



## Level 3 CAREERS: *Ready for the Worst*

### Key Words

bacteria	hacker	suspension bridge
bioterrorism	hazardous materials	symptoms
civil engineers	hazmat	terrorist
cyber security experts	investigators	vaccine
engineers	malware	viruses
epidemic	meltdown	wind tunnels
evidence	nuclear	
firewalls	oil platform	
flash drive	power plants	
flight controller	radiation	

### Comprehension Questions

#### Chapter 1: Hazmat Workers

1. What are *hazardous materials*?
2. What caused the hazmat emergency in Chernobyl, Ukraine, in 1986?
3. Why do hazmat workers need training?

#### Chapter 2: Crash Investigators

1. What do crash investigators do after a plane crashes?

2. In 1983, a plane crash-landed in Kentucky and then caught fire. How did airplane makers make planes safer after that crash?
3. Think about the things a *Go Team* does. Which parts of the Go Team's job would you like to do? Why?

### **Chapter 3: Catching Hackers**

1. What is a *hacker*?
2. What do hackers use malware to do?
3. In November 2008 hackers stole millions of dollars from cash machines. What was unusual about this hack attack?

### **Chapter 4: Engineering Safety**

1. What kinds of things do *civil engineers* design?
2. Look at the photo on page 30 and read the section called "Testing, Testing," which starts on page 29. How do engineers use models to make things safer for people?
3. Think about what happened to the Tacoma Narrows Bridge. What should engineers have changed in their design?

### **Chapter 5: Disease Detectives**

1. What are *viruses* and *bacteria*?
2. How does an epidemic happen?
3. How do disease detectives try to keep diseases from spreading?

## Level 3 CAREERS: *Ready for the Worst* Answer Key and CCSS Correlations

### Chapter 1: Hazmat Workers

1. **What are *hazardous materials*?** (Hazardous materials are things that can hurt or kill people, plants, and animals. They include radioactive materials, spilled oil, and things that can make people sick.)

**RI5.4** Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

2. **What caused the hazmat emergency in Chernobyl, Ukraine, in 1986?** (A safety test went wrong at a nuclear plant. The plant got so hot that it had a meltdown. There were fires and explosions in the plant. It released a lot of radiation.)

**RST6–8.2** Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

3. **Why do hazmat workers need training?** (They need to practice everything they would do in a real emergency. They have to know how to use hazmat tools and equipment. They need to be able to help people who are sick or hurt while staying safe themselves.)

**RI6.1** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

### Chapter 2: Crash Investigators

1. **What do crash investigators do after a plane crashes?** (They find out everything they can. They take photos, look at the broken parts of an airplane, and draw maps of the crash site. They talk to people who saw the crash. They check when the plane was worked on. They check what the weather was like when the plane crashed. They find the “black boxes.”)

**RI4.3** Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

2. **In 1983, a plane crash-landed in Kentucky and then caught fire. How did airplane makers make planes safer after that crash?** (After the crash, every airplane got new wires, smoke detectors, and lights in the floor. Then people could see the way out.)

**RI5.3** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

3. **Think about the things a *Go Team* does. Which parts of the *Go Team*’s job would you like to do? Why?** (Opinions will vary but should cite specific tasks described in the text.)

**RI6.1** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

### Chapter 3: Catching Hackers

1. **What is a *hacker*?** (A hacker is someone who uses a computer to take control of other people’s computers.)

**RI5.4** Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

2. **What do hackers use malware to do?** (They use malware to gather passwords and secret information. They use malware to turn computers into zombie computers.)

**RI7.2** Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.

3. **In November 2008 hackers stole millions of dollars from cash machines. What was unusual about this hack attack? Use facts from Chapter 3 in your answer.** (The hackers were all over the world but worked together. More than 2,000 people were involved. There were both hackers and “cashers.” The group stole more than \$9 million in twelve hours.)

**RH6–8.1** Cite specific textual evidence to support analysis of primary and secondary sources.

### Chapter 4: Engineering Safety

1. **What kinds of things do *civil engineers* design?** (They design buildings, roads, and bridges. They also design airports, railroads, and sewage systems.)

**RI5.4** Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

2. **Look at the photo on page 30 and read the section called “Testing, Testing,” which starts on page 29. How do engineers use models to make things safer for people?** (They use wind tunnels to test models of bridges, buildings, and airplanes. They also use models like the one shown on page 30 to check how building designs will stand up in earthquakes. Engineers also build models of their designs on computers to see what will happen to their designs in wind, storms, fires, and earthquakes.)

**RI6.7** Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

3. **Think about what happened to the Tacoma Narrows Bridge. What should engineers have changed in their design?** (They should have made the towers and cables stronger and closer together. They needed to make the road heavier, too.)

**RI6.1** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

### Chapter 5: Disease Detectives

1. **What are *viruses* and *bacteria*?** (Viruses and bacteria are tiny living things that can make people sick.)

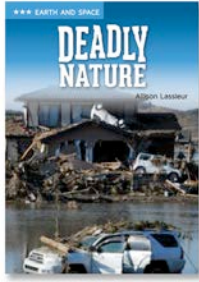
**RST6–8.4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.

2. **How does an epidemic happen?** (An epidemic happens when a serious disease spreads quickly and a lot of people get sick or die. If doctors can't find a cure quickly, then the disease can turn into an epidemic.)

**RST6–8.2** Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

3. **How do disease detectives try to keep diseases from spreading?** (They figure out what caused the disease. They travel to where the sickness is happening. They ask questions. They take blood samples. They look for bacteria and viruses. They look for what is the same about the sick people.)

**RI7.1** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.



## Level 3 EARTH AND SPACE: *Deadly Nature*

### Key Words

asteroid

glaciers

nuclear

craters

lava

radiation

drought

meteor

starved

dust storms

migrated, migration

tsunami

### Comprehension Questions

#### Chapter 1: Killer Waves

1. What is a *tsunami*?
2. What does the map on page 3 show?
3. The Japanese earthquake and tsunami happened in 2011. Why is the area around Fukushima still dangerous?

#### Chapter 2: Snow Summer

1. Look at the map on page 14. Find the names of the three volcanoes on the map. Which country is each one in?
2. What caused the snow in the summer of 1816?
3. Name three things that happened in Europe and America because of the strange weather in the summer of 1816.

### **Chapter 3: Meteors**

1. What happened in Chelyabinsk when the meteor exploded in 2013?
2. Look at the photo on page 24. How did the crater form? Why hasn't it changed over time?
3. What do many scientists think killed the dinosaurs? Do scientists know this for a fact? What do they know for sure?

### **Chapter 4: The Ice Age**

1. What is an *Ice Age*?
2. What events happened during the Little Ice Age in Europe?
3. How did glaciers change the shape of the land in the Great Ice Age?

### **Chapter 5: Dried Up**

1. What caused the Dust Bowl?
2. Reread the section on page 40 about the Dust Bowl. Then look at the map on page 41. What does the map show you?
3. How does a drought affect people and the land?

## Level 3 EARTH AND SPACE: *Deadly Nature*

### Answer Key and CCSS Correlations

#### Chapter 1: Killer Waves

1. **What is a *tsunami*?** (A tsunami is a huge wall of water that comes up on land and can destroy things in its path.)

**RST6–8.4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6–8 texts and topics*.

2. **What does the map on page 3 show?** (The map shows how the tsunami waves moved across the Pacific Ocean from Japan in 2011. The curved lines show how far the waves went in 6 hours, 12 hours, and 18 hours.)

**RST6–8.7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

3. **The Japanese earthquake and tsunami happened in 2011. Why is the area around Fukushima still dangerous?** (There is still radiation in the area because of the damage to the nuclear plant.)

**RI5.3** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

#### Chapter 2: Snow Summer

1. **Look at the map on page 14. Find the names of the three volcanoes on the map. Which country is each one in?** (Mount Tambora and Krakatoa are in Indonesia. Mount Pinatubo is in the Philippines.)

**RST6–8.7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

2. **What caused the snow in the summer of 1816?** (A volcano that had exploded the year before put tons of ash into the sky. The ash covered the Earth and blocked the sun. Without the sun, the Earth got cold, making the weather like winter weather.)

**RI4.3** Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

3. **Name three things that happened in Europe and America because of the strange weather in the summer of 1816.** (There were food riots in Germany and Switzerland. People starved to death in Europe. In the United States, people migrated west, away from the frozen East. In Germany, a man invented the bicycle because food for horses was too expensive. In Switzerland, Mary Shelley made up *Frankenstein*.)

**RI4.3** Explain events, procedures, ideas, or concepts in a historical, scientific, or



technical text, including what happened and why, based on specific information in the text.

### Chapter 3: Meteors

1. **What happened in Chelyabinsk when the meteor exploded in 2013?** (People saw a very bright light shoot through the sky, and a trail of smoke. People ran to their windows. The windows broke and people were hurt by the flying glass. There were several explosions. The ground shook. Car alarms went off. Cell phones stopped working. Many people shot video of the event.)

**RI.4.3** Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

2. **Look at the photo on page 24. How did the crater form? Why hasn't it changed over time?** (A meteor hit the Earth in Arizona. It made a big hole. Dirt and rocks shot up around the hole. Because the crater is in a desert, rain hasn't washed away the dirt and rocks. So the crater hasn't changed much in 50,000 years.)

**RI.4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

3. **What do many scientists think killed the dinosaurs? Do scientists know this for a fact? What do they know for sure?** (Many scientists believe that the Chicxulub meteor killed the dinosaurs. They don't know this for a fact, but they did find a huge crater. They know that a meteor that large would have caused huge explosions, fires, earthquakes, and tsunamis. Dust, gas, and ash would have filled the air and blocked light from the sun. The weather would have changed. When the weather changed, plants would die. Dinosaurs and other animals would not have enough food to eat. They would die, too.)

**RST.6–8.8** Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.

### Chapter 4: The Ice Age

1. **What is an *Ice Age*?** (An Ice Age is a time in Earth's history when ice covers a large part of the world.)

**RI.6.4** Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.

2. **What events happened during the Little Ice Age in Europe?** (The Little Ice Age started about 600 years ago. Glaciers moved down from the mountains and covered towns. Rivers froze. Winter got colder; so did summer. Crops died and people didn't have enough to eat.)

**RI.4.3** Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

3. **How did glaciers change the shape of the land in the Great Ice Age?** (Glaciers moved rocks by ripping them out of the ground or breaking them to bits. The ice dug huge holes in the earth. As the ice melted, the holes became lakes. The melting glaciers scattered debris over the land. Debris from a glacier formed Long Island, New York.)

**RST6–8.2** Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

**RI8.1** Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

## Chapter 5: Dried Up

1. **What caused the Dust Bowl?** (Farmers dug up the prairie grass that held the soil together. They did that to plant corn and wheat. In the 1930s a bad drought happened in the middle of the country. The soil blew away because it was so loose. Farms in Kansas, Oklahoma, Texas and other states turned to dust and blew away.)

**RI6.2** Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.

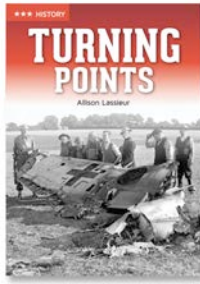
2. **Reread the section on page 40 about the Dust Bowl. Then look at the map on page 41. What does the map show you?** (The Dust Bowl happened in the middle of the country. It affected Kansas, Oklahoma, and Texas, and nearby states.)

**RI6.7** Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

3. **How does a drought affect people and the land?** (When a drought lasts a long time, crops and animals die. Many people have to give up their farms and move. Some people get sick or starve to death. Fish die in rivers and lakes. There are more forest fires. Water is so important that people fight and go to war over it.)

**RI7.3** Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

**RI6.1** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.



## Level 3 HISTORY: *Turning Points*

### Key Words

Allah	disabilities	political party
bomb shelters	empire	protest
Caliphate	festivals	rebels
cavalry	general	retreated
civil war	governor	scapegoat
civilization	independent	spies
Communist	Islam	symbol
concentration camps	manifest destiny	vision
convert	nomads	

### Comprehension Questions

#### Chapter 1: Civil War in Rome

1. What is a *civil war*?
2. What happened to Maxentius's army that lost them the Battle of Milvian Bridge?
3. How was the Battle of Milvian Bridge a *turning point* in history?

#### Chapter 2: Conquest of Persia

1. Why did the Muslim army want to fight the Persians at Walaja?
2. What plan did General Khalid use to win the Battle of Walaja?

3. How was the turning point at Walaja like the turning point at the Milvian Bridge?

### **Chapter 3: Rise of the Mongols**

1. How did the Mongol *nomads* live?
2. What terrible mistake did the emperor of Khwarizmia make?
3. Do you think Genghis Khan was a good leader or a bad leader? Use facts from Chapter 3 to explain your answer.

### **Chapter 4: Empire in the Pacific**

1. What does *manifest destiny* mean?
2. Why did Britain, Spain, and France want to build empires?
3. Do you think the United States was right to take control of the Philippines? Use statements from the chapter to explain your answer.

### **Chapter 5: Battle of Britain**

1. What is a *scapegoat*?
2. Reread pages 39 and 40. Then look at the map on page 41. Name some of the countries Germany took over.
3. What two things did Germany need to do before it could send its army into Britain?

## Level 3 HISTORY: *Turning Points* Answer Key and CCSS Correlations

### Chapter 1: Civil War in Rome

1. **What is a *civil war*?** (A civil war is a war between two or more armies from the same country.)

**RH6–8.4** Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

2. **What happened to Maxentius’s army that lost them the Battle of Milvian Bridge?** (Maxentius had built a small bridge for his men. The bridge broke and Maxentius’s men fell into the river. The army could not stop Constantine from getting to Rome.)

**RH6–8.2** Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

3. **How was the Battle of Milvian Bridge a *turning point* in history?** (It was a step toward Constantine’s becoming a Christian. Because Constantine became a Christian, many other people in the Roman Empire became Christian. Christianity then spread through Europe.)

**RI6.1** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

### Chapter 2: Conquest of Persia

1. **Why did the Muslim army want to fight the Persians at Walaja?** (The Muslims wanted to bring the Persians into their new empire.)

**RI4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

2. **What plan did General Khalid use to win the Battle of Walaja?** (He hid his cavalry. He fought the Persians until they were tired. Then he retreated. The Persians followed him. Then General Khalid brought out his cavalry. His men circled the Persian army and won the battle.)

**RH6–8.2** Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

3. **How was the turning point at Walaja like the turning point at the Milvian Bridge?** (Both battles led to the spread of a religion. After the Battle of Milvian Bridge, many more people became Christian. After the Battle of Walaja, Muslim armies conquered a lot of countries. Many conquered people became Muslims.)

**RI5.3** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

### Chapter 3: Rise of the Mongols

1. **How did the Mongol *nomads* live?** (The nomads moved from place to place. They kept animals. They lived on the meat and milk from the animals. The Mongols moved to a new place when the animals needed more grass to eat.)

**RI4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

2. **What terrible mistake did the emperor of Khwarizmia make?** (He was afraid that Genghis Khan wanted to take Otrar. So the emperor killed hundreds of Mongols because he thought they were spies for Genghis Khan. This made Genghis Khan angry, so he had his men burn many of the emperor's cities.)

**RH6–8.2** Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

3. **Do you think Genghis Khan was a good leader or a bad leader? Use facts from Chapter 3 to explain your answer.** (Answers will vary. Accept all reasonable responses that express a clear opinion that is supported by facts from the chapter.)

**RI7.1** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

### Chapter 4: Empire in the Pacific

1. **What does *manifest destiny* mean?** (It was the idea that the United States had a right to keep growing across North America. People thought that would make the United States stronger.)

**RH6–8.4** Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

2. **Why did Britain, Spain, and France want to build empires?** (Those countries wanted power. They wanted gold and silver. Some wanted to make money through buying and selling things. France also wanted to bring language, laws, and religion to other countries.)

**RI8.2** Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.

3. **Do you think the United States was right to take control of the Philippines? Use statements from the chapter to explain your answer.** (Answers will vary but students should state a clear opinion and support it with details from the chapter.)

**RI7.1** Cite several pieces of textual evidence to support an analysis of what the text says explicitly as well as inferences drawn from the text.

## Chapter 5: Battle of Britain

1. **What is a *scapegoat*?** (A scapegoat is someone who is blamed for problems he or she didn't cause.)

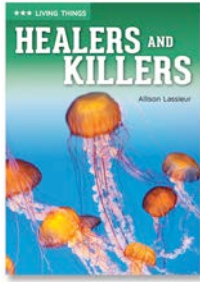
**RH6–8.4** Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

2. **Reread pages 39 and 40. Then look at the map on page 41. Name some of the countries Germany took over.** (Germany took over Austria and Czechoslovakia in 1938. In 1939, it took over Poland. Those countries were in the east. In 1940, it took over France to the west. It also took over countries to the north.)

**RH6–8.7** Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

3. **What two things did Germany need to do before it could send its army into Britain?** (Germany needed to destroy British planes and factories, and sink British ships.)

**RH6–8.1** Cite specific textual evidence to support analysis of primary and secondary sources.



## Level 3 LIVING THINGS: *Healers and Killers*

### Key Words

antibiotics	extinct	medicine man	swell
bacteria	flesh	nervous system	tentacles
biopiracy	germs	refugees	transmit
box jellyfish	heart attack	saliva	tumors
cancer	immune system	sea lamprey	venom
cells	leeches	sponge	viral
cholera	malaria	stingrays	viruses

### Comprehension Questions

#### Chapter 1: Venom!

1. What is *venom*? What are some animals that have venom?
2. Name two ways venom affects the body.
3. How can venom help people? Give examples from the text.

#### Chapter 2: Bloodsuckers

1. List three facts about the animal on page 11.
2. How do mosquitoes *transmit* disease?



3. How is the saliva of ticks and leeches like snake venom?

### **Chapter 3: Killers Too Small to See**

1. What are the two main kinds of *germs*? What diseases can these germs cause?
2. What are two differences between *bacteria* and *viruses*?
3. Is killing all germs the best way to stay healthy? Why or why not?

### **Chapter 4: Plants That Kill and Heal**

1. What medicine comes from the bark of willow trees?
2. What are two plants that you should avoid? Why?
3. What are two plants that you should avoid? Why?

### **Chapter 5: Rain-Forest Research**

1. Look at the photo on page 37. Why did W. Henry Ferguson want to find the people who made this?
2. Why are scientists trying to save the rain forests?
3. How does *biopiracy* happen?

## Level 3 LIVING THINGS: *Healers and Killers*

### Answer Key and CCSS Correlations

#### Chapter 1: Venom!

1. **What is *venom*? What are some animals that have venom?** (Venom is a kind of poison that an animal shoots into the body of another animal or person. Stingrays, box jellyfish, bees, and wasps all have venom. So do some snakes and some spiders.)

**RI6.4** Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.

2. **Name two ways venom affects the body.** (Venom can change how the nervous system works. It can make people lose control of their arms, legs, and breathing. It can make the heart beat too quickly. It can eat the flesh around a bite. It can make it hard to breathe.)

**RI4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

3. **How can venom help people? Give examples from the text.** (Venom is used to make medicines. Snake venom keeps blood flowing. Medicine made from snake venom can help someone having a heart attack. Spider venom can be used to make medicines for people who have cancer or are in a lot of pain. Spider venom can also be used to make safer insect killers.)

**RI4.2** Determine the main idea of a text and explain how it is supported by key details; summarize the text.

**RI6.1** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

#### Chapter 2: Bloodsuckers

1. **List three facts about the animal on page 11.** (Answers will vary but should include three of the following: It's a sea lamprey; it's slimy; it's strong; it's fast; it lives in oceans and large lakes; it lives by sucking the blood out of fish; it looks like an eel or a snake; it has a big, round mouth; it has sharp teeth.)

**RI6.2** Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.

**RI6.7** Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

2. **How do mosquitoes *transmit* disease?** (When a mosquito bites a person or animal that has a disease, bits of disease get into the mosquito. Then it bites a new person. It spreads the disease to that person.)

**RI6.1** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

3. **How is the saliva of ticks and leeches like snake venom?** (The saliva of ticks and leeches helps blood flow. So does snake venom.)

**RI5.3** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information from the text.

### Chapter 3: Killers Too Small to See

1. **What are the two main kinds of *germs*? What diseases can these germs cause?** (Bacteria and viruses are two kinds of germs. Cholera comes from bacteria. Viruses cause colds, flu, chicken pox, and AIDS.)

**RST.6–8.4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.

2. **What are two differences between *bacteria* and *viruses*?** (Answers will vary but should include two of the following: Bacteria are like tiny animals, viruses are not like plants or animals; bacteria can grow by themselves, viruses cannot; antibiotics can kill bacteria, but they can't kill viruses.)

**RI5.3** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text

3. **Is killing all germs the best way to stay healthy? (No.) Why or why not?** (Some germs do good things inside our bodies: they help the body use food; they help fight diseases; they stop bad germs from taking over the body. Some germs that live outside the body might help fight cancer. Bacteria might help people lose weight. Kids who get dirty get bacteria on them, and scientists think this helps their immune systems get stronger.)

**RI8.1** Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

### Chapter 4: Plants that Kill and Heal

1. **What medicine comes from the bark of willow trees?** (The chemicals in aspirin come from the bark of willow trees.)

**RI4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

2. **What are two plants that you should avoid? Why?** (You should avoid castor-oil plant, oleander, snakeroot and “the little apple of death.” The castor-oil plant’s seeds are used to make two strong poisons. Every part of oleander is dangerous. It affects the heart. Snakeroot can make cows sick. Then drinking the cow’s milk can kill a person. Every part of the “little apple of death” is bad—the bark, leaves, fruit, and wood. Even rainwater that touches the tree becomes poison.)

**RST6–8.1** Cite specific textual evidence to support analysis of science and technical texts.

3. **Why do you think it is important to study dangerous plants?** (Many plants have chemicals that heal. They can be used to make medicines. Even some dangerous plants

can be used for medicine.)

**RI4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

## Chapter 5: Rain-Forest Research

1. **Look at the photo on page 37. Why did W. Henry Ferguson want to find the people who made this?** (Ferguson thought the plants the head hunters used to shrink heads could cure cancer.)

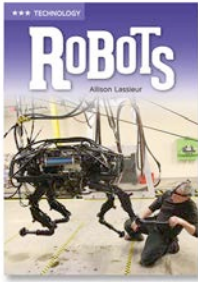
**RI6.7** Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

2. **Why are scientists trying to save the rain forests?** (People are cutting down the rain forest. Plants and animals are becoming extinct. Many medicines come from plants that grow in the rain forests. These medicines are used to fight cancer. They help with heart and breathing problems. If the plants become extinct, we will not be able to use them for medicines.)

**RST6–8.2** Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

3. **How does *biopiracy* happen?** (Biopiracy is stealing. Companies from the United States and other countries take plants from the rain forest. If they don't ask the local people, it's stealing. The companies use the plants to make medicines, which are sold for a lot of money. The local people don't get any of that money.)

**RST6–8.4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6–8 texts and topics*.



## Level 3 TECHNOLOGY: *Robots*

### Key Words

ancient

artificial intelligence

bomb

competitions

engineer

exoskeleton

inventor

micro-robots

rescue

### Comprehension Questions

#### Chapter 1: Robots for Fun

1. Why do people have robot competitions?
2. What special skills does ASIMO have?
3. If you had a robot, what would you want it to do? Use details from the chapter in your answer.

#### Chapter 2: Robots That Keep Us Safe

1. Why do police use robots when they find a bomb?
2. Look at the robot on page 13. What was it made to do?
3. How are the robots Wall-E and Thermite alike? How are they different?

#### Chapter 3: The First Robots

1. What does an *engineer* do?

2. How did an engineer show that Leonardo da Vinci's robot design worked?
3. Choose two of the first robots. How were they alike? How were they different?

#### **Chapter 4: Robot Doctors**

1. What is an *exoskeleton robot*?
2. What did a Texas study show about medical robot controllers and kids?
3. Would you want to have a robot doctor or nurse? Why or why not? Use facts from Chapter 4 in your answer.

#### **Chapter 5: Robots in the Future**

1. What ability does *artificial intelligence* give to a robot?
2. How do robot boxes build themselves?
3. Why are scientists making micro-robots that look like animals?

## Level 3 TECHNOLOGY: *Robots*

### Answer Key and CCSS Correlations

#### Chapter 1: Robots for Fun

1. **Why do people have robot competitions?** (Possible answers: They like to design and build robots; they like to see if the robots they build can beat other robots in a fight.)

**RST6–8.2** Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

2. **What special skills does ASIMO have?** (ASIMO can run, walk, climb stairs, and jump. It can see things and hear things. It can recognize voices and faces. It can even dance!)

**RI7.1** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

3. **If you had a robot, what would you want it to do? Use details from the chapter in your answer.** (Answers will vary but should include a clear opinion supported by details from the selection.)

**RI7.1** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

#### Chapter 2: Robots That Keep Us Safe

1. **Why do police use robots when they find a bomb?** (It's too dangerous for a person to take the bomb apart so it doesn't blow up. Officers send a robot so humans don't get hurt.)

**RI4.2** Determine the main idea of a text and explain how it is supported by key details; summarize the text.

2. **Look at the robot on page 13. What was it made to do?** (The robot, which is called BEAR, helps in war. Its job is to pick up soldiers if they are hurt and carry them to safety.)

**RI6.7** Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

3. **How are the robots Wall-E and Thermite alike? How are they different?** (Wall-E and Thermite are both firefighting robots. They both keep people safe, but in different ways. Wall-E has four cameras and makes a loud warning sound when there is smoke in the air. Wall-E can also pull firefighters to safety. Thermite started out as a war robot. It is radio controlled and uses water to put out fires.)

**RI5.3** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

## Chapter 3: The First Robots

1. **What does an *engineer* do?** (An engineer designs and builds machines.)

**RST6–8.4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6–8 texts and topics*.

2. **How did an engineer show that Leonardo da Vinci’s robot design worked?** (The engineer used Leonardo da Vinci’s drawings to make a real robot soldier that walked and waved its arms.)

**RST6–8.2** Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

3. **Choose two of the first robots. How were they alike? How were they different?** (Answers will vary. Robots could include the ancient Chinese robot that winked at ladies; the robots in ancient Greece that put on plays; the robots of Al-Jazari; the robots of Jacques de Vaucanson; the robots that could write letters or play music; Euphonia.)

**RI5.3** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

## Chapter 4: Robot Doctors

1. **What is an *exoskeleton robot*?** (An exoskeleton robot is a robot that attaches to the outside of a person’s body. The robot helps people walk and bend.)

**RI6.4** Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.

2. **What did a Texas study show about medical robot controllers and kids?** (It showed that kids were better than doctors at using the controllers, because kids had practice playing computer games.)

**RI6.1** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

3. **Would you want to have a robot doctor or nurse? Why or why not? Use facts from Chapter 4 in your answer.** (Answers will vary but students should state a clear opinion and support it with details from the chapter.)

**RI7.1** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

## Chapter 5: Robots in the Future

1. **What ability does *artificial intelligence* give to a robot?** (Artificial intelligence lets the robot think like a human.)

**RST6–8.4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6–8 texts and topics*.



2. **How do robot boxes build themselves?** (Each robot box has a computer inside. It has magnets on the outside. The boxes attach to each other with the magnets. Then the computers inside the boxes talk to each other.)

**RST6–8.1** Cite specific textual evidence to support analysis of science and technical texts.

3. **Why are scientists making micro-robots that look like animals?** (Robots that look like insects, mice, and snakes can fit into dangerous, dark, or small places. They can move around there, taking videos and recording sounds. They can spy on people, since the people wouldn't pay attention to something that looked like an insect.)

**RI6.1** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.