: offering one's free time to help

Doing Badly in a Course



1. How does the student feel about the concepts in the psychology course?
 - (A) He finds them confusing.
 - (B) He believes they're unfair.
 - (C) He thinks they're unnecessary.
 - (D) He feels they're too easy.
2. How does the student feel about doing the experiments at first?
 - (A) Nervous
 - (B) Hopeful
 - (C) Frustrated
 - (D) Excited
3. How does the student feel about the experiments by the end of the conversation?
 - (A) He is unsure about them.
 - (B) He thinks they're harmful.
 - (C) He is willing to participate.
 - (D) He is still concerned.

1.

2.

Fill in the blanks to complete the summary.

Fill

Jake is a psychology student who needs to raise his grade average. He's been having trouble _____ all of the _____ and did badly on two tests. The professor tells him he can earn additional points which will raise his grade. He can _____ in psychology experiments run by the graduate students. Jake is afraid to _____, but the professor assures him it is completely safe.

08

Service Encounter

Listen to a conversation between a student and a university employee, and fill in the diagram with the information that you hear. **Track 111**

Key Vocabulary

advise: to give opinions in regards to a problem

entrance exam: an examination that many educational institutions use to select students for admission

introductory: beginning

placement: the act of placing or arranging

waive: to give permission to skip a requirement

Skipping an Introductory Course

Problem:

Solution 1:

Solution 2:

- How does the student feel about taking an introductory math course?
 (A) Unwilling
 (B) Patient
 (C) Disappointed
 (D) Prepared
- What does the professor think about retaking the college entrance exam?
 (A) He believes it'll help the student.
 (B) He thinks it's an obvious solution.
 (C) He feels it's the best choice.
 (D) He thinks it's a bad idea.
- Listen to part of the conversation again. Then answer the question.
 How does the professor react?
 (A) Fearfully with a reply
 (B) Eagerly with a solution
 (C) Angry with a rebuke
 (D) Doubtfully with an answer

Fill in the blanks to complete the summary.

A student enquires why she must do an _____ math course. She thinks there has been a mistake with her _____ results. She wants the department head to _____ her out of the course. The head asks for her college _____ score and discovers she didn't do well enough. He doesn't _____ her to retake the test. Instead, he suggests she take the College Level Examination Program test and receive credit.

09 History

Listen to a discussion in a history class, and fill in the diagram with the information that you hear. **Track 112**

Key Vocabulary

agriculture: farming or cultivation

expertise: knowledge or skills

faulty: flawed; damaged

paradise: a perfect place or situation

settlement: a small community or group of houses in a thinly populated area

Gilpin's View vs. Powell's View of the West

Gilpin's View 1:

Powell's View 1:

Gilpin's View 2:

Powell's View 2:

1. What does the professor think about Gilpin's view of the West?

(A) He generally agrees with it.
(B) He believes it was fairly accurate.
(C) He feels it was totally wrong.
(D) He thinks it was partially justified.

2. Listen to part of the discussion again. Then answer the question. 

What best describes the student's attitude toward Powell?

(A) Shocked
(B) Impressed

(C) Uncertain
(D) Excited

3. How does the professor feel about the American government's decision regarding Western settlement?

(A) It was an unwise decision.
(B) It was supported with logical reasons.
(C) It was unfair to Powell.
(D) It was not very important.

Fill in the blanks to complete the summary.

The history professor is telling his class about two American explorers. The first, William Gilpin, had a _____ view of the American West. He described it as a _____ and said it was ideal for human _____. Gilpin said this area would be good for highly successful _____. He said there was a lot of water. The professor says people depended on Gilpin's _____ but what he said was wrong. John Wesley Powell's views were right on target.

10

Psychology

Listen to a discussion in a psychology class, and fill in the diagram with the information that you hear. **Track 113**

Key Vocabulary

behavior: the way that someone acts

condition: to modify an action

presentation: the act of putting an object in front of someone

reinforce: to make something stronger by adding support

underestimate: when someone misjudges or undervalues something

Theory of Reinforcement

Positive Reinforcement:

Refutation:

Negative Reinforcement:

- How does the dog feel about the object used in negative reinforcement?
 - It ignores it.
 - It dislikes it.
 - It desires it.
 - It enjoys it.
- How does the professor feel about the theory of behaviorism?
 - She feels that it works most of the time.
 - She believes that it predicts people's behavior.

- She feels that it is an outdated theory.
- She thinks behaviorism isn't entirely accurate.

- Listen to part of the discussion again. Then answer the question. 

What best describes the professor's reaction toward the student? 

- She completely disagrees with him.
- She is surprised by his answer.
- She generally agrees with him.
- She becomes irritated with him.

Fill in the blanks to complete the summary.

The class is discussing B.F. Skinner's theory of behaviorism. This is a theory about how animals and people learn things. It suggests that they learn things based on what they receive. If they receive something nice, they do the act again. The _____ of the object is considered positive. The object should _____ their action. Their _____ can thus be changed or controlled. Skinner believed that you could _____ animals and people like this. The class thinks Skinner _____ people and animals.

Vocabulary Review 2

Instructions: Choose the best word or phrase to complete each sentence.

1. Simon's report on the Middle Ages _____ a lot of interest in his class.
(A) ensured
(B) generated
(C) attended
(D) rejected
2. The large _____ employed half the people in the city.
(A) corporation
(B) groove
(C) host
(D) presentation
3. Even though Dana didn't have the required credits, the teacher made an _____ to the rule.
(A) ordinance
(B) aphid
(C) exception
(D) opposition
4. Joe fell asleep immediately. He had _____ how tired he was.
(A) anchored
(B) grasped
(C) familiarized
(D) underestimated
5. The _____ chased the buffalo across the field and finally caught it.
(A) predator
(B) crustacean
(C) prey
(D) ladybug

6. The crackers had gone _____ after three months.

(A) faulty
(B) stale
(C) immoral
(D) edible

7. Their fight was getting so loud that I was forced to _____.

(A) intervene
(B) volunteer
(C) admit
(D) post

8. Mr. Hsu felt like Hawaii was a _____ on Earth.

(A) paradise
(B) adaptation
(C) generation
(D) internship

Instructions: Choose the word or phrase closest in meaning to the underlined part.

9. Amy had such a terrible problem that she didn't know what to do.

(A) condition
(B) excess
(C) placement
(D) dilemma

10. The scientist's results were complicated and ultimately incorrect.

(A) flawed
(B) random
(C) restricted
(D) somber

11. The principal gave Antonia permission to skip the class requirement.

(A) require
(B) qualify
(C) waive
(D) eject

12. Ling had the necessary skills to be the new assistant manager.

(A) plights
(B) expertise
(C) strategies
(D) concepts

13. Farming has been around in this part of the world for thousands of years.

(A) standard
(B) settlement
(C) agriculture
(D) behavior

14. Sandra just set up a new program on her computer.

(A) installed
(B) deformed
(C) altered
(D) reinforced

15. The development of the species was very slow.

(A) starvation
(B) fossil
(C) organism
(D) evolution

Instructions: Write the missing words. Use the words below to fill in the blanks.

mold disgusting contaminates
acid contribute

Have you ever noticed a **16.** _____ blue substance that grows on bread when it's left out too long? That substance is known as **17.** _____, and it is a part of the fungi family. Fungi offer many advantages and disadvantages to mankind. They often grow on old food and can sometimes cause diseases. Yet despite these disadvantages, fungi also **18.** _____ to some highly helpful products. Remember the mold that **19.** _____ bread? Well, one type of mold that grows on bread is penicillin. This is one of the most beneficial medicines yet discovered. Other types of fungi produce an **20.** _____ that is used in food products like soda and soy sauce. Fungi truly are useful organisms to have on our planet.

Instructions: Choose the one word that does not belong.

21. violate	disobey
abide	defy
22. offender	criminal
lawbreaker	sponsor
23. illusion	reality
fantasy	trick
24. gradual	slow
desirable	time-consuming
25. fade	proceed
go	continue

Mini Test 2

01 Biology

Listen to a lecture in a biology class. Track 114

Key Vocabulary

adapt: to adjust; to change

choke out: to repel or drive away (by removing oxygen)

destruction: when things are ruined or pulled down

disastrous: very bad or unfortunate; ruinous

ecosystem: community of living things in an environment

invasive: penetrating; encroaching (another's territory or area)

sea urchin: a small marine animal with a round or oval shell

scenario: an outline or sketch of something

thrive: to grow or do very well

threaten: to indicate or declare harm

toxic: poisonous

unpredictable: unexpected; cannot be foretold

1. Listen to part of the lecture again. Then answer the question.

Why does the professor say this?

- (A) To restate a previous point
- (B) To illustrate the problem
- (C) To introduce the main topic
- (D) To show classification

2. Listen to part of the lecture again. Then answer the question.

Why does the professor say this?

- (A) To explain the negative effects of Caulerpa
- (B) To indicate that this situation is not normal
- (C) To show that this topic is coming to an end
- (D) To summarize the point he's about to discuss

3. How certain are the scientists in their understanding of why Caulerpa thrives in the Mediterranean?

- (A) Completely unsure
- (B) Somewhat unsure
- (C) Absolutely certain
- (D) Quite confident

4. Listen to part of the lecture again. Then answer the question.

Why does the professor say this?

- (A) To give students an example
- (B) To emphasize the food chain
- (C) To suggest Caulerpa's power
- (D) To signal a change in topic

5. What is the professor's attitude toward the introduction of Caulerpa to the Mediterranean?

- (A) Unconcerned
- (B) Amused
- (C) Patient
- (D) Troubled

6. How does the professor feel about the future of Caulerpa in the Mediterranean?

- (A) He's positive it will kill most native species.
- (B) He's quite confident it will remain there.
- (C) He's certain that it will spread even more.
- (D) He's convinced that it will be destroyed.

02 Geology

Listen to a discussion in a geology class. Track 115

Key Vocabulary

accuracy: correctness; precision

damage: hurt, injury, or harm

earthquake: the vibration of earth caused by a shift of tectonic plates

exact: precise, absolutely correct, or accurate

fault line: a weak point in the Earth's crust where quakes happen

monitor: to check, supervise, or watch for change

occur: to happen; come to pass

predict: to foretell; to say what will happen in the future

pressure: force; the act of pressing

strain: a point of stress or pressure

weather forecast: a report on weather conditions for the future

1. Listen to part of the discussion again. Then answer the question. Why does the professor say this?
 - (A) To explain that they aren't very effective
 - (B) To show that they aren't always accurate
 - (C) To emphasize that they don't belong in science
 - (D) To describe how they could save human lives
2. Listen to part of the discussion again. Then answer the question. Why does the professor say this?
 - (A) It cannot be done.
 - (B) It involves the weather.
 - (C) It is a difficult task.
 - (D) It is a popular job.
3. How does the professor feel about short-term earthquake detection?
 - (A) It's fairly accurate.
 - (B) It's not dependable.
 - (C) It's slightly reliable.
 - (D) It's completely ineffective.
4. How does the student feel about using animals to predict earthquakes?
 - (A) Impressed with the idea
 - (B) Curious about the thought
 - (C) Doubtful that it would work
 - (D) Uninterested in the concept
5. Listen to part of the discussion again. Then answer the question. Why does the professor say this?
 - (A) To return to the main point
 - (B) To signal that he's going off-topic
 - (C) To answer the student's question
 - (D) To clarify what he just said
6. What is the professor's opinion of long-term earthquake prediction?
 - (A) He is frustrated by it.
 - (B) He is excited by it.
 - (C) He feels it's useful.
 - (D) He doesn't trust it.

03 Office Visit

Listen to a conversation between a student and a professor.

Track 116

Key Vocabulary

assign: to allot; to give as a task or responsibility

historian: a writer of or expert on history

imagine: to think about; to see in one's mind

individual: a single person; standing alone; not in a group

interpret: to explain the meaning of; to give your version or impression of something

prefer: to like more than something else

primary: first; most important

recent: not long ago; close to present time

source: something which provides information

1. What is the professor's attitude toward the student's absence from class?
(A) Anxious
(B) Slightly irritated
(C) Patient
(D) Worried
2. Listen to part of the conversation again. Then answer the question. Why does the professor say this?
(A) To tell the student to forget about her car
(B) To reassure the student about the project
(C) To advise the student against worrying
(D) To encourage the student to stay
3. Listen to part of the conversation again. Then answer the question. Why does the professor say this?
(A) To remind the student of the assignment
(B) To give an example of primary sources
(C) To make a point about secondary sources
(D) To persuade the student to collect diaries
4. Listen to part of the conversation again. Then answer the question. Why does the professor say this?
(A) To clarify what he means
(B) To provide an example
(C) To change the subject
(D) To describe the project
5. What is the student's attitude toward reading old books?
(A) Excited about the task
(B) Unconcerned about the reading
(C) Uncomfortable about the books
(D) Relaxed about the assignment
6. What is the student's opinion of the project after talking with the professor?
(A) She's more interested in it.
(B) She's more anxious about it.
(C) She's still frustrated with it.
(D) She's unconcerned by it.

Chapter 5

Organization Questions

Necessary Skills

- Recognizing the organization of information in a lecture or a conversation
- Recognizing the sequence of information
- Identifying the main steps of a process
- Summarizing a process with its main steps

Example Questions

- Why does the professor mention _____?
- Why does the professor tell the students about _____?
- Why does the professor discuss _____?
- Why does the professor make a distinction between _____ and _____?
- How is the discussion organized?
- How does the professor organize the information about _____?
- How does the professor support the idea that _____?
- How does the professor clarify her point about _____?

Strategies

- Use diagrams, arrows, and an outline format while taking notes to indicate the organization and relative importance of information.
- Listen for transitions that indicate sequencing of information:
 - *first, now the first step is*
 - *next, (and) then*
 - *so now*
 - *the last step is, finally*

01 Geology

Listen to a lecture in a geology class, and fill in the diagram with the information that you hear.

Track 117

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Key Vocabulary

expand: to get larger and/or wider

precondition: something necessary for something else to happen

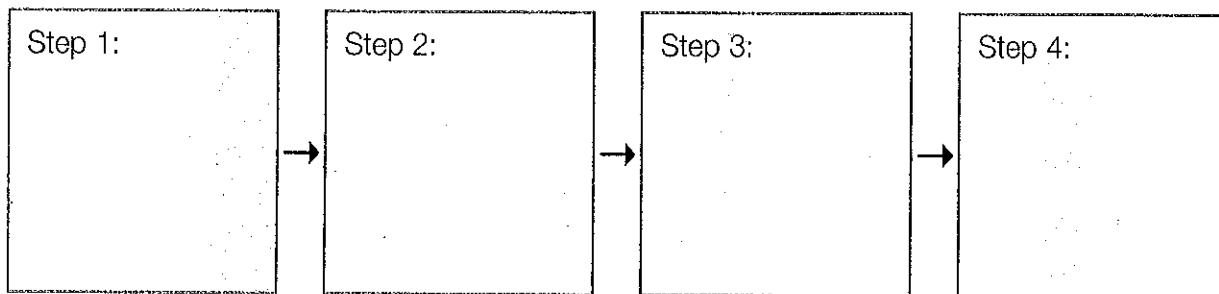
tropics: hot humid areas near the equator

volume: an amount or something

wedge: something used to force something else apart

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Ice Weathering



- How does the professor organize the information he presents to the class?
 - By talking about the roles of ice weathering
 - By comparing weathering caused by ice and water
 - By discussing the steps in the process of ice weathering
 - By discussing a specific example of ice weathering
- Why does the professor mention the tropics?
 - To give an unusual example of ice weathering
 - To contrast weathering found in two different environments
- Why does the professor talk about the power of ice to break mountains?
 - To provide a concluding illustration
 - To introduce a new topic
 - To summarize the main idea
 - To make a joke

Fill in the blanks to complete the summary.

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(B)
(C)
(D)

2. WI
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(A)
(B)

Fill in

The professor explains that ice weathering can break down rocks. It needs two particular _____ to do this: water and cold temperatures. Both of these preconditions are not found in the _____. When water flows into cracks in rocks, it first freezes and then _____. Its _____ increases by nine percent, letting the ice act like a _____ and putting pressure on the crack. This expands the crack, so after the ice melts, there is a wider crack left in the rock.

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02 Agriculture

Listen to a lecture in an agriculture class, and fill in the diagram with the information that you hear. **Track 118**

Key Vocabulary

affordable: reasonably priced; not too costly

ecosystem: the community of living things in an environment

fertilize: to add a substance to soil that helps make plants grow

harvest: the activity of collecting a crop

preserve: to maintain and protect

Slash-and-Burn Farming

Definition:

Advantage 1:

Advantage 2:

1. How does the professor organize the information she presents to the class?
 - (A) By explaining the process of slash-and-burn farming
 - (B) By discussing the different types of slash-and-burn farming
 - (C) By defining slash-and-burn farming and giving its advantages
 - (D) By comparing slash-and-burn farming with other farming practices
2. Why does the professor mention modern farming?
 - (A) To explain how it is better than slash-and-burn farming
 - (B) To illustrate the many different methods of farming
3. Why does the professor discuss forest ecosystems?
 - (A) To show the disadvantages of slash-and-burn farming
 - (B) To discuss the relationship between people and forests
 - (C) To explain one advantage of slash-and-burn farming
 - (D) To suggest why people should practice slash-and-burn farming

Fill in the blanks to complete the summary.

The professor explains that farmers use slash-and-burn farming to clear forests. They cut down and burn trees and plants to _____ the soil and then crops are planted. After the _____, the farmers abandon the fields and the forest grows back. This type of farming is firstly an _____ way for poor families to get food. Secondly, people can help _____ their _____ by using this method. It also makes sure that no one area is farmed too much.

03 Biology

Listen to a lecture in a biology class, and fill in the diagram with the information that you hear.

Track 119

Key Vocabulary

cancer: a type of disease

consumption: eating

critic: someone who is critical of something

propose: to suggest

substitute: one thing that replaces another thing

Aspartame's Safety

Theory

Support

1. How does the professor present the information?
 - (A) By contrasting two theories
 - (B) By refuting a theory with a study
 - (C) By introducing a study and then a theory
 - (D) By introducing a theory and then supporting it
2. Why does the professor talk about the rats?
 - (A) To oppose the use of sugar substitutes
 - (B) To provide evidence about aspartame
 - (C) To suggest the need for more research
 - (D) To compare the rats to humans
3. What point is the professor making when he mentioned the other studies?
 - (A) The rat study is not true.
 - (B) Aspartame is probably safe.
 - (C) More evidence is still needed.
 - (D) No human studies have been performed.

Fill in the blanks to complete the summary.

The professor states that many food producers use sugar _____ in their products. These are also found in diet sodas and snacks. An example is aspartame which some _____ is unsafe. These _____ think the long-term _____ of aspartame may cause _____. An experiment done on rats revealed this. Those who had more aspartame were more likely to get sick. Many other experiments show different results, but recent studies do suggest there is a link.

04 Meteorology

Listen to a lecture in a meteorology class, and fill in the diagram with the information that you hear. **Track 120**

Key Vocabulary

climate: the weather and environmental conditions

defect: a flaw or imperfection

glow: to give off light

intense: very strong

temporary: not permanent

Fulgurites

Definition:

Role 1:

Role 2:

1. How does the professor present the information?
 - (A) She compares and contrasts fulgurites with petrified lightning.
 - (B) She defines fulgurites and gives reasons for their study.
 - (C) She describes the process of how fulgurites are formed.
 - (D) She discusses two studies that support the theory of fulgurites.
2. Why does the professor talk about heating fulgurites?
 - (A) To illustrate how scientists can learn their age
 - (B) To give an example of how they store the energy of lightning
3. Why does the professor talk about gas bubbles in fulgurites?
 - (A) To demonstrate that fulgurites aren't entirely solid
 - (B) To describe how their age can be determined
 - (C) To show how scientists can tell what past climates were like
 - (D) To explain how they're responsible for the glow in fulgurites

Fill in the blanks to complete the summary.

This lecture is on fulgurites which form when lightning strikes some sand. Though lightning seems _____, it leaves evidence. When it strikes, the _____ heat melts sand, turning it into glass. Scientists find this glass interesting because it carries information about past _____. Scientists look at gas bubbles inside fulgurites to learn about this. When fulgurites are heated they _____, and the more _____ they have, the brighter they are. This way the scientists know how old fulgurites are.

05 Biology

Listen to a lecture in a biology class, and fill in the diagram with the information that you hear. **Track 121**

Key Vocabulary

decimate: to completely destroy

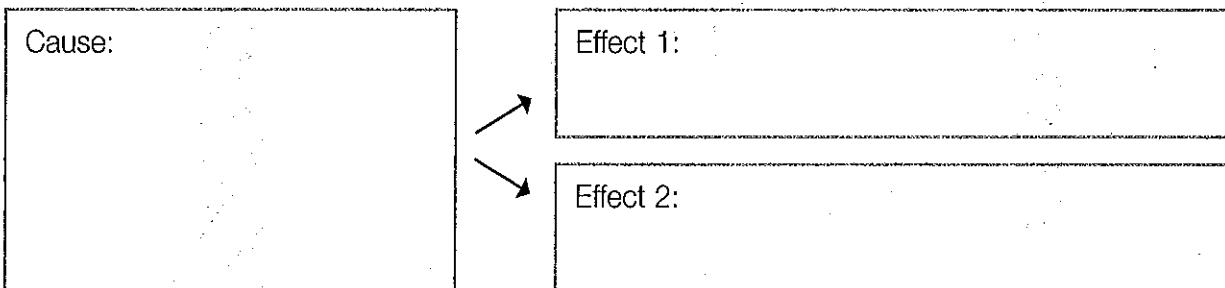
import: to bring something that is found or produced in one country into another country

native: belonging to a particular place by birth

opportunistic: taking advantage of any opportunity

reduce: to lessen

Importing the Mongoose



1. How does the professor present the information to the class?
 - (A) By comparing advantages and disadvantages
 - (B) By discussing a cause and its effects
 - (C) By explaining the importance of an animal
 - (D) By describing the mongoose's physical features
2. Why does the student mention sugar cane?
 - (A) To explain why people imported the mongoose
 - (B) To discuss what the mongoose eats
3. What does the professor show by mentioning the Hawaiian goose and Newell's shearwaters?
 - (A) Non-native bird species can damage the environment.
 - (B) The mongoose has no natural predators in Hawaii.
 - (C) Introducing the mongoose to Jamaica was a big mistake.
 - (D) The mongoose was particularly harmful to native bird species.

Fill in the blanks to complete the summary.

The professor says introducing species not _____ to a place can be risky. Animals and plants that are _____ often have an unexpected effect. The professor gives the example of a mongoose brought to Jamaica and Hawaii. This was done to _____ rat numbers. People hoped the mongoose population would eat all the rats. They didn't just eat rats. As _____ hunters, they ate many small animals they found. They _____ many of the natural species like the Hawaiian goose.

06 Biology

Listen to a lecture in a biology class, and fill in the diagram with the information that you hear. **Track 122**

Key Vocabulary

chemical: a substance obtained by a chemical process or used for a chemical effect.

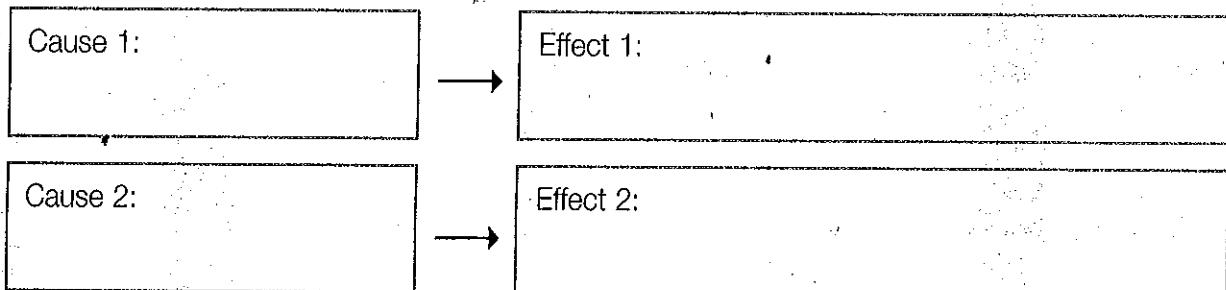
lethargic: not having energy.

mood: temper or attitude.

regulate: to control.

thermostat: a device used to control temperature in a building.

Brain Chemistry and Depression



1. How does the professor present the information in the lecture?
 - (A) She discusses the process for recovering from depression.
 - (B) She defines brain chemistry and gives examples of it.
 - (C) She explains how changes in serotonin levels cause changes in mood.
 - (D) She shows different ways people can improve their mood.

2. Why does the professor mention that serotonin is also found in certain foods?
 - (A) To compare the levels of this chemical in the brain and in food

- (B) To explain how people get serotonin in their bodies
- (C) To give an example of how a healthy diet can improve mood
- (D) To preview a topic that she will talk about later

3. How does the professor illustrate the way serotonin affects mood?
 - (A) By using the analogy of a thermostat
 - (B) By explaining how the chemical enters the brain
 - (C) By contrasting it with depression
 - (D) By talking about its role in regulating temperature

Fill in the blanks to complete the summary.

The professor says scientists now better understand the link between brain chemistry and ______. She says a brain _____ called serotonin can _____ how we feel. Serotonin is like a _____ that affects feelings. When levels are low, people feel depressed. They become sad and _____ and often get no pleasure from life. By getting exercise, changing their diet, or taking medicine, people can get better.

07

Fine Arts

Listen to a discussion in an art class, and fill in the diagram with the information that you hear. **Track 123**

Key Vocabulary

chaos: disorder and confusion

elevate: to lift up

expressive: communicating ideas and emotions

imitate: to copy or reproduce

manipulate: to cause to change

Stieglitz's Photography: Early and Late

Early Photography 1:

Both:

Late photography 1:

Early Photography 2:

Late photography 2:

- How does the professor present the information to the class?
 - He compares Stieglitz's photography to painting.
 - He contrasts two stages of Stieglitz photography.
 - He discusses the photographers Stieglitz influenced.
 - He explains how Stieglitz made fine art prints.
- Why does the professor talk about the subject matter of Stieglitz's early photography?
 - To show how it imitated subjects found in painting
 - To illustrate how simple his photographs were

- To give examples of how he was interested in everyday life
- To demonstrate why people love his photographs

- Why does the professor mention the First World War?
 - To give an example of the subject of Stieglitz's later photography
 - To illustrate when photography became a fine art
 - To explain why Stieglitz saw the modern world as chaotic
 - To show an important turning point in Stieglitz's career

Fill in the blanks to complete the summary.

The lecture is on the great American photographer, Alfred Stieglitz. His main goal was to _____ the status of photography. Before his time, photography was seen as less _____ than other visual arts. Stieglitz aimed to _____ the style and composition of painting. He did so by carefully _____ his prints. After the First World War, his style changed. He now wanted to show the _____ and motion of everyday life.

08**Biology**

Listen to a discussion in a biology class, and fill in the diagram with the information that you hear.

Track 124

Key Vocabulary**catastrophic:** disastrous**emerge:** to come out**mass extinction:** a large scale death of many species**particle:** an extremely small piece of something**wipe out:** to kill entirely

Meteors and Mass Extinctions

Theory:

Support:

1. How does the professor present the information?
 - (A) He defines a mass extinction and gives an example.
 - (B) He gives evidence to support a theory.
 - (C) He compares two different extinctions.
 - (D) He presents events in chronological order.

2. Why does the professor mention the dinosaurs?
 - (A) To introduce a topic by using a familiar example
 - (B) To compare different causes of mass extinctions

- (C) To show that life evolved differently in the past
- (D) To describe some species that are now extinct

3. Why does the professor mention Antarctica?
 - (A) To show where the climate change took place
 - (B) To indicate how long it took for dinosaurs to evolve
 - (C) To describe why dinosaurs couldn't live there
 - (D) To show where evidence has been found

Fill in the blanks to complete the summary.

The professor explains that dinosaurs disappeared very suddenly. He says a similar _____ occurred before dinosaurs lived. Most life on Earth was _____. Researchers think a meteor hit the Earth, causing climate change. This _____ event is what killed early life forms. They know this because they found metal _____ in Antarctica. These tell us that a meteor fell. Another meteor killed dinosaurs. We have life on Earth today because new forms _____ when old ones die out.

09 Astronomy

Listen to a discussion in an astronomy class, and fill in the diagram with the information that you hear. **Track 125**

Key Vocabulary

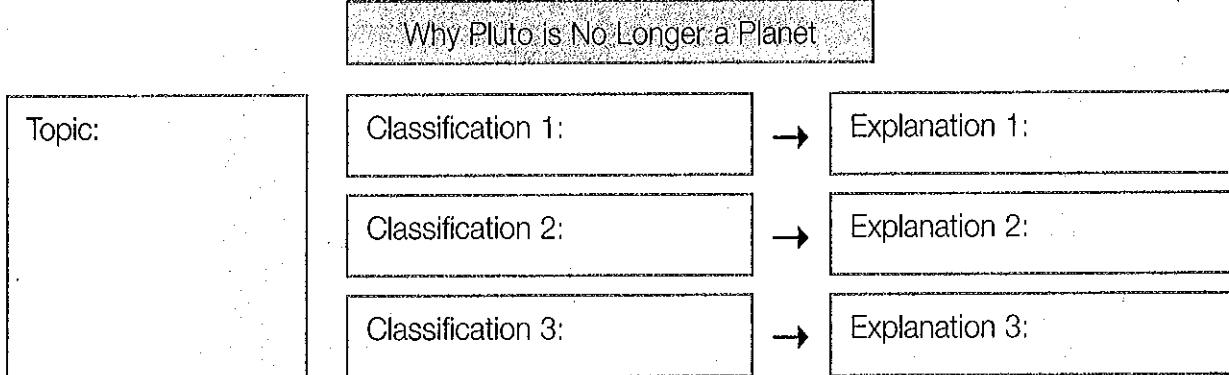
erratic: changing irregularly; not predictable

orbit: to move around a larger object in space

overlap: to extend over and cover a part of an object

strict: severe; precise

unobstructed: not blocked by other things



- How does the professor present the information?
 - By discussing how the definition of planets has changed over time
 - By stating the reasons why Pluto should be considered a planet
 - By comparing Pluto to other planets in the solar system
 - By showing why Pluto does not fit the new definition of a planet
- Why does the professor mention asteroids?
 - To explain that Pluto is now considered an asteroid
 - To give an example of a non-round space object
- Why does the professor contrast Pluto's orbit with that of Neptune?
 - To explain why Pluto should be considered a planet
 - To point out that Neptune and Pluto are neighbors
 - To discuss the different shapes of these two space objects
 - To demonstrate that Pluto does not match all the requirements

Fill in the blanks to complete the summary.

The professor is discussing why Pluto is not really a planet. There is now a _____ definition of what it takes to be a planet. There are three things a space object must do to be called a planet. Firstly, it must _____ the sun, and secondly, it must have enough mass for a round shape. The third thing is that the object's orbit must be _____. Pluto fails because it has an _____ orbit which sometimes _____ with Neptune's.

10 History

Listen to a discussion in a history class, and fill in the diagram with the information that you hear.

Track 126

Key Vocabulary

army: a military or armed forces

arrow: a pointed weapon that is shot by a bow

chariot: a vehicle used in ancient times that had two wheels and was pulled by horses

conquer: to overcome or defeat

tactical: planned or strategic

Chariots in Egyptian Warfare

Definition:

Role 1:

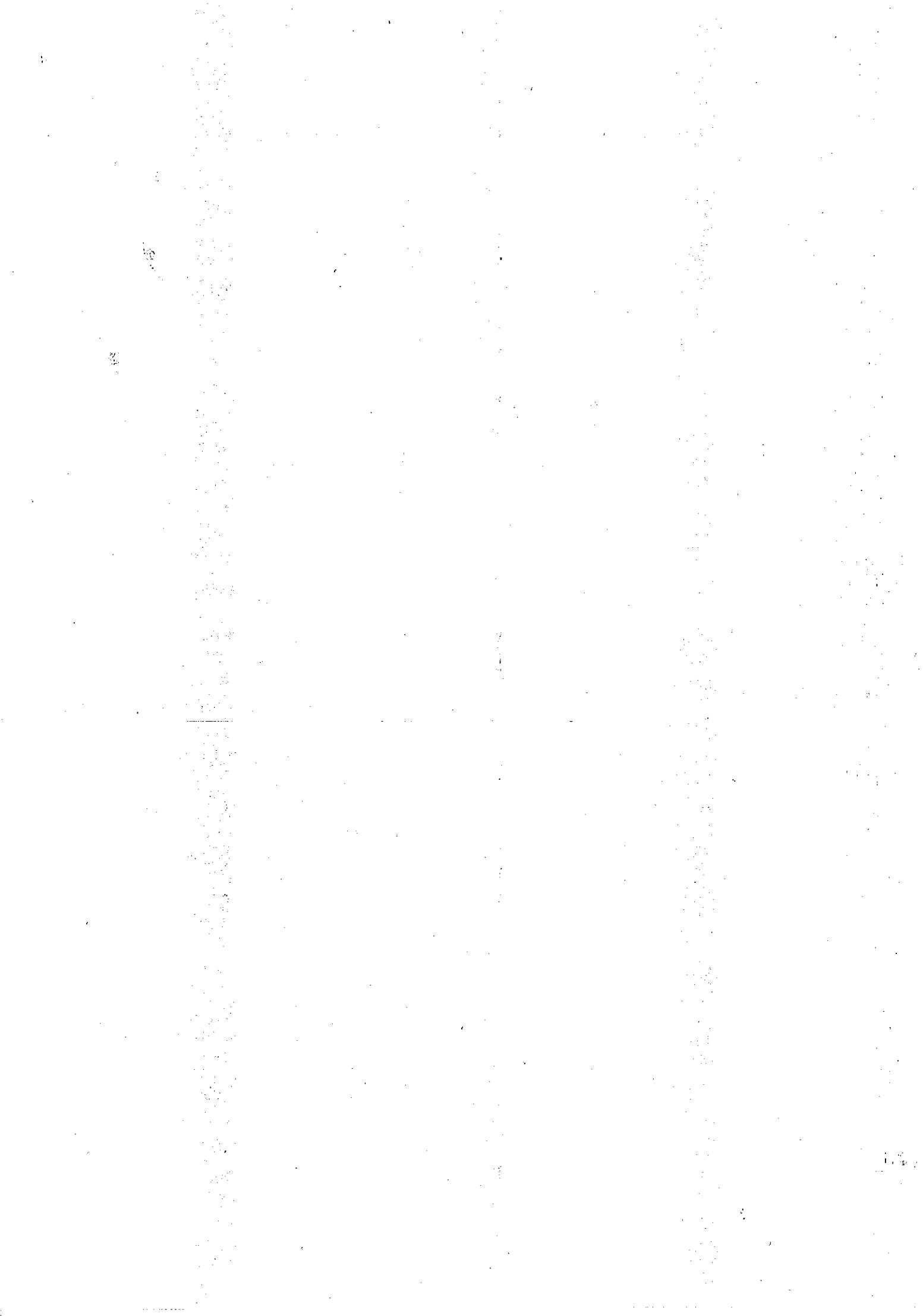
Role 2:

Role 3:

1. How does the professor present the information he gives to the class?
 - (A) By contrasting Egyptian chariots with modern weapons
 - (B) By listing historic events in chronological order
 - (C) By comparing Egyptian chariots with chariots from other lands
 - (D) By describing the advantages Egyptians received from chariots
2. Why does the professor discuss the Hyksos?
 - (A) To explain how the chariot came to Egypt
 - (B) To describe the weapons of Egypt's enemies
3. Why does the professor compare chariots to gunpowder?
 - (A) To show how influential chariots were to Egyptian warfare
 - (B) To demonstrate similar ways in which chariots were used
 - (C) To explain how important chariots were to Egyptian defense
 - (D) To show how superior chariots were to other weapons

Fill in the blanks to complete the summary.

The professor says a two-wheeled vehicle called a _____ transformed ancient Egypt. People called the Hyksos used these to _____ Egypt in 1700 B.C.E. The Egyptians fought back and gained control of their country again. Then they built lighter, faster vehicles like this, which changed their warfare style. The Egyptian _____ now made war with people outside their lands because they could travel farther. Chariots also gave them a _____ advantage. One soldier drove while another shot _____.



Chapter 6

Content Questions

Necessary Skills

- Understanding relationships between different pieces of information
- Identifying key category words in a lecture or a conversation
- Understanding the characteristics of different categories
- Comparing the characteristics of different categories
- Determining whether a certain point is discussed in relation to a category

Example Questions

- Based on information from the lecture, indicate whether or not each statement is correct. Place a check mark in the correct box.
- Based on information from the lecture, indicate for each example which feature of _____ it relates.
- What does _____ demonstrate?
- What does the professor demonstrate by discussing _____?

Strategies

- Questions with tables only appear after the listening is finished, so it is important to take notes while you listen.
- When taking notes, pay special attention to category words, the characteristics of categories, and examples.
- For questions asking whether or how each phrase or sentence applies, be sure to click the appropriate box for each answer choice.
- Keep in mind that there are different types of tables to complete: some in which you need to click Yes or No, and others in which you need to click the correct category.

01 Fine Arts

Listen to a lecture in an art class, and fill in the diagram with the information that you hear.

Track 127

Key Vocabulary

bench: a long, hard seat made for more than one person that is

usually found outside

circular: round

immense: great, large

narrate: to relate or tell, as in a story

stage: a platform in the theater where the actors or singers perform

Greek Theaters vs. Elizabethan Theaters

Greek Theaters 1:

Both 1:

Elizabethan Theaters 1:

Greek Theaters 2:

Both 2:

Elizabethan Theaters 2:

What are the characteristics of each type of theater? Place a check mark in the correct box.

	Greek Theaters	Elizabethan Theaters	Both
Built on hills			
Open-air stages			
Contained "pits"			
Had areas for singers and dancers			

Fill in the blanks to complete the summary.

This lecture is on Greek and Elizabethan theaters. Greek theaters were built outside on hillsides and had stone _____ for the audience. The _____ of these theaters were _____ in shape. Dancers would perform, and singers would _____ stories here. They were _____ in size, seating about 15,000 people. Elizabethan theaters were made of wood, and their stages were roofless. They were the same shape as Greek theaters and also seated 15,000 people, but they had "pits."

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02 Geology

Listen to a lecture in a geology class, and fill in the diagram with the information that you hear.

Track 128

Key Vocabulary

crust: the outer layer of the Earth

displace: to move something out of its position

impact: the striking of one thing against another

massive: large

shove: to push

Creation of Tsunamis

Trigger 1:



Effect of Tsunami 1:

Trigger 2:



Effect of Tsunami 2:

Which phrases describe causes or effects of a tsunami? Place a check mark in the correct box.

	Causes of Tsunamis	Effects of Tsunamis
Series of fast-moving waves		
Underwater earthquake		
Meteor Impact		

Fill in the blanks to complete the summary.

The professor is telling her class about tsunamis, which are giant waves. They form when _____ amounts of water are _____. There are two things that can trigger this. One is a meteor _____, which is when a space rock falls into the ocean, making big waves. The other trigger is when earthquakes _____ part of the Earth's _____ upwards. This force can also create tsunamis, and the result is often large-scale destruction.

03 Office Visit

Listen to a conversation between a student and a professor, and fill in the diagram with the information that you hear. **Track 129**

Key Vocabulary

concerned: to be worried about

favorite: liked the most

location: a place

section: a class

switch: to change

Falling Asleep in Class

Problem:

Solution:

What reasons does the student give for falling asleep in class? Place a check mark in the correct box.

	Reasons Given	Reasons Not Given
He works at night.		
He finds the class is boring.		
He stays up late studying.		
He does not sleep enough.		

Fill in the blanks to complete the summary.

John's professor is _____ because he often falls asleep in class. John explains that this is his _____ class, but his delivery job is the problem. He works late hours delivering pizzas and doesn't sleep enough. The professor suggests John sign up for the afternoon _____. Since the class is in the same _____ and covers the same work, John can _____ classes.

04 Service Encounter

Listen to a conversation between a student and a university employee, and fill in the diagram with the information that you hear. **Track 130**

Key Vocabulary

eligible: qualified to be chosen

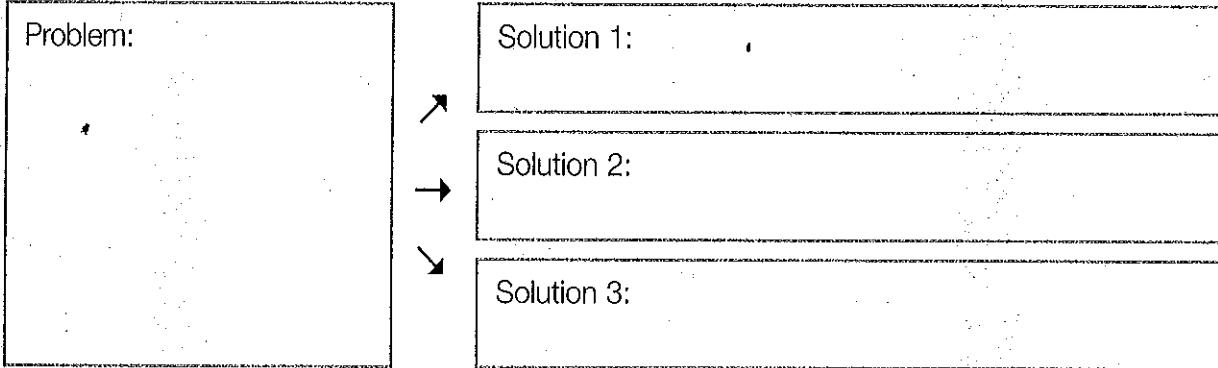
tuition: the fee charged to attend college

expensive: something that costs a lot

visa: an official document needed to visit or live in a foreign country

financial aid: money used to help pay for college

Getting Money for School



What suggestions does the advisor give the student? Place a check mark in the correct box.

	Suggestions Given	Suggestions Not Given
Get a work visa		
Find a part-time job		
Apply for government scholarships		
Research internships		

Fill in the blanks to complete the summary.

Juan is an international student. He is not _____ for government scholarships or _____ like other students. He still has a problem paying for his _____ and books because these are very _____. The advisor asks Juan if his student _____ allows him to work. Juan says it does, so she suggests he get a part-time job or he apply for private funding.

05 Geology

Listen to a discussion in a geology class, and fill in the diagram with the information that you hear. **Track 131**

Key Vocabulary

crater: a bowl-shaped depression

conical: cone-shaped

geological: pertaining to the Earth

magma chamber: a space inside a volcano that contains liquid rock when full

typical: usual

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Calderas

Topic:	Classification 1:	Cause 1:

Classification 2:

Cause 2:

What characteristics describe each volcano? Place a check mark in the correct box.

	Mt. St. Helens	Kilauea	Both
Caldera can be seen today			
Magma chambers collapsed			
Caldera created by explosion			
Remains an active volcano			

V
ir

Fill

Fill in the blanks to complete the summary.

The professor is explaining what volcanic calderas are. He tells students there are two types of this _____ feature. The _____ shape of a volcano is _____. It also has a big _____ at the top of it, which is the caldera. This type is formed when a volcano explodes and leaves a big hole. The other type of caldera is formed when a _____ empties and collapses. There is no violent explosion in this case.

06 Physics

Listen to a lecture in a physics class, and fill in the diagram with the information that you hear. **Track 132**

Key Vocabulary

facility: buildings and equipment used for a particular purpose.

harness: to capture and use.

pollution: chemicals and dirt that harms the environment.

steam: heated water that becomes a gas.

sustainable: able to continue without damaging the environment.

Geothermal Energy

Advantage 1:

Disadvantage 1:

Advantage 2:

Disadvantage 2:

What are the advantages and disadvantages of geothermal energy? Place a check mark in the correct box.

	Advantages	Disadvantages
Available locations		
Cost		
Pollution level		
Reliability		

Fill in the blanks to complete the summary.

The professor is telling his students about geothermal energy. He says this is a good, _____ energy source which allows us to _____ the Earth's heat. It involves digging holes in the Earth to collect _____. It has big advantages because it costs very little once _____ have been built. Another advantage is that it produces no _____. The bad thing is that steam is only found in certain places and is very unpredictable.

07

Office Visit

Listen to a conversation between a student and a professor, and fill in the diagram with the information that you hear. **Track 133**

Key Vocabulary

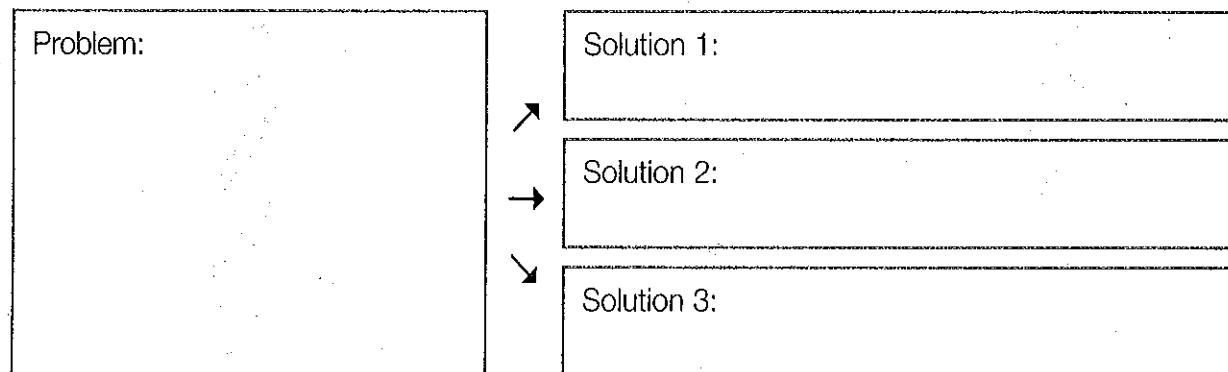
abbreviate: to shorten a word by only writing a few letters of that word

cramp: to cause a painful tightening of a muscle

Incomplete: lacking some part

outline: the main ideas and points of a lecture but not the details

subtopic: a topic that covers a more specific feature of a main topic

Bad Note-Taking Skills

What suggestions does the professor give the student? Place a check mark in the correct box.

	Suggestions Given	Suggestions Not Given
Sit at the front of the class		
Copy the professor's outline		
Write every word said		
Use abbreviations and symbols		

Fill in the blanks to complete the summary.

A student is missing important information in his notes. His professor thinks his notes are _____, and his style needs improvement. She suggests that he copy down her _____ so he can keep up with the main ideas. She says this can also help him fill in the _____. She says understanding a lecture's organization is important. She also wants him to try and _____ words and use symbols so his hand doesn't _____.

08 Service Encounter

Listen to a conversation between a student and a university employee, and fill in the diagram with the information that you hear. **Track 134**

Key Vocabulary

compatible: able to work together or get along.

login name: a name that allows you to get onto a computer.

password: a secret word or phrase one needs to get into something.

software: a computer program.

web browser: a program used to surf the Internet.

Difficulty Registering for Classes

Problem:

Solution:

What should the student do to register? Place a check mark in the correct box.

	Should Do	Doesn't Need to Do
Use a computer on campus	<input type="checkbox"/>	<input type="checkbox"/>
Download a different browser	<input type="checkbox"/>	<input type="checkbox"/>
Register in person	<input type="checkbox"/>	<input type="checkbox"/>
Use her login name and password	<input type="checkbox"/>	<input type="checkbox"/>

Fill in the blanks to complete the summary.

A student wants to register using the university website but is having trouble. When she types in her _____ and her _____, the server remains unavailable. The man asks her what _____ she is using on her home computer. He explains that this software is not _____ with the university's _____. He tells her about a free program she can download to register from home.

09 History

Listen to a discussion in a history class, and fill in the diagram with the information that you hear. **Track 135**

Key Vocabulary

ancestor: a relative from the past

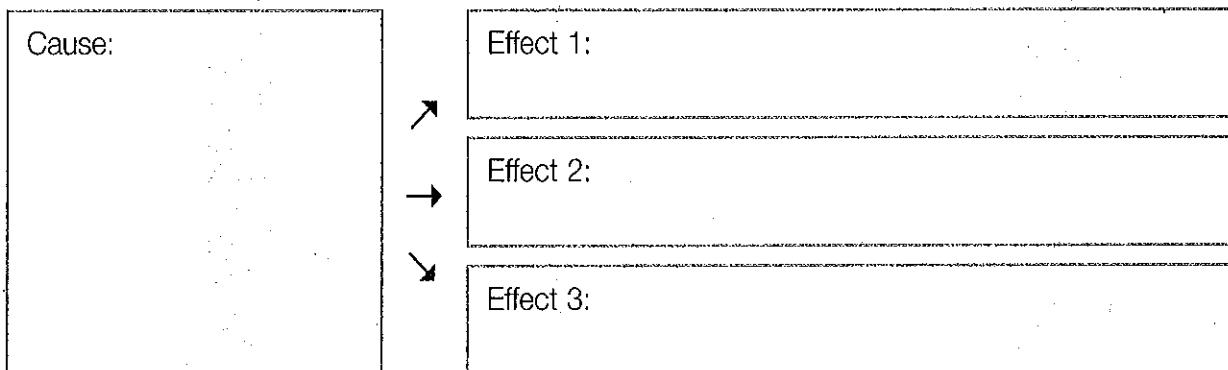
assemble: to bring together

monarchy: rule by a single person

nobility: the ruling class of people below the king

thorough: complete

Norman Conquest and English Culture



Which of the following were results of the Norman Conquest? Place a check mark in the correct box.

	Results	Not Results
English borrowed German words		
Church leadership changed		
England got a new king		
Anglo-Saxons moved to France		

Fill in the blanks to complete the summary.

The class is discussing the Norman conquest of England by William the Conqueror. This king _____ an army in 1066 and invaded England. The people in England were called Anglo-Saxons, and their _____ were German. William took all the land and power from the Anglo-Saxon _____. He also removed their leaders from powerful positions in the Church. He was very _____ because he wanted his conquest to last a long time. He made his _____ the most powerful in Europe.

10 Biology

Listen to a discussion in a biology class, and fill in the diagram with the information that you hear. **Track 136**

Key Vocabulary

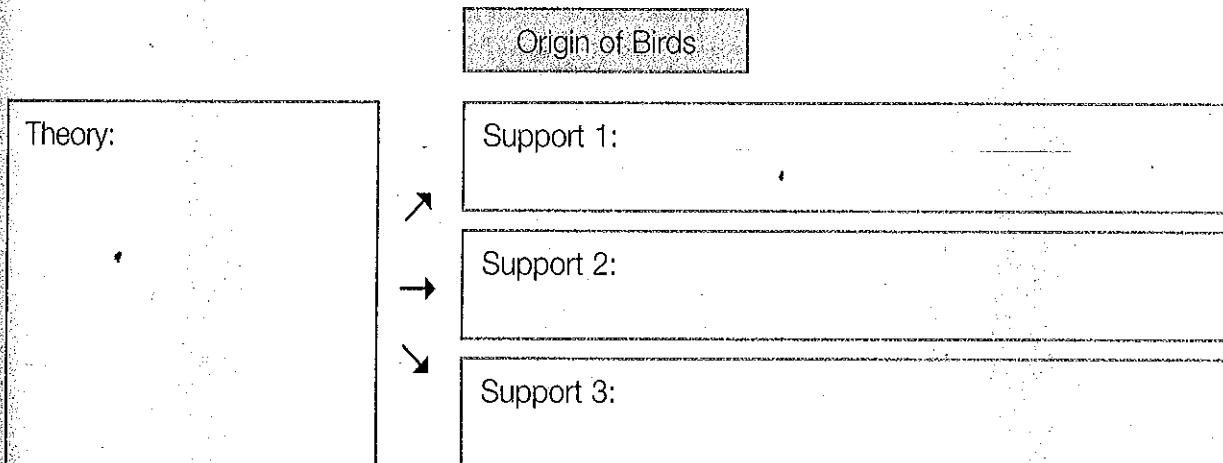
controversial: causing lots of disagreement

hollow: to be empty inside; not solid

scale: stiff plate covering reptiles instead of skin

skeletal: relating to the skeleton or the bone structure of an organism

tissue: material formed from plant or animal cells



Which evidence does the professor mention to support the theory that birds are descendants of dinosaurs? Place a check mark in the correct box.

	Mentions as Evidence	Doesn't Mention as Evidence
Dinosaurs laid eggs like birds		
Some dinosaurs had hollow bones		
Some dinosaurs could fly		
Feathers and scales grow from similar tissue		

Fill in the blanks to complete the summary.

The teacher discusses a _____ theory about the origin of birds. This popular theory claims birds are direct descendants of dinosaurs. Bird bones are _____ inside, just like those of certain dinosaurs. She says that these dinosaurs also had feathers like birds. She tells the class that birds also have _____ on their feet, making them like dinosaurs. These grow from the same type of _____ that produces feathers. The third similar thing is their structural _____ features.



Chapter 7

Inference Questions

Necessary Skills

- Guessing the implied meaning of a sentence or phrase
- Making a generalization from what is said
- Drawing a conclusion based on the main points of a lecture or a conversation
- Recognizing how intonation or stress indicates implied information or opinions
- Inferring what is likely to happen from what a speaker says

Example Questions

Some inference questions will not appear during the test. You will only hear them.

- Listen again to part of the conversation. Then answer the question.
You will hear a few lines of the lecture or conversation again.
- What does the professor imply when she says this:
You will hear part or one line of the previous excerpt again.

The following types of inference questions may appear during the test:

- What does the professor imply about _____?
- What can be inferred about _____?
- What will the professor likely discuss next?
- What will the student probably do next?

Strategies

- Try to guess the implied meaning of the given information. The correct answer is not directly stated.
- Pay attention to clues expressed by certain words, word stress, intonation, or pace of what is said. The same sentence can express different meanings when said in different ways.
 - Example: *Oh, you've never heard of that.* (I may need to explain more than I thought.)
Oh, you've never heard of that? (I'm surprised that you've never heard of that.)
- Pay attention to the last part of a conversation. For example, if a speaker agrees with the other speaker's suggestion at the end, we can infer that the speaker will do what is suggested.

01 Zoology

Listen to a lecture in a zoology class, and fill in the diagram with the information that you hear. **Track 137**

Key Vocabulary

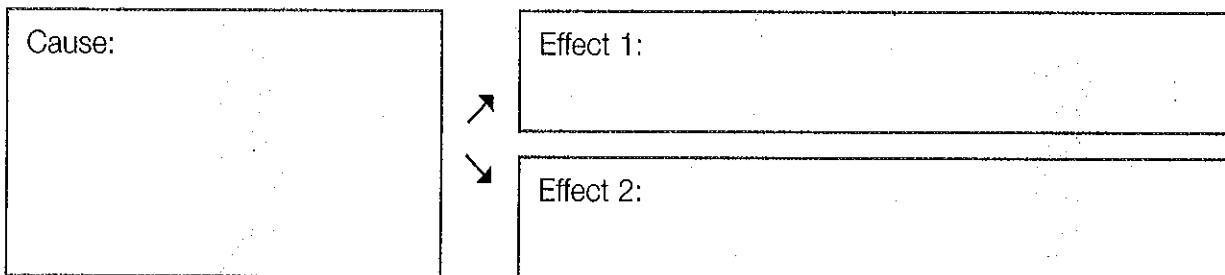
divorce: a formal separation of husband and wife, or mates
initial: first
mate: the partner of an animal

monogamous: having only one romantic partner at a time
phenomenon: an observable, and sometimes remarkable, occurrence

Listen
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Divorce Among Blue Tits



1. What can be inferred about divorce in the animal world?
 - (A) There are some birds that also divorce.
 - (B) Divorce is very common among animals.
 - (C) Humans divorce more than blue tits do.
 - (D) Divorce rarely occurs outside the human species.
2. What does the professor imply about female blue tits?
 - (A) They do not take care of the young.
 - (B) They prefer males with better territory.
 - (C) They have their own territory.
 - (D) They are less aggressive than males.
3. What does the professor imply about divorce among blue tits?
 - (A) Females benefit most from divorce.
 - (B) Males do not initiate divorce.
 - (C) Divorce can happen many times.
 - (D) Males do not benefit from divorce.

Fill in the blanks to complete the summary.

The professor explains that _____ is not just a human _____. It occurs among birds such as blue tits too. These birds are socially _____ but have a 50% divorce rate. After divorce, the male stays, and the female leaves the nest. Blue tits divorce because of female competition, not because females leave their _____ for another male. Bigger females chase weaker females from the territory. In this way, the stronger female breaks up the _____ mating pair.

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(A)

be
(B)

(C)
(D)

2. W
m
(A)

(B)

Fill in

02 Linguistics

Listen to a lecture in a linguistics class, and fill in the diagram with the information that you hear.

Track 138

Key Vocabulary

assertive: behaving in a confident way

cooperative: involving cooperation or working together

intonation: the way in which your voice rises and falls when you speak

phrase: to express something in a particular way

unsure: not confident or certain

Women's Use of Intonation in Statements

Advantage:

Disadvantage:

1. What can be inferred about assertive behavior?
 - (A) Women cannot speak as assertively as men.
 - (B) Women don't like it when people are assertive.
 - (C) Men prefer assertiveness in conversation.
 - (D) Men use intonation to sound more assertive.

2. What does the professor imply about how men see conversation?
 - (A) They see it as straightforward and simple.
 - (B) They don't see rising intonation as cooperative.

3. What does the professor imply about women in business?
 - (C) They avoid the use of intonation when talking.
 - (D) They prefer to talk with men rather than women.

Fill in the blanks to complete the summary.

The professor is discussing how women use rising _____ which makes them sound like they're asking questions. They don't sound like they're stating facts. In a business environment, this is good and bad. To females, conversations are _____ activities. Women feel that by _____ statements as questions, they give listeners a chance to reply. Males think rising intonation shows weakness. They think women who do this seem _____ of themselves. Men think it is good to sound _____ when speaking.

03 Office Visit

Listen to a conversation between a student and a professor, and fill in the diagram with the information that you hear. **Track 139**

Key Vocabulary

deadline: a point in time before which you have to complete something

feedback: comments about how well or how badly someone did something

freshman: a student in his/her first year of college

senior: a student in his/her final year of college

syllabus: paper describing information about a class

Research Paper Assignment

Problem:

Solution:

1. What does the professor imply about other freshmen?
 - (A) They don't usually see him before handing in their papers.
 - (B) They have written research papers before.
 - (C) They are usually happy with their grades in his class.
 - (D) They are rarely nervous about research papers.
2. What does the professor imply about seniors?
 - (A) They also are nervous about research papers.
3. What can we assume about the student?
 - (A) She wrote research papers in high school.
 - (B) She hasn't been doing well in the class.
 - (C) She has previously received a syllabus.
 - (D) She enjoys the way the professor teaches.

Fill in the blanks to complete the summary.

The student talks to the professor about her research paper. She says she is nervous about it because it is her first paper. He says this attitude is common among _____ and that writing like a _____ takes time. He says she could write a draft before the _____ and he will provide _____ on it. She agrees to send a draft to the email address on the _____.

04 Service Encounter

Listen to a conversation between a student and a cafeteria worker, and fill in the diagram with the information that you hear. **Track 140**

Key Vocabulary

allergic: not able to eat or drink something without getting sick or feeling bad

dairy: foods made from milk

feature: to display something as special

international: from another country

policy: a set of rules or guidelines

Problems with Meal Plans

Problem:

Solution:

1. What does the employee imply about the university?
 - (A) It has lots of dining places on campus.
 - (B) It requires all freshmen to purchase a meal plan.
 - (C) It offers a variety of meal plans for its students.
 - (D) It does not offer any soy food products.
2. What does the student imply about her high school meal plan?
 - (A) She wasn't required to purchase one.
 - (B) It did not offer non-dairy options.
 - (C) It was not very expensive.
 - (D) She really liked it a lot.
3. What can be inferred about eating at the university?
 - (A) The food is costly for students to purchase.
 - (B) It features lots of dairy products in the meal plan.
 - (C) All students must purchase meals on-campus.
 - (D) There are many different foods to eat.

Fill in the blanks to complete the summary.

A freshman must buy a meal plan because this is university _____. The student is _____ to _____ products but does not want to buy food anywhere else. She is told that dining services do offer non-dairy meals. They offer soy milk and soy-based products. They also have special meal days for _____ students. These _____ foods from different countries. That way, all students get a taste of home.

05 Economics

Listen to a discussion in an economics class, and fill in the diagram with the information that you hear. **Track 141**

Key Vocabulary

acceptance: the act of receiving with approval

authority: the power you have to lead

obey: to do what you are told

obligation: a requirement

order: a command

Management: Classical View vs. Acceptance View

Classical View 1:

Both:

Acceptance View 1:

Classical View 2:

Acceptance View 2:

1. What does the professor imply about both theories?
 - (A) They are equally present in the business world.
 - (B) They do not apply for illegal forms of authority.
 - (C) They share no similarities with one another.
 - (D) They don't give authority to the employee.
2. What does the professor imply about the acceptance view?
 - (A) A worker is not required to obey orders.
 - (B) Managers have more authority than workers.
3. What can be inferred about managers who have a classical view of their authority?
 - (C) It makes organizations less orderly.
 - (D) It is popular among companies today.

Fill in the blanks to complete the summary.

The professor discusses two ideas about how to be a manager. These ideas have to do with legal _____. The classical view of management is top down. Managers give _____ and believe workers have an _____ to follow them. They think workers should _____ them. They think they deserve obedience. Another view sees authority as being in the hands of workers. This is called the _____ view. A manager using this idea thinks he should gain the obedience of workers.

06 Psychology

Listen to a lecture in a psychology class, and fill in the diagram with the information that you hear. **Track 142**

Key Vocabulary

attribute: to give credit for something

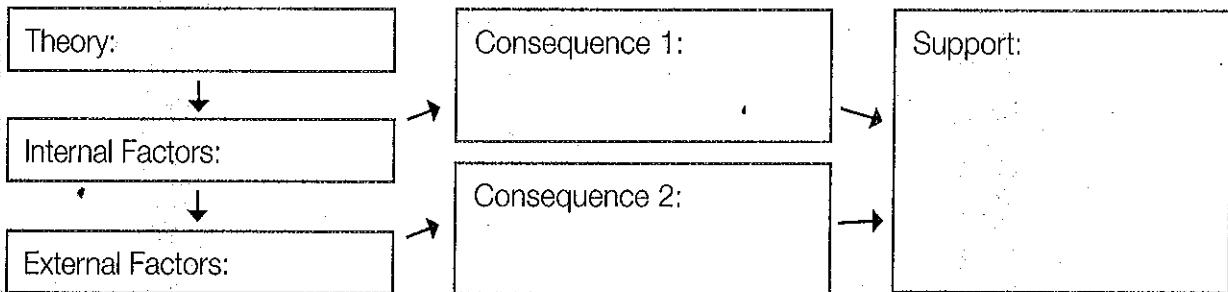
factor: a cause

neat: not messy; clean and orderly

reverse: the opposite

wrapper: the plastic around a piece of candy that you take off before eating it

The Attribution Theory and Behavior Change



1. What is implied by the entire passage?
 - (A) The Attribution Theory can not be applied to teachers.
 - (B) Changes in behavior are difficult to make.
 - (C) A change in perception can reduce a bad habit.
 - (D) Schools often use attribution theory in the classroom.
2. Listen to part of the lecture again. Then answer the question.

What does the professor imply?

 - (A) The Attribution Theory is not a logical theory.
 - (B) People think that success comes with hard work.

3. What can be inferred about behavior when people attribute results to external factors?
 - (A) They will try to motivate others to change their behavior.
 - (B) They are less likely to try to change their own behavior.
 - (C) They will not understand the real causes of results.
 - (D) They are more likely to try to change their own behavior.

Fill in the blanks to complete the summary.

The Attribution Theory is how people explain results. Results can be caused by either external or internal _____. People _____ success or failure to these factors. If a person thinks something happens because of internal things, they change their behavior. When people think something happens due to externals, the _____ is true. In an experiment, teachers gave children candy. The children threw the _____ on the floor until they learned to be _____. Then they threw them in the trash can.

07

Office Visit

Listen to a conversation between a student and a professor, and fill in the diagram with the information that you hear. **Track 143**

Key Vocabulary

flunk: to fail or receive a grade that is below the passing mark

extra credit: an extra assignment done to improve one's grade

remaining: left over

semester: one of the two terms that the school year is divided

into

throw out: to get rid of

Trouble With a Math Test

Problem:

Solution:

1. What can be inferred about the first test?
 - (A) It is worth 10% of the grade.
 - (B) It is just a practice test.
 - (C) Most students do well on it.
 - (D) It is the least important test.

2. What does the professor imply about her upper-level classes?
 - (A) They are easier than this one.
 - (B) They have fewer tests than in this one.
 - (C) She has less students in those classes.
 - (D) She allows students to do extra credit assignments.

3. What does the student imply about his failed test?
 - (A) It won't make much difference.
 - (B) Failing it wasn't his fault.
 - (C) He didn't study hard enough.
 - (D) The teacher was partially at fault.

Fill in the blanks to complete the summary.

Trey is worried he may _____ math. He asks his professor if he can do some _____ to bring his test grade up. His history professor let him do this last _____.

Trey explains that he was sick when he took the math test and has a note from the nurse to prove it. The professor says she will think about _____ his grade for the test if he gets better than a B-average on the _____ tests.

08 Service Encounter

Listen to a conversation between a student and a university employee, and fill in the diagram with the information that you hear.

Track 144

Key Vocabulary

compensate: to pay money to replace something lost or destroyed

form: paperwork

leak: an unintended hole or crack through which water enters

stink: to smell bad

wardrobe: a person's clothes

A Leaky Roof

Problem:

Solution:

1. What does the man imply when he mentions the weather forecast?
 - (A) The woman can dry her clothes outside.
 - (B) The woman doesn't need to worry about more leaks.
 - (C) The woman should enjoy the weather now.
 - (D) There will be less rain this time.

2. What can be inferred about the other students who complained?
 - (A) They also got compensation.
 - (B) They also had clothes ruined.
 - (C) They live in Ellison Hall.
 - (D) They were not friendly to the man.

3. What will the woman probably do next?
 - (A) Try to wash her clothes again
 - (B) Go out and buy new clothes
 - (C) Fill out the form and bring it back
 - (D) Go back to her room and clean up

Fill in the blanks to complete the summary.

A student wants to file a complaint with the housing department because of a _____ in her ceiling. The leak caused filthy water to come into her closet. Many of her clothes were ruined, and they also _____. She complains that she lost half of her _____. The man apologizes and says it's because of unexpectedly heavy rain. He tells her to fill out a _____ so that a check can be written to _____ her for her loss.

09 History

Listen to a discussion in a history class, and fill in the diagram with the information that you hear. **Track 145**

Key Vocabulary

abundant: plentiful; having a lot

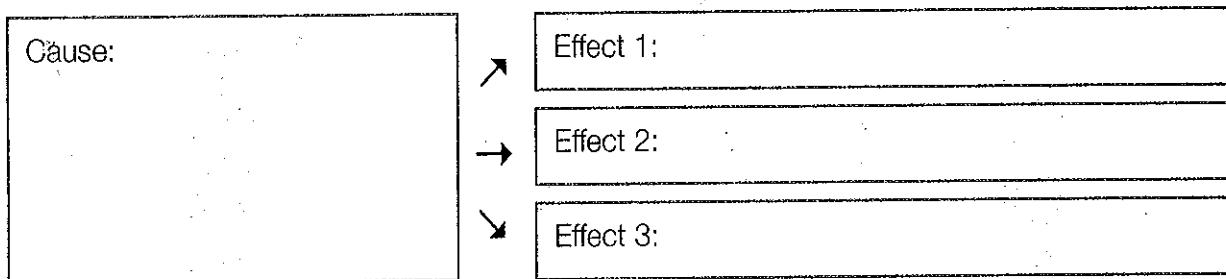
economy: the system in which a country's trade and industry are organized

essential: necessary

latter: the second item when two items are compared

principal: most important

The Decline of the Easter Island Civilization



1. What can be inferred about the Easter Islanders the European met?
 - (A) They were not related to the people who built the civilization.
 - (B) They had forgotten about how their old civilization was created.
 - (C) They consisted of a few disorganized tribes without a leader.
 - (D) They had discovered other ways to catch fish and farm.
2. What does the professor imply about the decline of the Easter Island civilization?
 - (A) It took place over a long period of time.
- (B) It could have been prevented with better leadership.
(C) It was influenced by the first Europeans.
(D) Nothing could have been done to stop it from happening.
3. What can be inferred about the art and sculpture of Easter Island?
 - (A) It was too strange for the Europeans to understand.
 - (B) It was sold off as the economy began to decline.
 - (C) It was no longer created once the political order collapsed.
 - (D) It was taken away by the Europeans when they arrived.

Fill in the blanks to complete the summary.

The professor is discussing why the great civilization of Easter Island ended. He says a new theory suggests the _____ cause was deforestation. Once, the island was covered with _____ forests and palm trees. Islanders used these trees to build houses and boats. The _____ were used for fishing, which formed the core of the island's _____. In other words, these forests were _____ to the islanders' survival. When the trees were gone, they could no longer survive.

10

Environmental Science

Listen to a discussion in a science class, and fill in the diagram with the information that you hear. **Track 146.**

Key Vocabulary**contend:** to argue**cycle:** a series of events that happen again and again throughout time**fossil fuel:** energy sources like coal, oil, and natural gas**layer:** one thickness lying over or under one another**urban:** pertaining to cities**Global Warming****Theory:****Criticism 1:****Criticism 2:**

1. What does the professor imply about the theory of global warming?
 - (A) It is becoming more accepted by scientists.
 - (B) The students are probably already familiar with it.
 - (C) He will need a lot of time to discuss this theory.
 - (D) The arguments against it are not realistic.

2. What can be inferred about the lower troposphere?
 - (A) Human activity does not cause it to change.
 - (B) People have not studied it for very long.

3. What does the professor imply about increases in land temperatures?
 - (A) They are more important than changes in the troposphere.
 - (B) They are not related to the burning of fossil fuels.
 - (C) They are a sign that manmade global warming is occurring.
 - (D) They can be predicted with complex computer models.

Fill in the blanks to complete the summary.

The professor is discussing global warming. This theory states that burning _____ produces gases. These gases heat up the Earth. Some critics argue against this theory because for many years, a lower _____ of the Earth's atmosphere has not heated up. It is called the troposphere. Critics _____ that land gets hot in _____ areas because trees are cut down. They also say the Earth's temperature always changes in _____.

Vocabulary Review 3

Instructions: Choose the best word or phrase to complete each sentence.

1. My favorite place to visit is Florida. I like it because its _____ is so warm.

(A) climate
(B) steam
(C) ray
(D) ecosystem

2. George knew that he couldn't afford a new car with his current _____.

(A) sediment
(B) committee
(C) excess
(D) budget

3. One of the problems in big cities is the large amount of _____ in the air.

(A) molecule
(B) virtue
(C) pollution
(D) consumption

4. I'm looking for an _____ couch to buy. I can't spend too much money on it.

(A) affordable
(B) opportunistic
(C) unobstructed
(D) intense

5. Jane didn't dare bother her father. He was in a bad _____.

(A) subtopic
(B) muscle
(C) opposition
(D) mood

6. It's believed that the burning of _____ is harmful to our environment.

(A) fossil fuels
(B) greenhouse gases
(C) atmosphere
(D) organelles

7. One of my _____ was the queen of Poland.

(A) ancestors
(B) outsiders
(C) substitutes
(D) warriors

8. When writing a research paper, it's often helpful to create an _____ first.

(A) outline
(B) army
(C) organism
(D) arrow

Instructions: Choose the word or phrase closest in meaning to the underlined part.

9. The purse Lola wanted to buy was very costly.

(A) sustainable
(B) psychological
(C) desirable
(D) expensive

10. The invading army finally defeated its enemies.

(A) absorbed
(B) disenrolled
(C) rejected
(D) conquered

11.

12.

13.

14.

15.

11. Which place did you want her to meet you at?
 (A) bench
 (B) capacity
 (C) location
 (D) pool
12. The repairman has a responsibility to do the best job he can for the customer.
 (A) groove
 (B) tuition
 (C) placement
 (D) obligation
13. The mother loved to tell stories to her kids.
 (A) narrate
 (B) displace
 (C) bug
 (D) participate
14. The asteroid's force resulted in the creation of a large crater.
 (A) cycle
 (B) impact
 (C) plain
 (D) section
15. Professor Mims gave a very detailed explanation of the process.
 (A) excessive
 (B) faulty
 (C) thorough
 (D) skeletal

Instructions: Write the missing words. Use the words below to fill in the blanks.

decimate	crater	catastrophic
erupt	crust	

Volcanoes are landmarks that are created in regions which are geologically active. They occur where there are openings in the Earth's 16. _____. These openings allow lava to pour out onto the ground. Over time, this lava builds up and hardens until a volcano is formed. At the top of a volcano is a 17. _____ called a caldera. The lava flows out from this area. When volcanoes 18. _____, they release lava, rock, and gases into the air that can be harmful to many living things. In some cases, volcanoes can be downright 19. _____. Their eruptions have been known to 20. _____ whole islands full of animals.

Instructions: Choose the word that does not belong.

- | | |
|--------------|----------------|
| 21. assemble | bring together |
| collect | orchestrate |
| 22. strict | severe |
| relaxed | firm |
| 23. reduce | increase |
| lessen | decrease |
| 24. urban | city |
| rural | town |
| 25. neat | dirty |
| clean | tidy |

Mini Test 3

01 Psychology

Listen to a lecture in a psychology class.

Track 147

Key Vocabulary

accomplishment: something achieved (usually well, with a sense of success)

aspect: part of; way of viewing

bias: an influence that makes you like one thing more than another

breakthrough: an achievement through force, struggle, or hard work

capacity: ability; the power of the mind to do something

combine: to join or bring together

factor: something that influences; something to be considered

innate: what you are born with; instinctive

intelligence: the capacity to reason, to solve problems, and to learn

rural: relating to the country, not the city

1. How does the professor organize the information about intelligence tests he presents?
 - (A) By presenting a theory and supporting it with examples
 - (B) By discussing their advantages and disadvantages
 - (C) By introducing their flaws as separate subtopics
 - (D) By defining them and describing their purpose
2. Why does the professor mention the words skyscraper, subway, and personal computer?
 - (A) To highlight the differences between urban and rural life
 - (B) To illustrate how IQ tests can be culturally biased
 - (C) To conclude that IQ tests reflect learned experiences
 - (D) To compare different types of cultural biases
3. Based on the information in the lecture, indicate whether intelligence tests do the following. For each phrase, place a check mark in the YES or NO column.

	YES	NO
Predict success in school		
Reflect prior knowledge		
Measure creativity		
Select good leaders		
4. What does the professor imply about creativity?
 - (A) It is a factor in intelligence.
 - (B) It takes quite a bit of talent.
 - (C) It depends on past knowledge.
 - (D) It can affect IQ test scores.
5. Based on the information presented in the lecture, what can be inferred about intelligence tests?
 - (A) They help psychologists better define intelligence.
 - (B) They are a good measure of intelligence.
 - (C) They aren't as useful as they claim to be.
 - (D) They shouldn't be given to students.

02

Liste

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02 Chemistry

Listen to a discussion in a chemistry class. Track 14B

Key Vocabulary

blast: an explosion

collapse: to fall in on or fall down

disturbance: an interruption that often causes disorganization

friction: heat made by things rubbing together

fusion: melting together; the act of becoming united or joined

lump: a mass without shape or form

nursery: place where infants or living things (usually plants) are raised

spent: used up

stellar: having to do with a star or stars

1. How is the discussion organized?
 - (A) Into arguments for and against a theory
 - (B) From least to most important causes
 - (C) In the order in which events occur
 - (D) Into several supporting points

2. How does the professor clarify the points he makes about the death of the Sun?
 - (A) By describing how it will affect Earth
 - (B) By comparing the Sun to a tank of fuel
 - (C) By defining what he means by "white dwarf"
 - (D) By explaining how nuclear fusion works

3. Put the following information in chronological order. Place a number in the box next to each phrase in the order of events.

Friction causes hydrogen atoms to fuse into helium	
Sun totally runs out of hydrogen	
Gas and dust collapse inside stellar nursery	
Sun expands to 30 times its current size	

03 Biology

Listen to a discussion in a biology class. Track 149

Key Vocabulary

battle: a big fight between opposing forces (often in a war between armies)

co-exist: to live together

compete: to seek for something through rivalry

decay: to rot

definitely: for sure

primate: the highest order of mammals: monkeys, apes, and humans

primitive: rudimentary, simple, or crude; from the beginning

remnant: a small part left over

unlikely: not promising or probable; not sure to happen

weapon: an object used for defense or war (usually like a knife, sword, or gun)

1. How does the professor organize the information he presents to the class?
 - (A) By giving a theory and supporting it with details
 - (B) By comparing two opposing theories
 - (C) By describing a cause and listing its effects
 - (D) By defining a term and illustrating its role
2. How does the professor present the information on Giganto's diet?
 - (A) By illustrating the decline of the bamboo forests
 - (B) By describing evidence found in Giganto fossils
 - (C) By comparing Giganto to prehistoric humans
 - (D) By pointing out that Giganto competed with pandas
3. Based on the information in the lecture, indicate whether the statement is a fact or a theory. Place a check mark in the correct column.

4. What does the professor imply about bamboo?
 - (A) It causes tooth problems in animals.
 - (B) It was eaten by many ancient creatures.
 - (C) It nearly went extinct thousands of years ago.
 - (D) It was once consumed by humans as well.
5. Based on the information presented in the lecture, what can be inferred about the larger brains of homo sapiens?
 - (A) They made it possible for humans to make weapons.
 - (B) They helped early humans kill more Gigantos.
 - (C) They allowed early humans to hunt better.
 - (D) They prevented Giganto from outsmarting early humans.

	FACT	THEORY
Giganto co-existed with early humans.		
Early humans hunted Giganto.		
Giganto ate bamboo.		
Giganto had pitted teeth.		

Building Skills for the TOEFL® iBT

LISTENING / SPEAKING / WRITING

Transcripts

Listening

Note: Highlighting indicates a repeated listening sample.

Preview Test

01 Science

W: Okay everyone, picture this: nine months of winter and temperatures plummeting to as low as minus 55 degrees Celsius. These are the types of conditions found in the Arctic tundra. It doesn't sound very appealing for plant life, does it? Yet plants do manage to survive in this harsh environment. How do they do it? Tundra plants have developed several unique adaptations to enable them to live in their Arctic surroundings.

One adaptation of tundra plants is that they grow close to the ground. The majority of them only grow between 5 and 20 centimeters in height. This is important because plants that are closer to the ground are able to stay warmer. In the spring, the ground absorbs and retains the heat from the sun. By growing only a few centimeters in height, tundra plants can soak up this heat from the ground below. Then in the winter, a thick blanket of snow helps to protect the plants from the cold air above.

Another way these plants have adapted to their cold environment is to grow in clumps. A good example of this is the Labrador tea plant. The flowers and leaves of this plant grow close together to preserve warmth. It's sort of like what happens with crowds of people. Have you ever noticed that crowded rooms always seem to be hotter? This is because the combined body warmth generates higher temperatures. The same thing happens with tundra plants. The closer they grow to one another, the warmer they stay. In fact, it's been found that plants growing in clumps are 20 degrees warmer than the surrounding air.

Finally, the leaves and flowers of tundra plants have developed additional ways to capture warmth and sunlight. For instance, the leaves of the saxifrage plant are covered in tiny white hairs to keep the plant warm. My personal favorite is the marsh marigold plant whose flowers actually follow the sun and direct light and warmth toward the pollen areas of the flower. These warm areas are then better able to attract pollinators like insects, increasing the plant's reproductive success.

02 Geography

W: Today, I'd like us to discuss the geological process responsible for the creation of the Himalayas—the world's tallest mountains. You'll recall that in our last class we talked about the two ways mountain ranges form: one being volcanic, the other being orogeny. The

Himalayas were formed by the latter process. Does anyone remember what orogeny means?

W2: Yeah. Doesn't it mean that they were the result of a collision of two continents colliding together?

M: And that pushed the land up.

W1: Right. The Himalayas are a result of two continents—Asia and the Indian subcontinent—colliding. That collision thrust them upward. Now, the Himalayas are one of the world's youngest mountain ranges.

W2: Then how did they get to be the highest?

W1: Good question. Part of the answer lies in their origin. I'll get back to that in a second. Uh, another part of the answer lies in the fact that older mountains like the Appalachian Mountains in America were once as large as the Himalayas. Since they are older, wind and water have had more time to erode them and make them less massive.

M: Interesting.

W1: Okay, where was I?

W2: You were talking about the collision of Asia and India.

W1: Right. So, Asia and India are both what we call continental plates, landmasses floating on the Earth's liquid mantle. And, about 200 million years ago, they were nowhere near each other. But they were moving toward each other—um slowly, a few centimeters per year. So, around 70 million years ago, they first collided into each other. And this began the process of pushing up land, the land that became the Himalayas. They have been colliding into each other ever since.

M: So, are the mountains still forming?

W1: Yes, yes, they are. They are still rising and folding. There are many folds in the Himalayas—the two continents are still pushing together, still pressing the mountains together. Think of a piece of paper folded dozens of times. That's kind of like the Himalayas. And because the mountains are still forming, they are rising about 5 centimeters a year. They are not done growing.

03 Service Encounter

M: So I understand you're graduating soon. Are you excited to be done?

W: Well, sort of. I'm not looking forward to heading out into the job world, though.

M: Why's that?

W: I don't know where to start looking for jobs. And I haven't the slightest clue how to prepare for an interview.

M: Well, I can offer you a couple of suggestions. Do you have any idea what you want to do?

W: Well, I majored in fine arts, so I'd like to do something related. And I'd like to have a steady job working for a company.

M: Okay, well I can help you get started on making a list of places to apply to.
 W: That'd be great.
 M: So you want to work in the art field. Have you thought about ad agencies or art galleries?
 W: I haven't. But those are both good ideas.
 M: Or let's see, the Youth Center is always looking for good art teachers. I would also suggest calling up the publishing companies in town and see if they need book illustrators. Does that help?
 W: Yes, but I definitely know that I don't want to teach.
 M: Okay. Well, you can look up local companies in the phone book. And while you're browsing, you might run across more possibilities.
 W: Great. So then when I call...
 M: Oh, right! You had also asked about interviews. I want to mention that you can schedule mock interviews here at Career Services. That way, you can practice interviewing, and we can help you perfect your skills. You can set up an appointment today if you like.
 W: That'd be really helpful.

Chapter 1 Main Ideas & Questions

01 Music

M: Today, I get to talk about my favorite movement in jazz music. Cool Jazz! This movement, which occurred during the 1940s and '50s, had a huge effect on jazz in general.
 Okay, so in the movement before cool jazz, the music was faster and more aggressive. It consisted of instruments like saxophones and trumpets to give the music a more racing sound. Cool jazz changed this. It had a classical European influence that promoted the use of instruments that had never had a home in jazz before, like flutes and tubas. These instruments added something new to the music: a lighter, softer sound. Because of this softer sound, jazz bands started having more players and became mid-sized orchestrated groups.
 Also, cool jazz put a greater focus on the individual musician. Miles Davis is sort of seen as the first cool jazz icon. He recorded Birth of the Cool with his band. With this recording came the individual recognition of Miles Davis. Before, people pretty much attended jazz concerts to dance. But with cool jazz, they came to hear specific musicians like Davis.

02 Geology

M: You might think that the diamond ring on your mom's finger is just some expensive rock that your dad bought for her, but do you realize all the work that went into the creation of it?
 First, can you believe that the diamond is 2 to 3 billion years old? Even stranger is that it started out as a lump of coal. Basically, this piece of coal was about 160 kilometers down inside the Earth. The pressure was incredible. Also, it's about 2200 degrees Fahrenheit down there. That intense heat and pressure changed the carbon molecules in the coal and rearranged them into the crystallized diamond we're so familiar with.
 Okay, that's fine, but all this happens deep within the Earth. So how does it get to the surface? Well, the diamond was contained in molten rock, or magma, underneath the ground. The magma rose up to the Earth's surface and erupted from a volcano. Then the magma hardened into rock.
 Finally, the rock that contained the diamond weathered away, revealing the diamond underneath. It was then ready for miners or other treasure-hunters to find.

03 Office Visit

W: Hey, professor.
 M: Hi Kim. What's up?
 W: I want to go on the summer trip. I've always wanted to study the Great Barrier Reef. I can't believe that our school is sending students out there.
 M: Sign up!
 W: I would, but, well, I don't think I can afford it.
 M: Why not? Aren't you working?
 W: Yes, but pretty much all of my paycheck goes to either books or rent.
 M: Do you know about the Good Student Scholarship?
 W: No. What's that?
 M: It's a scholarship specifically for students traveling to foreign countries. You need at least a 3.0 GPA. What's your GPA?
 W: Umm . . . I think I have a 3.7.
 M: Well, you definitely should apply. The scholarship is easy to fill out, and they award it to about 10 students a semester. Go to the scholarship office. The applications are there.
 W: Really?
 M: I'll even write you a recommendation. I really want you to go on this trip.
 W: Thanks Professor. I appreciate all of the information.

04 Service Encounter

- M: Can you help me? I'm trying to write a paper on the poet James Wright. But there is only one biographical source on him in this library, and I can't find it anywhere.
- W: Do you have the call number?
- M: Yes. Hold on a second. Here it is.
- W: Okay. Well, let's see. It should be right here, but I don't see it.
- M: Yeah. I looked all over this shelf, and I couldn't find it.
- W: Well, let me check the library catalogue to see if it's checked out. No. The computer says that it's here in the library. Someone must have misplaced it.
- M: This paper is due in a couple of days, and I really need that book to finish it.
- W: Well, sometimes we keep our books in an electronic reserve. That's where we scan the document into the computer.
- M: Where can I check to see if it's in the database?
- W: I'll check for you. Here it is. It looks like Wright's entire biography is in our electronic reserve. You should be able to print out the materials you need from our library's computers.
- M: Okay. Thanks.

05 History

- M: Okay now. History books teach us that the Italian sailor Christopher Columbus was the first outsider to discover the Americas. He accidentally came across the Americas in 1492 while searching for a better way to get to Asia. Therefore, he is credited as the discoverer of the Americas.
- W: But Professor, isn't there some debate about whether Columbus was the first person to "discover" the Americas?
- M: Correct. In fact, that's what I'm going to cover today. See, new evidence has revealed that the first outsiders to come to America may have been Polynesian. You know, people from the South Pacific islands like Easter Island and Hawaii.
- So how do scientists know that Polynesians came to the Americas first, you might ask? They know this through the discovery of an ancient chicken bone.
- W: A chicken bone?
- M: Yes. Scientists have recently uncovered a chicken bone off the coast of Chile. Now, chickens aren't native to South America, so it had to have been brought in by explorers. DNA testing has revealed that the chicken bone belonged to a type of chicken found in the Polynesian Islands.
- W: But I'm not sure I'm convinced that a chicken bone disproves that Christopher Columbus came to America first. Couldn't Columbus or a later explorer have brought the chicken bone with him?

M: Well, that's the thing. The DNA tests also revealed that the chicken bone predates Columbus's arrival by about a hundred years or more. There's no way that Columbus could've brought the chicken with him.

06 Biology

- W: Did you know that a harmful disease might actually have evolved as a solution to malaria, a horrible sickness passed on by mosquitoes? Let's talk a bit about how this occurs.
- The disease is known as sickle-cell disease. It occurs when a person's red blood cells look like sickles, or, uh, are curved-shaped. This causes people to be very sick and eventually kills them. However, not everyone who carries the sickle-cell trait develops the disease. It all comes down to a person's DNA.
- Everyone in the world has a genetic code called DNA. Each person's DNA contains half their mother's and half their father's genetic makeup. There are sometimes random changes in this code, called "mutations." Sickle-cells are a mutation. Now, some children are born with a sickle-cell trait. This means that they inherited the genetic trait from one parent. They are a carrier of the sickle-cell trait, but they don't get the disease. The problem occurs when a child inherits the sickle-cell trait from both parents. When this occurs, the child develops sickle-cell disease.
- So this means that the sickle-cell trait is bad, right? Not necessarily. See, children with the sickle-cell trait, not the disease, but the trait, are more immune to the malaria parasite. Some scientists believe that the sickle-cell trait developed as a way to protect against malaria. In fact, the people who have the sickle-cell trait almost all come from Africa, an area where malaria is common. This demonstrates that people likely developed the trait to combat malaria. It's actually a useful trait to have, as long as a child doesn't inherit it from both parents. So we have an unusual instance of a potentially dangerous mutation saving lives.

07 Office Visit

- M: Hi Brenda. How can I help you?
- W: Well, Professor Brown, I was fascinated by your Tribal Culture Studies class this year. I think I want a cultural focus for my Anthropology major, and I know that there aren't too many Cultural Anthropology courses at this school. So, I was wondering if I could take your class again.
- M: Well, I'm glad you liked the class, Brenda. The Maori people of New Zealand are fascinating, aren't they? Next semester, I'm going to focus on a really cool African warrior tribe, called the Masai. I think you'd love

- the course material. But while I'd love to have you in that class next semester, I don't think it would get you any closer to graduating.
- W: Really?
- M: Yes. Though my Tribal Culture Studies course changes its focus every year, it only counts once toward a student's credit. So even if you got an A in the class, you won't get credit for taking it a second time.
- W: Well, that's no good.
- M: Do you know what? I think you would make a really good teacher's assistant. The Department does give credit to students who become student teachers. It would allow you to get credit for the course. I'd like it if you were my teacher's assistant. It's a lot of work, but if you are willing to help me out next year, you'll learn about the Masai and get credit at the same time.
- W: That sounds good to me!
- M: Well, I'll talk to the department head and see if it's okay with her.
- W: Thanks, Professor!
- M: No problem.

08 Service Encounter

- M: Welcome to the Department of Transportation. How can I help you?
- W: Well, I have a bit of a problem. I'm taking a class this semester, but I'm going to graduate once this semester is over. So I don't want to buy a permit for the whole year because it is too expensive.
- M: You can try parking at the parking meters.
- W: Well, I'd park there, but I won't have time to fill the meter. I don't want my car to get towed or ticketed. I really need a place to park.
- M: Unfortunately, the university doesn't sell permits in semester increments. I'm not exactly sure why we don't, but I don't think that the policy will change anytime soon.
- W: That's what I thought.
- M: There's another option, though. You could park in the visitor's parking structure, by the practice field. It's only \$1.60 an hour, and it's centrally located.
- W: I'd do that, but my class meets 5 days a week, and I think that the cost would add up to about the same amount as buying a permit.
- M: Well, what time is your class?
- W: I think it's around 4:00. It's later in the afternoon.
- M: After 4:00 the visitor's parking only costs \$1.00 an hour. So it'll be close to half the cost of the permit, and it'll actually save you a good amount of money by the end of the semester. I think that the parking structure is your best option.
- W: I'll do that then. Thank you for being so helpful.
- M: You're welcome, and good luck with your class.

09 History

- W1: Today, we'll talk about the collapse of the Mayan civilization in Central America. The . . . um . . . the Mayans were able to flourish during the years that Europe was going through the Dark Ages. While the disappearance of the Mayan civilization remains a mystery, there are many theories behind the cause of their collapse. One convincing theory suggests that the Mayan people were victims of climate change. Yes, believe it or not, climate change. A series of droughts that could've lasted over a period of 150 years may have destroyed this great civilization.
- M: So the Mayans weren't conquered by Spanish invaders?
- W1: Well, there were some Mayans around at the time of the Spanish invasion. So they did have an impact on the Mayans that were left. But their civilization had already fallen by then. I believe it was the serious lack of rainfall that was the main reason for the civilization's collapse.
- W2: How do we know that there were droughts? Didn't this happen hundreds of years ago?
- W1: That's a good question. It's interesting, but ocean researchers have actually made some amazing discoveries that prove these droughts occurred. They've used new technology to analyze segments of the ocean floors off the coast of northern Venezuela. These cores have layers of dark and light sediment that show the annual wet and dry seasons. So within these layers, scientists can determine the amount of yearly rainfall from hundreds of years ago. Within the dry period, there were three major droughts where there was virtually no rainfall for a total of 18 years. That's incredible! The dates of these extreme droughts correspond with the three phases of collapse of the Mayan society.
- M: I understand that water is necessary to survival, but I don't understand how a drought could destroy such an important civilization. Couldn't they use their resources to hire people to find alternative water sources?
- W1: Well, this lack of rainfall is significant because the Mayans were largely an agricultural society whose economy depended on the production of corn. Without rainfall, the crops would've perished. Their major food and economic source would have eventually disappeared. That's why I think it's the major theory behind their disappearance.

10 Zoology

- M1: You've probably heard of whales or dolphins communicating with each other through song, or of scientists teaching apes sign language. But prairie dogs might have the most sophisticated form of

language among the animal world. A researcher at an Arizona university has been conducting studies that may prove that prairie dogs communicate with a complex language that contains nouns, verbs, and adjectives.

W: How do they know that the prairie dogs aren't just making a bunch of noise?

M1: Well, the prairie dogs may sound like they're just making a series of barks and yips, but this researcher and his team digitally recorded these sounds and analyzed them. They found specific repeated patterns in the sounds. They continued to do further research and found that the prairie dogs had distinct terms for specific animals and people. These scientists even found sounds distinguishing different colors or different rates of speeds for their predators.

M2: So then, do prairie dogs know this language from birth?

M1: Not exactly. This prairie dog language is learned through experience. Scientists know this because their language isn't universal. In fact, there are different dialects, that is, varieties of this language ranging between areas of New Mexico, Arizona, and Colorado. Also, it appears that the prairie dogs have the ability to make up new words. The researcher displayed black cardboard cutouts of coyotes, skunks, and oval shapes. While the prairie dogs had never come across anything oval shaped in the wild, they were still all able to learn the same sound when they were presented with the oval shape.

W: Why would prairie dogs need their own language?

M2: Yeah. They aren't very advanced animals.

M1: The fact that they aren't very advanced actually has a lot to do with it. How can I explain this? Let's see. [pause] Just about every animal in the desert is trying to eat them, and they don't have any way of defending themselves. So they need to be able to tell each other stuff like, "Look out! That red hawk is coming fast!" Without such a complicated language, the prairie dog would probably be extinct.

While Mercury has no atmosphere . . . and this is important . . . Venus has a thick atmosphere. It consists of carbon dioxide and thick clouds of sulfur dioxide. This combination creates the strongest greenhouse gases in our solar system. Interestingly, the sulfur dioxide reflects 60% of the Sun's rays away from the planet. This prevents Venus from being lit with much sunlight. However, um, 96.5% of its atmosphere consists of carbon dioxide, which traps the sun's heat between the atmosphere and the planet's surface. This is what makes the planet so hot.

Venus used to be similar to Earth, but all its water evaporated. This helped in creating the high amounts of greenhouse gases in the atmosphere. If the carbon dioxide were removed from Venus's atmosphere, then it would have similar temperatures to that of Earth.

02 Botany

M: How are plant cells different from animal cells? Well, plants have cell walls, and they have chloroplasts. Animals don't have these.

A plant's cell wall is a rigid structure outside of the cell's membrane. These walls have several functions. While animals have skeletons that give them a shape and structure, plants do not. So how do they stand upright? The cell wall allows a plant to maintain a specific structure. Its rigidness gives the plant its shape and the support that it needs. Also, cell walls act as a filter for the cell. They prevent harmful substances from getting in.

Unlike animal cells, plant cells are able to make their own food! Plant cells contain special organelles called chloroplasts, which are filled with a substance called chlorophyll. This substance is what makes plants green. It also absorbs sunlight. Chlorophyll takes this sunlight, along with water and carbon dioxide, and changes it into energy for the plant to use. In this way, the plant generates its own food source.

03 Office Visit

M: Professor, I know that my project on economic recession is late, but I was hoping that you'd still let me turn it in.

W: Jacob, I already told the entire class at the beginning of the semester that I won't accept late projects. I'm sorry, but you shouldn't have skipped class.

M: I understand. But the thing is, I was sick the day the project was due. I couldn't come to class. It's not like I was eating lunch with friends or anything.

W: Well, why didn't you email me then?

M: I don't have the Internet, and I would've called, but your number isn't on the syllabus. I know you enforce

Chapter 2 Detail Questions

01 Astronomy

W: Did you know that Venus is hotter than Mercury? This seems strange because Venus is nearly twice the distance from the sun as Mercury is. But in fact, the temperature of Venus is over 460 degrees Celsius, whereas Mercury ranges between 420 and minus 220 degrees! I'll explain how this is possible.

your rule on late projects, but I really worked hard on this project. I'm sorry that it's late, but I really had no way of getting here.

W: Fine. I'll give you a break this one time. But I want you to email me next time. Even if it's from a neighbor's house.

04 Service Encounter

M: How can I help you?

W: Well, here's my problem. I need to take 15 credits a semester to maintain my scholarship. But I'm going to have to drop my algebra class this semester because it conflicts with my job. But see, if I drop my algebra class, then I won't have enough credits for this semester. I'll lose my scholarship.

M: I see your problem. And it's too late in the semester to transfer into another class for credit. Wait, I know! Have you heard of our Summer Counts program?

W: I don't think so.

M: Well, it's a program where you can take a course in the summer, but the school counts the credits you earn toward your spring semester.

W: That sounds good. How do I go about doing that?

M: Well, what you'll need to do is write the scholarship committee a letter explaining your situation. Make sure to mention that you have to drop the class due to a work conflict. The committee will have to review your case, but it should allow you to make the credit up during the summer.

W: I'll do that then. Thanks!

05 Literature

W: Today, we're going to talk about the morality plays of the Middle Ages. These were plays in which the main character had to choose between right and wrong choices. They differed a lot from Greek and Roman plays. First off, morality plays didn't really deal with complex characters. They also . . . yes, Tom, did you have a question?

M: Yeah, what do you mean that morality plays didn't have complex characters?

W: Well, in most plays, the characters have personalities, feelings, likes, and dislikes. But the main character of morality plays is different. Instead of having a character that's an individual, its main character represents humanity as a whole. He's called "Everyman." Everyman's supposed to represent each and every man in general. Now, the other characters in the play weren't traditional characters either. Instead, they were morals. They represented virtues and vices . . . you still look confused, Tom.

M: Well, yeah. The characters were . . . um, morals? You've lost me.

W: Okay. Take the villain of the play. Every play has to have a villain. But the villain in morality plays was always something like Greed. Now, in morality plays, Greed would be personified. Um, he would act like an actual person instead of a characteristic. He would try to persuade Everyman into following an evil path.

Remember that in earlier plays, the downfall of the main character was always some flaw within himself. But in morality plays, Everyman actually encounters Greed like you or I would encounter an actual person. Everyman then has a choice to make. He can choose to follow Greed, or he can choose to do the right thing.

06 Geology

M: Moving on, let's talk about the . . . uh . . . let's talk about the Hawaiian Islands, and more specifically how they were formed.

To begin, there are specific locations on the Earth's surface, called hotspots. These hotspots are areas that experience long periods of volcanic activity. One of these hotspots is located in the Pacific Ocean underneath the Hawaiian chain of islands.

Here is how the Hawaiian hotspot works. First, a stream of hot lava from underneath the Earth erupts onto the ocean floor. Then the lava cools, and as it cools, it hardens into rock. Eventually, this rock forms volcanoes. Now, as lava keeps erupting, a larger and larger volcano is produced until finally, the volcano forms an island.

Now the last step is a bit more complicated. You already know that the outer layer of the Earth is broken up into large segments called plates. These plates move a few centimeters each year. But, um, the Hawaiian hotspot, it never moves. It stays in the same place forever. But the plate above the hotspot, which has the islands on it, that does move. It moves right over that hotspot. So basically, the islands move. Meanwhile, the hotspot keeps spewing out lava. So once one island has moved, the hotspot begins to create another island. Hence, we get a chain of islands like the Hawaiian Island chain.

Now, how many of you know where the Midway Islands are? Well, they're about 2,090 miles from Hawaii. Today, that is. You see, they used to be in the spot the Hawaiian Islands are in now. But the plates moved and moved and moved, and now they're over 2,000 miles from where they started.

07 Office Visit

M: Hey Professor Scott, I need to talk to you. I've got a problem.
W: Yes, Steven. What's the matter?
M: Well, I have a scheduling conflict. I can't make the final, and I was wondering if there was any way that I could take it some other time during finals week?
W: Why can't you go to the final exam?
M: I have a dance recital that I can't miss. I'm a dance major, and this recital is a mandatory event for all dance majors. It's impossible to make it up. It's a huge event that only happens once a year. It's a big part of my grade for both my Flamenco and my Modern Dance classes. Plus, my partner and I got the final performance spot in the recital, which is a big honor.
W: Well, I understand if you have to go to this recital, but it's really not up to me whether or not you can reschedule the final. You're going to have to talk to the head of the English department, Professor Sampson.
M: Do you think he'll let me take the final at another time?
W: I think so, but you're going to need to present some kind of proof that you have to go to this dance recital.
M: What kind of proof?
W: You should go to both of your dance teachers and ask them to write a note that explains why you can't miss this recital.
M: I'll do that. Thank you for all of your help.
W: No problem, Steven, and good luck with the department head.

W: No. You're already credited for what you paid, so you won't owe any more money.
M: Well, one of my classes was filled to its capacity. I know that some people were on a waiting list to get in. How can I keep my spot in that class?
W: Just be sure to let your professor know that you have to register for all of your classes again, so that he won't think that you dropped his class.
M: I'll do that. Thanks for all of the information.
W: No problem. Good luck.

09 Botany

M1: Imagine the slowest, most agonizing death possible. Imagine being strangled to death over the course of a century. Pretty nasty, huh? Well, there's a vine in some South American rainforests that kills in this manner.
W: Really? So this vine kills animals and people?
M1: Fortunately, no. Such a death is unlikely for any animal. But it's a very possible fate for trees in Costa Rican rainforests. They often fall victim to this parasite known as the strangler vine.
M2: How can a vine kill a tree?
M1: Well, it's an interesting process. First, you need to know that these vines are from the ficus family, so they produce fruits called figs. Lots of animals feed on these figs, like birds, bats, and monkeys. They eat the figs and their seeds. When one of these animals drops the fig's seeds at the top of a tree, the vine's life begins.
W: Do the seeds fall through the canopy of leaves and then to the ground?
M1: No. That's what's so interesting. They actually begin growing, seemingly harmlessly, at the top of the trees. This is the second step. As they get older, they grow downwards, and they begin to wrap themselves around all of the tree's branches.
M2: So, it kills the tree by strangling its trunk?
M1: No, it doesn't actually kill the tree until it roots itself into the ground. At this point, the vines begin to expand. They get thicker and flatten out, so that they can merge with each other. They do this until they completely encase the tree. Finally, the vines become a giant shell that eventually will kill the tree. It does so by either squeezing it to death or by depriving it of sunlight.
W: Well, if the tree dies, then won't the vine eventually die, too? Isn't it dependent on the tree as its host?
M1: That's a good question. However, after the vine has completely encased the tree, it no longer needs it to survive. The roots of the tree will rot away, and the vine will take on the appearance of the dead tree, using the dried up trunk and branches as a skeleton that supports this shell of vines.

08 Service Encounter

W: Hello. How can I help you?
M: I have a huge problem. I paid my tuition, and, then for some strange reason, I got disenrolled from my classes.
W: Oh, my. Do you have your student ID? I'll need it to look up your information.
M: Yes, here you go.
W: Thank you Mr. Salazar. Give me just one second. Well, it says here in the computer that you still owe some money.
M: That's weird. What's it for?
W: It says that you didn't pay a \$75 fee for a yoga class.
M: Oh no! That's right. I forgot to drop that class!
W: Well, there's your problem. I'm sorry that you got disenrolled, but there's really not a whole lot that I can do for you.
M: Well, what should I do then?
W: You should just try to sign up for all of your classes again. If you register again for all of your classes, then you should be fine.
M: Won't I get charged again for all of my classes?

10 Fine Arts

M₁: So, today we'll discuss Pablo Picasso's Blue Period.
W: Didn't we talk about that on Tuesday?
M₁: [pause] Uh, yeah, you're right. Did I say his "blue" period? Sorry. We went over that last time. We're actually discussing his Rose Period today. During this period, Picasso steps away from the dark colored blues of the Blue Period. Does anyone remember why Picasso used such depressing colors during the Blue Period?
M₂: Wasn't he mourning the death of his friend?
M₁: Yes, his close friend Carlos Casagemas died tragically in 1901. It seems that because of this, Picasso's paintings became sad pictures reflecting a struggling society. But then another major life event brought Picasso out of his depression. He fell in love. Fernande Olivier entered his life in 1904. This year is considered the beginning of his Rose Period.
W: So did his paintings become happier during this period?
M₁: Yes they did. Suddenly, his paintings begin to display happy pink pigments and joyful oranges. It seems that his relationship with Olivier made him more optimistic.
M₂: What kind of stuff did he paint? Did he still paint mournful paintings?
M₁: Well, no, Picasso's subject matter also changed during this period. He actually began to paint a lot of circus performers. Seems odd, huh? But believe it or not, he was especially interested in painting clowns. His favorite subject to paint was a clown called a harlequin, which was dressed in checkered patterned clothing.
W: Why was Picasso so interested in painting clowns?
M₁: Well, he seems to be rejecting the popular art of his time, which pictured upper-class members of society. Picasso's depiction of clowns, during the Rose Period, seems to be his way of celebrating members who were outside of upper-class society. In this sense, by celebrating the circus performers, he was also celebrating artists.
M₂: Well, if he painted subjects that weren't popular, then how did he make money?
M₁: It's strange, but the Rose Period actually marked the beginning of his commercial success. An art collector, Clovis Savigo, who happened to be a former clown, enjoyed Picasso's paintings during this period. So, he exhibited Picasso's art, and soon people began to recognize Picasso's work. He was finally able to sell his paintings.

| Mini Test 1 |

01 Biology

W: Morning, class. Today, let's talk about the bubonic plague. Lots of people believe that the bubonic plague, a horrible disease outbreak in 14th century Europe, ended when cities found ways to get rid of the plague-carrying rats. But this may only be part of the story. Scientists now think that a special mutation may be the one responsible for, uh, ending one of the world's worst disease outbreaks.

First, let me give you a little background history on the plague. The bubonic plague struck Europe between the years 1347 and 1352. It was spread by fleas found on rats, which carried the plague bacteria. Known as the Black Death, the bubonic plague killed over 1/3 of the European population. This was about 25 million people. Then, suddenly, the plague outbreak basically ended. Why did the plague end? And more importantly, how were certain Europeans able to survive such a deadly disease? Many of the survivors had seen their whole families wiped out by the plague, but they didn't even get sick. Was this simply good luck? Scientists today say no. New studies have revealed that a gene mutation, known as delta 32, may have been the true reason for why people lived and died.

You may be asking how modern scientists can possibly know that some 14th century Europeans possessed this special mutation. Well, after looking at records from the Middle Ages, scientists have been able to find descendants of plague survivors. They found that lots of these descendants—I mean, lots of them, at least 14 percent—carry delta 32 in their genes. Scientists believe this mutation was passed on from their distant ancestors, including those that had survived the plague. They now estimate that 1 in 20,000 Europeans carried this gene during the time of the plague. The mutation is believed to have kept the plague from entering the victims' cells, allowing their immune systems to effectively destroy it. As the plague killed off more people without the mutation, those with delta 32 became more common. Eventually, it is believed, the plague had fewer and fewer people it could infect. Hence, the terrible plague outbreak finally ended.

02 History

W₁: Today I want to talk about how the first people came to America. Since the 1930s, it has been believed that the first people to come into the Americas came across the Bering Strait, the small area between Russia and Alaska, about 12,500 years ago. It was during the Ice Age. At that time, there was a small land bridge connecting the two continents. Later, after the

ice melted and the oceans rose, this land bridge was covered with water. Yet despite the popularity of this theory, there are some problems with it. We'll discuss these problems today and then go over some alternative theories of how people could've entered the Americas. Yes, Dana, did you have a question?

W₂: Well, no. I just wanted to comment that I had heard of a theory where Asians actually came to America by boat. I'm not sure if that's true or not.

M: I've heard of that too. It's thought that they sailed to South America.

W₁: You're both correct. Let me backtrack a little. See, uh, people began to suspect that the Bering Strait theory wasn't entirely accurate when sites were discovered in North and South America. These sites predated the time when the migration across the Bering Strait was said to occur—which, as I said, was about 12,500 years ago. So that's one piece of evidence. Then scientists found something even more surprising. They found that some of the sites in South America were earlier than the sites in North America. Scientists estimate that at one particular site, in Monte Verde, Chile, humans may have been there as early as 33,000 years ago. You know what this means?

W₂: That the first people came to South America, not to North America.

W₁: Exactly. Now, if the first people had come across the Bering Strait, then the earliest settlements should've been in North America.

M: So does that mean the Bering Strait theory is wrong?

W₁: Actually, it doesn't. See, there is still lots of evidence that suggests that a large migration of people crossed over the Bering Strait 12,500 years ago. What this alternative theory shows is that the earliest people in America probably weren't those that crossed the Bering Strait.

03 Service Encounter

M: Hi, can I help you?

W: Uh, yeah, I applied for financial aid and was denied. Your office sent me a letter that said my parents make too much money. And because of that, I can't get financial aid. But the problem is, my parents are not supporting me financially during my college education. So I need to get that fixed and submit a new application for financial aid.

M: Oh, now that complicates things. Are you saying that your parents don't support you at all financially? They don't even pay your rent?

W: That's correct. I'm on my own. I work part time and don't make much. That's why I want to apply for financial aid. It's the only way I can afford to go to school full time.

M: Well, in that case, you are going to have to prove that your parents are no longer supporting you.

W: But didn't I just explain that?

M: Yes, but you need to explain it in writing. You can do that by filling out the following paperwork. It's an amendment to your file. It'll ask about your income and who pays for tuition.

W: More paperwork?

M: Yes, but you don't need to submit another financial aid application all over again. We'll just attach this amendment to your original application. Then we can reactivate your application.

W: Then what happens?

M: After we look over all the paperwork—the original application and your amendment—we'll review your status.

W: So, I can get financial aid then?

M: I can't say for sure, but probably.

W: Okay.

Chapter 3

01 Biology

M: The word *fungi* immediately brings up images of mushrooms... and mold growing on stale food. But did you know that this organism is used a lot in industry as well? Fungi serve many useful purposes that make our day-to-day living possible.

First, fungi have actually saved millions of people from pain and death. This is because fungi are used a lot as important medicines. The most common medicine is penicillin, which has been used to fight everything from ear infections to deadly sicknesses. Even more amazing, these wonderful, life-saving fungi commonly grow as mold on old fruit and bread! Who would have thought that something we find so disgusting would be used to save our lives?

Fungi are also used to, um, create important foods... and not just mushrooms, but items like breads, candy, and soda. That's right, soda! The mold yeast is used to make baked goods like bread and cakes rise. Other fungi produce a special kind of acid that is used in soda and candy. We even owe the creation of soy sauce to fungi. Fungi are what give soy sauce its tasty flavor.

02 Astronomy

W: Look up at the stars on a clear night, and you'll notice that they seem to twinkle or move. But the stars themselves aren't moving. The twinkling of the stars is an illusion created by a process known as atmospheric distortion. Here's how it works.

First, the stars give off rays of light which travel through space and enter the Earth's atmosphere. Now, you have to understand something about the atmosphere. It's not just one big uniform blanket of molecules. It's actually made up of many currents of air that move in different directions and at different speeds. Scientists call them pockets. Now, the second thing that happens is, when starlight enters the atmosphere, it hits these air pockets. And then, when the light rays from the star hit these pockets, they get bent in random directions. As a result, when the light finally enters your eye, it strikes your eye at all different angles. So it appears to your eye, anyway—that the light is coming from different directions. The star looks like it's twinkling.

03 Office Visit

M: Hello Anja.

W: Good morning, Professor. I actually want to talk to you about something.

M: Please proceed. What's on your mind?

W: Well, I'm having trouble understanding everything you say during your lectures. English is my third language. I understand it very well, but there are still a lot of words I don't know.

M: Sounds like a real dilemma. I can't alter my lectures for just one student. But you know what might help? Have you looked at my website?

W: No, I haven't.

M: Try going to the website before our next class. I always post some lecture notes on the site before giving the lecture.

W: Sorry, I'm not sure I follow you. How would looking at your notes help me?

M: You're having trouble understanding vocabulary, right? I always include key vocabulary in my online notes. So this way, you can familiarize yourself with the words before listening to the lecture.

04 Service Encounter

W: So you're having trouble registering for a class?

M: Yes, I tried to register online, but the computer kept telling me the class was restricted. It wouldn't permit me to register.

W: What class are you trying to register for?

M: It's called "Marketing Strategies." It's a business course.

W: Okay. Are you a sophomore?

M: No, I'm a freshman.

W: Ah, so you haven't been admitted to the business school yet?

M: No, I can't apply until I'm a sophomore.

W: Right. This is how it works with these upper-level business courses, like the one you're wanting to take. The business school first opens registration to business students only. This ensures that our business students get first pick of the courses they need. Then, if the classes don't fill up, we open them up to everyone else.

M: So you're saying I'll have to wait and register later?

W: Yes. You can register starting May 6.

M: But won't the class be full by then?

W: Probably not. This class usually isn't too popular with students.

05 Fine Arts

W: Another major 20th century art movement in the United States was Pop Art. Pop Art is any kind of art that uses commonplace objects or images. Like, say, a ketchup bottle or a postage stamp. Now, one of the best ways of understanding Pop Art is to compare it to the art movement that came before it: the Dada movement. Let's start with some similarities, shall we? You should recall that the Dada movement developed in opposition to the "high art" of the times. Traditional artists were concerned about things like beauty and technique. But not the Dadaists, right? Remember, the Dadaists liked to use common objects, like stools or bicycle wheels. And they arranged them in ways that didn't take much artistic skill . . . at least not in the traditional sense. So . . . uh . . . where was I going with this? Oh, right, so in this aspect, Pop Art was very much like Dadaism. Both movements rejected traditional "high art." They did so by making masterpieces out of common objects or popular images.

But the two movements also had their differences. Somebody tell me what the Dadaists wanted to show by using everyday objects?

M: They wanted to show that society was ugly and rotten.

W: Exactly. They were criticizing society for its excesses and wastefulness. But the Pop artists embraced popular culture and the objects it produced. They didn't criticize things like processed foods or photos of Hollywood stars. Instead, they celebrated them. And unlike the Dadaists . . . whose pieces were often somber . . . the Pop artists created art that was playful, even silly.

06 Biology

M: Animal breeders can increase or decrease a desirable trait in an animal just by selecting which individuals to mate. This is called—yep, you guessed it—single-trait breeding. Take chickens, for example. Farmers can breed chickens so that they grow quickly or so that they have big muscles. Of course, single-trait breeding has its advantages and its disadvantages. The advantages are somewhat obvious. I mean, really, how much easier can it get? You want your chicks to grow up big and fat, so you, um, breed big chickens. You want a dog that can sniff out a bomb; you breed dogs with a better sense of smell. It's a pretty straightforward, convenient process. It's also a fast process. A farmer can breed two generations of chickens in just one year. So in just three to five years, he can completely change the genetics of his chickens to his favor. Let me put it this way: You want fat chickens? Breed just your fat chickens and in three to five years, all your chickens will be fat. But there are downsides. Breeders may wish to change only one trait. But what they end up doing is altering several traits. And some of those traits aren't traits they want. Let's look at the fat chickens again. Many farmers breed chickens to have large chests, but when you breed for big chests, you also get weak legs. This is because the chickens get so big that their legs deform under their weight. The other problem is that single-trait breeding often causes psychological damage in an animal. By changing a physical trait, the breeder can unintentionally injure the brain. So eventually, what you get is brain damage.

07 Office Visit

W: Excuse me, Professor Harrison?

M: Yes, come in. Have a seat. What can I do for you?

W: You're teaching Intro to Computer Graphics next semester, right?

M: Why? Would you rather someone else be teaching it?

W: Ha. No. It's just that I was looking over the course description, and it says that students are required to have a software called LightWave installed on their computers.

M: Yes, that's right. There are several programs you can use to generate graphics on a computer. But I want everyone to have the same one so that we're all on the same page. And I chose LightWave 'cause it's kind of an all-purpose program. You can do a lot of different stuff on it.

W: Is there any way I can still take the course without buying the software? 'Cause I looked it up online, and it's pretty expensive. I'm not sure I can afford to spend that much on top of tuition and books and all that.

M: I see. Well, you're not going to get much out of the class without having access to the software. You're pretty much stuck purchasing the software if you want to take the course. I really don't see any way around it. But I do know that the bookstore has LightWave in stock. And they will sell it to students for half of what it usually costs, which is a pretty good deal, if you ask me.

W: Yeah, maybe. I'll go see if they still have a copy.

08 Service Encounter

M: Hi, I have an appointment for 3:00 to meet with Ms. Garcia, the science counselor. Sorry, I'm a little early.

W: Hi, call me Barbara. We can get started now if you like.

M: Oh, great. Yeah. So I was wondering.

W: Shall we step into my office? It's a little quieter in there. Here, take a seat.

M: Thanks.

W: So what can I help you with?

M: Well, as you may know, the Lunar and Planetary Science Institute holds a conference every year in May in Houston.

W: Oh, that's a fabulous conference. Definitely worth attending.

M: Yeah, I'd really like to attend this year, but it's quite a bit of money: \$500, including the plane ticket. So I was wondering if you have any advice on how to raise money to go? Like, I was thinking you might know of a scholarship I could apply for.

W: Well, I don't know of any scholarships, but I do know that the science department will contribute \$100 for every student attending this particular conference. That might help you out with some of the expense.

M: Yeah, it would, definitely. But I'd still be stuck with a \$400 bill.

W: Right, so you may also want to apply to the Student Senate for money. They will often sponsor academic-related projects or trips.

M: Don't a lot of students apply, though?

W: Yes, but they have a pretty large budget for that kind of stuff. It'd definitely be worth applying for. I think your chances are pretty good.

09 Economics

W: Okay, so I'd like to talk about trade associations. From a business view, there are several benefits to joining a trade association: Of course, trade associations also have their drawbacks. So first let's . . . Yes, Kyle . . . you look a bit confused?

M: Yeah. What's a trade association?

W1: Oh, I'm sorry. Is everyone not familiar with trade associations? Okay, well let me backtrack a bit then. A trade association is an organization that's formed and funded by businesses in the same industry to promote and control that industry. So, let's see now . . . um, for instance, the American Medical Association is a trade industry. Oh, there's also the National Association of Wheat Growers.

W2: What about the American Bar Association?

W1: Oh, yes, definitely. A trade association for lawyers and law firms. So if you own a business, joining . . . or forming . . . a trade association can be good for a number of reasons. One, it allows you to participate in and set the standards for good business conduct in your industry. Trade associations will often keep an eye on how its businesses behave and will refuse support to businesses that act in immoral ways. And two, forming a trade association gives your industry more power to influence public policy.

M: Why's that? Don't businesses have a lot of influence in government decisions by themselves?

W1: Perhaps if your businesses are huge corporations. But, what if you're just a small beef business in some little town in Ohio? By yourself, you don't have much influence. But if you join a larger trade association that shares your interests, you can pool your resources. But there are problems with trade associations. One problem is that its members can use their membership to gain a competitive edge over non-members. Often, after a trade association has been around for a while, people will recognize the name. So oftentimes what happens is the businesses in the association will deny membership to their competitors to give themselves an advantage. The other problem with trade associations is that while they're set up to control business conduct, they don't have much power to punish offenders. So sometimes they're not as effective as they intend to be.

10 Biology

M1: Okay, let's get started, shall we? I assume you all did the reading. So can someone tell me what is meant by the term "aggressive mimicry"?

W: It's where an organism, like a predator or a parasite, acts like another harmless organism so that it can approach its prey. The prey isn't scared and doesn't run away because the predator looks harmless. The prey is fooled by this until it's too late for it to get away.

M1: Okay, you're exactly right, by the way. Now, can anyone give me an example of an aggressive mimic?

M2: Well, some snapping turtles have pink tongues that look like worms. And when they move their tongues around, the fish they're trying to eat think they're worms and try to get them. They come in close enough

for the turtles to eat them. The turtles have evolved this strategy because it's easy to catch fish this way.

M1: Yes! Wow, you all have really done your homework! So we know what aggressive mimicry is. But what are some of the things it's used for? We've sort of covered one purpose already: to attract or approach prey without scaring it off. Spiders are another good example of this. Many spiders build webs with patterns that reflect light so that it looks like the patterns inside flowers that guide insects to the nectar inside. The insects mistake the web for a flower and get trapped in its fibers. But there's another purpose of aggressive mimicry that perhaps isn't so obvious: Can anyone tell me what it is?

W: To get eaten?

M1: Sounds crazy, doesn't it? As odd as that may seem, convincing your host that you are edible is a huge advantage if you're a parasite. So parasites often use aggressive mimicry to make their host think they're natural prey. This gives them easy access to the host's body. So once they're eaten, they live off the host, often robbing the host of nutrients or even killing it. Some parasitic worms, for example, resemble small crustaceans that get eaten by larger predatory fish.

Chapter 4

01 History

M: The Dust Bowl, a period of horrible dust storms, destroyed many crops in the U.S. during the 1930s. It contributed to the overall devastation of the Great Depression, a severe period of economic decline in American history. So what caused this . . . what caused this period of crop failure? In a word, over-plowing. Since farmers were feeling economic pressure from the Great Depression, they began, um, plowing the untouched grasslands of the Great Plains. It's unfortunate that people tend to make bad situations worse, but farmers plowed an excessive amount of land in the hopes that they'd earn more money. The rate of plowing increased so drastically that farmers would plow land months before they could even seed it. Without grass, there was nothing left to anchor the soil below. This situation only required one thing to become disastrous: a drought. Once this period of no rain hit, the soil was easily picked up by winds. Soon, entire fields were blown away. The Dust Bowl had begun. For farmers, the Great Depression had just become more serious.

02 Biology

W: Many of us have heard about the poor economic conditions that farmers in certain countries face daily. But are GMOs, or genetically modified organisms, the solution? GMOs are plants like cotton or corn that have been genetically modified in labs to grow better. Ideally, they would allow farmers to grow more stable, healthy crops.

Currently, there are huge rates of poverty for farmers in certain countries. Better crops could help end starvation and widespread poverty. I believe that critical action is needed to solve these problems. Yet while I understand the plight of many farmers in poverty, I am uncertain whether GMOs are the answer. I just don't know what the long-term effects of GMOs are. For instance, take health risks. According to one article, the lifespan of ladybugs that ate aphids which fed on GMOs were reduced by half. Half! Those are some pretty disturbing statistics. Also, GMOs tend to contaminate natural crops. It's easy for the pollen of GMO crops to spread to areas up to 21 kilometers away. Given these concerns over GMOs, I feel their costs outweigh their potential benefits.

03 Office Visit

W: Professor, can I talk to you?

M: Certainly, Jill. Go ahead.

W: I really want to take this English internship being offered next semester. The thing is, in order to qualify for the internship, I need to have taken English 290. And I won't be taking that for another two semesters.

M: I'm not sure why you're coming to me. I'm not the internship director. You need to see Mr. Peterson in Room 312.

W: Well, I think that your English 221 class is very similar to English 290. So I was hoping that maybe you could write a letter to Mr. Peterson which would recommend me for the internship, even though I don't have the required class.

M: I could write a letter, but I have a better idea. Why don't I stop by Mr. Peterson's office personally and talk to him about it? I'm sure with my recommendation, he'll be able to make an exception.

W: Thank you so much! I really appreciate it!

04 Service Encounter

W: Hello. Are you the Resident Advisor for this dormitory?

M: Yes. Can I help you?

W: I hope so. I've been having some problems with my roommate Susan this semester. You see, well, she

parties just about every night. She's always having people over, and she plays loud music late at night. I can't get any studying done, and I barely get any sleep. I was wondering if you could do something.

M: Susan from the third floor?

W: Yes.

M: I know her. We play Ultimate Frisbee together.

W: Well, can you do anything?

M: Yeah, I can talk to her. But if the problem continues, then I'll have to fine her \$30 for violating the noise ordinance. Have you tried talking to Susan?

W: No.

M: Well, maybe you should try talking to her first. She's a really nice girl, and I'm sure that she doesn't even know that she's bugging you. Why don't you try to talk to her before I intervene?

W: I'll try talking to her, but I don't think it'll do any good.

M: Well, you never know until you try.

05 Biology

W: So yesterday we discussed Darwin's theory of evolution. Now, does anyone remember the flaw within the theory that I brought up at the end of our last class?

M: Didn't it have something to do with fossil records?

W: Yes. A theory called punctuated equilibrium suggests that gradual evolution doesn't exist. Now, remember that Darwin's theory suggests that adaptations happen gradually over long periods of time. However, the fossilized bones that have been found don't always show this gradual change.

M: So Darwin's theory is wrong?

W: No. While it may be slightly flawed, it's not wrong. It just needs to be adapted. You see, the evolutionary changes that Darwin suggests do seem to happen. But in some cases, they just happen at a quick pace, according to geological time.

M: Well, I'm not sure about this whole "punctuated equilibrium" theory. I mean, there seems to be plenty of evidence in the fossil records to suggest that Darwin was correct . . . that changes do happen over long periods of time.

W: You've just brought up an excellent point. See, you're right. There is a lot of evidence in the fossil records that suggest that change does happen gradually.

M: Okay, I'm confused. Which theory is correct, then?

W: Well, from what I've studied, it seems that both theories may actually apply in evolution. Most of the time, evolution does take place over very long periods of time. But sometimes, occasionally, evolution jumps ahead. Suddenly, one organism becomes another organism. Here the theory of punctuated equilibrium seems to apply.

06 Astronomy

M: There are a lot of crazy claims about life on Mars. In 1996, one of these claims was presented as a fact, and it almost convinced the world. Scientists discovered a rock in the Antarctic. Now, this rock's chemical composition matched that of Mars, and it was decided that it had been ejected from the planet over 10,000 years ago. Scientists took a close look at it, and they saw something that appeared to be a big discovery. Small pockets of calcium carbonate were found in the cracks of the rock. Similar stuff is found here on Earth. Tiny creatures, called microorganisms, often form this. So, naturally, the scientists' curiosity was raised. They took an even closer look with powerful microscopes and found grooves within the rock's cracks. These grooves looked like tiny fossils made by bacteria. The scientists got excited. They had the president of the United States announce their discovery on national news. Their excitement quickly ended. Other scientists began to criticize their theory of life on Mars. They had good arguments against it. For example, the grooves on the rock were significantly smaller compared to bacterial fossils found here on Earth. So these probably weren't actual fossils. Also, it isn't uncommon to find calcium carbonate on other meteorites. The fact that it's so common on meteorites indicates that this material probably was not formed by natural organisms. When the scientists were questioned, the government gave them more money to do further research. The scientists ended up proving nothing. It seems that people just want to believe in things like life on other planets. So, when claims are made, people tend to get excited before they have good evidence.

07 Office Visit

M: Can I talk to you, Professor?

W: Sure Jake. What is it?

M: I was wondering if you could tell me what my grade currently is. I'm planning to apply to the Psychology program, but in order to do so, I'll need to get at least a B in this psychology class. But I've been having trouble grasping all of the concepts, and I did badly on the last two tests.

W: Well, let me check your grade. It says here you have a 73%. You'll need at least 80% to get a B, and the only test we have left now is the final.

M: Is there anything I can do to raise my grade? Like can I do extra homework or write a paper or something? I really don't want to depend solely on acing the final.

W: Well, there is one thing you can do. Remember at

the beginning of class, I announced that students can receive additional points for participating in a psychology experiment?

M: Oh yeah. I know a bunch of psychology graduates who are doing experiments like that. But I'm not really sure I want to do one.

W: Why not? It's a great way to raise points.

M: Yes, but I mean, what kind of experiments are they? I don't want to participate in something that could, you know, be harmful.

W: Oh, of course not! All the experiments being performed by graduate students have been pre-approved by the department. They're completely safe.

M: Okay. Then I'll try to volunteer for an experiment, as long as it'll raise my grade. Thanks for your help.

08 Service Encounter

M: Hi. Can I help you?

W: I think so. You're the department head, right?

M: Yes.

W: Well, I think there's been a mistake with my math placement results?

M: Really? Why is that?

W: I've been placed in an introductory math course. But I took honors math all four years of high school. I should be able to skip this class. I already learned much of its material when I was in high school. Can you waive me out of it?

M: Let's see. What score did you get on the college entrance exam?

W: A 24.

M: That explains it. You need to have scored at least a 25 to skip this university's introductory math course. I'm afraid I can't grant you a waiver if you didn't score high enough.

W: Well, what if I took the college entrance exam again?

M: I wouldn't advise that. It's \$75 to retake the test, and the test goes over not only math, but English and science too. It would probably be a waste.

W: Isn't there anything you can do?

M: I'm afraid not... Wait a moment! I've got it! If you really don't mind taking another test, you could take the CLEP test.

W: What's the CLEP test?

M: It stands for College Level Examination Program. It'll be a test that tests you on one subject, in this case math. If you score high enough, not only will you get out of the introductory math course, but you'll also receive credit for that course. So it'll be like you took the course without taking the class.

W: Wow. I'll definitely do that, then. Thanks for your help.

09 History

W1: Today we're going to, um, go into a brief history of the American West as it was viewed during the 19th century. There were two contrasting viewpoints of the West which we'll talk about today.

The first view was provided by William Gilpin, a famous explorer of the West. He described the West as a paradise in terms of settlement. He believed that agriculture in the West would be highly successful because there was plenty of water. He also claimed that the climate was mild. Well, Gilpin's view of the West couldn't have been further from the truth. He completely ignored the vast deserts that make up part of the American West.

W2: But Professor, don't you think that Gilpin had some reasons for his views? I mean, some of the Western settlers were successful.

W1: Yes, but not enough. And remember, Gilpin was acting as a major Western authority. People were depending on his expertise. He had no right to support a view that was so faulty.

Now another major viewpoint of the West was provided by explorer John Wesley Powell. What types of stuff was Powell saying?

M: Well, Powell was an amazing man because, unlike Gilpin, he didn't have as much experience in the West. Yet he saw the West as it truly was: difficult for settlement. I really admire him because his views were right on target.

W1: Exactly. Powell saw that water in the West was scarce, and he tried to tell this to the American government. Powell . . . let me check my notes here . . . Powell knew that the land would be worthless for agriculture without water. He wanted the government to think carefully before urging settlers to move out West.

So the government was faced with two major claims about the West. Which one did it end up adopting?

M: Gilpin's view.

W1: Yes, regrettably, the government foolishly decided to favor Gilpin's opinion over Powell's. It encouraged American settlers to move West. Hence, American settlers faced a lot of problems that could've been avoided had the government paid more attention to Powell.

10 Psychology

W1: Psychologists have been theorizing about how people and animals learn for years. B.F. Skinner came up with an important theory that tries to explain this. It's called behaviorism. Behaviorism suggests that animals and people learn based on what they receive. What they

receive must reinforce their behavior in some way. The object can be something that the animal enjoys. In this case, the presentation of the object is considered positive reinforcement. For example, if you give a dog a treat because he sits, then he will sit again when you present another treat to him. So according to the theory, the dog only sits because the treat reinforced his sitting. If you continue to give the dog a treat every time that he sits, then eventually the dog will learn to sit because he has been conditioned, or taught, to do so through reinforcement.

W2: So, the dog can only learn to sit if you give him something that he likes?

W1: Not necessarily. You can also remove something that he hates out of his environment. If something that is unpleasant is taken away, then it's called negative reinforcement. For example, if you yell at the dog until it sits, then it learns to sit because the yelling stopped after it sat down. Its environment becomes more pleasant when you stop screaming, so it's conditioned to sit in order to end the yelling.

M: Behaviorism makes sense to me.

W1: Well, unfortunately, while behaviorism makes sense on the surface, there are many problems with this theory. A big problem is that it doesn't take free will into consideration.

M: What do you mean by that?

W1: Well, take the dog for example. Just because he gets a treat when he sits doesn't mean that he'll sit every time he's presented with a treat. If the dog just ate a big dinner and is full, then he might not sit for the treat. Or if the dog is mad at you because you've been yelling at him, then he might ignore you and reject the treat in spite of you.

M: It sounds like Skinner underestimates people and animals.

W1: I feel much the same way.

| Mini Test 2 |

01 Biology

M: Often the introduction of a non-native organism into an ecosystem leads to, um, unpredictable outcomes. Sometimes the organism is thought to be strong. But then it does not survive. Other times the organism is thought to be harmless. But then it, um, causes destruction upon its new environment. The latter scenario describes what happened when a species of seaweed, um, *Caulerpa taxifolia*, was accidentally introduced into the Mediterranean Sea. I'd like to spend some time talking about the disastrous results of that introduction.

The seaweed is native to the Pacific Ocean. But it was accidentally flushed into the Mediterranean Sea. Normally, the story would end here. Caulerpa is native to an environment very different than the Mediterranean. The Mediterranean's a lot warmer, for one thing. So you wouldn't think it'd survive in its new environment. But in fact, it thrives in the Mediterranean. The seaweed now grows six times larger there than it does in the Pacific. Even worse, scientists have no idea why this has happened.

The thing is, it hasn't just adapted to its new environment. Caulerpa takes over the environment. So much so that it poses a threat to native species that once thrived in the Mediterranean. Native species of algae, once common, are choked out. Caulerpa is unlike native seaweed. It grows on many different surfaces: rocks, mud, and sand. So, it threatens each of the different native species that make these surfaces their homes.

Let's move up the food chain. Caulerpa not only dominates native species by reducing their presence, but it also appears to be harmful to native species of animals that feed on native seaweed. Sea urchins, for example, are left with less to eat because Caulerpa is toxic to them.

It's unlikely that any ecologist or biologist could have predicted how such a seemingly mild mannered seaweed could become such a monster. More distressing is that no one really knows how to stop the spread of this invasive species. As far as anyone can tell, it appears that Caulerpa is not only here to stay, um, but it also may outlast many native species in its new environment.

02 Geology

M1: Today let's talk about earthquakes and how we can try to predict them. Now, in your book, I had asked you to read chapter six for today. Um, in chapter six was a photo showing the damage of San Francisco after the great 1906 earthquake. Now, what if they could have predicted it?

W: People might have been more prepared.

M1: Exactly, but earthquake prediction is not an exact science. We can't predict exactly when an earthquake will hit. But we can make short-term and long-term predictions, each having different degrees of accuracy. Predicting earthquakes in the short-term means trying to predict earthquakes days or even hours before they happen. Now, this is not a weather forecast. Many scientists believe that short-term earthquake prediction is unreliable. I would have to agree. Still, scientists try to predict earthquakes in the short-term by looking for warning signs, like, er, ground motion.

M2: What about using animals to predict earthquakes? I love that idea. I heard that the Chinese have studied animal behavior to predict major earthquakes. It's really awesome!

M1: Yes, it's true that scientists have studied animal behavior before to predict earthquakes. But this method isn't very realistic. Anyway, as I was saying, probably the best way to predict earthquakes in the short-term is by measuring changes in rocks. Scientists have measured the strain of rocks that occur along faults, and it's believed that the more strain there is, the more likely an earthquake will occur. But as I said before, short-term predictions are not as accurate as we would like. Now long-term prediction, that's more feasible. Here's how it's done. Earthquakes occur along fault lines, and the rocks in these fault lines are under continuous and shifting pressure. By monitoring changes in these pressures, scientists can determine whether an earthquake is likely in the future. They've found that some earthquakes occur once every 300 years, so by knowing this, scientists can predict when an earthquake will hit next. Then, because cities know that an earthquake is likely to happen in the foreseeable future, they often build stronger buildings. So if an earthquake occurs, they can minimize the damage. So long-term earthquake prediction is more practical.

03 Office Visit

M: Denise, what brings you here?

W: Well, Professor Maxwell, it's about the report you assigned. You asked us to research and write about a recent historical movement. But I don't know what you mean when you say we need to use primary sources.

M: I explained that clearly in class today—you'd know that if you'd arrived on time.

W: Oh, I'm sorry about that. I had car problems. Am I wasting your time?

M: Don't worry about that. We'll go over what you missed, okay?

W: Please.

M: We have been reading several books in this class by historians. We call these secondary sources; they are not direct historical records. They are a historian's interpretation of those records.

W: Okay.

M: Now, remember in Burnside's book—he learned about the history of the civil rights movement by reading people's diaries. For this project, you are going to be like Burnside. You are going to collect direct historical records and interpret them. Those are your primary sources.

W: So you want me to collect diaries then?

- M: Not exactly. What I suggest is that you find a small number of individuals who lived during the historical movement you're researching. Then interview them. Your interviews will be your primary sources.
- W: That's a relief. I thought I'd have to spend all my time reading old books. I prefer talking to people anyway.
- M: Good. It's not just talking, though. Try to imagine that you are a detective like Burnside. You want to learn about history. I think you'll find this project very enjoyable.
- W: Thanks, I'm looking forward to it now.

to grow all the food it needs for a year. Modern farming requires expensive machines and fertilizers. However, slash-and-burn farming costs very little for low-income families.

Second, people can help preserve their ecosystems by using slash-and-burn farming. Since farmers only use the field for one harvest and then move on to another field, they ensure that no one area is farmed too much. Therefore, they are able to preserve their rich ecosystems. Slash-and-burn farmers can then benefit from these resources.

Chapter 5 | Organizing Information

01 Geology

- M: Now, let's talk about the role of ice in weathering. Like water and wind, ice is responsible for weathering rocks, or, um, breaking them down.
- However, for ice weathering to occur, you need two particular preconditions. You need to have water, and you need to have temperatures cold enough to turn that water into ice. So don't expect to find lots of ice weathering in the tropics.
- Okay, so here's how it works. While the temperature is above freezing, water flows into cracks in rocks. Then, as the temperature drops, the water freezes, and, most importantly, it expands. In fact, its volume increases by nine percent. The ice then acts like a wedge, placing enormous pressure on the crack and expanding it. Finally, the ice melts, leaving a now wider crack in the rock. This process often happens many times before the rock is weakened enough to break. It may be hard to believe, but something as simple as water freezing can break down entire mountains. Next time you see a pile of broken rocks at the base of a cliff, think about ice weathering.

02 Agriculture

- W: Slash-and-burn farming is an agricultural practice that, uh, continues to be used today in many areas of the world. Farmers use it to clear forests. Trees and plants are cut down and burned to clear the field and fertilize the soil. Then farmers plant their crops. After the harvest is over, the farmers abandon the fields. The forest grows back. New fields are then cleared in another area of the forest. In this way, slash-and-burn farming offers two advantages to farmers.
- First, it's an . . . an affordable way for low-income families to get food. A large family working together can clear enough land through slash-and-burn farming

03 Biology

- M: Today, many food producers have become used to using sugar substitutes in their products. Diet sodas and diet snacks are two examples. In such foods, sugar is replaced with non-sugar sweeteners. However, are these sugar substitutes safe? Some people propose that aspartame, one of the most popular sugar substitutes, is not safe. These critics think that long-term consumption of aspartame may lead to cancer. Let's look at one study that suggests these critics might be correct.
- This study was conducted by a European foundation dedicated to cancer research. Researchers there studied 1,800 rats over a period of seven years. The rats were given different amounts of aspartame. Many of the rats developed cancer. Those rats that had more aspartame were more likely to get cancer. Rats that had less aspartame were less likely to get cancer.
- Now, it is important to realize that this is just one study among many. Other studies that have been conducted on aspartame have shown different results. So the evidence is not complete. However, this recent study does suggest a possible link between aspartame consumption and cancer in humans.

04 Meteorology

- W: We tend to think of lightning as something temporary. It is a flash of electricity that disappears almost as soon as we see it. However, lightning can leave evidence of its presence. When lightning strikes sand, its intense heat melts the sand and turns it into glass. Pieces of this lightning-created glass are called fulgurites, or petrified lightning. They are interesting to scientists for two reasons.
- The first reason is because scientists can test fulgurites to determine their age. They can do this by heating fulgurites to make them glow. Over time, radiation causes more and more defects in the fulgurites. These defects glow when heated. Older material will glow brighter than newer material because it has more

defects. Hence, scientists can determine the approximate time that the lightning hit the sand in the past.

Now, why is determining the age important? Because climate scientists also study fulgurites to get clues about the climate in the past. When fulgurites form, they trap tiny bubbles of gas within them. Since they've already tested the fulgurites' age, scientists can study these bubbles of gases to understand what the climate was like at a specific period in the past. They can learn if the climate supported plants and animal life, or if it was too harsh. For example, fulgurites from the desert in Niger show that 15,000 years ago, the area could support shrubs and other plants. Today, there is only sand there.

05 Biology

M1: There's a [clear throat], sorry about that . . . there's a long history of humans introducing plant and animal species into environments where they're not native. Such experimentation often has unintended results. The introduction of the Small Asian Mongoose to Jamaica and Hawaii is one such example. Does anyone remember why this animal was introduced to these places? Jenny?

W: To control the rat populations. People wanted to grow sugar cane, and they were having problems with rats eating their crops. So they imported the mongoose because it hunts rats.

M1: Exactly. And did the introduction of the mongoose reduce the numbers of rats?

M2: No, not really. They ate the rats, but not enough to really reduce the population.

M1: Right. What happened was something entirely different from what the importers had predicted. See, the mongoose is a very efficient little predator. They are opportunistic and will hunt and eat whatever small animal they can catch: crabs, frogs, snakes, birds, and so on.

W: So they don't just eat rats, do they?

M1: Uh-uh. They eat whatever is easiest to catch. So here's what happened. They didn't have any natural predators in Jamaica and Hawaii so the mongoose populations grew quickly. What did all those hungry mongooses eat? Whatever they could catch. As a result, the non-native mongooses decimated many small native animal species. The mongoose was particularly dangerous to ground-nesting birds. They nearly killed off the Hawaiian goose. Other bird species, like Newell's shearwaters, were not as lucky. They are now extinct.

06 Biology

W: With the growth of science, we have gained a better understanding of the relationship between brain chemistry and mood. In fact, it is now clear that changes in the level of certain brain chemicals result in direct changes in mood.

Let's take a look at one such chemical called serotonin. Now, serotonin is a chemical naturally found in the human brain. It is also found in certain foods like mushrooms. So you can regulate your serotonin by eating certain foods. We'll talk more about this later.

Okay, so in the human brain, serotonin has many important functions. One of these is the regulation of mood. You can think of serotonin as the thermostat for a person's mood. When you turn up the level of the thermostat, the person's mood improves. When you lower the thermostat, the person's mood sinks.

If you have ever seen a depressed person, you notice that they are sad, lethargic, and often cannot get pleasure out of life. In the past, people did not understand why someone could become depressed like that. We now understand that people become depressed because the levels of serotonin in their brains are low. Their thermostat has been turned way down.

It is not always clear why this happens. What is clear, however, is that once a person's serotonin levels get low enough, they will experience negative moods like anxiety and depression. For that reason, changes in diet, increased exercise and even medication can raise the level of serotonin in the brain and help improve the person's mood. By increasing the level of serotonin in the brain, a depressed person can recover.

07 Fine Arts

M: Let's now spend a little time talking about the great American photographer Alfred Stieglitz. I want to compare two stages in his long career. But before doing that, I want to point out that during his entire career he worked toward one main goal. What was it?

W: Well, if what I read in the book is accurate, his goal was to elevate the status of photography to the level of a fine art.

M: Right. Before Stieglitz, photography was seen as less expressive than visual arts such as painting, drawing, and sculpture. After Stieglitz, photography joined the ranks of these fine arts.

Yet although Stieglitz's goal was the same throughout his career, the subject matter of his photography did not stay the same. For instance, in his early work, before 1917, he took a simple approach to

photography. He aimed to imitate the style and composition of painting: He did this through his choice of subject matter and through carefully manipulating his prints. Stieglitz chose subject matter with natural elements like snow, steam, or water. These subjects allowed him to create compositions similar to those of a fine painting. He painstakingly made his prints as well. This was necessary to get the tones that he thought made them most appealing. He worked hard to make his prints resemble paintings or watercolors.

W: What changed after 1917?

M: Well the First World War. It profoundly changed the art world, Stieglitz included. After 1917, the focus of his photography shifted to the representation of everyday life. He became more concerned with the world and people around him. His compositions were now less formal. Instead, his later photography aimed to capture the chaos and motion of everyday life. During this latter part of his career, he was less concerned with his final prints resembling paintings or watercolors. This, he saw, was no longer necessary to make photography a fine art. Photography should document reality.

08 Biology

M1: We all know that dinosaurs once roamed the Earth. Then, just like that, they disappeared. What most people don't know is that a similar mass extinction occurred before the dinosaurs ever existed, wiping out most life on Earth.

W: Then how come there is so much life on Earth today?

M2: I think I know the answer. Because new life forms emerged when old ones died out.

M1: Exactly. And of course, new species, like the ancestors to dinosaurs, evolved from those that survived. The important thing here is that the fossil record shows that a mass extinction occurred about 250 million years ago. In fact, 70% of the species on land and 95% of the species living in the oceans died off rapidly. What could have caused this?

W: Maybe climate change.

M1: In a way. An important new theory states that around 250 million years ago a huge meteor hit the Earth. It caused an extreme climate change that would've wiped out most of Earth's species.

M2: How do they know it was a meteor?

M1: Good question. Recently, researchers found metal particles in Antarctica. They learned that these must have come from outer space. Their composition is identical to other ancient meteorites. These space particles were about 250 million years old. That means they fell to Earth around the same time as the mass extinction. They are likely the remains of a giant meteor that hit Earth.

W: But does this mean the meteor caused the extinction?

M1: It is not direct evidence, but since the meteor hit at around the same time as the mass extinction, it is likely that the two are related. A similar catastrophic event is probably what killed off the dinosaurs millions of years later.

09 Astronomy

M1: Some of you may have heard that astronomers recently agreed that we now have one less planet in our solar system. There are now only eight planets in the solar system. Pluto is no longer considered a planet. Does anyone know why?

W: I think it's because the astronomers changed the requirements for planethood. There's now a stricter definition of a planet.

M2: Yeah, so Pluto no longer qualifies as an actual planet. It's now known as a "dwarf" planet.

M1: That's right. There are now new categories for space objects, but I don't want us to get ahead of ourselves—not just yet. I'd like to take a look at the change in requirements you mentioned and why Pluto no longer qualifies as a planet. Um, there are three requirements that define a planet according to the new standards. Can you think what these might be?

M2: Well, I'd imagine that it would be a space object that orbits around the sun.

M1: Yes, the first requirement is that it is an object in space that orbits the sun. Additionally, that object must have enough mass so that it forms a round shape. See, most smaller objects, like asteroids, do not possess enough mass to pull in other objects around them and overcome their irregular shapes.

M2: Interesting.

M1: The third requirement is that a planet must have cleared the area around its orbit of other objects. There are billions of space objects in our solar system. To be considered a planet, an object must have an unobstructed orbit, free from other objects nearby.

W: Uh, but doesn't Pluto orbit the sun?

M2: And I'm pretty sure it's big enough to be round.

M1: It does orbit the sun, and it is round. However, the problem is that Pluto has an irregular orbit. It changes at times. And because of this, it has not pulled enough smaller surrounding objects into its mass to have an unobstructed orbit. In fact, Pluto's orbit is erratic. Sometimes, it overlaps with the regular and circular orbit of the planet Neptune. So because of this erratic and obstructed orbit, Pluto was disqualified from being a planet under the new, stricter requirements.

10 History

M1: For thousands of years, the ancient Egyptians were the most powerful force in the world. Yet, they weren't always so powerful. In 1700 B.C.E., a, uh, a people called the Hyksos conquered Egypt by using two-wheeled vehicles called chariots. However, eventually, the Egyptians re-conquered their lands by using the Hyksos' own weapon against them. Egyptians had developed a chariot that was lighter and faster than that of the Hyksos, allowing them to regain control of Egypt. The chariot went on to transform Egypt into a world power.

After this Egyptian victory, there was a major shift in Egyptian warfare. Before, whenever Egyptians went to war, they always stopped at the borders of their own lands. But with the chariot, ancient Egyptians became bolder. Now Egyptians began actively conquering peoples outside their own lands. The chariot was the reason for this. Can anybody tell me why?

W: Well, it seems to me that the chariot made far-off areas easier to get to. Egyptians could travel great distances in a shorter amount of time.

M1: Definitely. Chariots increased the speed that Egyptians could journey, letting them travel as much as 15 miles per day. Can anyone give me another reason?

M2: Uh, chariots gave the Egyptians a tactical advantage in warfare. While one soldier drove the chariot, another shot arrows or threw spears. It was easier for the soldiers to use weapons when they didn't have to worry about directing a horse.

M1: True. The chariot was to the Egyptians what gunpowder would be to the later world. It gave them the ability to conquer other people quickly and easily. Chariots also required Egyptian soldiers to be well-trained. In order to know how to drive and fight from a chariot, Egyptian soldiers had to know what they were doing. So Egypt had better trained soldiers as a result of the chariot.

W: Didn't the Egyptians also use chariots to defend their armies?

M1: Exactly. Egyptians would usually send in their chariots first during war. While the opposing army was busy fighting Egyptian charioteers, Egyptian soldiers on foot could sneak up to the opposing army. This tactic made Egyptian warfare much more efficient.

Chapter 6

Content Questions

01 Fine Arts

W: Today, I want to talk about two different types of theaters that were constructed in the past: Greek theaters and Elizabethan theaters.

Greek theaters were the first types of theaters ever constructed. They were completely outdoors. They were often constructed along the sides of hills. The audience sat on stone benches that were built into the hill's sides. In the middle of the theater was the orchestra. This was a circular stage where singers would narrate the play, and dancers would perform. The theaters were immense, seating about 1500—I'm sorry—15,000 people.

Hundreds of years later, Elizabethan theaters were being built in England during the 16th and 17th centuries. Although the theaters themselves consisted of circular wooden constructions, the stage, uh, where the action took place, had no roof. The audience area was also built around the stage and seated at least 15,000 people. One detail that did differ from Greek theaters, though, was the concept of the "pit," a place on the stage where some of the audience would stand to observe the plays—sort of an Elizabethan version of "front-row seating."

02 Geology

W: Today, I want to talk about tsunamis. For those of you who aren't familiar with the term, a tsunami is a series of gigantic, powerful waves that occur in the ocean. We'll start by looking at some of the causes of tsunamis, and then we'll discuss some of the effects they have. Tsunamis occur when a massive amount of water is displaced. This creates the waves that make up tsunamis. However, that's not the whole story. Something has to trigger . . . um, you know, cause . . . these displacements of water. Well, one trigger is meteor impacts. When a meteor falls into the ocean, it creates massive waves. Another common trigger is earthquakes. What often happens during earthquakes is that one part of the Earth's crust gets shoved upward. When the crust is shoved up in this way, it causes water displacement.

Once that water is displaced, it travels outward in the form of a series of waves. The waves move away from the site where the displacement occurred. They, the waves, uh, carry tremendous force. If the waves strike any coastlines nearby, the result will be large-scale destruction.

03 Office Visit

W: John, do you have a minute?
M: Um, yeah, sure.
W: I've noticed that you fell asleep today in class, and this is not the first time.
M: Um, sorry about that, Professor Ellison. It's not that your class isn't interesting. This is actually my favorite class. I know it looks bad.
W: Well, I'm just concerned.
M: Uh, I have a job at night, delivering pizzas. And, you know, I don't get home until late, so I haven't been getting much sleep.
W: That helps to explain it.
M: The other thing is, I've never liked taking morning classes. But I really wanted to take this class with you.
W: Why didn't you sign up for the afternoon section that I teach?
M: I guess I didn't see that one on the schedule.
W: Well, it meets Tuesdays and Thursdays, 3:00–4:45. Same location.
M: Really? Can I switch?
W: That might be a good idea if you want to pass.

04 Service Encounter

M: Hi Miss Anderson.
W: Oh, how are you Juan?
M: Fine, thank you. I have a problem, though.
W: What is it?
M: Um, since I am an international student, I don't qualify for financial aid like the other students do.
W: Right.
M: But the thing is, I need help to pay for tuition and books. It's getting more expensive each year.
W: A lot of students have been upset about the tuition increases. Well, um, there are a few things you could do. Does your visa allow you to work?
M: I think so.
W: Then you might want to look for a part-time job. There are a lot of student jobs on campus.
M: Oh.
W: You could also try to apply for private scholarships. You can research them in the library, but some are available for international students.
M: Really?
W: You are not eligible for government scholarships, though.
M: Right.
W: Let me think. Hmm. Have you talked with your department about internships? Sometimes you can get paid credit too.
M: That's a great idea.

05 Geology

M₁: Today I'd like to talk about a geological feature called a volcanic caldera. If you think about a typical volcano, what does it look like to you?
W: Well, um, it's probably shaped like a cone.
M₁: Indeed, many volcanoes are conical—not all though. Are there, uh, any other, um, features of a typical volcano?
M₂: Don't they usually have a big crater at the top?
M₁: Many volcanoes do—that crater is what we mean by the caldera. There are two types. One type is an explosive caldera. That type of caldera is caused when a volcano erupts in a violent explosion. After the explosion, a hole remains. This is exactly what happened when Mt. St. Helens erupted in 1980. The entire top and part of the side of the mountain are now gone. In place, you can see the volcano's caldera. Future eruptions will continue to shape its caldera, maybe even fill it in partially. Do you have any ideas what might cause the other type—a non-explosive caldera?
W: Hmm . . . the volcano doesn't explode?
M₁: Nice try. A non-explosive caldera is caused, not by an eruption, but when an underground magma chamber in the volcano empties and collapses. That's what happened to Hawaii's Kilauea, which has never had such violent and explosive eruptions like that of Mt. St. Helens. You can visit this active volcano and see its caldera today.

06 Physics

W: One sustainable energy source that I'd like to talk about today is called geothermal energy. It uses geothermal technology. Basically, geothermal technology allows us to harness, or, uh, use heat from inside the Earth to meet our energy needs. It involves digging holes into the Earth's crust to collect steam. Sometimes you need to pump steam . . . I mean water . . . into the holes to make steam. So the general aim is to harness steam to produce electricity. Geothermal energy has some big advantages over other sources of energy. Namely, they are—um, geothermal energy is a very low-cost form of heating and energy production. Once you build the facilities to capture the heat and steam, there is very little—almost no cost to use it. Another advantage is that geothermal energy produces no pollution. Compare that with burning coal or oil. Geothermal energy is almost 100% clean! But it also has some serious disadvantages too, like, um, look, you can't find this energy source everywhere. Actually, it is only found in a few locations. So, uh, you

can only harness the energy where there are hot spots close to the Earth's surface. Usually, those are places where you already find steam vents, geysers—and by geysers, I mean hot water that shoots up out of the ground—and natural hot springs. Iceland, Norway, and New Zealand have a few such spots. But, locations like that are pretty limited. Also, another problem is, uh, you can set up a geothermal facility at a good location, but later, the location becomes useless. For some reason, it stops producing enough steam to be useful anymore. Geothermal energy can be very unpredictable this way.

07 Office Visit

M: Can I talk to you for a minute Professor Allen?
W: Sure, David. What can I do for you?
M: I didn't get to copy down all the terms that you mentioned in today's lecture. And I know they were important.
W: Do you remember what parts of the lecture you had trouble with?
M: Uh, not really.
W: Hmm. Do you mind if I take a look at your notes?
M: Sure.
W: Hmm. Interesting.
M: What?
W: David, just by scanning your notes from today and from previous classes, I can tell that you've been missing a lot of important information from my lectures. Your notes are rather incomplete.
M: What's wrong? I thought I took good notes.
W: Mmm . . . not exactly. I think your note-taking skills could use some improvement.
M: Oh.
W: What I suggest is that you copy down the outline that I put on the board at the start of each class. That way you can follow along and keep up with the main ideas of the lecture.
M: Okay.
W: Second, use that outline to help you fill in the subtopics that develop each main point. Don't worry about writing down everything I say word for word. It looks like you are trying to do that. Focus on understanding the organization of the lecture. That will help you identify which information is most important. That is the information you should write down.
M: All right. That's a good idea.
W: Oh, and one more thing. You might find it useful to abbreviate words and use symbols. That can save you a lot of time and keep your hand from cramping.

08 Service Encounter

M: Hi, can I help you?
W: Um, yeah . . . I've been having trouble registering. You know they said we could register using the university website. I thought that would be easier than waiting in line and trying to register in person. But, um, it's not working out for me. I start at the university website and then click on the registration page. It asks for my login name and password. So I type those in and then I always get this message that says the server is unavailable.
M: Are you accessing the website from campus or off-campus?
W: I'm using my computer at home.
M: What web browser are you using?
W: Internet Access.
M: That's your problem.
W: Huh?
M: The registration page is not compatible with that web browser.
W: Oh, I didn't know that. I always use that browser to check the university website.
M: Right. But the registration software does not run well when you use Internet Access. So that's why you are not getting on.
W: Huh? So do I need to use a campus computer then?
M: No, not unless you want to. You can still register from home. All you need to do is go to the Ping website and download their free Ping Power Browser. It's really easy. It should only take you a few minutes. But then you can install the Power Browser on your computer and register without trouble. Just use your login name and password like before.
W: Thanks. Do you have the web address for that browser?
M: Sure, I'll write it down for you.
W: Excellent. Thanks so much for your help.

09 History

M₁: Okay, let's spend some time discussing the Norman conquest of England. Just for the sake of review, it happened in the year 1066. And remember, the Normans came from what is now Northern France. So what happened?
W: Well, the Norman Duke, William the Conqueror, assembled an army and, um, invaded England.
M₂: Yeah, he defeated Harold, the Anglo-Saxon English King.
M₁: Good. Anglo-Saxons, you may recall, uh, they were the people living in England—and, er, they spoke Old English, a language closely related to German. In fact, most Anglo-Saxons had German ancestors. Now, what effect did this conquest have on English culture?

Surely, it must have changed the culture and society of the Anglo-Saxons when the Normans arrived and said they were now in charge.

W: Well, I remember reading that the old nobility got replaced. And I think the Church leaders too.

M1: Excellent. Those are two major changes. Do you remember the third?

M2: Hmm. Not really.

M1: Well, I'll get to that in a minute. First, I want to go over the political changes you just mentioned. William declared himself King of England. Then um, he took all the land and power from the Anglo-Saxon nobility. Took it and gave it to Normans who had helped him win. By removing the nobles from power, he also made his monarchy more powerful, one of the strongest in Europe. Before, the nobility was strong, and the king was weak. After William, that relationship was reversed.

Oh, second, you mentioned the Church. What happened was, William replaced all the top Anglo-Saxon Church leaders. He replaced them with Normans. So his people were now the new Church leaders and the new nobility. His conquest was thorough and long lasting. Now, hmm, what else?

M2: Wasn't there something about language?

M1: Oh, right. This is a consequence we see most clearly today. As I mentioned, Old English, the language of the Anglo-Saxons, was closely related to German. After the Normans took over, the language started to change considerably. English adopted words from French and Latin, the languages of their conquerors. It became a mixed-up language, sometimes with overlapping vocabulary. It evolved into the type of English that we have today.

10 Biology

W1: Today, we'll talk about the origin of birds. This is a discussion of one popular, but controversial theory. And, uh, that theory states that birds are direct descendants from dinosaurs, specifically one group of bird-like dinosaurs called coelurosaurian dinosaurs. If this theory is correct, then birds are living relatives of dinosaurs.

M: Wait, you're saying birds, like pigeons, are related to dinosaurs?

W1: That is correct.

W2: Seems strange to me too.

W1: Okay, then let's take a closer look at the evidence. Then you can make up your mind. Now, have you ever broken open a chicken bone? What does it look like?

M: It's hollow inside.

W1: That's correct. Um, so, bird bones are hollow. Well, actually, they are filled with air sacs—but the point is

they are unlike mammal bones, which are solid. Because bird bones are hollow, this helps reduce their weight, which, you know, is important for flight. Well, remember that group of dinosaurs, coelurosaurian dinosaurs? Take a guess what their bones were like.

W2: Hollow?

W1: Exactly—um, place them side by side with a bird bone, and they would look very similar. Now, how can you tell birds apart from other animals?

W2: That's easy—they fly. Well most of them do, anyway.

W1: Okay. How do they fly?

M: They have wings and, uh, feathers.

W1: Feathers—good. You might be surprised to know that recently discovered fossils provide evidence that some coelurosaurian dinosaurs also had feathers, or coverings that looked very similar to feathers. When you usually think of dinosaurs, you don't think of feathers. You think of scales. But the interesting thing is, scales grow from tissues that are similar to those that produce feathers. Also, remember, birds sort of do have types of scales . . . on their feet!

The third thing is, there are dozens of structural skeletal features that are very similar between modern birds and coelurosaurian dinosaurs. To name a few: long curved necks, wrists, shoulder blades, and many others. The point here is that if you compare the features of bird and coelurosaurian dinosaur skeletons, you find many structural similarities and features that set them apart from reptiles, land-based descendants of dinosaurs.

Chapter 7 Answers to Questions

01 Zoology

M: You may think of divorce as a distinctly human phenomenon. However, divorce is also present among some species of socially monogamous birds. One such species is the blue tit. A recent study found an astonishing 50% divorce rate among blue tit mating pairs.

Now, when a pair of blue tits divorce, the male stays in the same territory he had before the marriage. It's the female that leaves the nest. In a divorce, she flies away in search of a new male and then lives in that new male's territory.

Okay, I know you're all asking this, so . . . why do blue tits sometimes divorce? Well, it was originally thought that females left their mates in search of a more attractive male. However, a recent study suggests quite a different reason. It appears that competition between females is

the cause of divorce. What happens is a bigger female will chase a smaller, weaker female away from her mate. She will force the original female out of the male's territory, putting an end to the initial mating pair. The invading female will then become the new female of the male's nest.

02 Linguistics

W: Have you ever noticed how some women use more rising intonation at the end of their sentences? For instance, instead of saying, "The report is on the desk," they'll say, "The report is on the desk?" It's as if they're asking a question rather than stating a fact. Today, we'll discuss some of the pros and cons of this way of speaking.

To a female listener, rising intonation signals cooperation. This is because women view conversation as a cooperative activity. By phrasing a statement as a question, the woman gives the listener a chance to reply. This shows she is more cooperative than competitive. This could be beneficial in a team setting when a woman must work with other people.

A male listener, however, will probably view this behavior negatively. He is more likely to see rising intonation as a sign that the woman is unsure of herself. In a highly competitive environment, this could give male listeners the idea that the woman is not assertive. And being assertive is a trait that men prize in speech . . . um, especially in a competitive business environment.

03 Office Visit

W: Professor Strathern, can I talk with you about the research paper assignment?

M: Sure.

W: You know this is my first semester in college, and I've never done a research paper before. So I don't think that I'm any good at writing them. I'm really nervous about this.

M: There's nothing strange about that. I see it all the time in freshmen. At least you came to talk to me now, rather than after I graded it. That's more than most do.

W: Well, I want to do well.

M: It takes time to learn how to write a good research paper. It doesn't happen right away. This is an introductory class, so I don't expect you to write like a senior.

W: That's good.

M: If you want to write a draft and give it to me before the deadline, I'd be happy to look over it and provide feedback. Send it by email if you want.

W: What's your email address?
M: It's on your syllabus.
W: Thanks for the offer. I'll take you up on that.

04 Service Encounter

W: Um, hi, do I need to purchase a meal plan?
M: Are you a freshman?
W: Yes.
M: Then . . . yes, you must. That's our policy.
W: Oh, but I'm allergic to dairy products. So, I mean I don't know if there are like, any meals that I'll be able to eat. Does this mean I'll also have to buy food off-campus then?
M: No, not unless you want to. Dining services offers dairy and non-dairy meals for all students, every day.
W: Oh, really?
M: Yes, we offer soy milk. And we also have soy-based products at every meal, like tofu, so you don't have to worry.
W: Wow, that's great. This is totally the opposite of my high school meal plan.
M: We try to meet the needs of the different groups of students on our campus. We even have special meal days that feature foods from different countries, so international students also get a taste of home.
W: Great. Can I pay now?
M: Yep, I just need your student I.D. number.
W: Oh, I forgot my I.D. in my room. I'll be right back.
M: No problem.

05 Economics

M: Today, we're going to look at two different theories of management: the classical view and the acceptance view. Both are concerned with legitimate authority, um, authority that's legal, which means it follows laws and rules. But it is their differences that make them interesting. The classical view of management sees authority flowing from the top down. The source of a manager's authority comes from his bosses, the owners of the company. Management has the right to give lawful orders. And, workers have the obligation to obey those orders.

W: Why do workers have the obligation to obey?
M: It's believed that if the worker accepts the job, then it's his duty to obey every order his managers give him.

M: But sometimes bosses give bad orders.

M: That's true, but in the classical view, workers are obligated to obey either way. But in the acceptance view—the acceptance view sees authority flowing from the bottom up. It says that authority is in the hands of the person receiving the order. That person can choose whether or not to obey. In most cases,

employees choose to obey. Otherwise, organizations wouldn't be able to function.

M: These are just theories, though. What use are they to real managers?

M: Well, how you look at the source of your authority as a manager determines how you manage your employees. A manager with an acceptance view will think he needs to gain the obedience of his workers. A manager with the classical view thinks just the opposite. He feels that he deserves his employees' obedience. Big difference, as you can see.

06 Psychology

W: The Attribution Theory discusses how people explain results in their lives. The theory states that an individual will explain results—like getting a grade—as being caused by internal factors or external factors. If you believe that you got a good grade because you studied hard, you're attributing your success to an internal factor: yourself. But if you think you got a bad grade because your teacher is bad, you're attributing your failure to an external factor: the teacher.

So why is this important? Well, how people view events can influence their outward behavior. If a person thinks a result is caused by internal factors, she's more likely to change her behavior. But the reverse is true if she perceives that change results from external factors. Let's apply this to real life. In one experiment, teachers wanted to see if they could use the Attribution Theory to change their students' behavior. The teachers gave the students candy. Most of the students ate their candy and threw the wrappers on the floor. Over the next two weeks the teachers said to the kids, "This is a neat classroom, and you are neat kids." The teachers stressed to the children that they were neat and orderly. Their goal was to get the kids to see that they—the internal factor—were in control of making the classroom neat. After two weeks, the teachers gave the kids candy again. This time every one of the wrappers ended up in the trash can. The kids had learned that having a clean classroom resulted from their own actions.

07 Office Visit

M: Hi Professor Lindesmith.

W: Hi Trey. What can I help you with?

M: Uh . . . I'm really worried about my grade for the semester because I failed the test. So, um, do you think I can do some extra credit to bring my test grade up? My history professor let me do that last semester.

W: Well, Trey, I'd like to see you pass my course too. It's

good that you're so concerned. But I don't allow extra credit assignments. Well, normally I would, but not in my introductory level classes.

M: What am I going to do? I'll get in big trouble if I flunk math.

W: You may be able to save your grade for the course yet. This was only the first test. We still have three others plus homework assignments. And each test counts for higher than the last one. If you do well on them, you could still pass.

M: The thing is, I need to do a lot better than just pass. I need to improve my grade point average. And I studied hard for this test. I just wasn't feeling well when I took the class. I went to the nurse right after class. She gave me this note if you want to see proof that I was sick.

W: Well, since that was the case, I'll think about throwing out your grade from this first test. But only if you get better than a B on remaining tests.

M: You bet. If you'll throw out that first bad test, I guarantee that I'll get an A on all the others.

08 Service Encounter

M: Hi, can I help you?

W: Uh, yeah, is this where I file a complaint with the housing department?

M: Yes; I can help you with that. What's the problem?

W: Well, see, there was a leak in my ceiling. And, um, this filthy water came down the wall and into the closet and, it ruined some of my clothes. I mean, they are totally ruined. They are stained, and they stink. I tried washing them, but nothing can get rid of that smell!

M: I'm really sorry about that. We had some unexpectedly heavy rains last week and unfortunately, there have been some leaks. I'm sure you have heard from other students in your dorm. I bet you live in Ellison Hall, right?

W: Yeah.

M: Listen, first of all we have a repair team on the roof right now and will get the problem fixed as soon as possible. The good news is there is no rain in the forecast for the rest of this week.

W: Yeah, but what about my clothes? I lost half of my wardrobe!

M: Here, fill out this form and bring it back to me by next week. Then we can process it and write you a check to compensate you for your loss.

W: How long does it take before I get the check?

M: We should be able to pay you in about two weeks.

W: Good, that's before my credit card bill comes in. I hear they are having a sale on women's clothes at my favorite store today.

M: Have fun.

09 History

M1: What happened to the once great civilization that inhabited Easter Island is a mystery that researchers have been trying to solve for generations. When Europeans first arrived on the island in the 18th century, they found magnificent art and sculptures. But none of the Easter Islanders there knew much about their creation. A new theory suggests that the principal cause of its disappearance was deforestation—the complete destruction of the island's once rich forests. That one event resulted in three key negative effects that took shape over a period of about 300 years. We'll start with the deforestation and then look at the three effects on the Easter Islanders.

The island was once covered with abundant forests of palm trees. They were an essential part of the island's economy. Islanders used them to construct buildings and create boats. The latter, they needed for fishing, which was the core of the island's economy and food system. Well, as their civilization grew, they cut down more trees, and soon, all the trees were gone. What do you think might have happened next?

W: Well, without trees they couldn't build any more boats.

M1: Right, no more boats meant no more fishing. So that really brought about the end of the most important sector of their economy and their main food source.

M2: Yeah, but they must have grown crops and hunted wild animals also, right?

M1: Yes, the island was, at one time, rich in natural resources. There were wild plants, birds, animals, and shellfish. But as the islanders caught fewer and fewer fish, they increased their demand for these resources. That put enormous pressure on the environment. And soon many of those resources ran out.

How do you think this affected their society and political organization?

W: I'd imagine it was pretty difficult.

M1: Difficult, indeed. Before cutting down all their trees, Easter Island had a complex social and political structure—once responsible for all that magnificent art. But as the problems grew, the political leaders could no longer solve them. In time, political order broke down and Easter Island became a very violent place. People fought each other for what limited resources remained on the island.

10 Environmental Science

W1: We've all heard about the theory of global warming and how it's being caused by the activities of man. But something we don't hear a lot about are critics' theories against manmade global warming. Let's talk about those theories today.

First, I'll quickly go over the theory of global warming, although this will most likely be a review for most of you. The theory states that changes in the temperature of the Earth are the result of human activity—specifically, people burning fossil fuels. It says that burning them for energy causes the Earth's temperature to rise. This creates greenhouse gases that heat up the Earth.

M: So that means when we drive our cars and fly on airplanes, we're causing the Earth to get hotter?

W1: According to the theory, yes. But for critics against global warming, the answer to your question is not so clear. There are two reasons for this. First, the lower troposphere is not getting hotter. If there were global warming caused by greenhouse gases, scientists say that the temperature of the layer of the Earth's atmosphere . . . called the lower troposphere . . . should be increasing. It is clear that the land temperatures in some areas have gotten warmer, for many complex reasons. But the interesting thing is—over the last 23 years, which is how long we have measured it—for the last 23 years there have been no temperature increases in the lower troposphere. Yes Beth, did you have a question?

W2: Yeah. How could the land get warmer if the lower troposphere isn't getting warmer?

W1: To answer your question, critics contend that changes in land temperatures are happening in places where urban areas are spreading out or where forests have been cut down.

M: Oh. Okay.

W1: The second criticism concerns the cause of temperature change. Scientists have studied changes in the Earth's climate that go back billions of years. These studies show that the Earth naturally gets warmer or cooler. The temperature changes in cycles. It is entirely possible that today, changes in temperature are the result of natural changes, not caused by human activity.

| Mini Test 3 |

01 Psychology

M: Intelligence tests, or IQ tests, are supposed to measure exactly what they say they measure: intelligence. But what exactly is intelligence? Most define intelligence as the capacity to reason, to solve problems, and to learn. IQ tests claim to be a useful measure of all these things. But IQ tests don't . . . well, let's just say there are problems with these tests.

First off, it's impossible for IQ tests to get rid of cultural biases. Say, for example, part of an IQ test uses words like skyscraper, subway, or . . . uh . . . personal computer. Someone born and raised in a city would be more

likely to be familiar with these words and their meanings than someone from a rural village. IQ tests are designed to measure innate intelligence. They're supposed to have nothing to do with knowledge or experience. But the problem is that IQ tests often use words or symbols that do reflect past learning and experiences.

Another problem with IQ tests is that they're not a good measure of creativity. Creativity is the ability to come up with original ideas . . . to combine known facts in new ways. But past studies have revealed that IQ tests do not accurately measure creativity. So people who score highly on IQ tests aren't necessarily the most creative . . . which is somewhat strange because creativity is an aspect of problem solving. The ability to solve a problem is assumed to be an aspect of intelligence. Problem solving often requires you to think of as many solutions as possible and to come up with new solutions. Both require creativity. But IQ tests, oddly enough, fail to measure creative talent.

IQ tests also fail to predict real-life success. It's often assumed that people who score highly on IQ tests are most likely to succeed in life. It's true that these people often do better in school and stay in school longer, both of which are factors in things like getting a job and making money. But studies show that there's absolutely no connection between IQ test scores and overall life accomplishments. It's very possible to run a successful business, to make a scientific breakthrough, or to become a leader without scoring high on an IQ test.

02 Chemistry

W₁: Okay, everyone . . . how did our planet's Sun begin? And what's going to happen to it in the future? Astronomers believe that the life of our Sun began sometime between 4.5 and 5 billion years ago. It formed in what's called a stellar nursery—an enormous cloud of gas and dust. Now, if you had to guess, what kind of gas would you say was present in this stellar nursery?

M: Hydrogen and helium? I mean, that's what the Sun's made up of.

W₁: Excellent guess. But mostly hydrogen. Within the nursery cloud, there were hundreds of lumps of hydrogen gas and dust. Then, about 5 billion years ago, some kind of disturbance . . . probably the blast from a star exploding nearby . . . caused these lumps to collapse. The weight of all that dust and gas produced a great amount of pressure. This caused the particles to rub against each other. And what do you get when you rub two things together?

W₂: Friction?

W₁: Yes! And friction produces heat. Eventually, it got so hot that the hydrogen particles began coming together and forming helium particles. This process is called nuclear fusion. It's what makes nuclear bombs so powerful, and it's also what makes the Sun burn like it does. And that's how our star was born.

M: But it's going to burn out someday, right?

W₁: Unfortunately, yes. But not in our lifetimes. The sun's been burning now for about 5 billion years and is expected to last for another 5 billion. You can sort of think of the Sun as a giant fuel tank. It would now be halfway empty. So what happens when the Sun starts to run out of hydrogen gas? Well, toward its end, when its tank is nearly empty, the Sun will start burning the hydrogen in its core. This will cause it to expand to 30 times its current size. Then, after about two billion years . . . when there's no more hydrogen left . . . the remaining helium will fuse into carbon and the outer gases will drift away. All that's left after this will be a tiny white core of hot carbon called a "white dwarf." At this point, our Sun is as good as dead. Its gas tank will be totally spent.

03 Biology

M: The largest species of ancient primate is a three-meter-tall giant known as Gigantopithecus, or "Giganto," for short. Of course, you won't see any three-meter-tall apes roaming the Earth today. That's because Giganto went extinct about 250,000 years ago. Most archeologists believe that Giganto died off for two reasons. One was because of hunting. The other was because of too little food.

W: Was Giganto hunted by humans? Were humans even around back then?

M: Oh definitely. Modern humans, homo sapiens, evolved from the more primitive homo erectus at almost exactly the same period that Giganto went extinct. Now, homo sapiens had bigger brains than their recent ancestors. They developed more complex weapons and better hunting methods. There's no definite evidence suggesting that these early humans did, in fact, hunt Giganto. But they did co-exist with these giant apes. And they were learning efficient ways of hunting around the time Giganto disappeared. So it's not unlikely that humans played a part in the extinction of the giant ape.

But humans probably weren't the only problem Giganto faced. Archeologists studying Giganto fossils discovered that Giganto shared some similarities with the giant panda, which still lives in Southeast Asia. Pandas have thick jaws, pitted teeth and often suffer from tooth decay. And so did Giganto. These are all consequences of the panda's bamboo diet. So archeologists concluded that Giganto also ate mostly bamboo.

W: But isn't that just guesswork? I mean, couldn't Giganto have eaten some other tough plant?

M: Well, most likely, no. Archeologists have also found microscopic plant remnants, called phytoliths, in the enamel of Giganto teeth. The type of phytolith found in the Giganto teeth fossils are the same shape as phytoliths found in living bamboo. So there's your evidence that Giganto probably ate bamboo. But, unfortunately for Giganto, there were a few problems with an all-bamboo diet. See, bamboo forests decrease every twenty years or so, though no one knows why. So in those periods when bamboo was scarce, Giganto had to compete with giant pandas and humans, who used bamboo for tools and huts. There just wasn't enough bamboo to go around, and it turns out Giganto lost the battle.

Practice Test

01 Psychology

M: Today, I'd like to talk to you about the Wisdom of Crowds theory. This theory states that crowds are wiser than individual people when making decisions. Let me go over how this theory works in a little more detail.

Now, the best setting to test this theory out is, surprise, surprise, in a crowd of people. Let's say you have a thousand students, and you ask them to guess the average IQ, or intelligence, of a university student. Well, you'd probably think that a few intelligent individuals would get it right but that most people would get it wrong. But according to the Wisdom of Crowds theory, if you take the guesses of all the people in that crowd and then average them, that average will be very close to the correct answer. In fact, it will probably be more correct than nearly every single individual guess. This could mean that over the course of many decisions, the collective knowledge of the crowd will win out over nearly any single individual. Okay, so I'll give you two examples of how the Wisdom of Crowds theory has been shown to work in real life. In the first example, we'll look at a famous game show. If the contestant of this game show doesn't know the answer to a question, he can do one of two things. He can either ask an expert or ask the audience for help. As the theory would predict, the crowd was correct 91% of the time. The experts were correct only 65% of the time. That is amazingly accurate!

Now, for the second example. A professor once asked his students to guess the number of jellybeans in a jar. There were 850 beans in the jar. I played a similar

game when I was in school, and I can tell you, students are usually way off when they guess individually. Anyway, the crowd guessed 871, only 21 jellybeans off! Only one person guessed better. It's remarkable how close the crowds get to the correct answer. It's exactly the opposite of what one would expect.

02 Genetics

W1: Today, I'd like to talk about the problem of declining genetic diversity. Can anyone explain what that means?

M: Well, I think it refers to the fact that so many organisms on Earth are going extinct. And this results in a smaller pool of genetic material available in nature.

W1: Good answer. In the past few decades, we have experienced a big decline in genetic diversity. This is caused by an ever-increasing number of species becoming extinct—15 in the past 20 years! The more worrisome trend is that there are over 15,500 species currently at risk for extinction. In the coming decades, these species may disappear forever.

W2: So, isn't there anything we can do to prevent those species from becoming extinct?

W1: I'm glad you asked. There are a number of things being done as we speak. We'll take a look at a few techniques for preserving genetic diversity. Any ideas what I'm talking about?

M: What about cloning—when scientists copy DNA from one organism and create from it an identical organism. Like what they did with that sheep, Dolly?

W1: That's one promising technique. But the problem with cloning is we don't have lots of technology available to do it. So right now, that solution's not very viable. But there are other useful methods, like conservation.

W2: I'm sorry. I didn't hear what you just said.

W1: We can preserve genetic diversity through conservation, or managing endangered animals in ways to keep them from being destroyed. Think of zoos and nature reserves. Those are conservation approaches that aim to keep species alive and in as natural a habitat as possible.

M: So why not just do that?

W1: Sometimes it's not possible. Habitats get destroyed, and the species that lived in them may not live well in a new habitat.

M: Oh, I see. Makes sense.

W1: So, a third solution is through freezing. That's when scientists take genetic reproductive material and freeze them at very low temperatures.

W2: Why do they do that?

W1: At present, this is the only way to preserve the DNA of species about to go extinct. Scientists freeze this

material because they hope to be able to use it in the future, when we have the technology for artificial reproduction or cloning.

03 Office Visit

W: Excuse me, Professor Mortimer?

M: Yes.

W: You know how you asked us to read that chapter in our book on comparative economic systems? Well, I'm having a lot of trouble with it. You see, I read it twice, but when you gave us that quiz today, I didn't understand it.

M: You didn't understand the quiz?

W: No, the quiz was really clear. I couldn't remember the answers to the questions.

M: Wait. I'm confused. Let me get this straight—you read the chapter twice?

W: Yeah. Two times, so I thought I'd ace the quiz. But I'd look at the answer choices, and I couldn't remember what the words meant.

M: When you read the chapter, were there many new words you had never seen before?

W: Lots of 'em. I read the little definitions at the end of the chapter, but then I just forget 'em.

M: Does this happen often?

W: Yeah, I'm not a good reader. And . . . well, I guess that's the reason I came here to talk to you. I have lots of trouble remembering things, especially new words.

M: Well, one thing you can do is start a vocabulary notebook.

W: What's that?

M: Basically, just get a small notebook. Every time you encounter a new word, write it down in your notebook. Also, write down a definition and a sentence using that word too.

W: Hmm.

M: A small notebook is best. That way you can take it with you wherever you go. Then look over it while you are waiting for the bus, or if you arrive to class early. I think you'll see that it helps you remember new words.

W: Thanks, I'll try that.

04 Environmental Science

M: Cities require lots of water in order to function. Most of them rely on groundwater, or naturally occurring underground water supplies, to meet those needs. Now, you'd think this would be a good water source. Groundwater is naturally occurring. It's sustainable, which means it refills itself over time. However, the problem faced by many cities, is, uh, that they overuse the available ground water supply. This has several

harmful effects on natural and urban environments. Unfortunately, in my opinion, not enough people understand the significance of this problem.

Some of you may have used a deck of cards to build a house, you know, just for fun. What you'll notice about a house made of cards is that there are spaces between the cards. Yet, it still holds itself up if it's built right. It's the same concept for many groundwater systems. Underneath many cities you will find porous rock or soil—it has lots of holes in it. Kind of like the house of cards. When those holes are filled with water, um, the land is firm. It can support buildings and roads. But when too much of that water has been removed, well, like the house of cards, it falls. We call this land subsidence. Sometimes it happens slowly, a few inches every couple of years. Sometimes the collapse is immediate, as in the case of a sinkhole when the ground suddenly collapses.

Another consequence of overusing groundwater is the loss of riparian vegetation plants living along stream banks. This is especially a problem in dry climates, like the American Southwest, where there's not much rainwater. These plants rely on groundwater to survive. So, as groundwater levels drop, you also see streams reducing their flow, even drying up. As this happens, the riparian plants living along the stream banks have a harder and harder time getting water. Guess what? Without water they die. And when that happens, stream banks erode. Tucson, Arizona saw severe flooding in 1983 and 1993 because of riparian destruction. Without riparian plants and their dense root systems to keep streambeds stable and control the floodwaters, well, the water went wherever it could and flooded the city.

05 Psychology

M₁: Okay, now, let's talk about Murray's theory of learned needs. In Murray's theory, there are two categories of needs that all human beings possess. What are they?

W: Um, well there are biological needs.

M₁: Good. All humans have basic biological or physiological needs—the need for air, food, water—those that sustain the organism. Now, what about our other needs?

M₂: Those are like higher-order needs, right?

M₁: Yes, or as Murray termed them, psychogenic needs. He identified twenty different psychogenic needs—needs like achievement, power, independence, and so forth. What is the major difference between these and biological needs? This was pointed out in your book.

W: People learn the higher-order, or psychogenic needs, um, through their interaction with other people and the environment.

M₁: Exactly. These types of needs are learned and developed over a lifetime. Conversely, we are born with physiological needs.

There is one other key point to Murray's theory. Do we all possess the same psychogenic needs?

W: Um, yes, if I remember the reading correctly? Um . . .

M₂: I see where you're going with this. The book said that every individual has the same group of psychogenic needs, but, um, some needs are more important than others for different people.

M₁: Right. We say that individuals have different hierarchies of needs—they rank the same 20 needs differently. Let's just look at how two soccer players rank three needs, the needs for achievement, cooperation, and independence.

Okay, so John is the captain of his soccer team. He is the best player on his team, but he never shows off, because, for him, teamwork is most important. His greatest need is cooperation, and he also likes to win. So achievement comes next. Independence is of little importance to him.

Mark, on the other hand, is not as concerned about his teammates. He is the lead scorer. For him, the most important thing is being free to do what he wants on the field. He wants to score the goal on his own, without the help of his teammates. Independence is his highest need, followed by achievement. Cooperation is least important.

W: Wow. I thought I had it bad. That must have been pretty scary.

M: Sure was.

W: Okay, well, I'll go take care of this right now.

M: One more thing . . . be sure to have the librarian write a confirmation that the book was found, and the hold will be taken off your account. That way I can start the process of changing your physics lab.

06 Service Encounter

W: Hey Mr. Turner, I have a problem.

M: Yeah, what is it Gina?

W: I need to change my physics lab, but I can't. There's a hold on my account.

M: Hmm, let's look on the computer. It says your account is on hold due to an overdue library book.

W: Huh?

M: Have you been spending too much time partying?

W: What? No. Every time I take out a book, I mark its due date in my calendar. And I check my calendar every day.

M: It's okay, I believe you. But you still need to check with the library to see if they have the book. Sometimes books get misplaced.

W: Really? That's inconvenient.

M: I'll say. When I was in college, I got an enormous bill at the end of my first semester for a book I took out at the beginning of the semester. The library said I never returned the book. I was really scared I'd have to pay a fortune. Well, um, turns out the librarian put it back on the shelf before the book was checked back in. Anyway, just check with them.

Speaking

Part 1

Chapter 1 | Organizing Speech

Q1 Practice 1

► Step 2 - Sample Response

My favorite possession is my digital camera. I love it because it is easy to use. It focuses automatically, so I can always take good pictures. Also, it allows me to create lasting memories. I like to take pictures of my friends and family on special occasions, so I can remember what a good time we had.

Q1 Practice 2

► Step 2 - Sample Response

The best advice I received was to study English. First, I think it was good because learning English helps me prepare for college. This is because I want to study abroad in an English-speaking country. Second, the advice has also helped me socially. For example, since I am studying English, I joined the English club at school and made some new friends.

Q1 Practice 3

► Step 2 - Sample Response

Thunder scared me more than anything else when I was younger. I was afraid because it made such a loud noise. I would put my hands over my ears to block it out. It also frightened me since I never knew when it was coming. I did not like feeling anxious while I waited for the next thunderclap.

Q2 Practice 1

► Step 2 - Sample Responses

Opinion 1

I would prefer to live in a house. That is because many apartment buildings do not allow you to have pets. I want a dog, and if I lived in an apartment, I probably could not have one. Also, it is better to reside in a house since it is bigger. I would have an easier time being alone if I wanted to.

Opinion 2

I would prefer to live in an apartment. That is because it is easy to get to know your neighbors when you live in an apartment building. I would like to be able to make new friends. Also, it is better to reside in an apartment since it is cheaper. I would have more money to spend on other things.

Q2 Practice 2

► Step 2 - Sample Responses

Opinion 1

I would prefer to go on vacation in a foreign country with a tour group. First, I think it is better because I would not have to plan out everything. That way, I could relax and enjoy my vacation. Second, it is also better to go with a group because you are with a bunch of other tourists. Thus, you get to meet other people and make friends in your group.

Opinion 2

I would prefer to go on vacation in a foreign country on my own. First, I think this is better because I would have more freedom. That way, I could change my plans if I am in an interesting place and want to stay longer. Second, it is also better to go alone because then I am not dependent on other people. Thus, I would not have to wait on tour group members who got lost.

Q2 Practice 3

► Step 2 - Sample Responses

Opinion 1

My family's expectations have helped me. My family expects me to be a good student. Because of their expectations, I am at the top of my class which will help me get into college. In addition, they expect me to be generous to others. As a result, I have learned to give to other people, so I have lots of friends.

Opinion 2

My family's expectations have been a problem. My family expects me to be an excellent musician. Because of their expectations, I have to take piano lessons, even though I don't like them. In addition, they expect me to practice the piano every day after school. As a result, I can't play soccer with my friends which is what I really enjoy doing.

Chapter 2 | Synthesizing Information

Q3 Practice 1

► Step 2 - Conversation

M: Did you see they are going to charge admission at the museum?
W: Are you serious?
M: Yeah. It doesn't make sense.
W: What do you mean?
M: Well, the museum has plenty of money to build their new wing. They get lots of donations from private donors, and the university gives them adequate funding already. Besides, the guide would be a university employee, so the university should be responsible for his or her salary, not the museum itself. So this is really strange.
W: Oh, right.
M: The other thing is it is not fair for students to have to pay at all. If you take an art history class, you have to go to the museum. It's part of your assignments. It's not fair to make those students pay if they are already paying tuition for the class.
W: Yeah.
M: It's like charging admission to use the library.
W: That would be ridiculous.
M: I know.

► Step 4 - Sample Response

The man disagrees with the policy of charging admission to the university museum. He thinks it is bad since the museum already has enough money to pay for a new wing and to hire a new employee. It receives plenty of funding from the university and private donors. Also, he does not think students taking art classes should pay. They are required to go to the museum and already pay tuition for their classes.

Q3 Practice 2

► Step 2 - Conversation

M: Wow, did you see that the History Department is offering a free seminar?
W: Yes, I did.
M: You sound kind of mad about it. What's up?
W: I just think that it's wrong for them to bribe students into attending the seminar with extra

credit. I mean, it's just going to attract a lot of students who don't really care about learning. They just want those few extra points to help their grades.

M: Hmm . . . you've got a point there.
W: Besides, by having it on Saturday they're assuming the seminar isn't going to conflict with students' schedules, but that's just not true.
M: It's not?
W: No. I know a lot of people who work on the weekends so they can pay for their school expenses. The seminar should have been held during the week in the late afternoon or evening when students are already on campus after finishing up their other classes.
M: I guess you're right about that.

► Step 4 - Sample Response

The woman disagrees with the History Department offering the seminar. She says they are bribing students to attend. She thinks a lot of students are not going to be interested in learning anything; they will only attend the seminar so they can get extra credit. Also, she says that even though the seminar is on Saturdays, it will still conflict with students' schedules. Many students work on the weekends to help pay for school expenses.

Q3 Practice 3

► Step 2 - Conversation

M: I can't believe it!
W: Can't believe what?
M: The university's raising our tuition again.
W: No way!
M: Yeah, they are. They say they need to raise money to pay for new dorms.
W: Really?
M: The thing is that if they are going to raise our tuition, they should use the money to pay for something that all students can use. New dorms will only benefit a few students. What about the rest of us? We already pay a lot of money to go to school here.
W: I know.
M: The other thing is I don't see how this makes the university more attractive. The real problem with campus is that the classrooms and the

library are old and in bad condition. That's really what the university needs to fix if they want to improve the appearance of the campus.

W: I know what you mean.

► Step 4 - Sample Response

The man does not like the university's decision to raise tuition to build new dorms. First, he says not everyone will benefit from the new dorms. Instead, the money should be used for something all students can use. Second, he thinks the dorms will not make the campus more attractive. The man says the way to do that is to fix the classrooms and the library. For these reasons, he disagrees with the decision to raise tuition.

Q4 Practice 1

► Step 2 - Lecture

W: Today we're going to examine folkways a little more. Namely, the consequences of violating them and how they are constantly changing. People are expected to adhere to folkways, but when they don't, there aren't any serious consequences as a result. For example, when you see someone you know on the street, you usually say "hello." Folkways expect that the person greet you in return. If he or she doesn't, it's a violation of that folkway. Now, you may feel offended that your acquaintance didn't acknowledge you in return, but you wouldn't think they were a criminal. You'd think he or she is rude.

Folkways are constantly changing. One example is men's hair length. Over the centuries, it has been fashionable for men to either have long or short hair. When long hair was popular, men would wear wigs if their own hair wasn't adequate. When short hair was popular, men would have their hair cut. If a man wore his hair opposite of what the norm was, he faced censure for going against convention. Nowadays, hair length is more of a personal choice, although that could change. Then men would be wearing powdered wigs again to fit society's norms.

► Step 4 - Sample Response

The passage says folkways are social norms which do not have severe punishments when they are not

followed and that they are always changing. To start, the lecture demonstrates how there are no serious consequences when a folkway is ignored. An example is given of someone not returning a greeting and just being thought rude. Also, folkways are always changing within society. Over the centuries, society's conventions required men to wear their hair long or short, depending on what was fashionable at the time.

Q4 Practice 2

► Step 2 - Lecture

W: Let's continue our talk about non-verbal communication today. Specifically, I'd like to give examples to help illustrate the functions of non-verbal communication.

First, we often use non-verbal communication to repeat something we've said. Let's say that someone walks up to you on campus and asks you for directions to the library. Of course, you'll probably say something like "It's over there, by the duck pond." And, while you are saying that, it is very likely that you will also point in the direction of the library, right? So you are basically just showing, with your gesture, the same thing you're saying.

That's one way, and here's another. We often use non-verbal communication to accent what we've said. Again, an example will help you figure out what I'm talking about. OK, let's say you and a friend are driving in the country and you're lost. Your friend blames you for being lost. You don't like this, of course, and say "But you forgot to bring the map!" And when you say "you," I'll bet you point your finger right at him. In this way, you're emphasizing your spoken words. No doubt, your friend will get the message!

► Step 4 - Sample Response

The passage defines non-verbal communication as non-linguistic communication, including expressions, gestures, and body stance. Two of its functions are repeating and accenting. First, the professor illustrates the repeating function. He says when you say the location of a place and then point to the location, you are basically repeating your words with a gesture. Next, he says pointing your finger at a friend to emphasize fault is an example of the accenting function.

Q4 Practice 3

► Step 2 - Lecture

M: Geophagy may at first seem strange, even dangerous, and while it does have risks like getting parasites, there are beneficial reasons why both animals and humans engage in geophagy.

In the animal kingdom, birds are one species known for eating dirt to help them digest food. Since birds do not have teeth, they cannot chew their food before digesting it. Instead, birds have an organ called a gizzard that helps them process food. The dirt goes into the gizzard, and its rough texture helps the organ crush and grind food into a paste. This paste can then be easily digested.

Humans have been known to eat dirt. The main reason humans eat clay is to get nutrients that are missing from their regular diets. For example, children and pregnant women in many traditional societies often eat dirt to get important minerals, like calcium and iron, to help keep them healthy and strong. However, people in modern societies also still practice geophagy as well. In fact, in some places in the American South, packaged clay is sold in stores for the sole purpose of being eaten.

► Step 4 - Sample Response

The passage talks about geophagy, or eating dirt. The lecture gives examples and reasons why people and animals engage in geophagy. First, the lecture gives the example of birds. They eat dirt because it helps their gizzards grind up food. Second, humans consume dirt to get nutrients that they do not get enough of in their regular diets. The lecture supports this by saying pregnant women and children in traditional societies practice geophagy to get minerals needed for growth and development.

Chapter 3 | Stating Opinions and Summarizing

Q5 Practice 1

► Step 1 - Conversation

M: Hi, Mary.

W: How are you, David?

M: Not so good. I'm having a hard time understanding some important concepts in my biology class, and I know they are going to be on the midterm. I've been struggling all semester and can't afford to fail the test. I try to pay attention in class, but I still don't understand. I really need to figure them out so I can get a decent score.

W: Midterms are next week, aren't they? Maybe you should consider going to your professor during her hours. Professors have them so students can go see them for help.

M: I could, but I'm nervous about going to see her. I don't want her to think I'm not paying attention in class or that I'm not doing the readings she assigns.

W: Well, the Academic Support Center offers free tutoring. You could see if they have a biology tutor who could help you out.

M: I went there for help with an English paper last semester. I ended up more confused than when I started. I got a terrible grade on my paper because I took the tutor's advice. I don't know if I can take the risk of that happening again. Not when this midterm is so important.

W: Well, I don't know what else to tell you.

M: I guess I need to decide soon.

► Step 3 - Sample Responses

Opinion 1

The man is having problems with some biology concepts that will be on the midterm. I think he should go see his professor during her office hours. Professors have office hours so they can help students. It is unlikely she would automatically assume he has been lazy, like he thinks she will. Also, since the professor wrote the test, she would know exactly which concepts he would need to focus on. He could then just study things that are important.

Opinion 2

The man is having problems with some biology concepts that will be on the midterm. I think he should get tutoring. The tutors are there so they can help students. It is likely the tutor will have taken the class, so he or she will know what the man needs to study for the midterm. Also, just because the man had a bad experience with a tutor once doesn't mean it will happen again. He could end up with a great tutor that helps him out a lot.

Q5 Practice 2

► Step 1 - Conversation

M: Hey Linda, how's it going?

W: Pretty good Mark, but I have a small problem.

M: What's going on?

W: My friends just invited me to go to the beach with them. They want to go in two weeks after finals are over.

M: That sounds great.

W: The problem is I don't have any money.

M: Well, maybe you could borrow some money from your parents.

W: I could . . . but I'm not really comfortable with that idea. They already had to loan me money for my books this semester. They didn't mind doing it, but I don't want to keep asking them for money. Especially when it's just so I can have fun.

M: Hmmmm. . . . don't you work part time? Maybe you could ask your boss for some extra hours and earn the money.

W: There's always plenty of extra hours at the cafe. It's open twenty-four hours a day. But between work and classes, I'm already exhausted. I can't imagine working extra hours, going to classes, and studying for finals.

M: Yeah, that'd be pretty tough.

W: I'm just not sure what I should do. I really want to go to the beach!

► Step 3 - Sample Responses

Opinion 1

The woman's problem is that she wants to go on vacation, but she does not have enough money. I think the woman should ask her parents for the money. First, they gave her money before, so they will probably do it again. Second, her parents should help her out when she needs it. They would probably give her the money because they do not want her grades to suffer from working overtime.

Opinion 2

The woman's problem is that she wants to go to the beach for a vacation, but she needs more money. I think the woman should work overtime to earn the money. First, it will show that she is responsible. Second, her parents already loaned her some money for school. They probably do not want to lend her any money for a vacation because it is not something that is necessary.

Q5 Practice 3

► Step 1 - Conversation

M: Hey, Grace, you got a minute?

W: Yeah, what's up Andy?

M: I need to miss my sociology class this Thursday. I have an interview for a scholarship, and it's really important.

W: That's great.

M: My professor takes roll every class, so I need to tell him I won't be there on Thursday. And, um, he's really intimidating. I'm really nervous about talking with him.

W: Oh. Well, you could just send him an email. I did that with one of my professors when I was sick. She sent me a response back right away. She told me what the lecture was on and gave me the next reading assignment.

M: Yeah, but what if he doesn't open the email? Then he'll just think I skipped class. If I try to explain after, he'll think I'm making up an excuse.

W: Well, do you have a teaching assistant for the class? Maybe you could just talk to him or her instead.

M: I do, but he's sort of forgetful. I mean, a lot of the time he forgets important stuff like his notes, test dates, or what he's supposed to lecture on. I don't know if I trust him. He'll probably forget to tell the professor why I'm not in class.

W: Sounds like you've got a hard decision to make.

► Step 3 - Sample Responses

Opinion 1

The man needs to notify his professor that he will be absent from class but does not want to tell him in person. I think he should email the professor. That is because email is a common way to communicate. The professor probably checks his email daily, so he would receive the man's message. Also, he would be communicating directly with the professor. That way, the professor would be able to tell him how to prepare for the next class.

Opinion 2

The man needs to notify his professor that he will not be in class but does not want to tell him face to face. I think he should tell the teaching assistant. That is because he is less intimidating than the

professor.

The professor makes the man uncomfortable, so he could avoid that by talking to the assistant. Also, he would have someone to verify his reason for missing class. That way, the assistant can support him if the professor asks why he was gone.

Q6 Practice 1

► Step 1 - Lecture

W: Europe's population increased significantly during the early to mid-Medieval period (600 CE to 1300 CE). Historians suggest that two inventions allowed for this rise to occur: the wheeled plow and the horse collar. With these, farmers could prepare more land for planting much more quickly than before.

Illustrations in books, as well as pictures on calendars, prove that the wheeled plow was in use in western Europe by the late 10th century. Prior to this invention, plows only cut through the soil. With the wheeled plow, however, the soil could be turned over completely, creating a better place for seeds to grow. In addition, it created high ridges in the soil that allowed for the drainage of water.

Even more important than the creation of the wheeled plow was invention of the horse collar. Before this, farmers tied a band around the throats of animals as they plowed the fields. At times, this band cut off the airflow considerably. Animals frequently had to rest just to catch their breath. But a Chinese invention, the horse collar, was padded for comfort. It allowed the animal to use its full strength to do heavy plowing, as well as hauling.

► Step 3 - Sample Response

The professor describes two inventions that allowed the population to increase in Europe in the Medieval period. First, the wheeled plow not only cut through the soil but also turned it. This made a better place to plant seeds and also allowed water to drain. Even more important was the horse collar. Padded and comfortable, it did not cut off the animals' airflow, like the ones before it did. Thus, the animals did not have to stop and rest so much.

Q6 Practice 2

► Step 1 - Lecture

W: In the natural world, it was long assumed that humans were the only species to make and use tools, but observations of various animals have proven otherwise. However, unlike humans, animals appear primarily to make and use tools to obtain food.

One of the most interesting examples of animal toolmakers is the chimpanzees who use modified sticks to catch termites. Chimpanzees love to eat termites; however, these swarming insects spend much of their time hiding safely in large earthen mounds, making them difficult to catch. Scientists observed that chimpanzees will modify sticks to help them get a tasty meal of termites. A chimpanzee first finds a long narrow stick and then will chew on one end to fray it so it resembles a toothbrush. It will then thrust the stick into a hole in the termite mound. When he pulls the stick out, caught termites are stuck in the frayed end.

Tool making is not confined to apes. In fact, there are several species of birds that create simple tools from natural resources found in their environments. For example, both woodpecker finches and green jays, two insectivores or insect-eating birds, use a simple spear-like tool to catch grubs and insects hiding in holes in trees and plants. The birds make their food-gathering tool from a narrow cactus spine or twig.

► Step 3 - Sample Response

The lecture talks about how some animals in the natural world make and use tools. They do this primarily to get food. For example, chimpanzees will take a stick and chew on one end to make it into a food-gathering tool. They then stick it into termite holes to catch termites to eat. Some species of birds act similarly. They find small cactus spines or twigs and use them to spear insects or grubs hiding in trees and plants.

Q6 Practice 3

► Step 1 - Lecture

M: New words enter our language all the time. Some are popular for a while and then fade

away; others hang around for centuries. But where do these words come from in the first place? Well, they're either borrowed from other languages, or they're made up of other words. English is an interesting language because its vocabulary is full of words borrowed from other languages. In the modern period of its history, from 1650 to the present, English has borrowed words from many different languages. Take a look at just three examples. From French we got garage, denim, and ballet. From Spanish we've borrowed ranch, mosquito, guitar, and many others. From Italian, we have gotten piano, umbrella, balcony, and so forth. Foreign words have been borrowed over time; they continue to be borrowed as people develop international contacts with each other.

But most new words in English are created by putting together two existing words or pieces of words, which results in the creation of an entirely new word. Let me give you some examples. We call a place you can stop and spend the night along the side of the road a motel. The word "motel" is a combination of motor and hotel, a hotel for motorists. Brunch is another example. Breakfast plus lunch forms brunch, a meal that takes the place of breakfast and lunch.

► Step 3 - Sample Response

The lecturer talks about two ways that new words can be added to a language. He uses English as an example. First, a language can borrow words from another language. For example, English borrowed denim and garage from the French language. Second, a language can combine two words, or parts of words, to make a new word. Brunch and motel are two examples of this in English.

Part 2

Chapter 4 | Test Questions and Answers

Q1 Practice 1

► Step 3 - Sample Response

The most stressful situation for me is taking exams. First, I never seem to be able to complete exams

within the time limit. Knowing this, I get more and more nervous as the time passes. Second, I worry about my future. For example, if I fail an exam, I feel pressure that I will not get into a good university.

Q1 Practice 2

► Step 3 - Sample Response

My favorite sport is soccer. I love soccer because it is a fast game. There is always excitement and activity while playing soccer. Also, I like it because it is straightforward to play. You just need a field, a ball, and some friends to get a match going. Once you have those things, you can easily have a recreational game of soccer.

Q1 Practice 3

► Step 2 - Sample Response

If I could purchase an expensive item right now, I would buy a laptop computer. First, they are very useful. I could use it to play computer games. I could also use it to do my homework, which is what I would like most about having a laptop. Also, I like that it is portable. I could carry it with me wherever I go. It is small and light and would fit in my backpack.

Q1 Practice 4

► Step 2 - Sample Response

My favorite childhood memory is when I went to the beach for the first time. I love this memory because I had never seen the ocean before. My impression of it was that it was vast and beautiful. It was also the first time I went fishing. My father taught me how to fish that day, and I caught two enormous fish.

Q2 Practice 1

► Step 3 - Sample Response

I prefer to have just a few close friends instead of many friends. I can spend more time with a few close friends and get to know them really well. That way I can develop lifelong friendships with them. Also, having a lot of friends can cause problems. When I had a lot of friends, it seemed like they were always getting into arguments with each other.

Q2 Practice 2

► Step 3 - Sample Response

I think it is better to take many different courses at university. First, it is an opportunity to gain a lot of knowledge. I will be able to learn about new things. In addition, I will be able to meet people who have different interests than me. I am certain that I would get tired of studying the same thing constantly, even if it was something I really liked.

Q2 Practice 3

► Step 2 - Sample Response

I think it is better to make detailed plans for a vacation. To start, it lets you make the most of your vacation time. For instance, I had detailed plans when I went to Paris, so I did not waste time figuring out directions. Also, making detailed plans ensures you will have what you need when you arrive. That way, you do not have to worry about securing a hotel room or finding places to eat.

Q2 Practice 4

► Step 2 - Sample Response

I think it is better to have brothers and sisters than to be an only child. This is because without siblings you will be lonely. For example, my brother and I are really close and like to do things together. Another reason is that siblings will always help you out. I can count on my brother to give me good advice when I have problems.

Chapter 5 Test Questions 3 and 4

Q3 Practice 1

M: We are going to have to be more careful this term about withdrawing from classes.

W: What?

M: Um, there's a new policy that states we need to talk to our advisors before dropping a class, which is a pretty good idea.

W: Why?

M: Well, you know, students can get hurt academically if they drop classes without having a good reason. My roommate dropped his biology class but

didn't realize he has to make it up later. If he had talked with his advisor before dropping the class, he might not have to repeat it over the summer.

W: Yeah, that might have saved him a lot of trouble.

M: Also, this way students will get to know their advisors better, and that will help the advisors do a better job. When you have a comfortable relationship with your advisor, then they know what you need, and they can give you good advice. That's why I like to talk with my advisor whenever I have a question. Not all freshmen realize that. This change gives them another chance to see their advisors.

W: That's true.

Sample Response

The man thinks the policy of having freshmen get their academic advisor's permission before withdrawing from a class is a good idea. First, he agrees with it because it will keep students from making mistakes that can hurt them academically. For instance, his roommate dropped his biology class but will have to repeat it in the summer. Second, he says the policy will help students work better with their advisors. He thinks the more they talk, the better the advisors can help the students.

Q3 Practice 2

M: Wow, did you hear that they are ending nighttime shuttle service to the parking lots?

W: Yeah, and I'm not happy about it.

M: I know.

W: It's going to cause a lot of problems for the students enrolled in night classes. I have a lot of friends who take classes that don't end until 9 o'clock at night. They use the shuttles to get to their cars in the parking lot. So what are they going to do now—walk, at night! That's dangerous!

M: Yeah, it is.

W: Also, you know most students would rather have a safe way to get to their cars than save a few dollars on a parking pass. A 10% discount is not going to make a difference in lowering school expenses, especially since the passes aren't that expensive. I think providing students with a safe ride to the parking lot is a much better use of the money.

M: I totally agree.

Sample Response

The woman thinks it is a bad idea to cut the nighttime shuttle service to the parking lots. One reason is because she has many friends who take night classes. They use the shuttles and will no longer have a safe way to get to their cars. Also, she thinks most students would rather have a shuttle that gets them safely to their cars at night than save a little money on the parking passes. She says that a 10% discount is not going to make much of a difference in lowering expenses.

Q4 Practice 1

M: *Cinderella* is a story that has been around, in one form or another, since the 1st Century BCE. Since then, it has appeared as a fairy tale in dozens of different cultures. The story of *Cinderella* is immensely popular with children for two main reasons:

The characters in *Cinderella* are very easy for children to understand because their roles are very clearly defined. Cinderella, the story's good character, provides a very strong contrast to the stepsisters. While Cinderella is gentle and kind, the stepsisters are mean, harsh, and incredibly unlikable. Children, then, are immediately able to see that Cinderella is a positive role model, while the stepsisters are what they should try not to be.

Cinderella also contains a very clear message for children. The theme of the story is that the evils of the world cannot stop something good. This is seen in the interactions of Cinderella and the prince, who fall in love. However, the stepsisters desperately want to stop that love from happening. Despite this, Cinderella and the prince meet again and get married. The message taught is one that all children can easily understand and apply to their lives.

Sample Response

The lecture talks about *Cinderella* and why it is an effective story for children. For one, *Cinderella* has characters that are clearly good or evil, which the reading said was important for making a fairy tale effective. In addition, *Cinderella* has a clear message that good can overcome evil. The reading said that such clear themes were an important part of fairy tales.

Q4 Practice 1

M: Expressive therapy is based on using the creative arts to help people heal. There's art therapy, music therapy, writing therapy—I'm sure you can see where I'm going with this. Well, today we're going to talk about dance therapy and how it is used to treat both physical and mental illnesses.

First, dance therapy helps the body. It does this by providing a form of physical exercise. Dance, in and of itself, is an excellent form of exercise. It requires the use of many different muscle groups. The result is that a person finds it easier to move around and has better muscle coordination. It has also been found to help with respiration and circulation. Additionally, many patients feel better after dance therapy since it reduces physical tension in the muscles. Second, it has been shown to be very effective when used with patients suffering from mental illnesses. This is because dance therapy allows people both creative and emotional release. Many people who are mentally ill do not express themselves because they are afraid they will be misunderstood. Through dance therapy, they are able to get their emotions out through movement. Dance therapy also helps patients build confidence and self-esteem. Since they are able to independently create their own performances, they feel proud of themselves.

Sample Response

The passage and lecture talk about dance therapy and its benefits. First, the professor describes the physical benefits. Dance therapy gives people exercise while improving their motion and coordination, as well as improving circulation and respiration. Second, it also has benefits for patients who are mentally ill. It gives them a way to express themselves and builds confidence and self-esteem.

Chapter 6 Test Questions 5 and 6

Q5 Practice 1

M: Hey, Fran, how are you?
 W: Good, George, except I have a small problem.
 M: Oh, really?
 W: Yeah, I wrote this essay for my literature class. The professor says it's really good. She thinks I should submit it to the school literary magazine.
 M: That's excellent. So what's the problem?
 W: Well, the deadline passed. They wanted all submissions by last Friday.
 M: Oh, no. Well, maybe you could go see the editor and ask if she'll make an exception.
 W: If I do that, I'm afraid she'll get the wrong impression. You know, maybe she'll think that I'm being pushy or that I think I'm entitled to have my essay published right away.
 M: Well, when's the next submission period? You could just wait.
 W: This is the last edition before the end of the semester, and I heard there might not be a literary magazine next semester.
 M: Those are some tough choices, Fran.

Sample Response

The woman wants to submit an essay to the literary magazine, but she has missed the deadline. I think that the woman should see the editor. The editor might make an exception. Instead of thinking the woman is pushy, she may think she really wants her essay published and accept it. Also, the literary magazine might lose their funding. If the woman does not ask the editor to make an exception, she may never get her essay published.

Q5 Practice 2

W: Hi, Jake. What's going on?
 M: I've got a pretty big crisis on my hands.
 W: Really? Why?
 M: Well, the Anthropology Club invited a guest lecturer to give a seminar this Friday. She called this morning to cancel because something came up. I'm the club president, so I have to figure something out, but I can't think of a good solution.
 W: Maybe you could ask Professor Jenkins to fill in. He's the club sponsor, right? I'm sure he wouldn't mind.

M: I'm sure he wouldn't mind, but everyone in the club has heard his lectures already. It just won't be as interesting as having a guest speaker.
 W: If that's the case, then maybe you could postpone it. When the guest lecturer is free again, you can schedule it then.
 M: But it's almost the end of the semester. All next month, everyone's going to be preparing for their finals. It'd be really embarrassing to invite her and have no one show up.
 W: Hmm . . . well, I'm out of ideas. Good luck.

Sample Response

The man's problem is that the Anthropology Club has invited a guest lecturer, but she has canceled. I think the man should postpone. First, more people would come. Not many people will attend if they have already heard the club sponsor's lectures. Also, scheduling it next month should not be a problem. Even though students will be studying for finals, they would probably be willing to take an hour or two off to attend the seminar if they were interested in it.

Q6 Practice 1

W: Theater venues have changed little in the past three hundred years. The majority of theaters are extremely similar. Still, there are two distinct styles of theaters that have their own specific purposes and advantages.
 The most common type of theater style is called the proscenium style. This style is very recognizable to theatergoers. It is defined by the shape of seats, which form a horseshoe around the stage. This design allows all members of the audience to easily see the action onstage. The style is further defined by the stage itself, which contains a very large curtain supported by a huge arch. This arch, called the proscenium, is how this style was named.
 In the days of Shakespeare in the 16th and 17th centuries, the most popular style of theater was the open theater. Unlike the proscenium style, the audience and the stage are not clearly separated in an open theater. The audience generally sits or stands at the front and on both sides of the stage. In addition, the open theater style omits a curtain. Some modern theaters are built in this style or use elements from open theater.

Sample Response

The lecturer discusses the two types of theater venues and their important characteristics. She first describes the proscenium style, which she says is very popular. It has seats in a horseshoe shape, and the curtain is supported by a huge arch. Another type of theater is called the open theater. Its stage and audience areas blend together, and it does not have a curtain.

Q6 Practice 2

M: We're going to talk about the theory of multiple intelligences now. Traditionally, people define intelligence in a narrow way by using test scores or academic grades. However, this theory says that individuals possess eight different areas of intelligence. A person might be very intelligent in some areas but less so in others. This has important benefits for learning.

First, understanding multiple intelligences can help children learn better. Teachers that understand the theory can design lessons to reach all eight areas of intelligence. For example, one child might learn best by seeing information. Another child might learn better by hearing information along with music. A third child might learn best by using her hands. With that understanding, an entire classroom of children can learn new concepts more easily, because children learn better when they are using the areas where they are most intelligent.

In addition, the multiple intelligence theory also benefits adult learners. They can learn to use the areas of intelligence that will help them succeed at their jobs. For example, I have two friends who work together in advertising. They need to learn new information and ideas all the time. One of them writes information on a white board. He also draws his ideas. He has a strong visual intelligence. The other friend remembers songs best. She will sing to herself. She has a strong musical intelligence. They are a successful team, but they each have different intelligences.

Sample Response

The professor talks about the theory of multiple intelligences. The theory states that people have eight different areas of intelligence. First, the professor says all children in a classroom learn better when

teachers design lessons that cover all eight areas of intelligence. Adults can also be more successful when using the intelligence they are strongest in. For example, one man learns well by drawing pictures while his coworker learns new things by singing to herself.

Part 3

Chapter 7 Pronunciation

Step 1 Pronunciation

1. I was not sure what she meant.
2. The cat sat on his lap.
3. We will be there in an hour.
4. You should not be so upset.
5. She has not come yet.
6. Put the book in the stack.

Step 2 Commonly mispronounced sounds: */θ/, /d/, and /s/*

1. mass	math
2. bread	breath
3. think	sink
4. dumb	thumb
5. worth	word
6. sick	thick
7. dust	thrust
8. pass	path

Step 3 Commonly mispronounced sounds: */l/ and /r/*

1. He might fail the test tomorrow.
2. I do not know what she is reading.
3. There is a big crowd over there.
4. I need to replace that tire.
5. Make a turn at the light.

Step 4 Long and short vowel sounds

1. grin	green
2. mood	mud
3. feel	fill
4. look	luck
5. living	leaving
6. shoot	shut
7. peel	pill
8. buck	book

Chapter 8 Word and Sentence Stress

Step 1 Stress related to parts of words

- | | |
|-------------------|------------------|
| 1. a. advertise | b. advertisement |
| 2. a. education | b. educational |
| 3. a. curious | b. curiosity |
| 4. a. knowledge | b. knowledgeable |
| 5. a. electric | b. electricity |
| 6. a. pronounce | b. pronunciation |
| 7. a. refrigerate | b. refrigeration |
| 8. a. marriage | b. marriageable |
| 9. a. technology | b. technological |
| 10. a. division | b. divisible |

Step 2 Stress related to content words

Phrases

1. on the shores of the beach
2. the flowers are pretty colors
3. beginning of the end
4. nothing is wrong
5. a piece of cake
6. on top of the table
7. both chocolate and vanilla
8. easier than walking
9. not only a vacation but an adventure
10. in the warmth of the sun

Sentences

1. She likes to listen to stories.
2. I feel worse than before.
3. Carl is learning about how gravity works.
4. The teacher assigned us homework.
5. They walked across the bridge to the other side.
6. Exercise is important for good health.

Chapter 9 Pausing

Step 1

1. By the time the play was finished, it was too late to go anywhere else.
2. Our plane left two hours late, so we missed our connecting flight in Paris.
3. The traffic on the freeway was so bad, she thought she would never get home.
4. When taking a test, it is important to make sure you read the instructions carefully.

5. The dog got out of the yard, and he dug holes in the neighbor's garden.
6. Don't forget to thank Molly; she was a big help organizing the event.

Step 2

1. Personally, I think that Hawaii would be a perfect place for a vacation.
2. Next year, my family will be moving, and I will have to attend a new school.
3. Because it was so noisy in the auditorium, I could not hear what the speaker was saying.
4. If the books are shelved correctly, they should all be in alphabetical order.
5. After the television program was over, she was so tired that she went to bed.
6. It remains to be seen, however, if his plan for improving the city will actually work.
7. In order to stay healthy, my doctor recommended that I start taking vitamins every day.
8. For your homework tonight, please read the first chapter of your history textbook.

Practice Test 1

Question 3

- M: Hi Jill, what's going on?
- W: Oh, hey . . . did you see this announcement about the study abroad program?
- M: I heard their funding was being cut.
- W: Yeah, it's a pretty serious cut. They said that their research showed a lack of student interest in studying abroad. I don't know who they're talking to. Almost everyone I know wants to study abroad, and a lot of people are being turned down.
- M: Yeah, I know I'd like to study abroad before I graduate.
- W: I know. It seems like everyone is interested . . . they also justified the decision by claiming that study abroad programs cost the university a lot of money. I'm pretty sure that's not true.
- M: It's not?
- W: Nope. I'm almost positive that when you participate in the program, you still pay your normal tuition rates. It shouldn't cost the university any more than teaching a student here.
- M: I didn't know that.

W: Yeah, I'm hoping that they rethink this policy when they figure this out.

Question 4

W: There are other types of pollution besides smog and toxins. The one we'll be discussing today is noise pollution. There are a number of studies suggesting that we should be worried about the effect of noise pollution on both our mental and physical health.

The first effect on us is physical. In modern society there's constant noise. We might be able to tune it out, but it still has an effect. Studies show that people who live in noisy neighborhoods have much higher blood pressure than those living in quieter areas. This increased blood pressure can result in negative effects on the cardiovascular system, putting them at higher risk for heart attacks and strokes.

In addition, it has mental effects. The constant noise makes it hard to concentrate, right? This isn't just a small effect, either. In a study of children that lived near airports in Britain, Holland, and Spain, the kids that were exposed to frequent noise of airports were about two months behind their peers in their ability to read.

Other studies have linked noise with increased stress levels and agitation. Again, it doesn't matter if people can tune out noise or not. It still has a significant effect on our psychological health.

Question 5

W: Hey Jack, how are you?

M: Oh, I'm a little stressed out.

W: Why is that?

M: Well, you know how I decided to rent that house last month?

W: Yeah.

M: I need a roommate to help split the cost of rent, but I'm having a hard time finding one.

W: Ah, I see why you're stressed. Have you considered posting an ad in the city paper?

M: Well, I've thought about it. I mean, I'm sure it would be easy to find a roommate that way. I'm just a little worried about doing it. I could end up with someone who's loud and rude. Then I'd have a hard time studying.

W: That makes sense. Maybe another student

would be better. You could put a notice up in the student union building. People advertise stuff on the bulletin board there all the time.

M: Well, I thought of that, too. It just doesn't seem like very many people ever look at the board.

W: You may have a point there.

M: So I can post an ad in the paper. More people will see it, but I might get a rude roommate. Or I could put something up in the student union building. It'd be great to live with another student. But, I might not get a response. I also really need to find a roommate soon.

W: I'm sure it will work out either way.

Question 6

M: In the early 1900s, thousands of Americans were moving from the countryside to the cities. Though these sudden increases in people caused many problems in cities, there were benefits as well. In particular, public parks and many American public buildings owe their existence to this urbanization.

Public parks came about as a partial remedy to the crowding of cities. As more people moved to the city, people like Frederick Law Olmsted decided to create public parks. These places would bring the calm of nature to cities. Hence, New York's Central Park, one of the world's most famous public spaces, was created. It was made to offset the urban atmosphere of the city. It became instantly popular because it offered a break from city life. Its fame encouraged the creation of similar parks in other large cities like Chicago and Boston.

Urbanization also brought about the creation of many famous public buildings. People needed activities to amuse them when they weren't working. It prompted patrons to begin constructing museums and art galleries to meet the public's demands. In addition to crime and other drawbacks, cities were also becoming centers of knowledge. Places like the Metropolitan Museum of Art were taking artwork and ideas from cultures across the world and bringing them to the American public. Therefore, urbanization led to the construction of some of the country's most beloved public spaces.

Practice Test 1

Question 3

M: Hey Jane, what's wrong?

W: Did you hear about the new graduation requirement?

M: Oh, you mean the second language requirement?

W: I just saw the announcement for that.

M: So that's why you're upset?

W: Yeah . . . I mean, they claim that this makes graduates more appealing for potential employers, but what if you're like me and you have no intention of ever working outside of the country? A second language doesn't make you more competitive in the job marketplace if you're not going to work in a foreign country.

M: Hmm . . . I know what you mean.

W: Also, they claim it will help broaden our cultural knowledge, but I'm not particularly interested in doing that. I really don't care to sit around reading books, and I don't know anyone overseas whom I would write a letter to in another language. For me, it's going to be a big waste of time. I really think learning a second language is just going to distract students from the subject matter that they're majoring in.

M: Yes, I agree. I hope they rethink this policy.

Question 4

M: OK, now I'd like to continue our talk on a subject that I find very interesting: yellow journalism. First, how did the papers target the mass audience that they all wanted? Well, first, they began selling papers on Sunday. You see, this is important, because back then, Sunday was the only day the average worker had off. There wasn't much time for reading on any other day. Next, the papers included all sorts of really interesting stories. For instance, it was during this time that colored pictures, including comics, became popular. Not only that, but they also included sports stories and fashion articles, too.

And the stories were really sensationalized. I mean, they exaggerated everything. For instance, there was one article written in 1883 that talked about some very hot apartments in New York. Now, some of the apartments were hot in the summer, for sure, but the story was really overstated. It claimed that things in the apartments burned up from the heat . . . I mean

it said they caught on fire! Of course, nothing was really burning up, but that's what the story said.

Question 5

W: Hey Josh, you look a little stressed. What's going on?

M: Well, I'm a little worried.

W: Why?

M: I have a chemistry lab tomorrow that's scheduled at the same time as our last basketball practice before the big game. I really need to go to practice, but if I miss the lab, my grade is going to suffer.

W: Well, maybe you could talk to your professor. He might let you make up the lab later.

M: He doesn't put much importance on athletics. He thinks students should only study, not play sports. I'm sort of afraid to ask him. He might think I don't take his class seriously. It's only the middle of the semester, and I don't want him to give me a hard time for the rest of it.

W: I see. What if you explained the situation to your coach?

M: Coach Williams is so excited we might go to the championships. He has all these new drills that he wants us to try out. If I'm not there for practice, I won't be able to learn them, which means, I probably won't be able to play in the game. I don't want to sit on the bench all night.

W: Hmm . . . well, I'm sure you'll figure out what to do.

Question 6

W: Usually when people look at works of art, they think about the artist's influence in terms of culture or history. But, what about the artist's physical health? Can it influence how a painting turns out?

Medical records show that Impressionist artist Edgar Degas suffered from retinal eye disease for 50 years. Toward the end of his career, this would have put his eyesight between 20/200 and 20/400. That's pretty bad when perfect vision is 20/20. Until around 1870, Degas' paintings showed clear facial details, shading, and attention to small things, like the folds in a ballet costume. From 1880 on, Degas' work became less detailed and more blurry as the disease worsened. After taking into account his

failing eyesight, it seems unlikely that Degas simply decided to change his painting style. The same medical records also documented another Impressionist artist at the time: Claude Monet. Monet suffered from cataracts which cause a sort of clouding over the lens of the eye. This can affect the eye's ability to focus and see images clearly. In 1914, Monet stated that he could no longer see colors correctly. Bright red looked like muddy brown to him. So, he had to rely on the color names printed on the tubes of paint in order to select the correct one. Like Degas, his paintings also became more blurry as the cataracts worsened. However, in 1923, Monet had surgery to have them removed. After the surgery, his paintings were very similar to his earlier works before the cataracts began to affect his vision.

Writing

Chapter 1 /Organizing Information

01 Practice

M: Today I want to talk about the appendix. For a long time, scientists couldn't really figure out the purpose of the appendix. If, for whatever reason, the appendix had to be removed, it didn't seem to affect the patient in any way. This led scientists to believe it had no function at all.

Now, there is a theory that the appendix used to be important, but it became less so as the human diet evolved. However, scientists now know that the appendix has a very important function: to help maintain and balance the good bacteria that live in the human body. How did biologists figure this out? Well, the key to the discovery was the location of the appendix. See, the appendix is connected to the intestine. Scientists realized that when a disease or bad bacteria attacks the body, good bacteria, that is, the bacteria that humans need for digestion and other important functions, takes refuge in the appendix. Basically, the appendix is like a hideout for good bacteria. Even though the previous theory says that the reason it is so small is because it has no use, today scientists know that the size is just right for providing that safe hideaway for good bacteria while the body flushes out the bad stuff.

So, if the function of the appendix is to help maintain good bacteria and not help with the digestion of leaves, as your book suggested, then why do koalas have such large appendixes? Scientists think it's just a big coincidence. Yes, koalas have a diet that consists mainly of leaves, and they also have large appendixes. But pandas also eat a lot of leaves all day, and they don't have appendixes at all. So really, there is no support for the idea that the appendix helps organisms digest leaves.

02 Practice

M: Hello, everybody. For this lecture, I had you read a chapter on eyewitness testimony. Your book explained how eyewitness testimony is a good tool for lawyers because it is irrefutable

and hard to argue against. It also claims that eyewitness testimony is guaranteed to be true. But statistics show that neither of these claims is actually right.

Let me explain. In the chapter, it talked about how if you see something, it must be true. But you should know that this isn't the case a lot of the time. Eyewitnesses are human, and therefore can make mistakes. Just think about it: how many times have you been sure you've seen something only to find out later that you were completely wrong? The main thing to consider here is that an eyewitness is telling the story from memory. But the human memory is not perfect. A recent study showed that people start to forget an event within twenty minutes from when it happened. So, just because you see something doesn't mean you'll necessarily remember it the way it happened.

Another thing you should know is that there's no way to guarantee that witness testimony is true. Whether or not a witness's testimony can be used in court depends on how the testimony was obtained. For example, judges are interested in knowing that police did not suggest who the criminal was to the witness. And though we'd like to believe that everything a witness says is true, statistics show that this just isn't the case. In fact, there have been over 200 people released from prison because they were mistakenly identified by a witness and later found to be innocent.

03 Practice

W: Over the weekend, you all read an article about lactose intolerance. The article talked about what lactose intolerance is. It also explained that lactose intolerance develops because people don't eat enough dairy. But this is wrong. Today I want to talk to you about two different cases that show that lactose intolerance is actually a condition that one inherits from their parents. OK, so first of all, I want to address the argument that lactose intolerance occurs more often in cultures that don't eat a lot of dairy. While it's true that many Chinese people are lactose intolerant, we also have to consider that lactose intolerance also occurs in high numbers in

cultures where dairy is a very important part of the traditional diet.

Let me give you an example—in India, about 50 percent of the population is lactose intolerant. But the Indian diet is not like that of the Chinese. In India, they drink lots of milk, and they have been since about 6th century BCE. So with this in mind, it just doesn't make sense that lactose intolerance is caused by the lack of dairy in the diet. It has to be something genetic. Another counterpoint I want to make is that lactose intolerance has been found to increase due to age in people from many different cultures, not just those that don't eat a lot of dairy. For example, Mexican populations lose about 18 percent of their ability to digest dairy by the age of two. By age ten, Mexicans lose about 50 percent of their ability to digest dairy. What does this show, exactly? Well, very simply, that the development of lactose intolerance isn't really influenced by the regularity that one consumes dairy.

04 Practice

M: Today let's talk about the effect of music on babies. There's the theory about the so-called Mozart Effect, which refers to the supposed increased performance of babies after listening to Mozart. But the claims made in the book have been challenged and disproved by a number of other studies. Let me tell you about them.

First, let's talk about a study often referred to that supports the Mozart Effect where the participants took three different tests. While the test-takers were completing the test, they listened to either Mozart, relaxation music, or nothing at all. Well, what is often left out is that the test-takers in the study were not babies at all—they were college students. Which explains why they were able to take the tests in the first place, right? Anyway, even if we decide to overlook the fact that we're talking about college students, the effects mentioned in the study were also not long-lasting. The extra nine points that were added to their IQs after listening to Mozart went away after about 15 minutes.

Another claim made is that listening to Mozart makes children more creative. It even

says that if you play Mozart for babies before they are born, they will be born more creative than babies who did not listen to Mozart. But there is no actual scientific proof of any of this. Since the theory of the Mozart Effect became popular, claims like this have been made over and over again, mostly to help sell expecting parents CDs of classical music. But, until some proof is reported, we have to consider such claims as nothing more than marketing tools.

Chapter 2 | Paraphrasing

01 Practice

W: Good morning, class. Last week, we started talking about muscle function in the human body. For homework, I had you read about muscle injury and proper treatment. The book encouraged applying heat to an injured muscle, but this isn't always the best thing to do. Today, I want to talk to you about some of the negative side effects of using heat on injured muscles.

OK, so according to your book, after the muscle is hurt, one should place heat on it immediately. What this does is draw blood to the area, which is a good thing. But the distinction I want to make is that this is only a good thing after some time has passed. Because if you put heat on a sore muscle right away, it will only make it swell even more, and that is never a good thing. What you should do is first apply an ice pack to help lower the swelling first. Then you can put heat on it to help it heal.

Another thing your book talked about was how applying heat reduces the amount of contractions in the muscle so it makes it easier for you to walk or move even if it's injured. The problem here is that the heat can relax the muscle so much that you underestimate just how bad the injury is. Then if you move it too much, you will definitely hurt it more. I think it's always important to take into account how bad the injury is and always follow the doctor's orders about how much you should be moving the injured muscle.

02 Practice

W: For today's lecture, I want to continue our discussion on the chemistry of food. I'd like to focus particularly on some points about vegetables. Some people think that it is healthier to eat raw vegetables. This is a common misperception that I hope to eliminate today. So, why don't we get started?

One myth about raw vegetables is that they have more vitamins than cooked vegetables. A really big point that needs to be made about this is that it all really depends on how the food is cooked. Boiling your vegetables for a long time isn't going to help the food keep its vitamins. However, a recent study found that cooking your vegetables for a short amount of time doesn't really lead to any significant loss of the nutrients. And, it's actually kind of better to cook vegetables a little because it helps soften the cell walls in the food. This makes it a lot easier for the body to absorb all the vitamins in the food.

Another idea is that eating vegetables that haven't been cooked makes it easier for the body to digest them because the natural enzymes found in the food haven't been destroyed by heat. While that's certainly true for some vegetables, it doesn't apply to all of them. You should know that some vegetables are actually easier to digest if they've been cooked. For example, it is a lot easier for the body to process a baked potato rather than a raw potato. The reason for this is that the baked potato contains more water, so the body can break it down more easily.

So to conclude, eating cooked vegetables can be just as healthy as eating raw vegetables. It simply depends on the kind of vegetables you are eating and the length of time you cook them for.

03 Practice

M: Hello, class. This week, we've been discussing the process of language acquisition and how difficult it is. In your reading for today's lecture, there was an article that discussed how language acquisition is different for people depending on their ages. The main idea that

children are able to learn a language more easily than adults is wrong. While there were some interesting points brought up in the article, I want to clarify some of those claims for you.

The article says that children are able to learn new languages faster than adults. But, before we accept that, we have to think about what level of fluency we're talking about here. See, it might be true that children seem to learn languages a lot faster than adults, but let's think about how simple children's speaking is. What I mean is, the sentences of a child are much easier in vocabulary and in grammatical structure. So, it might seem like they're learning faster, but that's because the level they're expected to achieve is so much lower than it is for an adult. Another point that I had some problems with was the whole business about younger children having flexible minds. Supposedly, that's why they have an easier time with language acquisition. But there's been a lot of research that disproves this. For example, in one study, there were two groups of children. One group began learning a new language at the age of eight. The other group began learning when they were 11. When both groups were tested, the children that began learning at 11 did much better. Why is this so? Probably because by the time the students were 11, they had a much better grasp of grammar that they could use when studying a new language.

To sum up my points then, young children do not necessarily acquire languages more easily than adults or, if they do, it is on a very basic level. Instead, older children and adults have a much better grasp of more sophisticated vocabulary and language concepts than younger children.

04 Practice

M: Good afternoon, class. All week, we've been discussing the history of disease. We know that one of the most important discoveries in preventing disease was the understanding of germs. But, cleanliness is not always a good thing. I found some more information on this topic and I wanted to share some of it with you.

We know that sanitation is mostly a good thing,

but when we sanitize everything, we eliminate common allergens. I want to emphasize that allergens are generally harmless substances... some common ones are pollen or cat fur. The allergy develops when the body thinks the allergen is bad for some reason, causing the allergic reaction. To support this claim, I want to share a very interesting statistic. According to a top world health organization, allergy sufferers have increased significantly within the past 20 years. This shows that people are really starting to suffer because they aren't exposed to enough allergens and therefore can't build any kind of immunity.

Another thing that is often talked about is what conditions physicians think will help improve the amount of people that are coming down with allergies. Many doctors believe it is good for kids to be exposed to animals. Let me tell you about a recent study that supports this. A group of German doctors learned that children who were exposed to farm animals, such as horses or cows, did not have as many allergies, if any, as children who weren't. Additionally, the children who spent more time around animals also gained immunity to other diseases, such as Crohn's Disease. Scientists think that this is because being around animals helps children gain immunity to those allergens.

In other words, killing all substances in our homes and general environment that may cause adverse reactions or diseases is not always a good thing. We need to be exposed to these substances so that our bodies can learn to fight them effectively. Being over-zealous about sanitation prevents our bodies from doing so.

the evidence that suggests that sharks hunt in groups.

I think a lot of people have this idea that sharks hunt alone because of all the movies that show one monstrous shark attacking its prey. There have actually been a number of cases where shark survivors report that they were attacked by more than one shark. About a year ago, in fact, there was a teenager that was attacked in Australia. According to witnesses, the boy was first attacked by one shark. A few minutes later, another shark appeared and continued the attack. Even when there aren't any witnesses, biologists can tell if more than one shark was involved in an attack by examining the bite wounds. If the bites are a different size or pattern, they most likely came from different sharks.

But sharks don't only hunt humans in groups. Scientists have also observed sharks hunting other animals in packs. Not too long ago, a group of researchers witnessed a group of about 12 sharks attack some baby beluga whales. What was interesting about the attack was that the researchers were able to see the entire process. First, a mid-sized shark approached the baby whales, which were kind of close to shore anyway. As soon as the whales saw the shark, they panicked and swam to some rocks. Then the entire group of sharks showed up and cornered the whales against the rocks. With nowhere to go, the sharks were able to feast on the whales.

From all the evidence, it is pretty clear that sharks tend to hunt in groups rather than alone. This strategy seems to be an effective and common practice among these highly intelligent sea creatures.

Chapter 3 | Making Connections

01 Practice

M: This week, we'll be talking about shark behavior. I want to start off by talking about shark hunting patterns, so I had you read an article about it. The reading discussed that the old belief that sharks hunt alone is probably wrong. Scientists have actually begun to think that sharks hunt in groups. Today, I'm going to talk about some of

02 Practice

W: Hello, class. During our last lecture, we began talking about the Native American tribes of the northwest. One of the most recognizable structures made by these tribes are totem poles. Your reading briefly discussed totem poles, but I'm afraid that the information it gave you about the function and construction of the poles is incorrect.

A lot of people originally thought the poles were

objects of worship. This myth first got started when white explorers arrived. They just didn't know what to make of these structures. So, they guessed that they were worshipped, and the animals depicted on them represented gods. But now we know this isn't true. How do we know that? Well, for one thing, the animals on them actually depict the different clans in the tribe, not gods. Also, the poles aren't really treated like objects of worship, and they never were. Think about it, if you worship something, you're going to take care of it and make sure nothing happens to it. But when tribes move on, they leave the poles behind and let them rot. Also, there's a popular phrase in English: "low man on the totem pole," which basically means that the person is not very important. That phrase comes from the idea that position on the totem pole is important, but there has been no evidence that proves that is so. Of the thousands of totem poles that have been found, the positions of figures on the poles vary. Sometimes the chiefs are found at the bottom, sometimes they were put on the top, and sometimes they were in the middle. So that leads anthropologists to believe that the position on the pole didn't really mean anything about how important somebody, or something, was. In conclusion I wish to emphasize once again that totem poles were by no means religious objects representing animal gods or a class hierarchy but simply symbols of the different tribal clans and not even important enough to maintain when tribes moved to a new place.

03 Practice

M: Today we're going to be talking about creatures of the late Cretaceous period, which was approximately, I don't know, about 100 million years ago. This was the period when most of the dinosaurs that we are familiar with lived. In addition to dinosaurs, there were a lot of different animals as well. In your reading, you learned about the Devil Toad, which was one of the animals that lived during this time. I want to talk to you briefly about the Devil Toad and give you some additional information about it.

So, you all read that the Devil Toad was bigger than any living toad today. Just to give you an

idea of the size difference, I want you to imagine this: the Devil Toad was estimated to be about the size of a bowling ball, about 10 pounds. The largest living toad today is only seven pounds. Additionally, judging by the fossils, it looks like some of these toads could grow to be about 16 inches long! Imagine seeing one of those things sitting outside your house! Anyway, let's move on. The article also talked about the Devil Toad's possible modern relatives. We know that it probably isn't related to any African species, despite its initial discovery in Madagascar. A team of paleontologists compared the bone fragments with toads from all over the world and discovered that the Devil Toad's closest living relative is the South American Horned Toad. The Devil Toad has many features that are similar to the Horned Toad. They both have wide mouths filled with large teeth. Both frogs also have very powerful jaws.

04 Practice

W: In sociology, we often have to think about issues on a deeper level than how they are initially presented. For example, in the reading I assigned at the end of the last lecture, there was a lot of information about how someone's name may influence their lives. The reading suggested that oddly-named children have it harder in life than children with regular names. But if we look deeper, we find that this isn't really true, and studies show that having an odd name doesn't really make a difference.

Let me tell you more about the research. OK, so one study mentioned in the article described that children with weird names do worse in school. The problem with the study is that it didn't look further into the child's situation. A follow-up study found out more about the kids with weird names and guess what they learned? Children with odd names were also more likely to have uneducated parents. So it is entirely more likely that the reason that children with odd names did worse in school was because their parents couldn't give them as much academic support, like helping them out with their homework and such.

How about the idea that oddly-named children grow up to be huge failures? This is

also not true. A survey of adults with odd names showed that they didn't have trouble finding jobs, at least not anymore trouble than most people do. Additionally, most of them were very proud of their odd names. For them, it wasn't a source of embarrassment or shame. Instead, it was something that made them memorable. So, in some ways, they might even have an easier time getting jobs because employers will remember them and be curious to learn more about them because of their odd names.

In conclusion, we can see that having an odd name does not affect a child to do poorly in school. It also doesn't seem to affect them as adults.

Practice Test 1

W: Hello, everybody. Today, I want to talk to you about the biology of the common cold. We know that a cold is caused by a virus, but how does the virus infect the body in the first place? In your reading for today's lecture, it said that in order for the virus to make someone ill, that person would already have to have a weak immune system. Most of you have probably heard this at some point, but it's actually a misconception. You do not have to have a weak immune system to catch a cold. Your book mentioned that your immune system is basically what defends your body from diseases and infections. So, it seems that if your immune system was already weakened—say from being sick with another illness or even not getting enough sleep—you could become ill. But when talking about the common cold, you don't necessarily have to already have a weakened immune system. There was a study that some physicians put together a couple of years ago. They had two groups of people. One of them were people whose immune systems were weakened, and the other was made up of completely healthy adults with normal immune systems. When exposed to the cold virus, 95 percent of the group with normal immune systems became sick.

Having a weak immune system also does not mean that you'll suffer from more severe

symptoms or be sick for a longer time. Interestingly, some research suggests that people with lowered immune systems may actually have fewer symptoms. The reason for this is that all cold symptoms are, really, your body reacting against the virus. So, if your immune system is active, it's going to launch more attacks against the virus and give you more symptoms.

Practice Test 2

M: Hello, class. Today we're going to continue our discussion on computer security threats. As you all probably know, one of the greatest threats to computers is viruses. Now, your book talked a lot about using anti-virus software in order to prevent attacks. But, although that software is very useful, using it by itself isn't really that helpful in protecting your computer.

See, one thing I want you to understand is that even computers with anti-virus software are still vulnerable to attacks. Why is that?

Well, remember how your book talked about how the anti-virus software works? It said that it runs scans from time to time and looks for suspicious behavior on the machine. But the thing is, viruses are pretty advanced now, and the people that make them are sure to make the files seem as harmless as possible. Because of this, it is pretty hard for the software to catch them sometimes. In the time that it takes the software to spot the virus, it could have already been spread to other computers. Does that make sense? Good. So while experts agree that using anti-virus software helps, the best way to prevent viruses is to use a combination of preventative methods.

So, moving on. Another thing about antivirus software is that you can't just get it on your machine and let it do all the work. Your reading mentioned that when the software runs the scans, it's watching out for known viruses. But here's the thing—there are thousands and thousands of viruses that are written daily. In order for the software to be helpful at all, the user must download updates frequently. This keeps the software ready-to-handle any new viruses that have been identified.