Breaking Big Tasks into Smaller Parts

Task: _____

Subtasks	

Task: _____

Subtasks	

This is how one reader might respond to an excerpt from a Ralph Waldo Emerson essay.

Self-Reliance

Whoso would be a man, must be a nonconformist. He who would gather immortal palms must not be hindered by the name of goodness, but must explore if it be goodness. Nothing is at last sacred but the integrity of our own mind. Absolve you to yourself, and you shall have the suffrage of the world. I remember an answer which when quite young I was prompted to make to a valued adviser who was wont to importune me with the dear old doctrines of the church. On my saying, What have I to do with the sacredness of traditions, if I live wholly from within? my friend suggested,—"But these impulses may be from below, not from above." I replied, "They do not seem to me to be such; but if I am the devil's child, I will live then from the devil." No law can be sacred to me but that of my nature. Good and bad are but names very readily transferable to that or this; the only right is what is after my constitution; the only wrong what is against it. A man is to carry himself in the presence of all opposition as if every thing were titular and ephemeral but he. I am ashamed to think how easily we capitulate to badges and names, to large societies and dead institutions. Every decent and well-spoken individual affects and sways me more than is right. I ought to go upright and vital and speak the rude truth in all ways.

- Ralph Waldo Emerson, from Essays and English Traits

Assumption about gender

Nothing?

What does this mean?

Even if I'm miserable and rejected by other people?

Dangerous premise? Assumes we have no responsibility to society

Where's the support for these ideas? Overconfident tone

Does that mean all institutions are bad?

How realistic is this?

2. **Skim** the entire passage, and then answer the following questions:

a. What is one **main idea** of this passage?

b. What are two key **supporting details** for the main idea you identified?

Except for a brief description of the Compton effect, and a few other remarks, we have postponed the discussion of X-rays until the present chapter because it is particularly convenient to treat X-ray spectra after treating optical spectra. Although this ordering may have given the reader a distorted impression of the historical importance of X-rays, this impression will be corrected shortly as we describe the crucial role played by X-rays in the development of modern physics.

X-rays were discovered in 1895 by Roentgen while studying the phenomena of gaseous discharge. Using a cathode ray tube with a high voltage of several tens of kilovolts, he noticed that salts of barium would fluoresce when brought near the tube, although nothing visible was emitted by the tube. This effect persisted when the tube was wrapped with a layer of black cardboard. Roentgen soon established that the agency responsible for the fluorescence originated at the point at which the stream of energetic electrons struck the glass wall of the tube. Because of its unknown nature, he gave this agency the name X-rays. He found that X-rays could manifest themselves by darkening wrapped photographic plates, discharging charged electroscopes, as well as by causing fluorescence in a number of different substances. He also found that X-rays can penetrate considerable thicknesses of materials of low atomic number, whereas substances of high atomic number are relatively opaque. Roentgen took the first steps in identifying the nature of X-rays by using a system of slits to show that they travel in straight lines, and that they are uncharged, because they are not deflected by electric or magnetic fields.

The discovery of X-rays aroused the interest of all physicists, and many joined in the investigation of their properties. In 1899 Haga and Wind performed a single slit diffraction experiment, which showed that X-rays are a wave motion phenomenon, and, from the size of the diffraction pattern, their wavelength could be estimated to be 10-8 cm. In 1906 Barkla proved that the waves are transverse by showing that they can be polarized by scattering from many materials.

THE PRR METHOD WORKS IN ALL OF YOUR COURSES

Quantitative courses:

- Apply your understanding by doing practice problems
- Reflect on what content needs more attention and synthesis
- Connect today's topic to other content covered

Online or flipped courses:

- Preview the days' material using slides, textbook, and syllabus as a guide
- Read to stay up with the lectures pacing
- Review your notes and fill in any gaps

World History Notes: "Agricultural Revolution"

Self-Quiz

Review

I. Humans (15,000 years ago) were hunters and foragers, foraging fruits, nuts, wild grains and grasses

Hunting allowed for a more protein-rich diet (if you could find a target)
One of the best hunting gigs was fishing
This is why many civilizations sprung up on the ocean's coasts
Fish were A) Abundant and B) unlikely to eat you

We think of the lives of foragers as nasty, brutish and short
But fossil evidence show their bones and teeth were healthier than those of agriculturalists
Anthropologists say that foragers spend less time working and more time on art, music, and ????

II. Cultivation of Crops

Arose independently over millennia all over the world: Africa, China, and the Americas (Rice in Southeast Asia, maize in Mexico, potatoes in ????, wheat in the Fertile Crescent, yams in West Africa)

People world-wide, independently gave up foraging for agriculture
Since everyone did this, it must be a good choice, right?

III. Pros and Cons of Agriculture

Advantages:

1. Controllable food supply (except for droughts, floods) - hearty crops increase chance of reliable food (not starving)
2. You can grow a food surplus (especially with grains) - making cities and specialization of labor possible. In foraging, 1000 calories used to acquire 1000 calories of food. So, impossible to form large population centers. Surplus can support other jobs, e.g. trades people who can create better farm equipment to create more food.
3. ????

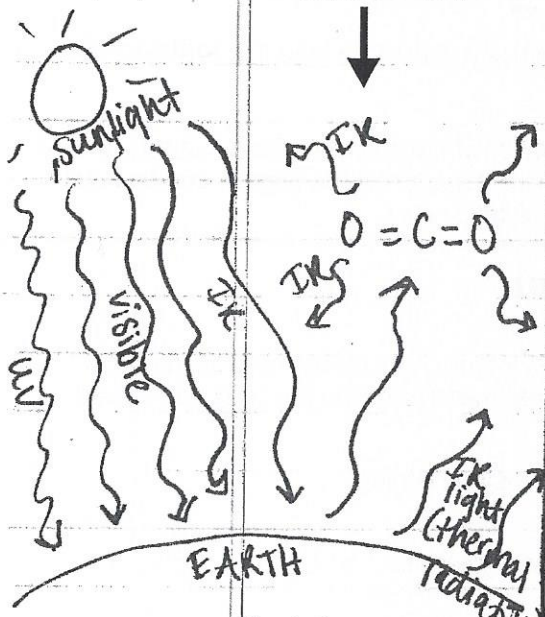
Disadvantages:

1. As population grows, you have to radically change environment (planting on large scale). Some would say that large cities are not beneficial to the planet (environment) or people (but what about technology/internet?)
2. Can have non-ideal societal structure in agriculture societies? How so/why???

Summary:

Example:

Diagram to visually represent a process



Line to separate the cue column on the left side of the page from the section where the notes are taken

Oct. 29

Heat causes atoms to vibrate
Vibrating molecules emit IR radiation

Does CO_2 absorb IR + keep heat in atmosphere?

electric field

Question related to diagram in cue column

- an imaginary construct - if charged particle experiences force that causes it to move, we say it's interacting w/ an electric field

IR Electric field
→ energy absorbed by CO_2
→ CO_2 has assymetric charges (kind of)
→ molecule vibrates
→ emits IR

Force Law = charge × field
$F = qE$

$F = ma$

$ma = qE$

Q: Do I need to know these equations? (ask TA)

electric fields oscillate

Explanatory comment added while reviewing notes

the more positive the nucleus the greater the "pull" on electrons

electronegativity ← determines = nuclear charge

$-\delta$ $+1$: C :: O : $\quad$ $\delta+$ $\delta-$: C :: O :

formal charge | partial charge | unequal charge

Possible test: Is O_2 a greenhouse gas? Why or why not?

Self-quizzing question used to prepare for test

IR radiation from sun/earth is absorbed by gas molecules in atmosphere that have assymetric charge distribution, causing the gas molecules to vibrate + emit IR radiation in all directions (including back toward Earth).

Summary of the significance of the notes on the page

DURING THE EXAM

Prepare yourself emotionally, physically, and intellectually

- Concentrate on what you know, instead of what you don't know. By thinking of the test as an opportunity to demonstrate your knowledge, you'll emphasize your strengths and downplay your weaknesses.
- Prepare your brain to function optimally by taking care of yourself. Get a good night's sleep, eat well-balanced meals, and keep up with your exercise routine.
- Anxiety is highly contagious! Avoid talking to other students just before the test.

Arrive early

- Try not to rush to the exam; you'll just raise your anxiety level if you're running late.
- Choose a seat with good lighting, a comfortable seat, and a good writing surface.

Follow Instructions

- Make sure you understand the instructor's rules for writing notes on scratch paper, tearing pages out of blue books, etc.

Preview the exam first

- Before you start answering questions, make sure your exam has all its pages and is legible.
- This is essential: read the instructions carefully! Ask the instructor about anything you don't understand.

Map out your time

- Wear a watch, and keep a close eye on it.
- Try to decide which questions will take the longest for you to answer, and which carry the most points. Answer these questions first.
- Be sure to leave time at the end to review.

Read each question carefully

- Try not to spend, overanalyze, or over-interpret the questions; you'll end up looking for something that's not there.
- Answer the question as the instructor intends it. Remember to interpret it within the scope of the class.

Remain calm

- Don't panic if you encounter a question you didn't anticipate. Use what you've learned and your powers of reasoning to create a logical answer.
- Remember to go for partial credit whenever possible. If you've studied, you're bound to know something!

Now it's your turn...

Use what you've discovered about levels of learning to 1) prepare for a test and 2) analyze your results.

Learning task	Before the test: Self-test What questions do you expect on the test? Find, create, and share questions at those levels.	After the test: Analyze Go through your returned test. Identify the level of each question, and whether you lost any points.
Remember		
Understand		
Apply		

Answer questions to determine which levels you find most difficult.

Match how you study to the level. For example:

- To remember, make flash cards or create mnemonics.
- To understand, summarize concepts, or teach material to a friend.
- To apply, use what you've learned to solve problems.

Practice producing (writing, saying) information, not just looking over your notes.

Look for patterns in the questions you answered correctly. This can help you identify your strengths.

Next, search for possible patterns in the questions you lost points on:

- Do they tend to be at a particular level?
- Are they from a particular source (lecture, book, discussion section, homework, etc.)?

Use what you've found to pinpoint which levels and/or sources to study more for future exams.

For more info on classification of the cognitive domain, see:
Lorin W. Anderson, David R. Krathwohl et al (eds.) A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Educational Objectives. New York: Longman, 2001.

Internal Distractions	Describe the situation or tally the distractions	Plan for the Future?
Negative reactions to noise		
Daydreaming		
Personal problems and worries		
Boredom		
Anxiety or dislike for subject		
Intimidating study tasks		
Fatigue		
Other		
Internal Distractions	**Describe the situation or tally the distractions**	**Plan for the Future?**
Study Area		
Auditory distraction		
Visual distraction		
Furniture or work space		
Lighting		
Temperature		
Other		

Next steps

Now that you have a solid SMART goal, it's important to break your overall goal down into smaller actionable parts. Focusing on small actions over time helps you stick to your bigger goal without feeling overwhelmed. Break your goal down into chunks of time to identify what you want to accomplish over the next few days and weeks. Each action of each day is a step toward fulfilling your goal.

SHORT TERM					
in 4 weeks					
next 2 weeks					
this week					
today					

LONG TERM					
this year					
semester					
one month					
this week					

Why do I want this? What value can I find in the task?

What reasons are there for thinking I'll succeed?

What can I use to motivate myself – to reinforce my behavior? Think about things you enjoy – taking a nap, going to a movie, hanging out with friends, watching TV, visiting your favorite websites, listening to music, reading a novel. You may want to save these activities for a job well-done so they'll have real meaning for you.

What's under my control? How could I make the task more enjoyable?

Get in the habit of thinking about motivation as a cyclical process: determine what it is you want and why you want it; plan your rewards and pay attention to which ones are the most motivating for you.

How are you spending your time? Record your activities for a week and tally by type.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8							
9							
10							
11							
12							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

class							
studying							
eating							
sleeping							
rec/social							
work							
other							