



These answers will vary. Examples given.

Page 39

Name _____

Mystery Continents

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

- According to Alfred Wegener, when Pangaea broke up, _____.
 A it became molten rock
 B the tectonic plates melted
 C South America and Africa joined together
 D the continents floated apart
- In 1912, Alfred Wegener came up with a theory called _____.
 A plate tectonics
 B continental tectonics
 C plate drift
 D continental drift

3. What is the theory of plate tectonics? What does it explain?

* It is a theory that scientists made in the 1960s. It explains how the continents can move.

4. What is the main idea of paragraph 1?

* On a map, some continents seem to fit together like a jigsaw puzzle.

5. Alfred Wegener lived until 1930, before scientists explained how continents move. How do you think he would have felt about the new theory of plate tectonics?

* I think he would have felt happy, because it explained how his own theory of continental drift was possible.

Write About the Topic

Use the Writing Form to write about what you read.



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Floating Continents ■ ■ ■ 39

Page 47

Name _____

Autoworkers Unite

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

- The Wagner Act was intended to _____.
 A make it easier for people to find a job
 B stop labor unions
 C help workers to get fair treatment
 D give corporations more power
- Trespassing is the same as _____.
 A passing through
 B entering without permission
 C camping out
 D owning property
- Why do you suppose workers were not allowed to talk during lunch?

* Managers didn't want them to discuss organizing a union to ask for better wages and working conditions.
- What data supports the conclusion that autoworkers were pleased with how the union handled the strike?

* 100,000 of them joined the UAW.

5. What is your opinion of working conditions on the assembly line in 1936? Support your opinion with information from the text.

* It must have been difficult work, because you couldn't slow down the line for any reason and people were unhappy.

Write About the Topic

Use the Writing Form to write about what you read.



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Labor Unions ■ ■ ■ 47

Page 45

Name _____

Sit-Down Strike

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

- Assembly line work _____.
 A requires doing the same thing over and over
 B gave workers plenty of breaks during the day
 C was done entirely by machines
 D meant easy working conditions for everyone
- During the sit-down strike, the workers _____.
 A kept the assembly line moving
 B went home only for meals
 C risked losing their jobs
 D all left the plant and went home

3. What information supports the view that autoworkers worked under difficult conditions?

* Repeated motions, not heated/cooled well, no talking at lunch, no restroom break, speed up or be fired.

4. What data could be used to draw the conclusion that workers were happy with the results of the sit-down strike?

* After the strike, union membership grew to 100,000 members.

5. Do you agree with the actions GM took during the strike?

* Yes, because they tried to end the strike.

No, because they weren't trying to settle differences.

Write About the Topic

Use the Writing Form to write about what you read.



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Labor Unions ■ ■ ■ 45

Page 49

Name _____

Flint Sit-Down Strike

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

- The purpose of a labor union is to _____.
 A keep everyone organized
 B bargain with employers
 C speed up the work
 D manufacture automobiles
- To collapse is to _____.
 A go on strike
 B be overheated
 C sit down
 D fall down from illness
- What were the pros and cons of assembly line work in 1936?

* Pros: Lots of autos could be made quickly; wages were fair. Con: Workers couldn't slow down the line for any reason.
- Why was 1936 a difficult time for workers to consider going on a sit-down strike? What do you think was the biggest thing they accomplished?

* Millions of people were out of work; workers were risking their own jobs. Now they had a union to back them up.
- What data supports the conclusion that the autoworkers were happy with the outcome of the strike?

* 100,000 GM workers joined the UAW.

Write About the Topic

Use the Writing Form to write about what you read.



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Labor Unions ■ ■ ■ 49



These answers will vary. Examples given.

Page 55

Name _____

Conquest for Spain

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. A person who overcomes and takes control of a place by force is a _____.

- A conquest
- B conquer
- C conquistador
- D conquered

2. Ferdinand and Isabella _____.

- A ruled Spain in 1492
- B were conquistadors
- C sailed west to New Spain
- D sent gifts of gold to Montezuma

3. How did Columbus think differently than most early European explorers?

* He thought he could get to the Indies by going west across the sea—that is, in the opposite direction.

4. Based on what you have read, tell what kind of person Montezuma must have been.

* He must have been a powerful ruler. He was respectful of the gods. He protected what was his.

5. What did conquistadors such as Cortes achieve for Spain?

* "God, gold, and glory." They spread the Christian faith, took gold, and made Spain the most powerful nation in Europe.

Write About the Topic

Use the Writing Form to write about what you read.

Summarize why Christopher Columbus was an important figure in history.



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Spanish Conquistador ■ ■ ■ 55

Page 59

Name _____

North American Conquest

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. To overcome and take control of a place by armed force is to _____.

- A conquistador
- B conquest
- C conquer
- D conqueror

2. A treasury contains _____.

- A riches and glory
- B gold and riches
- C gold and conquest
- D glory and empire

3. What motives did Ferdinand and Isabella have for helping Columbus?

* They wanted a trade route to the Indies. They wanted to spread their Christian faith. They wanted treasure.

4. Do you think Cortes was wise to burn his ships? Explain why he may have decided to do this.

* Yes, he was determined to conquer for gold. If his men didn't feel as he did, they couldn't run away and desert him.

5. What part did gold play in the history of North America?

* Gold was important to the conquistadors. Gold drove them to explore and to fight the Aztecs for it.

Write About the Topic

Use the Writing Form to write about what you read.

Summarize why Hernan Cortes was an important historical figure.



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Spanish Conquistador ■ ■ ■ ■ ■ 59

Page 57

Name _____

Cortes and New Spain

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Tenochtitlan was _____.

- A a powerful Aztec ruler
- B the capital of the Aztec empire
- C Montezuma's secret treasure
- D an Aztec palace

2. A person who overcomes and takes control of a place by force is a _____.

- A conquest
- B conquer
- C conquered
- D conquistador

3. How does the author set the stage for the story of Hernan Cortes?

* The author tells how Columbus sailed for the Spanish monarchs and that the conquistadors followed later.

4. In what ways were Cortes and Montezuma alike?

* They both valued gold and fought for it. Both men commanded armies. Both were powerful.

5. What did the conquistadors achieve for Spain?

* The conquistadors gained land, wealth, and power for Spain.

Write About the Topic

Use the Writing Form to write about what you read.

Summarize why Montezuma was an important historical figure.



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Spanish Conquistador ■ ■ ■ ■ ■ 57

Page 65

Name _____

Powerful Wave

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Two kinds of energy that cause waves are _____.

- A long and tall
- B solids and liquids
- C depth and speed
- D wind and earthquakes

2. If you see the water draw back, you should _____.

- A run inland
- B go down to the beach
- C wade into the water
- D stand and watch

3. Explain three ways in which tsunami waves are different from ordinary ocean waves.

* They are caused by earthquakes, not wind. They can affect a wide area. They can be miles long and faster.

4. Can you explain what scientists can do to protect people from natural hazards such as tsunamis?

* They can study tsunamis so they can warn people in time to get to safety.

5. What is the main idea of paragraph 3?

* Scientists study seismic waves from earthquakes to help them forecast tsunamis.

Write About the Topic

Use the Writing Form to write about what you read.

Design a science fair experiment to demonstrate how an earthquake affects a body of water. Describe what will happen.



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Tsunami ■ ■ ■ ■ ■ 65



These answers will vary. Examples given.

Page 67

Name _____

Tsunami Wave

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Seismic waves are _____.
 - A a warning to go inland
 - B the same thing as tsunami waves
 - C energy from an earthquake
 - D energy from the ocean

2. Water drawing back from shore _____.
 - A creates ocean waves
 - B forecasts an earthquake
 - C is caused by wind
 - D is a warning sign

3. Can you explain why normal ocean waves do not become tsunamis?

* Ocean waves are made when wind energy meets the water. Tsunami waves are made by earthquake energy.

4. What was the author's purpose in writing this text?

* To give information about tsunamis: how they happen, how scientists study them, and how people can stay safe.

5. List several actions people can take to stay safe from tsunamis.

* Know if you are in a tsunami area. Listen to radio or watch TV after an earthquake. Go inland to higher ground.

Write About the Topic

Use the Writing Form to write about what you read.



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Tsunami ■ ■ ■ 67

Page 75

Name _____

Hearing Aids Use Electricity

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Hearing aids were first developed in the _____.
 - A 1600s
 - B 1800s
 - C 1900s
 - D 2000s

2. The four main parts of a hearing aid are _____.
 - A the sound current, the vibrations, the circuit, and the speaker
 - B the sound waves, the current, the vibrations, and the circuit
 - C a battery, a microphone, an amplifier, and a speaker
 - D a battery, a microphone, an amplifier, and a device

3. How does the microphone on a hearing aid work?

* It receives sound waves and changes the vibrations into an electric current.

4. How does a hearing aid improve the lives of people with hearing loss?

* A hearing aid helps them talk with people and listen to music. It also makes it safer for them to drive.

5. Is an amplifier an important part of a hearing aid? Explain why or why not.

* Yes, an amplifier is important because it makes the electric current stronger and sends it to the speaker.

Write About the Topic

Use the Writing Form to write about what you read.



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Electrical Energy and Sound ■ ■ ■ 75

Page 69

Name _____

Tsunami

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Measuring seismic waves helps scientists _____.
 - A learn the wind direction
 - B forecast a tsunami wave
 - C forecast the weather
 - D create a disturbance

2. A tsunami zone is _____.
 - A higher ground that is inland
 - B an area where a tsunami may strike
 - C a sign with a warning on it
 - D the surface of the water

3. Explain three ways in which tsunami waves are different from ordinary ocean waves.

* They are caused by earthquakes, not wind. They can affect a wide area. They can be miles long and faster.

4. Give evidence from the text that a tsunami can affect a very wide area.

* In 2004, a tsunami in the Indian Ocean caused destruction and loss of life in 14 countries.

5. In your opinion, what is the most important reason that scientists should study tsunamis?

* To learn more so they can warn people of tsunamis and save lives.

Write About the Topic

Use the Writing Form to write about what you read.

Design a tsunami exhibit for a science museum. List the displays you would include.



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Tsunami ■ ■ ■ 69

Page 77

Name _____

Electricity and Hearing Aids

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. A hearing aid is _____.
 - A a new device
 - B an electronic device
 - C not used by many people
 - D not a scientific device

2. Sound waves are changed into _____.
 - A a speaker
 - B an amplifier
 - C a magnet
 - D an electric current

3. What part of a hearing aid is needed to make an electric current?

* A microphone is needed to receive the sound waves and change the vibrations into an electric current.

4. What would happen if a hearing aid did not have an amplifier?

* The electric current would not be made stronger and would not be able to get to the speaker.

5. How are microphones and speakers different?

* A microphone receives sound waves. A speaker receives an electric current.

Write About the Topic

Use the Writing Form to write about what you read.

Write about modern hearing aids and how they use electricity to work.



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Electrical Energy and Sound ■ ■ ■ 77



These answers will vary. Examples given.

Page 79

Name _____

Sound Waves into Electric Currents

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Hearing aids _____
 - A convert sound into spoken words
 - B convert electrical energy into sound waves
 - C do not help many people
 - D help repair damage to the ear

2. An electromagnet creates _____
 - A sound waves
 - B an electric current
 - C a changing magnetic field
 - D electronic data

3. Why are speakers in hearing aids important?

* Speakers are important because they are part of the process that produces stronger sound waves.

4. What part does electronic data play in hearing aids?

* A digital hearing aid converts sound waves into electronic data that is then translated into an electronic signal.

5. In your opinion, what is the most important part of a hearing aid? Explain why.

* I think the most important part of a hearing aid is the battery because the battery powers the hearing aid.

Write About the Topic

Use the Writing Form to write about what you read.

Explain the technology of modern hearing aids.

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Electrical Energy and Sound ■■■ 79

Page 87

Name _____

Using Natural Resources

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Some renewable resources are _____
 - A coal and oil
 - B fossil fuels
 - C natural gas
 - D wind and water

2. Hydroelectricity is made from _____
 - A forests
 - B the force of wind
 - C the force of water
 - D fossil fuel

3. What questions would you ask a hydroelectric engineer who is building a dam?
 * How do you decide where to build a dam? What can you do to protect more animal habitats?
 * I would work on a wind farm, because I could design new ways to keep away the birds.
 * I would design a study to make them burn cleaner.

Write About the Topic

Use the Writing Form to write about what you read.

Based on what you know, explain why wind is a renewable natural resource. How is it useful to people?

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Natural Resources ■■■ 87

Page 85

Name _____

Resources from Nature

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Some nonrenewable resources are _____
 - A wind and water
 - B coal and oil
 - C lakes and oceans
 - D sunlight and habitats

2. Wind is created by _____
 - A air pollution
 - B the wind cycle
 - C flying animals
 - D sunlight warming the air

3. In your opinion, should people be aware of how much energy they use? Why or why not?
 * Yes, because if they save energy, they are saving natural resources.

4. Why does the author say there are pros and cons to using any natural resource?
 * Using natural resources is useful to people, but it can make unwanted changes in nature's balance.

5. If you were an energy scientist, which natural resource would you like to study? Why?
 * I would study water power from dams so I could find a way to protect the habitats of fish and other animals.

Write About the Topic

Use the Writing Form to write about what you read.

Describe how the water cycle is related to producing electricity. Use details from the text to explain why water is renewable.

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Natural Resources ■■■ 85

Page 89

Name _____

Conserving Natural Resources

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. The opposite of conserving is _____
 - A being wasteful
 - B using wisely
 - C saving
 - D protecting

2. Wind is _____
 - A always over water
 - B a power plant
 - C nonrenewable
 - D a natural resource

3. What is the function of a wind turbine?
 * It changes wind energy into electrical energy.

4. Some scientists are working on ways to store the electricity made by wind farms. How would this help areas that do not have constant wind?
 * They could use the stored electricity during times when there isn't enough wind to make electricity.

5. Consider the pros and cons. Would you want to use electricity made from wind power? Use facts from the text to support your answer.
 * Yes, because it is a renewable natural resource.
 But we should do more to make it safer for wildlife.

Write About the Topic

Use the Writing Form to write about what you read.

Compare the use of fossil fuels with the use of wind power to make electricity. Explain what you have learned about each.

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Natural Resources ■■■ 89



These answers will vary. Examples given.

Page 95

Name _____

Helping Newborn Babies

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. An Apgar Score would rate how _____.

- A happy the baby's mother was
- B hungry a baby was
- C strongly a baby's heart was beating
- D healthy the baby's mother was

2. A medical pioneer _____.

- A settles a new country
- B researches a new area of knowledge
- C travels west in a wagon train
- D explores outer space

3. What talents do you think Dr. Apgar possessed in order to do her work?

* She was intelligent and a good observer. She was a creative thinker and a good teacher.

4. How do you know Dr. Apgar's work was important? Give two reasons.

* The Apgar Score is still used around the world today. She was honored with a postage stamp.

5. If you could interview Dr. Virginia Apgar, what would you ask her?

* I would ask her what made her want to become a doctor. How did she choose her career?

Write About the Topic

Use the Writing Form to write about what you read.



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Dr. Virginia Apgar ■ ■ ■ 95

Page 99

Name _____

Dr. Apgar: Helping Babies

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. In the context of this text, the word *pioneer* means _____.

- A someone who goes west in a covered wagon
- B someone who researches a new area of knowledge
- C an American space rocket
- D a person who settles a new country

2. An Apgar Score _____.

- A tells how old the baby is
- B tells how many inches long a baby is
- C rates the health of a newborn
- D measures the weight of a newborn

3. Explain how Dr. Virginia Apgar's research and writing affected newborn babies.

* Her research showed that a medicine was not good for them. She wrote a report that convinced doctors to change.

4. How would you justify the statement that Dr. Apgar was a medical pioneer?

* Dr. Apgar's score gave people a way to study newborns. The study of newborns became a new field.

5. What is the purpose of paragraph 1?

* To introduce readers to Dr. Virginia Apgar and the scoring system she developed.

Write About the Topic

Use the Writing Form to write about what you read.



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Dr. Virginia Apgar ■ ■ ■ 99

Page 97

Name _____

The Apgar Score

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Two words that mean about the same thing are _____.

- A researcher, professor
- B rating, scoring
- C convince, realize
- D healthy, medical

2. Virginia Apgar thought that _____.

- A all babies do fine without help after they are born
- B more people should earn medical degrees
- C the first minutes of life are important
- D more women should become doctors

3. How would you justify the statement that Dr. Apgar was a medical pioneer?

* Because of her scoring system, people began to study how to help newborn babies. It became a new field.

4. What evidence can you find to support the idea that Virginia Apgar was full of energy?

* She went to college, wrote for the newspaper, played sports and violin, worked several jobs, got good grades.

5. What do you think about the fact that Dr. Apgar became a professor? Give your reasons.

* I think it was good because she was an enthusiastic teacher who taught many other doctors to help babies.

Write About the Topic

Use the Writing Form to write about what you read.



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Dr. Virginia Apgar ■ ■ ■ 97

Page 105

Name _____

Finding Fossils

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. In the context of this text, "to give credit" means _____.

- A to add money to an account
- B to recognize and praise someone's work
- C to believe something
- D to lend money

2. A marine animal _____.

- A lives on a cliff
- B has a short neck
- C lives in the sea
- D is ancient

3. What traits do you think Mary Anning possessed that earned her a place in scientific history?

* Curiosity about nature, hard-working, able to learn on her own, fearless, a business person.

4. From what you have read, can you name a plus and a minus about hunting for fossils at Lyme Regis?

* Plus: There were many fossils to be found in the rocks under the cliffs. Minus: There were dangerous rockslides.

5. How do you feel about the conclusion of Mary Anning's story?

* It's good that Anning was given credit for her work at last. I'm glad she is considered to be an important scientist.

Write About the Topic

Use the Writing Form to write about what you read.



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Hunting for Fossils ■ ■ ■ 105



These answers will vary. Examples given.

Page 107

Name _____

Fossil Hunter

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Paleontology is _____.
 - A marine fossil
 - B the study of British history
 - C a branch of science
 - D an ancient marine reptile

2. In studying anatomy, you would learn _____.
 - A about rocks and cliffs
 - B about skeletons
 - C all about the sea
 - D how to find fossils

3. What talents do you think Mary Anning possessed that helped her in her work?

* She could classify fossils by their anatomy, learn on her own what she needed to know, and draw.

4. Would you say that Mary Anning was a pioneer of science? Support your answer with facts from the text.

* Yes, she discovered the first Plesiosaurus. She was also a woman working in a field with no other women.

5. Why do you suppose Mary Anning continued fossil hunting even when people didn't recognize her work?

* She knew her work was important, even if others didn't give her credit. She needed to support herself.

Write About the Topic

Use the Writing Form to write about what you read.



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Hunting for Fossils ■■■ 107

Page 115

Name _____

The Job of a Structural Engineer

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Structural engineers _____.
 - A design buildings
 - B make sure buildings are safe
 - C make sure buildings are in cities
 - D figure out what the building will look like

2. An architect and a structural engineer _____.
 - A don't use math in their jobs
 - B don't share their plans
 - C only work together on large buildings
 - D work together to build structures that are safe

3. Explain why the framework is an important part of a building.

* The framework holds the building up.

4. Write one way math helps a structural engineer.

* Math helps a structural engineer figure out how much support a building needs.

5. Do you agree with the writer that structural engineers use math for a very important reason?

* Yes, I agree, because they are trying to make sure the building is standing up and safe.

Write About the Topic

Use the Writing Form to write about what you read.



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Structural Engineers ■■■ 115

Page 109

Name _____

Fossil Discoveries

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. In the context of this text, a curiosity is _____.
 - A strange behavior
 - B a strong desire to learn
 - C an unusual fact
 - D an odd or unusual thing

2. An unstable rock is likely to _____.
 - A remain in place
 - B be steady
 - C give way
 - D be safe

3. Museums and scientific papers gave credit to others for the fossils discovered by Mary Anning. What would you say to the ones responsible if you could go back in time?

* You are not being fair to Mary Anning. You should apologize and give her credit.

4. Anning's work was not recognized because she was poor and a woman. How did she overcome this?

* She taught herself, kept working, and made important discoveries until people finally noticed her work.

5. What advice would Mary Anning have for young scientists today?

* Believe in yourself and in your own work. Don't let the actions of others stop you from doing what's important.

Write About the Topic

Use the Writing Form to write about what you read.



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Hunting for Fossils ■■■ 109

Page 117

Name _____

What Structural Engineers Do

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. A structural engineer's most important job is to _____.
 - A figure out what the building will look like
 - B figure out where the building will be
 - C make buildings safe
 - D make buildings tall

2. The load at the top floor of a building is _____.

- A the same as all the floors
- B the same as the bottom floor
- C heavy
- D light

3. In your own words, explain what structural engineers are trained to do.

* Structural engineers are trained to make buildings strong so they can tolerate a lot of weight and natural disasters.

4. Describe what the framework is and what it does.

* The framework includes columns, beams, and the foundation, and it makes the building stand up.

5. Why is math important to a structural engineer?

* It's important because structural engineers use it to figure out what size columns and beams make the building safe.

Write About the Topic

Use the Writing Form to write about what you read.



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Structural Engineers ■■■ 117



These answers will vary. Examples given.

Page 119

Name _____

Using Math to Build Skyscrapers

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Horizontal beams _____
 A support the entire building
 B carry the building's weight downward
 C carry the building's weight between columns
 D are forces acting on the building
2. A structural engineer designs _____
 A the building's support features
 B the building's look
 C software programs
 D the building's rooms
3. What does the writer compare a building's framework to?
*** The writer compares the framework of a building to a skeleton inside a human body.**
4. What forces make a building expand and contract?
Heat and cold make buildings expand and contract.

5. How do structural engineers use math to help them do their jobs?

- * They use math to figure out the forces acting on the building and the support features needed to make it strong.**

Write About the Topic

Use the Writing Form to write about what you read.

Explain how a structural engineer designs a building to make it stand up.



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Structural Engineers ■■■ 119

Page 127

Name _____

Seeing Symmetry

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. To Galileo Galilei, the universe was _____.
 A classical
 B mathematical
 C identical
 D a mirror
2. Symmetry is _____.
 A not organized
 B pleasing
 C unnatural
 D not evenly shaped
3. How would you compare the architects of ancient Rome with those of the Renaissance?
*** They thought alike. They used symmetry to organize their buildings.**
4. Suppose you were asked to plan and build a palace. Would you include symmetry in your plans? Explain.
*** Yes, I would plan for the same number of rooms on each side and a dome in the middle, with windows for sunlight.**
5. What idea from the text was most interesting to you? Why?
*** The universe is written in the language of mathematics.**
I like math, and I like to think about shapes in things I see.

Write About the Topic

Use the Writing Form to write about what you read.

What did you discover about the symmetry of one of the buildings pictured in the text? Write to explain.



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Symmetry ■■■ 127

Page 125

Name _____

Finding Symmetry

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. One example of symmetry in architecture is _____.
 A Galileo Galilei
 B an insect
 C Vitruvius
 D the Taj Mahal
2. Another name for a tall, thin tower is _____.
 A arch
 B dome
 C marble
 D minaret
3. Give two examples of symmetry in nature, one from the text and one you have observed.
*** Every snowflake is symmetrical. An orange sliced in half is symmetrical.**
4. What is the main idea of paragraph 5?
*** The Taj Mahal is an outstanding example of symmetry inside and outside.**
5. Based on the images you have seen, how do you feel about symmetry in architecture?
*** Symmetry can be very beautiful, but sometimes boring.**
I like to see many different kinds of architecture.

Write About the Topic

Use the Writing Form to write about what you read.

Explain what you discovered about the symmetry of the Taj Mahal by studying its picture.



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Symmetry ■■■ 125

Page 129

Name _____

Searching Out Symmetry

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Symmetry is _____.
 A uncommon in the natural world
 B not a very organized way to build
 C found in nature and architecture
 D an ancient Roman structure
2. Renaissance architects _____.
 A re-awakened to the ideas of the past
 B did not know about symmetry
 C thought Vitruvius was wrong
 D used only new ideas in their buildings
3. Do you agree with the author that Renaissance buildings have stood the test of time? Explain.
*** Yes, because they are still standing, and people still admire their beauty.**
4. If Vitruvius had lived 1,500 years later, what would he have thought about the buildings of the Renaissance?
*** He would have thought they were strong, useful, and beautiful.**
5. What idea from the text would you like to read more about? Why does it interest you?
*** I would like to read more about the symmetry of snowflakes, because they are all different.**

Write About the Topic

Use the Writing Form to write about what you read.

Write to explain what you discovered about the symmetry in one of the buildings pictured in the text.



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Symmetry ■■■ 129



These answers will vary. Examples given.

Page 135

Name _____

Elijah McCoy

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. A patent is a license that keeps others from copying your _____.

- route
- train
- invention
- quality

2. A lubricator is used on _____.

- ironing boards
- moving train parts
- lawn sprinklers
- a patent

3. What talents do you think Elijah McCoy possessed in order to be a successful inventor?

* He was curious and liked mechanical things. He studied to be an engineer.

4. Explain how the saying "the real McCoy" may have started with an invention.

* Railroad engineers wanted McCoy's lubricators because they were the best. So they asked for "the real McCoy."

5. How do you know that Elijah McCoy was a successful inventor?

* He had more than 50 patents for his inventions. His inventions were known for their quality.

Write About the Topic

Use the Writing Form to write about what you read.

Imagine it is 1929. Write a newspaper article honoring the life and work of Elijah McCoy.



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Elijah McCoy, Inventor ■ ■ ■ 135

Page 139

Name _____

The Real McCoy

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. A patent is a license that keeps others from copying your _____.

- expression
- discrimination
- invention
- legend

2. If something is "the real McCoy," it is _____.

- automatic and acceptable
- useful and successful
- trusted and of the best quality
- patented and mechanical

3. How do you think McCoy's lubricator affected train travel? Explain your thinking.

* You could get where you were going more quickly because the train didn't have to make stops.

4. What is the purpose of paragraph 4?

* To explain the possible origin of the saying "the real McCoy."

5. What talents do you think Elijah McCoy possessed that made him a successful inventor?

* He liked mechanical things, he studied to be an engineer, and he saw things that needed to be improved.

Write About the Topic

Use the Writing Form to write about what you read.

Write a newspaper article about Elijah McCoy's challenges and success. Explain why his work is important today.



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Elijah McCoy, Inventor ■ ■ ■ 139

Page 137

Name _____

McCoy's Invention

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. The job of an oiler was to _____.

- move trains
- certify mechanics
- lubricate moving parts
- invent devices

2. A patent is a license that keeps others from copying your _____.

- quality
- route
- engineer
- invention

3. How did it happen that Elijah McCoy came to invent a lubricator?

* He saw a need for keeping train parts oiled while the train was moving, instead of stopped. So he invented a way.

4. How would you justify the statement that Elijah McCoy was a successful inventor?

* He had more than 50 patents for his inventions. People asked for his lubricators. He founded his own company.

5. What part did Canada and Scotland play in McCoy's life?

* Being born in Canada, he was not enslaved as his parents had been. In Scotland, he became an engineer.

Write About the Topic

Use the Writing Form to write about what you read.

Imagine you are there when Elijah McCoy is admitted to the Inventor's Hall of Fame. Write your speech introducing him.



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Elijah McCoy, Inventor ■ ■ ■ 137

Page 145

Name _____

To the Moon and Back

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Sputnik _____.

- landed on the moon
- was an American satellite
- was a cosmonaut
- was a Soviet satellite

2. Armstrong and Aldrin were _____.

- the first humans to orbit the moon
- Soviet cosmonauts
- the first humans to walk on the moon
- the first humans in space

3. Describe how the United States and the Soviet Union viewed each other during the 1960s.

* They were not friendly. They competed with each other. The U.S. wanted to get to the moon first.

4. Do you agree with President Kennedy that going to the moon was a hard thing to do? Explain.

* Yes, because it had never been done, and it had to be done before the Soviets did it.

5. What question about the moon would you ask the astronauts who were there?

* I would ask what surprised them the most about the moon.

Write About the Topic

Use the Writing Form to write about what you read.

List the astronauts and cosmonauts named in the text and tell what each one achieved.



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The Space Race: 1960s ■ ■ ■ 145



These answers will vary. Examples given.

Page 147

Name _____

Moon Landing

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. The space race of the 1960s took place between _____.

the Gemini and Apollo programs
 the United States and the Soviet Union
 an astronaut and a cosmonaut
 Armstrong and Aldrin

2. President John F. Kennedy _____.

believed the U.S. could land a man on the moon
 put a steel plaque on the moon
 established NASA
 said, "We came in peace for all mankind."

3. What effect did Sputnik have on America's space program?

* The program got more funding from Congress, and scientists worked faster and harder to be first.

4. In your opinion, what were NASA's greatest accomplishments in the 1960s?

* Alan Shepard flew Freedom 7 to become the first American in space; Apollo 11 astronauts walked on the surface of the moon.

5. Would you like to go to the moon? Explain your reasons.

* No, because I would rather go to Mars, where no one has been yet.

Write About the Topic

Use the Writing Form to write about what you read.

Write a news article about the space race of the 1950s and 1960s. Describe what was achieved and by whom.



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The Space Race: 1960s ■ ■ ■ 147

Page 155

Name _____

A Moving Memorial

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. A structure that is a reminder of events and people is called a _____.

building
 contest
 memorial
 museum

2. Maya Lin wanted people who visited the memorial to experience _____.

statues of heroes
 disagreements
 meaningful ideas and strong feelings
 being under pressure

3. Maya Lin believed in herself and in her plan. Write a sentence from the text that supports this statement.

* The attention did not make her change her plan, because she had a clear vision for the memorial.

4. Lin thought carefully about the ideas in her plan for the memorial. Think of a reason or reasons why she may have wanted people to see themselves in the polished stone.

* Visitors will be reminded that people gave their lives for those who are living in freedom today.

5. What talents do you think Maya Lin possessed that helped her to win the contest?

* She thought deeply about her work, planned it carefully, and had a clear vision of what it should be like.

Write About the Topic

Use the Writing Form to write about what you read.

Write a letter to a veteran to thank him or her for serving the nation. Tell why his or her work is important.



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Vietnam Veterans Memorial ■ ■ ■ 155

Page 149

Name _____

Race to the Moon

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. Alan Shepard was the _____.

president of the United States
 first American in space
 first person to orbit the moon
 first person to orbit the Earth

2. The first human in space was _____.

astronaut Neil Armstrong
 astronaut John Glenn, Jr.
 cosmonaut Yuri Gagarin
 cosmonaut Valentina Tereshkova

3. How would you summarize the space race of the 1960s?

* The U.S. and the Soviet Union competed to be the first to send people into space and then to the moon and back.

4. What effect did Sputnik have on America's space program?

* Congress gave more funding to the space program and American schools began teaching more science.

5. Can you think of a reason why the astronauts left a plaque on the moon?

* So visitors from Earth or somewhere else in the universe would see it and know who was there and why.

Write About the Topic

Use the Writing Form to write about what you read.

List the "firsts" achieved by both the United States and the Soviet Union in space.



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The Space Race: 1960s ■ ■ ■ 149

Page 157

Name _____

A Lasting Tribute

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. The Vietnam Veterans Memorial _____.

was built from 1955 to 1975
 was planned by a group of judges
 should not be touched
 is carved with more than 58,000 names

2. Maya Lin's plan for the memorial was _____.

chosen out of 1,400 plans
 a statue of heroes
 similar to most memorials
 made without much thought

3. What does it say about Maya Lin that she entered the contest and won even while she was still a student?

* She was very talented, and she believed in herself and her work.

4. Visiting the wall is a moving experience for many people. Write a sentence from the text that supports this statement.

* They tearfully touched the names of their loved ones and made rubbings with paper and pencil.

5. Why do you think Maya Lin chose polished stone for the memorial?

* So visitors could see themselves and know that people gave their lives so others could live in freedom.

Write About the Topic

Use the Writing Form to write about what you read.

Write a letter to Maya Lin thanking her for the Vietnam Veterans Memorial. Tell her why her work was important.



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Vietnam Veterans Memorial ■ ■ ■ 157



These answers will vary. Examples given.

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Name _____

Honoring Vietnam Veterans

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. A memorial is a _____.
 - a contest
 - a reminder of events and people
 - a type of war
 - a national mall
2. The jurors thought that Maya Lin's plan was _____.
 - outstanding
 - too plain
 - the wrong color
 - not simple enough

3. Maya Lin thought carefully about the ideas in her plan for the memorial. Think of a possible reason or reasons why she chose its V-shape.

* Maybe the V stands for Vietnam Veterans. Maybe the shape looks like the wings of a military plane.

4. Maya Lin believed in herself and in her plan. Write a sentence from the text that supports this statement.

* The objections did not make Maya Lin change her plan, because she had a clear vision for the memorial.

5. How do you know that the Vietnam Veterans Memorial has been successful?

* Because over 3 million people visit it every year to read, to touch, and to remember.

Write About the Topic

Use the Writing Form to write about what you read.



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Vietnam Veterans Memorial ■ ■ ■ 159

Page 167

Name _____

A Famous Composer

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. In paragraph 2, the phrase "took under their wing" means _____.
 - left someone alone
 - took someone into their care and protection
 - let go and released someone
 - neglected someone
2. To create and perform without preparing ahead of time is to _____.
 - improvise
 - teach
 - use musical notation
 - rewrite

3. Throughout his life, Beethoven's friendships were important to his success. Why do you suppose people reached out to help him?

* They saw that he had an extraordinary gift for music, he worked hard, and had some difficult times.

4. What skills and traits do you think Beethoven possessed that made him a composer?

* He played piano, violin, and organ, he could improvise, and he liked composing music.

5. Write a sentence from the text that explains how Beethoven composed music after he became deaf.

* When Beethoven composed, he heard the melodies in his mind and wrote them down.

Write About the Topic

Use the Writing Form to write about what you read.



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Ludwig van Beethoven ■ ■ ■ 167

Page 165

Name _____

Beethoven, the Composer

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. A person who creates music is known as _____.
 - a teacher
 - a symphony
 - a composer
 - an orchestra
2. In writing music, Beethoven used _____.
 - musical notation
 - a computer
 - words and letters
 - conversations

3. What skills and talents do you think a composer needs to possess?

* Imagination, knowledge of music and musical notation, ability to play the piano and other instruments.

4. Beethoven overcame great difficulty in his life. Explain what it was and give your opinion about him.

* He became deaf but continued to compose some of his greatest music. I think he was remarkable and a genius.

5. Do you think it was easy for Beethoven to compose music? Support your opinion with facts from the text.

* No, because in his sketchbooks we can see that he wrote and scratched it out to revise and get it just right.

Write About the Topic

Use the Writing Form to write about what you read.

Write three interesting facts you have learned about Ludwig van Beethoven. Explain why they are interesting to you.



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Ludwig van Beethoven ■ ■ ■ 165

Page 169

Name _____

A Great Composer

Fill in the circle by the correct answer. Then write the answers to numbers 3, 4, and 5.

1. A person who is highly skilled in performing music is _____.
 - a major
 - an ear trumpet
 - a muffler
 - a virtuoso

2. The cause of Beethoven's deafness was _____.

- not stated in the text
- playing the piano loudly
- being born deaf
- conducting the orchestra

3. Beethoven used a conversation book when he could no longer hear. What modern inventions can you think of that might have helped him?

* A computer that changes a voice into the written word, hearing aids, sign language, cochlear implants.

4. What evidence can you find that it was very difficult for Beethoven to lose his hearing?

* He withdrew from people, he went to many doctors for help, he became very depressed.

5. What do you think about the fact that Beethoven composed music after he became deaf?

* He was a musical genius; that's when he wrote his greatest music. He loved music so much that he couldn't stop.

Write About the Topic

Use the Writing Form to write about what you read.

Write about the accomplishments that earned Beethoven a place in history as one of the greatest composers.



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Ludwig van Beethoven ■ ■ ■ 169