

OKLAHOMA SCHOOL TESTING PROGRAM

PARENT, STUDENT, AND TEACHER GUIDE

**ENGLISH LANGUAGE ARTS,
MATHEMATICS & SCIENCE**
2025–2026 **GRADE 8**



OKLAHOMA
Education

**Oklahoma School Testing Program
Administration Dates
2025–2026 School Year
English Language Arts, Mathematics,
and Science
Online Testing Window
April 13–May 13, 2026
Paper Testing* Window
April 13–30, 2026**

*under special circumstances only



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Dear Families and Educators,

In order to expand instructional time and optimize student learning, the Oklahoma School Testing Program (OSTP) takes place in the final weeks of the school year for elementary, middle, and high school students. Districts may select the dates that best fit their academic calendars within the approved testing window that is located at oklahoma.gov/education/services/assessments.html. Preliminary test results will be available online to families through the Oklahoma Parent Portal in June.

To access the Oklahoma Parent Portal and view past or new test results for your student, visit okparentportal.emetric.net/login. To create an account, you will need your student's 10-digit Student Testing Number (STN) and date of birth. If you do not know your student's STN, please contact your student's school. The Oklahoma Parent Portal can help families monitor academic progress over time, as well as provide specific information on needed support or enrichment to keep the momentum building.

The OSTP measures your student's progress in learning the Oklahoma Academic Standards for English language arts, mathematics, and science. For an overview of the tests, please visit oklahoma.gov/education/services/assessments/ostp-for-families.html. In this guide, you will find an explanation of what is covered in each test and sample questions to help students become familiar with the test format. This guide will help you and your student understand what to expect on the state assessments.

To learn more about the subject standards, please visit oklahoma.gov/education/services/standards-learning/oklahoma-academic-standards.html. The Oklahoma Academic Standards serve as expectations for what students should know and be able to do by the end of the school year.

If you have questions, please contact your school or the State Department of Education at (405) 521-3341 or assessments@sde.ok.gov.

Sincerely,

Oklahoma State Department of Education, Office of Assessments

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The Oklahoma School Testing Program

Federal law requires all students to be assessed in English language arts (ELA) and math each year in grades 3–8 and once in high school. Federal law also requires students to be assessed in science once in grades 3–5, 6–9, and 10–12. The grade- and subject-level tests delivered through the Oklahoma School Testing Program (OSTP) meet federal law. Oklahoma educators were instrumental in building our state tests to ensure alignment to our Oklahoma Academic Standards (OAS). State tests provide a common measure of students' performance relative to our academic standards. The OAS serve as a road map for what students should know and be able to do at each grade level. Measuring real-world skills like problem solving and critical thinking, state tests provide a valid way to measure students' progress in gaining the knowledge, skills, and abilities they need to be ready for the next grade, course, or level. Results from state tests can be used to inform school- or district-level changes to programs and curriculum. They also help schools measure how students in a given class, school, or district are performing in relation to other students who take the same test. As such, OSTP State Tests serve as a component of the state's accountability system—the Oklahoma School Report Card.

This year, students in grade 8 will take assessments in English language arts (ELA), mathematics, and science. This *Parent, Student, and Teacher Guide* contains information to give you an idea of what your student is learning and being tested on and how you can help at home.

Helping Your Student Prepare

As a parent, there are a number of ways you can help your student be more prepared when it's time to be tested.

Here are some ideas to help your student prepare for each test:

- Reassure your student that the test is just one opportunity to show knowledge. Classwork, projects, and other tests also show how much a student has learned throughout the year.
- Make sure your student has had the opportunity to utilize the online practice test: <https://okpracticetest.cognia.org/student/login>.
- Make sure your student gets plenty of rest and has a well-balanced diet.

What is my student learning?

In grade 8, students analyze high-quality, complex fiction and nonfiction texts. Students can cite the textual evidence that most strongly supports an analysis or critique. Students can analyze arguments by questioning a writer's assumptions and assessing the accuracy of the claims made. Students become more adept at reading closely and uncovering evidence to use in their own writing. For instance, students can write an analysis about two or more texts on the same topic that provide conflicting information and identify whether the disagreement is over facts or interpretation. Students can analyze how point of view can be changed to create specific effects such as dramatic irony and investigate how particular passages within a text connect to one another to advance the plot, reveal a character, or highlight an idea. Students develop a rich vocabulary of academic words, which they use to speak and write with more precision. Students demonstrate a solid understanding of correct English grammar, usage, and mechanics in their speaking and writing.

Students write at higher levels, strengthening their skills of organizing ideas, concepts, and information into broader categories; choosing relevant facts well; using varied transitions to clarify or show the relationships among ideas; and using active and passive voice purposefully. Students contrast their claims with alternate or opposing claims. In argumentative essays, students use words and phrases to clarify the relationships and transitions among claim(s), counterclaims, reasons, and evidence.

How can I help my student at home?

- Make time to read with your student. You can read different books silently in the same room, or you can read the same book.
- Ask your child about the book she or he is currently reading. Which characters are most relatable? What will happen next? What is the point of the story?
- Help your student evaluate different resources and then decide which is most trustworthy. (For instance, with your student, discuss a current topic in the news and read two articles about it. Decide together which article seems more reliable.)
- Find an editorial written by someone who shares a different stance or belief on the topic. Read it with your child, and identify the strongest and weakest reasoning or evidence in the piece. Then think of reasons that support your line of thinking.
- Keep a list of new or interesting words you find in the books and news that you and your child read. Display the list in a prominent place like the refrigerator or bathroom mirror.
- Find an interesting sentence from a book or news story. Copy it down, and work with your student to imitate its sentence structure with a new sentence of your own. Discuss what makes the sentence structure interesting and what effect it may have on the reader.

English Language Arts Practice Questions

The OSTP Grade 8 ELA Assessment consists of selected-response (multiple-choice) questions, technology-enhanced items (TEIs), and an extended constructed-response question designed to measure our Oklahoma Academic Standards. The practice questions you see here represent the types of questions and interactions your student will see when they take the state test. The tests are designed to be administered on the computer and feature a variety of tools and interactive questions that are more engaging and aligned with 21st century teaching and learning practices. The OSTP Practice Test platform can be accessed using the information shown below:

URL: <https://okpracticetest.cognia.org/student/login>

Login credentials are not required for the Practice Test. Use the drop-down menu under “Select a Test” to select “OSTP Gr. 3-8 ELA.” Then click “Go.”

Note: If login credentials are requested, clear your browser’s cache and relaunch the Practice Test.

A student’s performance on the sample items provided in the OSTP Practice Test platform and in this guide **does not** predict their overall performance on the OSTP Assessment. The purpose of the sample items is to allow students and parents to familiarize themselves with the types of questions that may be seen. An explanation as to why a particular response is correct or incorrect is located at the end of this guide with the answer key.

For more information about the Grade 8 ELA Standards and/or Assessment, visit the Test and Item Specifications at: oklahoma.gov/education/services/assessments/assessment-materials2.html.

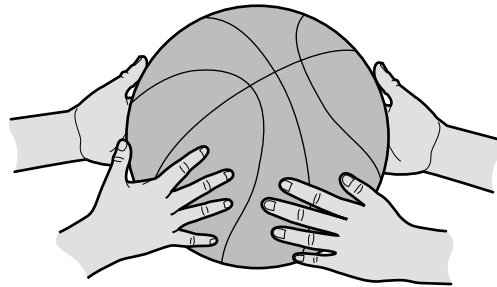


Directions

Read each question and choose the best answer. Find the question number in the answer document that matches the question number in the test booklet. Then mark your answer in the answer document.

Read this passage. Then answer the questions that follow.

Lifelong Friends



- 1 Megan's family moved in down the street the summer of our third-grade year. I can still remember the feeling of excitement when Mr. Jackson, our next-door neighbor, mentioned to my dad that the new family had a girl my age. I was thrilled. I was looking forward to having a best friend!
- 2 We became inseparable almost immediately, spending every waking moment together. All of my expectations for the potential friendship turned out just as I had anticipated. The first day of school that August was a bit of a disappointment for us when we were not in the same class, but we both eventually came to the realization that it was actually in our best interest, for we would most certainly have too much fun if we were in the same class together. It is unbelievable that five years have passed since then.
- 3 Megan has a basketball net on her garage, and throughout the years, we have spent countless hours shooting baskets. We both actually became pretty good, and in sixth grade decided to try out for our school's basketball team. We both made the team and became starters, thriving on the support we gave one another. When one of us had a disappointing game, the other provided an encouraging pep talk.
- 4 We started eighth grade last August, and at the onset of the season, Coach called all of the starters into his office to discuss the added pressure that would be thrust upon us this year. With high school quickly approaching and coaches scrutinizing our every move on the court, there would be a lot of added pressure. He asked Megan and me to wait around after everyone else left. After the locker room had cleared, he told us that a number of high school coaches were talking about the two of us, and how we both seemed to be really strong



candidates for the middle school all-city team. We left his office feeling self-assured, reveling at the possibility of both of us being selected for the honor.

5 "One thing for sure, though," Megan said in a suddenly sobering tone, "let's not let this opportunity come between us."

6 "What do you mean?" I questioned.

7 "Well, I know that we're both pretty confident about being selected," Megan said, "but what if one of us makes it, and the other doesn't?"

8 "No way," I said. "That's not going to happen," I insisted, squashing the idea before it could grow.

9 Well, the season marched on at a swift pace, and we alternated being the standout of each game. But then, things changed. Megan had three outstanding games in a row. Coach called me aside and told me to relax because he thought I was putting too much pressure on myself and was forcing too many of my shots. But the more I tried to relax, the worse I played.

10 It was my worst fear, but unexpectedly, things started to change between Megan and me. The friendly competition we once enjoyed transformed into a rivalry. By the end of the season, Megan and I were barely acknowledging each other.

11 The announcement of the middle school all-city team came about a week after the conclusion of the season, and as I anticipated, Megan made the team, and I did not. I struggled to utter a sincere "Congratulations."

12 The end of the school year brought the beginning of an unsettling summer. Our faltering friendship found me with plenty of time on my hands. By the beginning of July, I had recurring thoughts about how foolish I had been to let pettiness and jealousy seep into our friendship. I struggled with the thought of apologizing to Megan, but pride and embarrassment hindered me from doing the admirable thing.

13 Megan must possess psychic powers because, not a week later, the doorbell rang and Mom called out, "It's Megan." I struggled with the thought of facing the inevitable.

14 "Hey," Megan struggled to say, but continued, "how's it going?"

15 "I'm hanging in there," I replied.

16 There was an awkward moment of silence when I finally uttered, "Listen, Megan, I was wrong to let jealousy interfere with our friendship. I know it's a lot to ask for you to accept my apology, but I'm really sorry."

17 "No problem," Megan responded. "I was getting pretty conceited with all of the attention I was getting."

18 "I sure learned a valuable lesson from all of this," I said. "Nothing is worth jeopardizing a friendship like ours."

19 "You're right about that," she said. "Let's go shoot some baskets."

**1 Read the sentence from the passage.**

"We became inseparable almost immediately, spending every waking moment together."

What does the hyperbole suggest about the girls' relationship?

- A** The girls had no other friends.
- B** The girls played no other sports.
- C** The girls had the same teachers.
- D** The girls spent a great deal of time together.

2 Which sentence is the best summary of paragraphs 3 and 4?

- A** Megan and the narrator are warned by the coach about pressures that may be directed toward them as starters on their school team.
- B** Megan and the narrator are confident in their individual basketball abilities and provide support to each other as they play on school teams.
- C** Because Megan and the narrator have skills in basketball and spend a great deal of time practicing and supporting each other, they have been encouraged by their coach to try out for a special city team.
- D** Since they first began playing basketball in sixth grade, Megan and the narrator have been starters on their school teams, and they continue to demonstrate their talents as members of the eighth-grade team.

3 In paragraph 4, the word scrutinizing means

- A** unfairly judging.
- B** closely watching.
- C** loudly criticizing.
- D** passionately cheering.

**4 Read the sentence.**

The friendly competition we once enjoyed transformed into a rivalry.

This sentence contributes to the meaning of the passage by

- A** identifying the conflict.
- B** introducing the theme.
- C** describing the characters.
- D** developing the point of view.

5 How can the reader tell that the selection is fiction?

- A** It describes different times and places.
- B** It features a plot and fictional characters.
- C** It includes relatable thoughts and feelings.
- D** It has an interesting and original main idea.

**6**

Select 2 research questions that would best help a student find information about the importance of friendly competition.

To select a research question, click the question. To deselect the question, click it again. Be sure to select 2 questions.

When is competition beneficial?

Which sports activities are the most competitive?

What are some strategies that promote healthy competition?

Which professional basketball player is the most positive competitor?

How does healthy competition in sports prepare young people for adulthood?



You will now read two related passages and answer the questions that follow. Some of these questions may ask you to compare the two passages.

Oklahoma's Most Unusual Wildlife Refuge

- 1 When people think about Oklahoma, they may imagine a vast plain filled with prairies, farms, and ranches. But millions of years ago, parts of Oklahoma were covered by an ancient sea named the Western Interior Seaway. Today, we see evidence of that ancient sea in the Salt Plains National Wildlife Refuge (SPNWR).
- 2 This magical place is known for more than its unusual landscape. Endangered and threatened wildlife can be seen here. Rock hounds¹ seeking hourglass selenite crystals, Oklahoma's state crystal, can only dig for them at the salt flats.

Salt Flats

- 3 Due to shifts in the Earth's crust, the Western Interior Seaway became cut off from its water source and evaporated, leaving a thick crust of salt coating parts of the land. Even though the sea is gone, shallow pools and streams remain. The ground here is unable to absorb a lot of water, so rain frequently adds to shallow pools and streams. Rivers in this region contribute to some of the bodies of water in the refuge, and salty groundwater continues to flow just beneath the earth's surface. So, when the ground becomes saturated, the salty water seeps up from below the surface, adding to the pools and streams. As the water evaporates, the salt is left behind, adding to the unique landscape.



The Salt Plains National Wildlife Refuge is a very unique ecosystem.

¹**rock hound:** a person who has a special interest in and collects rocks and minerals

**Going to the Birds**

- 4 At first glance, it may not seem like many animals could survive in the SPNWR. However, there is an abundance of wildlife here. The refuge contains grasslands and wooded areas, which are home to animals like white-tailed deer, squirrels, American badgers, and many others. In addition, the SPNWR is an important stop for migrating birds.
- 5 Over 300 different types of birds can be found at the SPNWR. During the spring and fall, the bird population is at its highest as birds travel from one region to another. Like the birds, birdwatchers flock to the Great Salt Plains Lake, which is located primarily in the SPNWR. The lake is not very deep; in fact, the deepest part of the lake measures less than 8 feet.
- 6 The shallow waters are great for feeding hungry birds. Invertebrates, such as worms, snails, and insects, are important food sources for nesting snowy plovers and other shorebirds. The least terns, a type of bird, feed along the rivers that flow through the salt flats. A popular food for many birds is the salt brine fly, which hatches when water is available.

A Special Crystal

- 7 The SPNWR is the only place to find hourglass selenite crystals. In fact, one of the main reasons people visit this refuge is to dig for these unusual crystals.
- 8 Beth Ullenberg of the U.S. Fish & Wildlife Service explains the process: The crystals form when gypsum (a mineral) in the soil mixes with salty groundwater. As they grow, the crystals trap sand and clay and sometimes sticks, rocks, and bones. These materials help create the hourglass-shaped inclusions inside the crystal as it grows outward from the center.
- 9 This hourglass shape is not found in selenite crystals anywhere else in the world—it is only found on the salt plains of northwest Oklahoma. Because it is so unique, the hourglass-shaped selenite crystal was designated as the state crystal of Oklahoma in 2005.



Hourglass selenite crystals were designated the Oklahoma state crystal in 2005. The crystals themselves are a form of gypsum. Iron oxide in the soil gives the hourglass inside the crystals its chocolatey brown color.

- 10 Visitors may only dig for these rare crystals from April 1 through October 15 because the area is a critical habitat for whooping cranes. It is also a nesting place for many birds. In fact, birds will often look for food in the holes left by those digging for crystals. The U.S. Fish & Wildlife Service offers these tips for crystal digging:

Digging for Crystals at Salt Plains National Wildlife Refuge

1. Use a shovel to dig a hole about two feet deep and two feet across until you reach wet sand. You may feel the shovel break through the crystals as it goes down. This cannot be helped as there is no way of predicting exactly where a bed of crystals is located.
2. Allow two or three inches of water to seep in from the bottom.
3. Use your hand or a container to splash water gently against the sides of the hole. The agitated water will wash the soil away from the crystals.



4. When you find a crystal formation, continue splashing to wash it free of the supporting sand and clay.
5. At this stage of the process, the newly exposed crystals are wet and fragile so use great care removing them.
6. After removing crystals from sand, place them where the sun and wind will dry them. Egg cartons or other containers are recommended for transporting the crystals.

- 11 Regardless of what draws visitors to this refuge, they are sure to be impressed. The remnants of that ancient sea have left behind an ecosystem that is essential to several endangered and threatened birds as well as other animals. It has also left behind a unique geology that fascinates those who spend time there.

"Oklahoma's Most Unusual Wildlife Refuge." Copyright © 2022 Cognia, Inc.



Read this passage, which goes with the previous passage. Then answer the questions that follow.

“A Special Place”: Birds and Crystals Make the Salt Plains National Wildlife Refuge Unique

by Ed Godfrey

- 1 In April, the spring migration of birds slows down at the Salt Plains National Wildlife Refuge, and the crystal digging begins.
- 2 Birdwatching and crystal digging are the two most popular pastimes at Salt Plains National Wildlife Refuge, one of the most distinctive areas in the world. It is recognized internationally by the Western Hemisphere Shorebird Reserve Network for providing critically important shorebird habitat. Only about a dozen other wildlife refuges have that honor.
- 3 During the summer, the refuge is typically home for egrets, herons, American avocets, and other shorebirds. A few resident pelicans stick around for the summer but most fly north, says Colby Wyatt. Wyatt is an administrative officer at the Salt Plains National Wildlife Refuge. If visitors at the refuge are not there with their binoculars to watch birds during the summer, then they are most likely there with a shovel and a bucket to dig for crystals.
- 4 Selenite crystal digging on the salt flats opens April 1 and runs through October 15. On October 16, the digging areas close for the birds to use in the fall and winter. The entire refuge is designated as a critical whooping crane habitat.



Digging for hourglass crystals requires simple tools: a bucket and a shovel. It can get pretty hot, so bringing water and an umbrella or tent for shade is a good idea.



- 5 Crystal digging was never more popular than in 2020 when more than 130,000 people visited the refuge to hunt for the stones in the sand. “There were record weekends,” Wyatt said. “There were several weekends it hit way over a couple of thousand. We had license plates from New Jersey, New York, Washington, Florida. It was all over. Typically, especially in the summertime, we do get more of an international presence,” he said. “A lot of people from Japan and Germany, and the Norwegian states, like to come through here.”
- 6 The Salt Plains National Wildlife Refuge is the only known site in the world where selenite crystals with brown hourglass inclusions are found. This makes them a collector’s item for rock hound¹ enthusiasts. Because the crystals form in wet soil, sand, and clay, particles are included within the crystal giving them their unique “hourglass” shape inside. “That (hourglass shape) is very unique throughout the world, so we have a lot of collectors that come in that want to get a crystal from here,” Wyatt said.
- 7 The Salt Plains is one of the few places within the national wildlife refuge system where something is allowed to be removed. Collectors can keep up to 10 pounds of crystals per day. Wyatt said it is rare anyone leaves with that much, although almost all diggers leave with at least some amounts of the crystallized form of gypsum.
- 8 It takes seven years for the crystals to form, so the refuge has eight separate digging areas that are rotated annually for the public to use. “By the time it’s time to dig again (in an area), the crystals have formed,” Wyatt said.
- 9 The crystal digging also benefits some of the shorebirds that nest in the area. Mounds left from dig seasons are used by birds as elevated nesting platforms. The mounds give the shorebirds a place to nest above the floodplain during the rainy seasons and increase their nest success.
- 10 “We found that (crystal digging) was an activity that benefited the refuge,” Wyatt said.

¹**rock hound:** a person who has a special interest in and collects rocks and minerals

“A Special Place’: Birds and Crystals Make the Salt Plains National Wildlife Refuge Unique” by Ed Godfrey, from *The Oklahoman*, April 24, 2021. Copyright © 2021 by The Oklahoman. Republished by permission.



7

Reread paragraph 11 from “Oklahoma’s Most Unusual Wildlife Refuge.” Drag two phrases from the paragraph that **best** help the reader understand the meaning of the word **remnants** into the appropriate boxes.

To drag a phrase, click and hold the sentence, and then drag it to the desired space. To change a sentence, click and hold it, and then drag it back to the original location.

sure to be impressed

ancient sea

left behind

endangered and threatened

Phrases



8 Read the sentence from the passage “A Special Place.”

It is recognized internationally by the Western **Hemisphere** Shorebird Reserve Network for providing critically important shorebird habitat.

Based on the meaning of the prefix **hemi-** and the word **sphere**, what does the word **hemisphere** mean?

- A** part of a group
- B** related to nature
- C** half of the globe
- D** equal in distance

9 Which feature from the passage “A Special Place” shows that the genre is nonfiction?

- A** an expert providing factual information
- B** quotation marks to indicate spoken words
- C** descriptive language to communicate ideas
- D** an opening paragraph establishing the setting



- 10** Which statement describes how **both** passages present information about the wildlife refuge?
- A** “Oklahoma’s Most Unusual Wildlife Refuge” is written in a humorous tone, while “A Special Place” is written as a serious analysis of the purpose of the wildlife refuge.
 - B** The author of “Oklahoma’s Most Unusual Wildlife Refuge” provides a broad view of the refuge, while the author of “A Special Place” focuses on how the refuge is currently used.
 - C** The author of “Oklahoma’s Most Unusual Wildlife Refuge” describes a sequence of events at the refuge, while the author of “A Special Place” uses a compare and contrast structure.
 - D** “Oklahoma’s Most Unusual Wildlife Refuge” is written as an argumentative essay about the importance of wildlife refuges, while “A Special Place” is written to inform about a wildlife refuge.

- 11** After reading both passages, a student has an assignment to write a paper about the Salt Plains National Wildlife Refuge. They want to narrow the focus of their paper by choosing a more specific topic.

Which pre-writing strategy will **best** help the student accomplish their goal?

- A** Create a map of the refuge to include in the paper.
- B** Brainstorm ideas by listing facts about the refuge.
- C** Write a draft of an introduction for the paper.
- D** Find resources about other wildlife refuges.



12

A student is writing a paper about the Salt Plains National Wildlife Refuge as a habitat for whooping cranes. The student wants to organize the notes to indicate primary and secondary sources. Complete the chart by dragging **one** primary and **one** secondary source into the appropriate boxes.

To drag a source, click and hold the source, and then drag it to the desired space. To change a source, click and hold it, and then drag it back to the original location.

"Loss of habitat is a big reason the population of whooping cranes is decreasing."
www.whoopingcranesearch.org.

"Today I counted 56 whooping cranes at the preserve." Beth Thunder, citizen scientist at the Salt Plains National Wildlife Refuge

"Whooping cranes are one of the rarest birds in North America." from the official U.S. Fish & Wildlife Service Report on endangered birds in the United States

"Whooping cranes were first observed in Oklahoma in 1745." Louis Booker, "Oklahoma's Birds." The Bird Watcher's Guide, vol. 224, no. 45. 13 June 2021. p. 64.

Primary Sources	Secondary Sources
"The number of whooping cranes is increasing, but they remain endangered." Dr. B.D. Seed, lead bird researcher, Oklahoma Environmental College	"Scientists believe there are less than 1,000 whooping cranes left." Flyer, Hugh. <i>Endangered Birds of Oklahoma</i> . Tulsa, OKC Books, 2020.



13 In the following sentence, which word should replace **way** to be more precise?

The U.S. Fish & Wildlife Service offers advice on the best **way** for successfully digging for crystals.

- A** application
- B** procedure
- C** situation
- D** structure

14 Which sentence is the **best** thesis statement for a report about the Salt Plains National Wildlife Refuge?

- A** People come from all over the world every year to birdwatch and dig for crystals at the Salt Plains National Wildlife Refuge.
- B** People who are interested in seeing the endangered whooping crane will travel to view them in their habitat at the Salt Plains National Wildlife Refuge.
- C** The Salt Plains National Wildlife Refuge is unique because of its value as a bird habitat and as a site where a rare type of selenite crystal can be found.
- D** The Salt Plains National Wildlife Refuge is unusual because it is the only site where rock collectors can find selenite crystals with brown hourglass inclusions.



15

A student is writing a report on how selenite crystals are formed. Organize the student's notes by matching each note on the left to its topic on the right.

To connect a note to a topic, click a note on the left and then click its match on the right. To remove a connection, hold the pointer over the line until it turns red, and then click it.

Each note will match one topic.

Notes

Some selenite crystals are transparent, so light shines through them.

Selenite crystals are created in areas where certain minerals are present.

Desert rose crystals, which are found in Oklahoma, are a type of selenite.

Selenite crystals are usually colorless or white, but may be brown or orange.

Salty groundwater is often necessary to create a selenite crystal.

Topic

How are selenite crystals formed?

What do selenite crystals look like?

Are there different types of selenite crystals?





A student wrote a report on a historic home. Read the first part of the report, think about what suggestions you would make, and then answer the questions.

The Mount Laurel Home and Estate—Part 1

1 The Mount Laurel Home and Estate was built in 1780 and was the primary
2 residence for the Robert Clayton family for several generations. In 1927, the
3 home and grounds were placed on the historical register and donated to the
4 public.

5 Last year, conservationists restored the home and opened it for tours.

About Robert Clayton

6 Robert Clayton (1742–1793) was an American colonist in Massachusetts.
7 Although he was only marginally involved in early American politics. Robert
8 Clayton was a contemporary of the Founding Fathers. And reportedly once dined
9 with George and Martha Washington. Excused from serving in the Revolutionary
10 War because of health problems, he earned his wealth through trading. He
11 married Mary Culpepper in 1770, and together they raised five sons and three
12 daughters. He died of pneumonia at the age of 51.

“The Mount Laurel Home and Estate—Part 1.” Copyright © 2022 Cognia, Inc.



- 16** What change, if any, should be made to the sentence in line 5 to make it the active voice?

Last year, conservationists restored the home and opened it for tours.

- A** Last year, tours were opened for the home after it was restored by conservationists.
- B** Last year after being restored by conservationists, tours were opened for the home.
- C** Last year, the home was restored by conservationists, and tours were being opened for the home.
- D** no change

- 17** What change, if any, should be made to the sentences in lines 7–9?

- A** Although he was only marginally involved in early American politics, and he was a contemporary of the Founding Fathers. And reportedly once dined with George and Martha Washington.
- B** Although only marginally involved in early American politics. Clayton was a contemporary of the Founding Fathers, and he reportedly once dined with George and Martha Washington.
- C** Although only marginally involved in early American politics, Clayton was a contemporary of the Founding Fathers, and he reportedly once dined with George and Martha Washington.
- D** no change



18 Read this excerpt from lines 9–10.

Excused from serving in the Revolutionary War because of health problems
Which type of verbal is used in this part of the sentence?

- A** gerund
- B** infinitive
- C** participial phrase
- D** prepositional phrase

19 How is the gerund trading being used in line 10?

- A** as a verb
- B** as a noun
- C** as an adverb
- D** as an adjective



Read the last part of the report, think about what suggestions you would make, and then answer the question.

About the Mount Laurel Home and Estate—Part 2

- 13 The Mount Laurel Home and Estate includes five sturdy maintained structures:
14 the main house, the kitchen, the icehouse, the barn, and the blacksmith shed.
15 The division of the kitchen from the main house was common at the time because
16 of the risk of fire.
- 17 The grounds of the estate cover approximately 250 acres. The gardens, the barn,
18 and the blacksmith's shed are maintained as they were during Clayton's lifetime.
19 Visitors can talk with a blacksmith as he works, and see live animals in the barn.

"The Mount Laurel Home and Estate—Part 2." Copyright © 2022 Cognia, Inc.

- 20** Visitors can talk with a blacksmith as he works, and see live animals in the barn.

What change, if any, should be made to the underlined words as he works, and see live animals in line 19?

- A** as he works and see live animals
- B** as he works and, see live animals
- C** as he works and see live animals,
- D** no change



TURN THE PAGE



Practice Writing Task

Presented on the following pages is a practice Writing Task. This may be used as a classroom activity to help students prepare for the state assessment.

WRITER'S CHECKLIST

- ☐ Is the topic addressed in my writing?
- ☐ Are my ideas expressed in complete sentences?
- ☐ Do I explain or support my ideas with enough details using information from both passages?
- ☐ Are the details I included directly related to my topic?
- ☐ Have I written the response in my own words, paraphrasing or summarizing the information?
- ☐ Are my ideas arranged in a clear order for the reader to follow?
- ☐ Do my paragraphs have topic sentences when appropriate?
- ☐ Do I start each sentence with a capital letter and capitalize other appropriate words?
- ☐ Have I used correct punctuation at the end of each sentence and within each sentence?
- ☐ Is my spelling correct throughout my writing?
- ☐ Will the reader be able to read my handwriting?
- ☐ Have I written to the requested mode?

**Directions:**

Today you will be tested in English Language Arts. For this test, you will read two passages, then respond to a writing prompt. It is important that you do your best. If you are not sure of the writing prompt, you should still attempt to answer it.

You may use your planning page for planning. You might consider using a web, cluster, list, story map, or any other method to help you organize your writing. Be sure to write your answer on the five lined pages provided in your answer document.

Using the Writer’s Checklist, check your writing for paragraphing, grammar, spelling, punctuation, and the use of Standard English. Only your writing in the answer space will be scored.

When scorers evaluate your writing, they will look for evidence that you can:

- **address the prompt;**
- **develop your ideas thoroughly;**
- **organize your ideas;**
- **stay focused on your purpose for writing;**
- **make your writing thoughtful and interesting; and**
- **use correct spelling, capitalization, punctuation, grammar, usage, and sentence structure.**

**Practice Writing Topic:**

People have different viewpoints about whether animals, including endangered animals, should live in the wild or in man-made environments. Write an argumentative essay about whether any animal should be kept in a controlled environment, such as zoos or nature parks. Be sure to state a claim and address an opposing viewpoint using evidence presented in both passages.

Before you begin planning and writing your response, read the two passages:

- 1. "The Impact of Animal Protection"**
- 2. "Do Animals Lose in Zoos?"**

The Impact of Animal Protection

- 1 Throughout history, human activities have changed or destroyed the habitats that animals need to survive. One of these activities has been the construction of roads and buildings in areas that were once wild. Building in these areas has destroyed animal homes, food, or water supplies. People have also cut down trees for lumber, which has destroyed the homes of animals living in those trees. Likewise people have hunted animals for their meat, fur, or other body parts. In addition, pollution caused by humans has affected some of the places that animals live.
- 2 Due to animals' habitats being disturbed as well as other reasons, scientists and researchers track animals in the wild to see if their numbers are changing. When an animal's numbers decrease until they are at risk of disappearing completely, they may be classified as threatened or endangered. When there are no more of the species left in the world, they are classified as extinct. As some animals become extinct, other animals are affected. Because some human activities can have a negative impact on animals, many people believe that animals must be protected.
- 3 One way that people have tried to protect animals from extinction is to establish nature parks and sanctuaries. People cannot build or hunt in those areas, and rangers are there to watch over the animals. The public is often allowed to enjoy these animals by driving through the reserves and viewing the animals in a wide-open atmosphere.



- 4 Many nature parks have programs that keep animals in protected places. By putting them in controlled environments, the animals can live safely, and their numbers can increase through supervised breeding programs. However, in these environments animals many times cannot choose their own mates as they do when living in the wild. Issues with this type of forced breeding have been seen in zoos when a male and female fail to have offspring.
- 5 In man-made animal habitats, animals are fed on a regular schedule, receive medical care, and are protected from predators and hunters. The goal is to properly care for animals that may not survive in the wild. After time though, some of these animals may be released back into their wild habitats. However, if not handled properly, this release can be dangerous for animals since they will now be forced to hunt for prey and use their instincts and survival skills once again.
- 6 Keeping animals protected has proven to be beneficial and increase the populations of endangered animals. These programs have helped bring several animals—black-footed ferrets, California condors, red wolves, golden lion tamarins, and others—back from near extinction over the last 30 years.
- 7 Despite saving animals that were close to extinction, protecting animals in a controlled environment is not always the best plan. When animals are in these environments, they are isolated from other animals, their ability to hunt and their natural diet is limited, and the space they have to roam is decreased. In the wild, animals share their territory with other species, and the idea of survival of the fittest is very apparent. When animals are taken out of the wild, the innate instincts they have to survive are suppressed and, in some cases, completely gone.
- 8 By allowing endangered animals to live in a protected environment, animals are able to reproduce and be saved from extinction, but it is not a catchall to resolve all of the issues when protecting animals. For those that are released into the wild, the hope is that they can relearn how to find food and take care of themselves. Even though nature parks are trying to mimic the wild, they are not able to do that completely.

"The Impact of Animal Protection." Copyright © 2022 Cognia, Inc.



Do Animals Lose in Zoos?

- 1 Zoos have been around for centuries. In the past, zoos were a simple collection of animals in cages. Many animals in early zoos were diseased and treated poorly. Zoos today are very different. Modern zoos pride themselves as centers for scientific study and research. They focus on animal welfare and are on a mission to educate people about animals and protect the animals in the wild.
- 2 Animals in zoos live longer than animals in the wild. They are well fed, protected from predators, and treated by veterinarians. Seeing majestic animals in a controlled environment creates a sense of amazement and wonder. A study published by the National Science Foundation actually shows that visiting a zoo changes a person's attitude toward animals. If people are not able to see the animals, they will not be inspired to protect them.
- 3 However, critics of the modern zoo compare the zoo to a prison. Animals need room to climb, fly, swim, roam, or run. They need room to live a healthy life. When animals are confined in small spaces, it has a negative impact on their behavior and health. Polar bears have been observed swimming in circles. Parrots have groomed themselves until they have no feathers left. Big cats have been seen endlessly pacing. When animals are not behaving as they normally would in the wild, visitors are not observing natural behaviors.
- 4 Zoos spend millions of dollars to create bigger and better animal enclosures in order to improve the conditions for the animals. Zoos also help to raise millions of dollars to support conservation projects in Africa and Asia. Some of the money is used to create sanctuaries to help protect animals in their natural environment. Although animals should be protected in these nature preserves, some countries do not cooperate. They do not enforce penalties for illegal hunting of protected animals.
- 5 Nevertheless, not all zoos are created the same. Many organizations, like PETA, oppose zoos because the "homes" made for zoo animals meet only their basic needs. Even with man-made areas to fly, swim, climb, and explore, animals are still restricted in their behavior. These groups feel that zoos and even wildlife parks show cruelty against animals that would thrive so much better if they were allowed to live in the wild and be free.



- 6 More often than not, zoos cater to what people want to see. That usually means something large, charismatic, or cute is selected to live in a zoo and be on display. Another attraction to zoos is to see baby animals. In order to get more business, some zoos initiate a breeding program to have babies be on display more frequently. This leads to a surplus of animals at the zoo. Zoo enclosures are made for a certain amount of animals, so this overpopulation, even with babies, makes for crowding and a less than ideal living situation for the animals.
- 7 Supporters of keeping animals out of zoos and nature parks feel it is better for wild animals to live in a natural environment so they can hunt and eat a natural, varied diet. It has been shown that in the wild, animals interact with other species of animals which promotes natural behaviors. Wild animals roam over long distances in search of a mate, food, or water. Also many animals are a part of a social group or live in communities. Living within a community allows them to interact normally and create a social order where a dominant animal can emerge. Living in a zoo or protected environment can restrict all of these innate or inborn behaviors.
- 8 It is true that many of today's zoos are more than just a place to see animals. They have programs to protect endangered species from extinction. Visitors to zoos, or those planning a visit, should also realize that some situations they see are not the best environment for the animals they are planning to see. There are benefits to having zoos, but there are still negative impacts to animal's lives. Perhaps the best way to help animals is to protect them in zoos for a short time and release them back into nature while they still are wild animals.

"Do Animals Lose in Zoos?" Copyright © 2022 Cognia, Inc.



PRACTICE PLANNING PAGE

Writing Topic:

People have different viewpoints about whether animals, including endangered animals, should live in the wild or in man-made environments. Write an argumentative essay about whether any animal should be kept in a controlled environment, such as zoos or nature parks. Be sure to state a claim and address an opposing viewpoint using evidence presented in both passages.



In the space below, you may PLAN your composition. You might consider using a web, cluster, list, story map, or any other method to help you organize your writing. Do not write your final draft on these pages. Any writing on these pages will not be scored. Write your composition on the lined pages that follow.



PRACTICE PLANNING PAGE

People have different viewpoints about whether animals, including endangered animals, should live in the wild or in man-made environments. Write an argumentative essay about whether any animal should be kept in a controlled environment, such as zoos or nature parks. Be sure to state a claim and address an opposing viewpoint using evidence presented in both passages.

[illegible]

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

[illegible]

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There is no handwriting or other markings on the paper.

**Example of a Well-Written Response**

Presented in this section is an example of a well-written paper.

Example Writing Topic:

People have different viewpoints about whether animals, including endangered animals, should live in the wild or in man-made environments. Write an argumentative essay about whether any animal should be kept in a controlled environment, such as zoos or nature parks. Be sure to state a claim and address an opposing viewpoint using evidence presented in both passages.

Example Response

Have you ever thought that keeping animals in zoos is actually beneficial to them in many ways? That is true because animals are threatened in the wilderness and are exposed to some unhealthy living conditions. However, some people say otherwise because they think animals are not given the same type of freedom as they are in the wild. That might be true in some cases but the reason why they should be kept in zoos or nature parks far outweighs the cause than why they shouldn't. Animals should be kept in zoos or nature parks because, they are being treated with love and care, also they are protected from all hurt, harm, and danger, and also it's increasing the population of endangered species.

**Example Response (continued)**

Animals that are being kept in zoos are being treated properly with love and care. For example, They being fed a proper nutrient diet on a regular schedule so they are able to maintain a healthy lifestyle. Also, animals are receiving medical care from veterinarians to make sure they are properly nourished. Animals are also being protected from wildlife predators and hunters. For example, with the animals being in the zoo they have rangers to watch watch over them just incase they are dangered by anything. All of these benefits allows the animals to live longer than they would in the wilderness.

With animals living in the zoo comes the benefit of animals being able to be protected from hurt, harm, and danger. They are given the opportunity to live in a safe environment, without having to worry about being threatned by the wildlife. Also, they live in great living conditions. According to the passage, "zoos spend millions of dollars to create bigger and better animal enclosures in order

**Example Response (continued)**

in order to improve the conditions for the animals. Animals' lives were also effected in the wild from pollution caused by humans, with animals living in zoos they are protected from that happening.

Zoos are increasing the population of endangered animals. That is because, their able to reproduce more. According to the passage animals that are in controlled environments, their numbers can increase and prevent extinction. Animals that have been near extinction have been saved due to being properly cared in zoos. Although some might think the zoo is just a place to see animals, the zoos also have programs to protect endangered animals from extinction.

As you can see, although many people think animals should be kept in the wild for their own benefits, the reason why they shouldn't live in the wild far outweighs why they should. Zoos and nature parks are providing beneficial needs to the animals that can't be provided in the wilderness.



OSTP Grade 8 Holistic Writing Rubric

Score	Description
4	- Content is well-suited for the audience and task/purpose, and the writing maintains a clear focus; ideas are fully developed with relevant information from both passages. For an argumentative response, at least one counter claim is present. - Organization is strong and sustained, creating unity and coherence; contains an engaging introduction, an effective conclusion that follows logically, and smooth, effective transitions that contribute to logical sequencing. - Word choice is varied and conveys meaning; language is effective and connects to the audience. - Sentence structure is clear and correct, and the writing demonstrates a rich variety of structures, types, and lengths; any errors are minor. - The writing demonstrates appropriate control of grammar, usage, and mechanics; errors are minor and do not affect readability.
3	- Content is adequate for the audience and task/purpose, and the writing has an evident focus; ideas are somewhat developed with mostly relevant information from both passages. - Organization is adequate, creating some unity and coherence; introduction and conclusion are appropriate, and sequencing is logical with limited transitions. - Word choice is general and includes some variety; language is adequate and attempts to connect to the audience. - Sentence structure is correct, and the writing demonstrates an adequate variety of structures, types, and lengths; errors may be present but do not interfere with fluency. - The writing demonstrates adequate control of grammar, usage, and mechanics; errors are noticeable but do not significantly affect readability.
2	- Content is inconsistent for the audience and task/purpose, and the writing has an unclear focus; ideas are minimally developed, may come from only one passage, or may appear in list form. - Organization lacks clarity, demonstrating weak unity and coherence; introduction and conclusion are ineffective, there is little or random sequencing, and transitions are limited. - Word choice lacks precision and variety; language may be inappropriate, ineffective, simplistic, or vague. - Sentence structure lacks control, and the writing demonstrates limited variety of structures, types, and lengths; errors interfere with fluency. - The writing demonstrates limited control of grammar, usage, and mechanics; errors are distracting and may interfere with readability.
1	- Content is irrelevant for the audience and task/purpose, and the writing has a confusing focus; ideas are repetitive or irrelevant, lack development, or may come from only one passage. - Organization lacks logical direction; there is no evidence of unity or coherence. - Word choice is extremely limited or inaccurate; language fails to communicate meaning. The writing may be too short to demonstrate variety. - Sentence structure is inappropriate, and the writing demonstrates no variety of structures, types, and lengths; errors interfere with fluency. The writing may be too short to demonstrate control of sentence structure. - The writing demonstrates minimal control of grammar, usage, and mechanics; errors are numerous and impede readability.

Responses receive a score designation of “unscorable” and a performance level of “Below Basic” if they meet any of the following conditions:

- restatement of the task (prompt) or a refusal;
- in a language other than English;
- illegible, incomprehensible, or otherwise indecipherable;
- about a topic different from the assigned task.



OKLAHOMA
Education

STOP

What is my student learning?

Students in Pre-Algebra are extending their understanding of numbers to include scientific notation, rational/irrational, and square roots. They are using this understanding to solve problems in various contexts. Students are developing their understanding of linear functions and rate of change and using this understanding in real-world and mathematical situations. Students are extending their understanding of equality and inequality to solve problems involving variables. Students are extending their understanding of two- and three-dimensional figures to solve problems involving right triangles, volume, and surface area. Students are collecting, displaying, and interpreting data, including using scatterplots and estimating the line of best fit. Students are calculating and reasoning about experimental probabilities to solve real-world and mathematical problems. This information is a snapshot of learning in mathematics for Grade 8.

How can I help my student at home?

- Stay positive about math! When you stay positive, your student is more likely to have a positive mindset.
- Every day, ask your student to summarize his or her math class and teach you the concept he or she learned that day.
- Challenge your student to find the depth of a swimming pool that is 25 feet long, 10 feet wide, and holds 2,000 cubic feet of water.
- Have your student find 3 cans of different sizes and find the volume of each cylinder.
- Research the math involved in different career paths.

Questions to ask your Pre-Algebra Student:

- *At the grocery store:* How much cardboard would it take to make a box to package this item? How much fits inside this container?
- *At the store:* If the store sells four of these shirts per day, how many shirts will they sell in 10 days? How many shirts would they sell in a year?
- *On the drive home:* Graph the car's speed each minute for the entire way home. What patterns do you notice? What is the average rate of change?
- *Commenting on the weather:* If there is a 25% chance of rain each day for the week, what is the probability that it will rain two days in a row?
- *At the fair:* If it costs \$5 to get into the fair, \$0.25 per carnival game, and \$1.50 per ride, what combination of carnival games can I play and rides can I go on if I spend \$20 total?

Mathematics Practice Questions

The OSTP Grade 8 Mathematics Assessment consists of selected-response (multiple-choice) and technology-enhanced items (TEIs) designed to measure our Oklahoma Academic Standards. The practice questions you see here represent the types of questions and interactions your student will see when they take the state test. The tests are designed to be administered on the computer and feature a variety of tools and interactive questions that are more engaging and aligned with 21st century teaching and learning practices. The OSTP Practice Test platform can be accessed using the information shown below:

URL: <https://okpracticetest.cognia.org/student/login>

Login credentials are not required for the Practice Test. Use the drop-down menu under “Select a Test” to select “OSTP Gr. 3-8 Math.” Then click “Go.”

Note: If login credentials are requested, clear your browser’s cache and relaunch the Practice Test.

A student’s performance on the sample items provided in the OSTP Practice Test platform and in this guide **does not** predict their overall performance on the OSTP Assessment. The purpose of the sample items is to allow students and parents to familiarize themselves with the types of questions that may be seen. An explanation as to why a particular response is correct or incorrect can be found at the end of this guide with the answer key.

Students in grade 8 will have access to a reference sheet and scientific calculator to use during the mathematics assessment. The reference sheet is available at oklahoma.onlinehelp.cognia.org/testing-materials-resources, and the calculator can be found at <https://www.desmos.com/scientific>. For the calculator policy, visit oklahoma.gov/education/services/assessments/assessment-materials2.html.

For more information about the Grade 8 Math Standards and/or Assessment, visit the Test and Item Specifications at oklahoma.gov/education/services/assessments/assessment-materials2.html.



Directions

Read each question and choose the best answer. Find the question number in the answer document that matches the question number in the test booklet. Then mark your answer in the answer document.

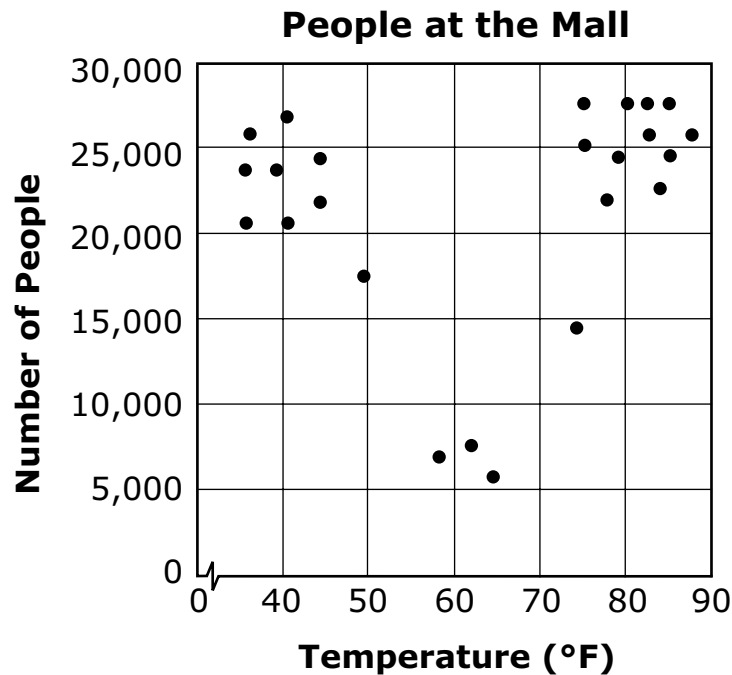
- 1** Tom has read 11 pages of a 215-page book. He will read 6 pages each day until he finishes the book.

Which equation can be used to find the number of days, d , it will take Tom to finish reading the book?

- A** $6 + 11d = 215$
- B** $11 + 6d = 215$
- C** $17d = 215$
- D** $6d = 215$



- 2** This scatter plot shows the number of people at a mall each day and the average temperature for the day.



Based on the scatter plot, which statement is true?

- A** The number of people at the mall always increases as the temperature rises.
- B** The number of people at the mall always decreases as the temperature rises.
- C** Fewer people are at the mall when the temperature is between 70°F and 90°F.
- D** Fewer people are at the mall when the temperature is between 50°F and 70°F.



- 3** A space shuttle travels at 2.6×10^4 feet per second. An hour is 3.6×10^3 seconds. This expression can be used to find the number of feet the space shuttle travels in an hour.

$$(2.6 \times 10^4)(3.6 \times 10^3)$$

How many feet does the space shuttle travel in an hour?

- A** 6.2×10^1 feet
- B** 6.2×10^{12} feet
- C** 9.36×10^7 feet
- D** 9.36×10^{12} feet

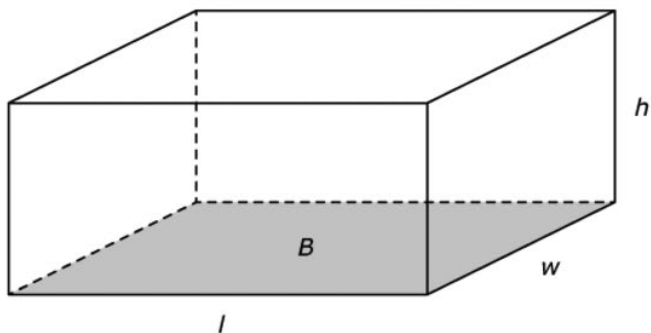
- 4** The product of 24 and n is greater than -96 . Which inequality represents the possible values for n ?

- A** $n > -4$
- B** $n > -120$
- C** $n < -4$
- D** $n < -120$



5

A right rectangular prism has a base area of 24 cm^2 . Its volume, in cubic centimeters, is not a whole number.



Select the measures that could be two of the dimensions of this prism. To select a measure, click the measure.
To deselect a measure, click it again.

length = 6 cm
width = 4 cm

length = 6.1 cm
height = 2 cm

width = 3.9 cm
height = 8.4 cm

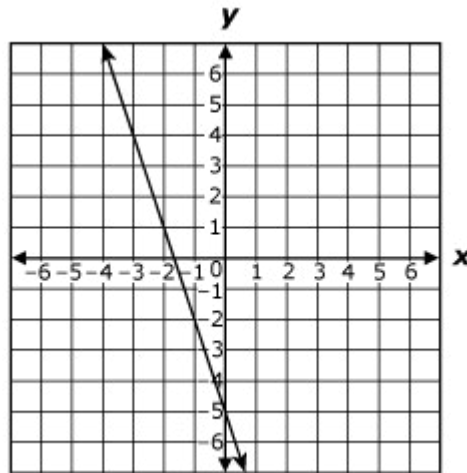
length = 7.5 cm
width = 3.5 cm

length = 12 cm
height = 15.1 cm

width = 10.5 cm
height = 9 cm

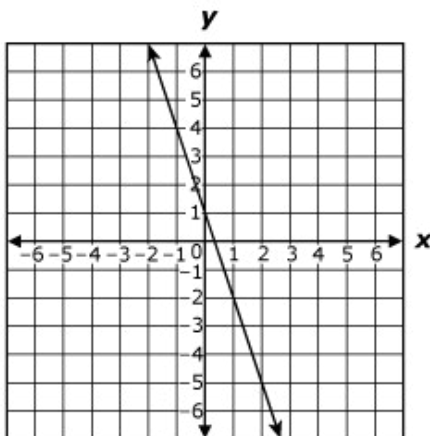


- 6 The graph of the equation $y = -3x - 5$ is shown below.

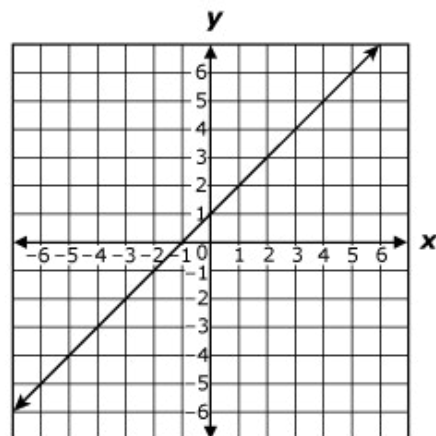


Which best represents the graph of the equation $y = -3x - 5$ when the slope is changed to 1 and the y -intercept remains the same?

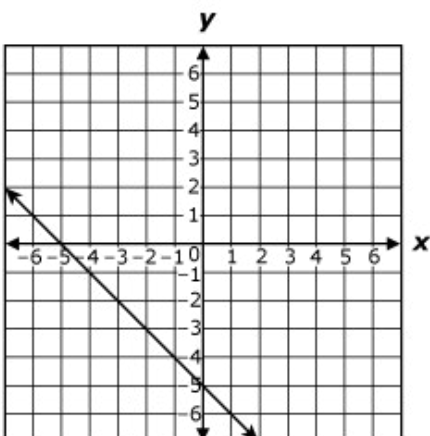
A



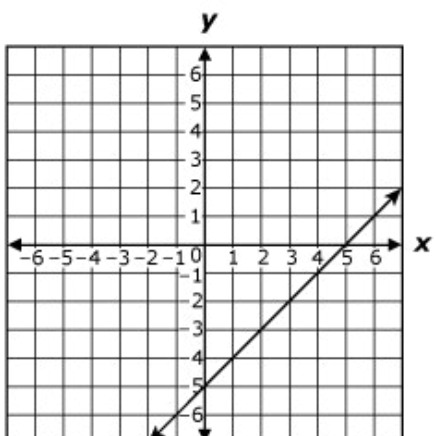
B



C



D





7 Which of the following is equivalent to the expression below?

$$\frac{4^8}{4^2}$$

- A** 4^4
- B** 4^6
- C** 4^{10}
- D** 4^{16}

8 A smoothie shop makes \$3.00 for every smoothie sold after subtracting the costs of ingredients and packaging. They have additional costs of \$150.00 per day. Which linear model expresses how much the shop makes, y , for selling x smoothies in a day?

- A** $y = 3x$
- B** $y = 3x - 150$
- C** $y = 150x - 3$
- D** $y = 3x + 150$



- 9** Brandon used an indoor rock-climbing wall seven times. His climbing times, in minutes, are shown in this list.

35, 16, 17, 18, 13, 13, 14

Why is the median the **most** useful measure of central tendency for these times?

- A** The median is not affected by an outlier.
- B** The median is equal to the range of the data.
- C** The median is the time that occurs most often.
- D** The median is a larger value than the mean of the data.

10

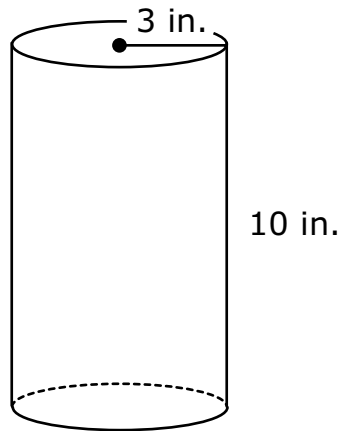
x	y
-7	-12
-5	-8
-3	-4
-1	0
1	4

Which statement best describes the values of x and y in the table?

- A** As the value of x increases by 2, the value of y increases by 4.
- B** As the value of x increases by 2, the value of y decreases by 4.
- C** As the value of x increases by 4, the value of y increases by 2.
- D** As the value of x increases by 4, the value of y decreases by 2.



- 11** Jason decorated the outside of this cylinder.



What is the surface area of the cylinder?

- 12** The total amount of money, in dollars, Sandy earns for working h hours is represented by this expression.

$$15h$$

How much money does Sandy earn for working 35 hours?

- A** \$20
- B** \$50
- C** \$525
- D** \$1535



13

Match the equation in the left column to the description of the slope and y-intercept of its graph in the right column. To connect an equation to a description, click an equation in the left column and then a description in the right column, and a line will automatically be drawn between them. To remove a connection, hold the pointer over the line until it turns red, and then click it. Each equation in the left column matches to exactly two descriptions in the right column.

$$y = \frac{3}{2}x - 4$$

$$y = -\frac{2}{3}x + 4$$

$$y = \frac{2}{3}x - 2$$

$$\text{slope} = -\frac{2}{3}$$

$$\text{slope} = \frac{2}{3}$$

$$\text{slope} = \frac{3}{2}$$

$$\text{y-intercept} = -4$$

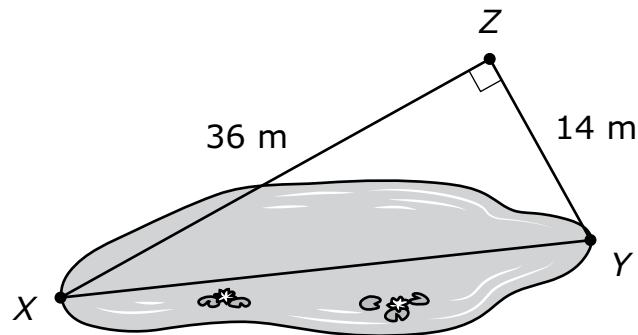
$$\text{y-intercept} = -2$$

$$\text{y-intercept} = 4$$



Use the information to answer the following questions.

Mathew wants to find the length of a pond. He picks three points and records the measurements, as shown in the diagram.



14 Which measurement is closest to the length of the pond from point X to point Y in meters?

- A 10 meters
- B 22 meters
- C 39 meters
- D 50 meters

15 Mathew finds the deepest part of the pond to be $\sqrt{185}$ meters.

Which measurement describes the depth of the pond?

- A between 13 and 14 meters
- B between 14 and 15 meters
- C between 92 and 93 meters
- D between 93 and 94 meters



What is my student learning?

In eighth grade, students are expected to demonstrate grade-appropriate proficiency in developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, engaging in argument from evidence, and obtaining, evaluating, and communicating information; and they are expected to use these practices to demonstrate understanding of the disciplinary core ideas.

The performance expectations in eighth grade help students develop a deeper understanding of core ideas in physical, life, and earth and space science. Topics covered in physical science include matter and its interactions, forces and motion, thermal energy in a system, and waves. Life science topics include how life has changed over time and how food provides living things with energy. Earth and space science investigates fossils and geological time, plate tectonics and catastrophic events, and human impact. This information is a snapshot of learning in science for Grade 8.

How can I help my student at home?

- Acknowledge and encourage your student's interests and natural abilities in science, and help them further develop their interests and abilities over time.
- Encourage your student to observe, ask questions, experiment, tinker, and seek their own understandings of natural and human-made phenomena.
- Foster your student's creative and critical thinking, problem solving, and resourcefulness through everyday tasks such as cooking, doing household chores, gardening, repairing a bike or other household object, planning a trip, and other activities.
- Actively engage with your student during mealtime discussions by talking about books they are reading or television programs about science they have watched.
- Provide opportunities for science learning at home and in the community through outdoor play; participation in summer programs; or trips to parks, museums, zoos, nature centers, and other interesting science-rich sites in the community.
- Provide your student easy access to science learning resources such as books, educational toys and games, videos, and online or computer-based resources.
- Join your student in learning new things about science and technology. Take advantage of not knowing all the answers to your student's questions, and embrace opportunities to learn science together.
- Discuss science and technology careers. When you encounter people in science-related careers, encourage your student to ask questions about these jobs and the training needed for them.

Science Practice Questions

The OSTP Grade 8 Science Assessment consists of selected-response (multiple-choice) and technology-enhanced items (TEIs) designed to measure our Oklahoma Academic Standards. The practice questions you see here represent the types of questions and interactions your student will see when they take the state test. The tests are designed to be administered on the computer and feature a variety of tools and interactive questions that are more engaging and aligned with 21st century teaching and learning practices. The OSTP Practice Test platform can be accessed using the information shown below:

URL: <https://okpracticetest.cognia.org/student/login>

Login credentials are not required for the Practice Test. Use the drop-down menu under “Select a Test” to select “OSTP Gr. 5 & 8 Science.” Then click “Go.”

Note: If login credentials are requested, clear your browser’s cache and relaunch the Practice Test.

A student’s performance on the sample items provided in the OSTP Practice Test platform and in this guide **does not** predict their overall performance on the OSTP Assessment. The purpose of the sample items is to allow students and parents to familiarize themselves with the types of questions that may be seen. An explanation as to why a particular response is correct or incorrect can be found at the end of this guide with the answer key.

Students in grade 8 will have access to a scientific calculator to use during the science assessment. For the calculator policy, visit <https://oklahoma.gov/education/services/assessments/assessment-materials2.html>.

For more information about the Grade 8 Science Standards and/or Assessment, visit the Test and Item Specifications at <https://oklahoma.gov/education/services/assessments/assessment-materials2.html>.



Directions

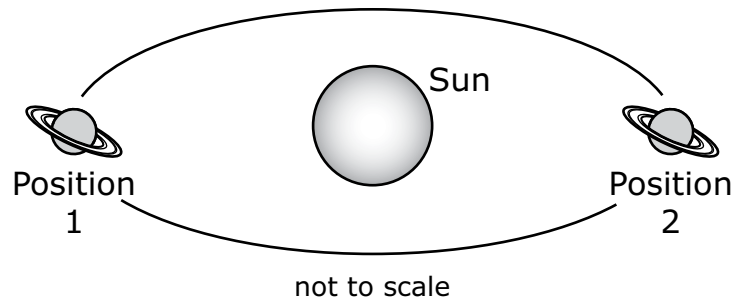
Read each question and choose the best answer. Find the question number in the answer document that matches the question number in this test booklet. Then mark your answer in the answer document.

Use the information to answer the following questions.

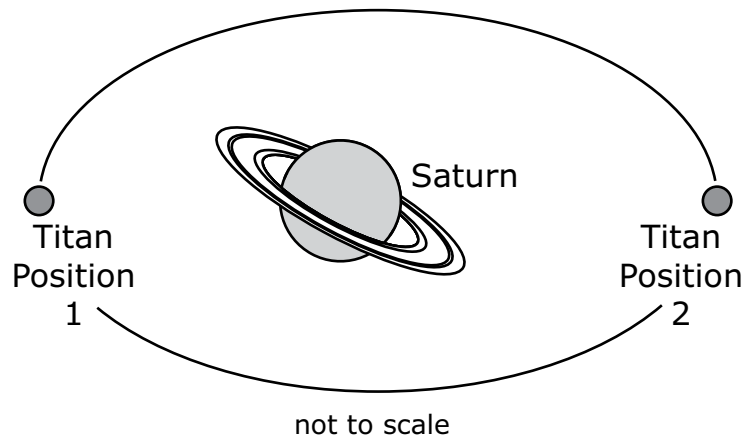
A class visits a planetarium where students watch a presentation that models movements in the solar system. During the presentation, the students see the planet Saturn and one of its moons, Titan.

The students want to learn more about Saturn and Titan. They find models of Saturn's orbit and Titan's orbit. The models are shown.

Orbital Model of Saturn



Orbital Model of Titan





The students also find a table that shows the mass of each object, as shown.

Mass of Three Objects in the Solar System

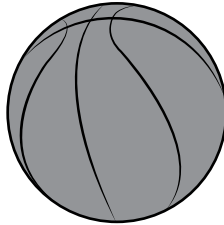
Object	Mass	Average Distance from the Sun	Average Distance from Saturn
Saturn	5.7×10^{26} kg	1.4×10^9 km	N/A
Sun	2.0×10^{30} kg	N/A	1.4×10^9 km
Titan	1.3×10^{23} kg	1.4×10^9 km	1.2×10^6 km



- 1** The students want to make a model to compare the size of the three objects in the table.

According to the data, which model **best** shows the difference in sizes of the objects?

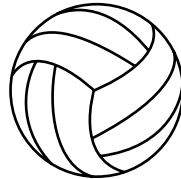
A



Sun

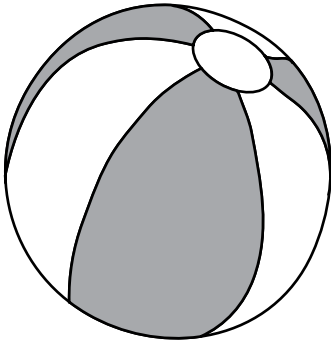


Saturn



Titan

B



Sun

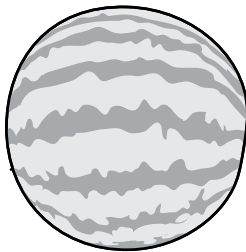


Saturn

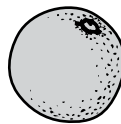


Titan

C



Sun



Saturn



Titan

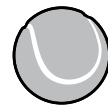
D



Sun



Saturn



Titan



- 2** After viewing the models, the student claims that Titan only orbits Saturn and Saturn only orbits the Sun.

Which statement **best** evaluates the student's claim?

- A** The student is correct because only Saturn is shown orbiting the Sun in the model.
- B** The student is correct because all moons orbit planets and Titan is classified as a moon.
- C** The student is incorrect because all objects in the solar system orbit the Sun because it has the largest mass.
- D** The student is incorrect because Saturn has less mass than the Sun, which causes Titan to only orbit the Sun.

3

This question has four dropdown boxes. Based on the orbital models and the table, complete the following comparisons. To select each answer, click the arrow and then click the answer. To choose a different answer, click the arrow and click the new answer. Be sure to select an answer for all four dropdown boxes.

The gravitational force between Titan and Saturn is {greater than/less than/equal to} the gravitational force between Titan and the Sun because of the {masses of/distances between} the interacting objects.

The gravitational force between the Sun and Saturn is {greater than/less than/equal to} the gravitational force between the Sun and Titan because of the {masses of/distances between} the interacting objects.

This question has four dropdown boxes. Based on the orbital models and the table, complete the following comparisons. To select each answer, click the arrow and then click the answer. To choose a different answer, click the arrow and click the new answer. Be sure to select an answer for all four dropdown boxes.

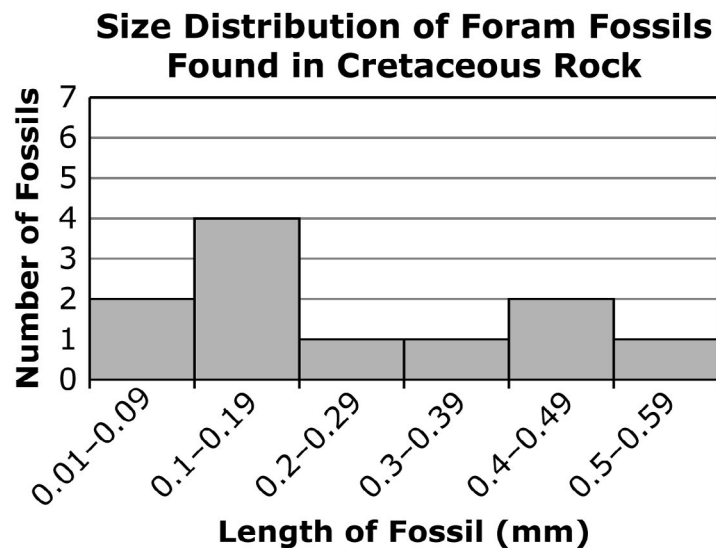
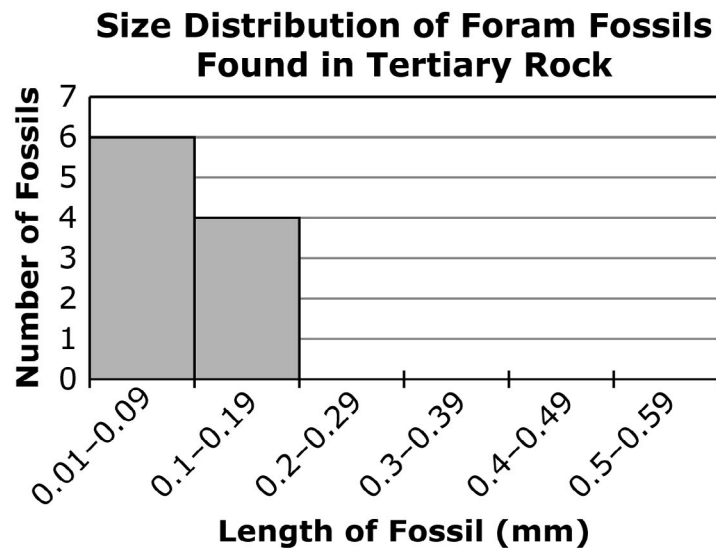
The gravitational force between Titan and Saturn is the gravitational force between Titan and the Sun because of the the interacting objects.

The gravitational force between the Sun and Saturn is the gravitational force between the Sun and Titan because of the the interacting objects.

**Use the information to answer the following questions.**

To answer questions about Earth's history, students looked at rock samples from different layers of the ocean floor. The rock samples contained fossils of very small ocean organisms called forams.

Some of the rock formed during the Cretaceous time period from 145.5 to 65.5 million years ago, before an event called the K-T extinction. The rest of the rock formed during the Tertiary time period from 65.5 to 35.4 million years ago, after the K-T extinction. In their investigation, the students measured the lengths of the foram fossils in the rock samples. The graphs show the size ranges of the foram fossils in rock samples from each time period.



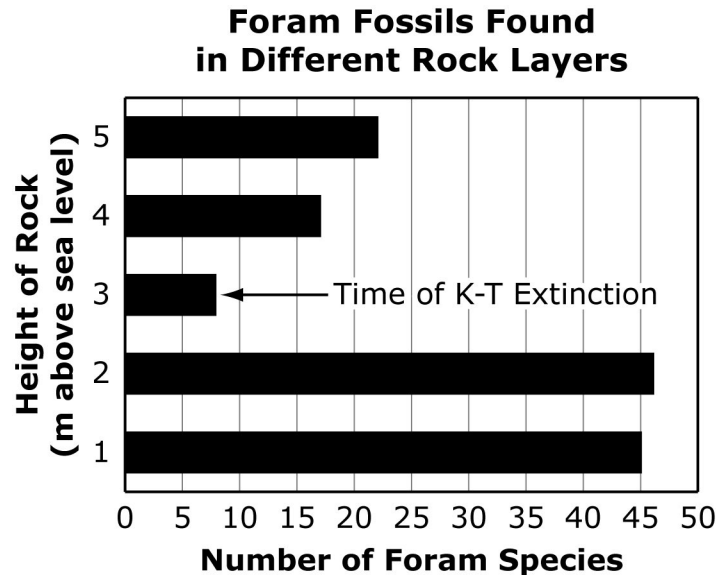


- 4** Which statement is supported by the data in the two graphs?
- A** Forams of all sizes had more food sources in the Cretaceous period.
 - B** Forams with a larger size had more predators in the Cretaceous period.
 - C** Forams with a smaller size had a survival advantage in the Tertiary period.
 - D** Forams that were mid-sized had a higher reproductive rate in the Tertiary period.

- 5** Based on the information, how are the foram fossils from the two time periods different?
- A** The Cretaceous fossils are found in more locations than the Tertiary fossils.
 - B** The Cretaceous fossils show a greater variety of body size than the Tertiary fossils.
 - C** The Cretaceous fossils were more successful than Tertiary fossils at surviving the K-T extinction.
 - D** The Cretaceous fossils became more common and the Tertiary fossils disappeared from the fossil record.



- 6** The students also gathered data about the number of fossilized foram species in rock layers at different heights above sea level from the Cretaceous and Tertiary time periods.



What is the **most likely** reason for the difference in the number of foram species in the layers from 3 to 5 meters above sea level?

- A** Individual forams became different species until the time of the K-T extinction.
- B** The number of foram species decreased steadily until the time of the K-T extinction.
- C** The surviving foram species diversified to fill the available habitats after the K-T extinction.
- D** Several foram species moved from other habitats in the world to this location after the K-T extinction.

**Use the information to answer the following questions.**

Students design an investigation using a water bottle and balls of different masses. Their investigation includes the following steps:

1. Fill one water bottle halfway with water and stand it on the floor 50 cm from a starting point.
2. Select three balls of different masses.
3. Roll the balls one at a time from the starting point toward the standing water bottle. Use the same amount of force to roll each ball.
4. Roll each ball until it hits the center of the water bottle.
5. Record the observations of what happens when the ball hits the center of the water bottle.

The table shows the results that the students recorded.

Mass of Ball (g)	Investigation Outcome
20	The ball rolled backward and did not push the water bottle.
57	The ball rolled backward and pushed the water bottle between 0–10 cm.
117	The ball pushed the water bottle farther than 10 cm.



7

Decide which measurements represent the independent variable, a controlled variable, and/or the dependent variable in the students' investigation.

Match each measurement on the left to its correct role in this investigation on the right. To connect a measurement and its role in the investigation, click the measurement and then the role. To remove a connection, hold the pointer over the line until it turns red, and then click it. Each role may match one, more than one, or no measurements.

Mass of water
bottle

Movement of
water bottle

Mass of balls

Distance of
bottle from
starting point

Independent
Variable

Controlled
Variable

Dependent
Variable



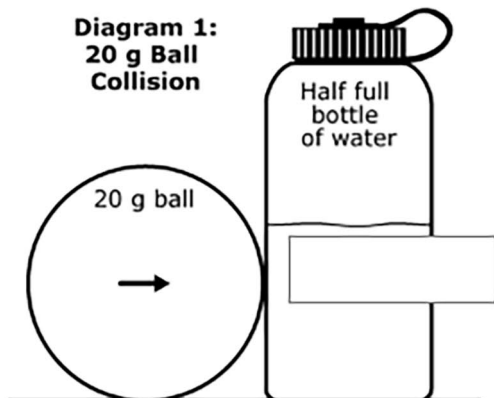
8

Drag the arrows into the boxes to show the reaction force of the bottle at the moment of collision in each diagram.

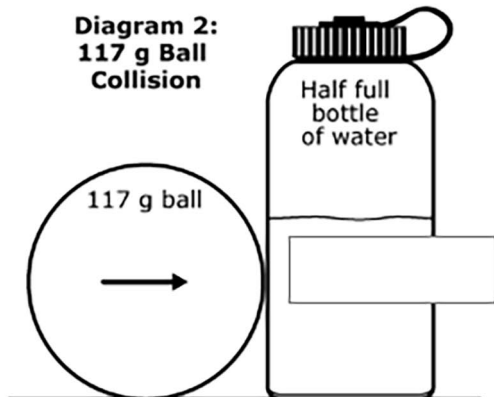
To drag an arrow into a diagram, click and hold the arrow, and then drag it to the desired position. To change an arrow, click and hold it, and then drag it back to the original location. The length of each arrow shows the amount of relative force (longer arrow = greater force). You may use each arrow once, more than once, or not at all.



**Diagram 1:
20 g Ball
Collision**



**Diagram 2:
117 g Ball
Collision**



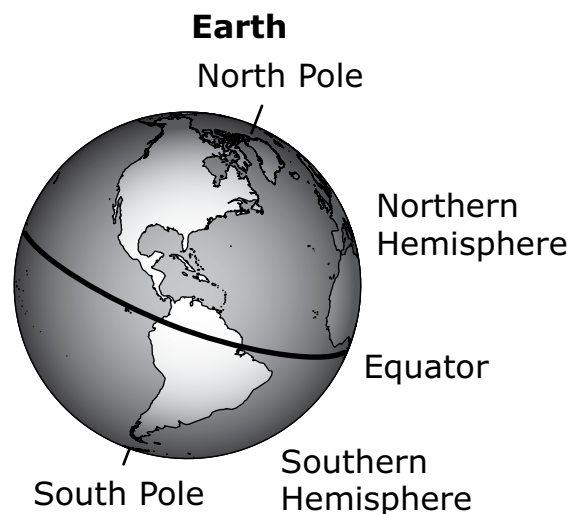


- 9** Which added step will provide more evidence of how the water bottle mass affects forces in the students' investigation?
- A** Fill the water bottle completely with water.
 - B** Roll the ball toward the water bottle with less force.
 - C** Roll each ball until it hits the water bottle three times.
 - D** Increase the distance the ball rolls toward the water bottle to 100 cm.

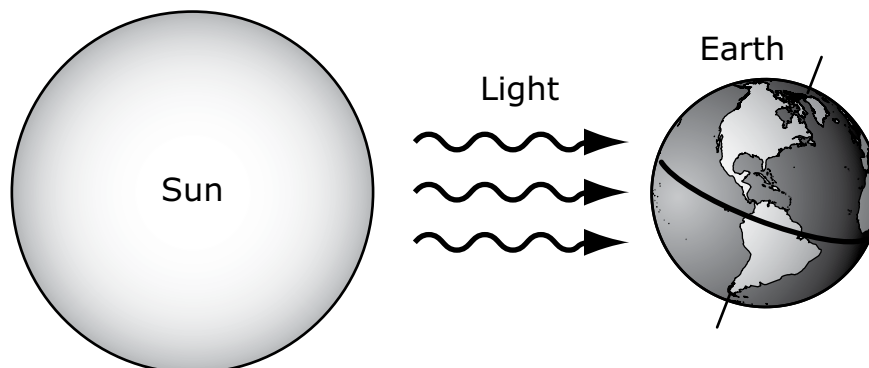
**Use the information to answer the following questions.**

A student is indoors at school on a winter day in Oklahoma when they are surprised to learn from their teacher that in some parts of South America it is summertime.

They ask their teacher why the seasons are different between these locations and their teacher shows them a model of Earth in relation to the Sun. Their teacher explains that Earth has a North Pole and a South Pole. Earth also has two different regions, or hemispheres: a Northern Hemisphere above the equator and a Southern Hemisphere below the equator. The diagram shows the equator and the poles and hemispheres of Earth.



Oklahoma is in the Northern Hemisphere of Earth, while some parts of South America are in the Southern Hemisphere. The model shows the position of Earth relative to the Sun when it is December.

**Position of Earth in Orbit Around Sun
in December**

not to scale



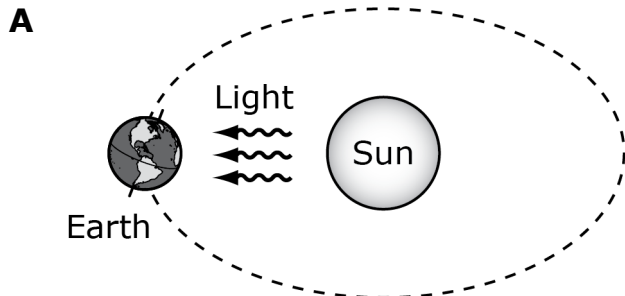
The student also finds information about seasons at different times of the year in relation to Earth's hemispheres.

Season by Month and Hemisphere

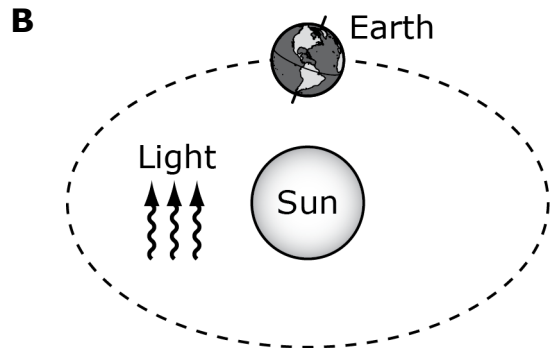
Month	Season	Hemisphere
December	Winter	Northern
December	Summer	Southern
March	Spring	Northern
March	Fall	Southern
June	Summer	Northern
June	Winter	Southern
September	Fall	Northern
September	Spring	Southern



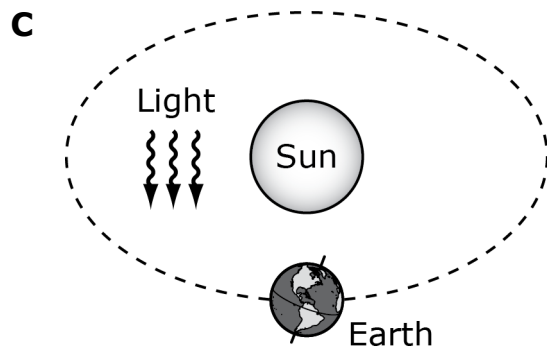
- 10** Based on the Position of Earth in Orbit Around Sun in December model, which model **best** represents the position of Earth relative to the Sun in June?



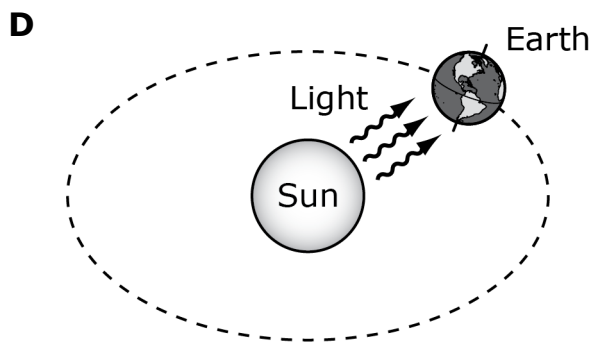
The model shows the Sun shining mostly on the Northern Hemisphere of Earth, with Earth's North Pole tilted toward the Sun.



The model shows the Sun shining on both of Earth's hemispheres with Earth directly behind the Sun.



The model shows the Sun shining on both of Earth's hemispheres with Earth directly in front of the Sun.



The model shows the Sun shining mostly on the Southern Hemisphere of Earth, with Earth's South Pole tilted toward the Sun.



- 11** Based on the Position of Earth in Orbit Around Sun in December model, which statement explains why winter occurs at different times of the year between hemispheres?
- A** Earth is relatively farther away from the Sun when winter occurs on Earth.
 - B** Earth orbits the Sun slowly so that throughout the year global temperatures are colder when winter occurs.
 - C** Earth has a tilted axis that affects when winter occurs on Earth due to Earth's relative position while orbiting the Sun throughout the year.
 - D** Earth spins relative to the Sun, which affects when winter occurs due to Earth facing the Sun in the same direction as it spins throughout the year.

- 12** Which statement describes how the student could improve the Position of Earth in Orbit Around Sun in December model to explain the seasons on Earth in December?
- A** Show that the Southern and Northern Hemispheres receive high-intensity sunlight from the Sun.
 - B** Show that the Southern and Northern Hemispheres receive low-intensity sunlight from the Sun.
 - C** Show that the Sun shines lower-intensity light on the Southern Hemisphere than on the Northern Hemisphere.
 - D** Show that the Sun shines higher-intensity light on the Southern Hemisphere than on the Northern Hemisphere.



Use the information to answer the following questions.

A student is cooking with a type of plant called thyme and notices that thyme has a fragrant smell. The student wonders how this smell is produced and does some research. The student learns that the smell produced by thyme is due to oils that the plant produces. Some types of thyme plants produce oils with different chemicals that affect the plant's smell.

Thyme plants that produce oils with stronger-smelling chemicals, like phenols, deter predators from eating the thyme plants. However, having this phenol trait also makes these plants more likely to perish from freezing temperatures than thyme plants without phenols.

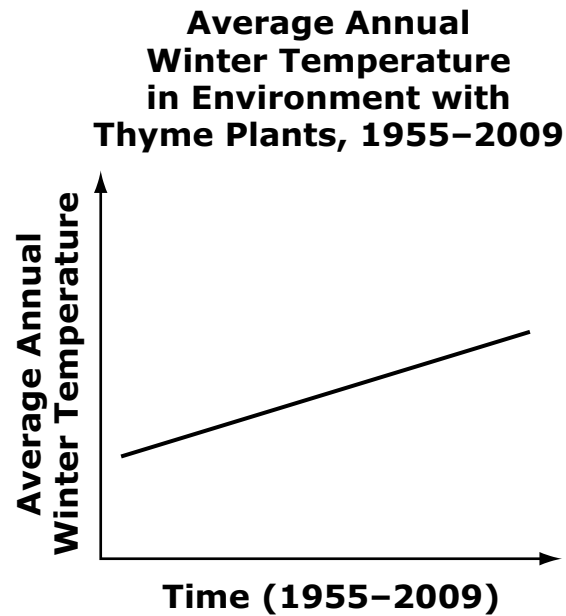
The student finds a data table that shows the percentage of thyme plants with the phenolic trait and nonphenolic trait in 1974 and 2010 in a region of France where these thyme plants grow.

Phenolic and Nonphenolic Trait Percentage in Thyme Population, 1974 and 2010

Year	Percentage of Thyme Population	
	Phenolic Trait	Nonphenolic Trait
1974	0	100
2010	44	56



The student also finds a graph that shows how the average annual winter temperature changed over time from 1955–2009 in this region of France where thyme plants grow.





- 13** Which conclusion could the student make that is supported by the data?
- A** From 1974–2010, thyme plants with the phenolic trait were more likely to be eaten than before 1974.
 - B** From 1974–2010, thyme plants changed their nonphenolic trait to a phenolic trait over their lifetimes.
 - C** From 1974–2010, thyme plants with the phenolic trait were less likely to freeze to death than before 1974.
 - D** From 1974–2010, thyme plants with the phenolic trait were stronger than thyme plants with the nonphenolic trait.

- 14** Based on the data, which statement explains the distribution of the nonphenolic trait in the thyme population from 1974–2010?
- A** Thyme plants with the nonphenolic trait rapidly changed to gain the phenolic trait because the environment became colder over time.
 - B** Thyme plants with the nonphenolic trait did not use their ability to withstand freezing temperatures because the environment became warmer over time.
 - C** The nonphenolic trait was more likely to be inherited by thyme plants over many generations because the nonphenolic trait is advantageous in a colder environment.
 - D** The nonphenolic trait was less likely to be inherited by thyme plants over many generations because the nonphenolic trait is not advantageous in a warmer environment.



- 15** Based on the data, which table represents how the proportion of thyme plants with each trait would **most likely** change if the average annual winter temperature steadily increased from 2010 to 2050?

A

Percentage of Thyme Population in 2050

Phenolic Trait	Nonphenolic Trait
Less than 44	More than 56

B

Percentage of Thyme Population in 2050

Phenolic Trait	Nonphenolic Trait
More than 44	More than 56

C

Percentage of Thyme Population in 2050

Phenolic Trait	Nonphenolic Trait
Less than 44	Less than 56

D

Percentage of Thyme Population in 2050

Phenolic Trait	Nonphenolic Trait
More than 44	Less than 56

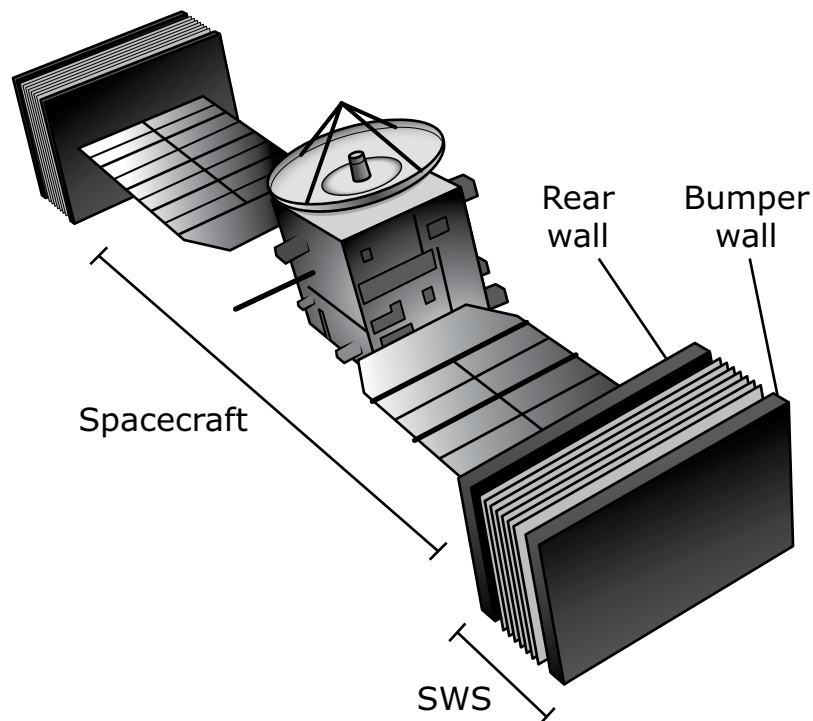


Use the information to answer the following questions.

A student is reading about spacecraft in class. They are surprised to learn that as a spacecraft orbits Earth there are small objects in space called debris that can collide with the larger spacecraft and cause damage. They research some information about how scientists have tried to address this problem.

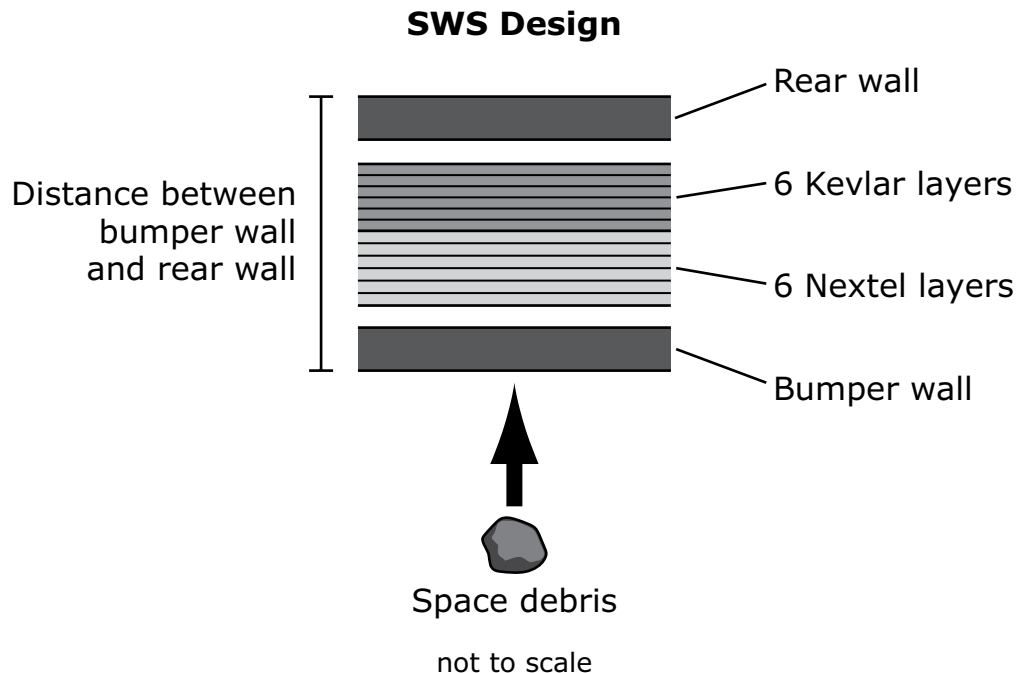
The student learns from their research that to help decrease damage to a spacecraft, scientists designed shields to protect the spacecraft from collisions with space debris. One type of shield is called the Stuffed Whipple Shield (SWS). The diagram shows the SWS attached to a spacecraft.

SWS Attached to Spacecraft





The SWS consists of an aluminum bumper wall, layers of material called Nextel and Kevlar, and an aluminum rear wall closest to the spacecraft. The student also finds a diagram that shows a close-up of the SWS design and how space debris collides with the bumper wall of the SWS.



Scientists ran a simulation building different SWS designs. The data table lists the bumper wall thickness, rear wall thickness, and distance between the bumper wall and rear wall in centimeters (cm) for four SWS versions.

SWS Versions Data Table

SWS Version	Bumper Wall Thickness (cm)	Rear Wall Thickness (cm)	Distance between Bumper Wall and Rear Wall (cm)
W	0.20	0.20	4
X	0.20	0.20	3
Y	0.25	0.25	4
Z	0.25	0.25	3



- 16** Which statement **best** describes what scientists should consider when designing SWS devices?
- A** If multiple versions of SWS devices are built, there can be many trials in which an object collides with a device.
 - B** After SWS devices collide with an object, the devices must be destroyed before any more devices can be built.
 - C** The first of several SWS devices built is the most effective at protecting objects from being damaged during a collision between an object and the device.
 - D** Building SWS devices with the most expensive materials will make those devices most effective at reducing damage from a collision with an object.

- 17** Based on the information, which statement describes how an SWS should be designed so that it **best** shields the spacecraft from a collision with space debris?
- A** Decrease the thickness of the rear wall so that the debris has less material to contact when it collides with the SWS.
 - B** Increase the amount of material between the bumper wall and rear wall to reduce the force or forces in the collision.
 - C** Decrease the number of Kevlar layers so that the bumper wall and the rear wall are closer together when the debris collides with the SWS.
 - D** Increase the mass of the bumper wall and rear wall to be similar to that of typical debris so that the force or forces in the collision are balanced.



- 18** Based on the SWS Versions Data Table, the student claims that SWS Version Y would be most effective at reducing damage to the spacecraft's rear wall when space debris collides with the SWS bumper wall.

Which statement supports the student's claim?

- A** The collision with thicker walls would break the debris into smaller pieces and increase the speed of the debris as it travels a greater distance from the bumper wall to the rear wall.
- B** The collision with thicker walls would break the debris into smaller pieces and reduce the speed of the debris as it travels a greater distance from the bumper wall to the rear wall.
- C** The collision with thicker walls would break the rear wall into pieces, while the debris stays intact, and reduce the speed of the debris as it travels a greater distance from the bumper wall to the rear wall.
- D** The collision with thicker walls would break the rear wall into pieces, while the debris stays intact, and increase the speed of the debris as it travels a greater distance from the bumper wall to the rear wall.



English Language Arts		
Number	Reporting Category	Item Distractor Rationales
1	Critical Reading and Writing	A. Although the passage indicates that the girls spent a lot of time together, nothing in the passage indicates that the girls had no other friends. B. The hyperbole indicates that the girls spent a lot of time together. There is no evidence in the passage to support that they only played basketball. C. The passage indicates that the girls spent a lot of time together, but nothing in the passage suggests that they had the same teachers. D. Correct. The hyperbole “spending every waking moment together” suggests that the girls were never out of each other’s sight, which would be impossible since they did not even live in the same house.
2	Reading and Writing Process	A. This is a detail presented only in paragraph 4. B. This is a detail presented in both paragraphs, but the information about the all-city team is important to include in the summary. C. Correct. This sentence provides a summary of details for both paragraphs 3 and 4. D. This does include details from both paragraphs but does not provide a summary of the paragraphs.
3	Vocabulary	A. As used in paragraph 4, the high school coaches are looking closely at every move the players make on the court, not unfairly judging them. B. Correct. The coaches are looking closely at every move the players make on the court as a consideration for future placement on a high school team. C. As used in paragraph 4, the high school coaches are looking closely at every move the players make on the court, not loudly criticizing them. D. As used in paragraph 4, the high school coaches are looking closely at every move the players make on the court, not passionately cheering them.
4	Critical Reading and Writing	A. Correct. This sentence introduces the conflict that the narrator and Megan experience. B. The theme of the passage is stated in paragraph 18. This sentence does not support the theme of the passage. C. This sentence is not describing Megan or the narrator but the conflict they are experiencing. D. This sentence is not stating or developing a point of view.
5	Reading and Writing Process	A. A nonfiction/informational selection could also include different times and places. B. Correct. Plots and characters are important components of fictional selections, which a short story is a sub-genre of. C. A nonfiction/informational selection could also include thoughts and feelings. D. A nonfiction/informational selection could also include an interesting and original main idea.

English Language Arts		
Number	Reporting Category	Item Distractor Rationales
6	Research	Correct Responses: When is competition beneficial? Which sports activities are the most competitive? What are some strategies that promote healthy competition? Which professional basketball player is the most positive competitor? How does healthy competition in sports prepare young people for adulthood?
7	Vocabulary	Correct Response: Phrases ancient sea left behind
8	Vocabulary	A. "Part of a group" is relevant to the context of the sentence, as the network is a group, but it is not the meaning of the word "hemisphere." B. "Related to nature" might be an appealing option, as the group is involved in overseeing shorebird habitats, but the word "hemisphere" means half of a globe. C. Correct. The prefix "hemi-" means half, and "sphere" means globe. The group represents the Western Hemisphere. D. "Equal in distance" may suggest equal halves (hemi-) but this is not the meaning of the word "hemisphere," which means half of the globe.
9	Reading & Writing Process	A. Correct. The author quotes an expert who is an employee of the refuge and provides factual information; this shows that the genre of the passage is nonfiction. B. The use of quotation marks is not limited to nonfiction. C. Other genres use descriptive language so its use in the passage does not show that the genre is nonfiction. D. This technique is used by other genres and does not show that the genre of this passage is nonfiction.

English Language Arts

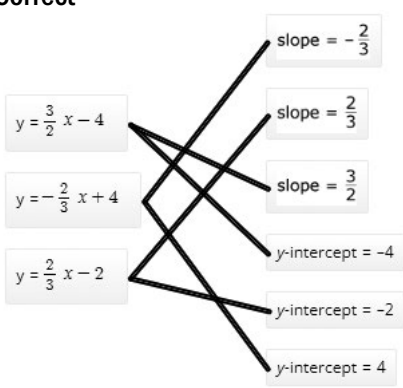
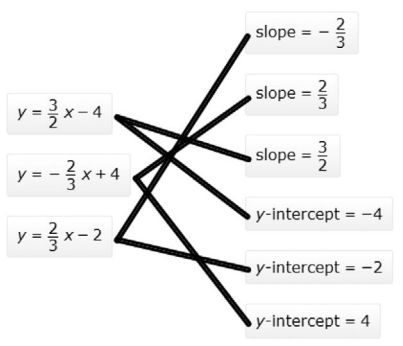
Number	Reporting Category	Item Distractor Rationales																								
10	Critical Reading and Writing	A. This is not accurate, as the tone of the first passage is not humorous. B. Correct. The author of the first passage provides historical context and takes a broad view of the purpose of the refuge, while the author of the second passage limits the focus to the current use. C. The first passage is organized by topic, and the second passage does not use a compare and contrast structure. D. The first passage is informative rather than argumentative.																								
11	Reading & Writing Process	A. Creating a map is not an effective prewriting strategy for this purpose. B. Correct. Listing facts in a brainstorming activity is an effective prewriting strategy for determining a focus because it will generate ideas for possible topics. C. Writing an introduction is not an effective prewriting strategy for determining a focus. D. Finding resources about other wildlife refuges will likely not help the student narrow the focus of a paper about a specific refuge.																								
12	Research	Correct Responses: <table><tr><th>Primary Sources</th><th>Secondary Sources</th></tr><tr><td>"The number of whooping cranes is increasing, but they remain endangered." Dr. B.D. Seed, lead bird researcher, Oklahoma Environmental College</td><td>"Scientists believe there are less than 1,000 whooping cranes left." Flyer, Hugh. <i>Endangered Birds of Oklahoma</i>. Tulsa, OKC Books, 2020.</td></tr></table> OR <table><tr><th>Primary Sources</th><th>Secondary Sources</th></tr><tr><td>"Whooping cranes are one of the rarest birds in North America." from the official U.S. Fish & Wildlife Service Report on endangered birds in the United States</td><td>"Whooping cranes were first observed in Oklahoma in 1745." Louis Booker, "Oklahoma's Birds." <i>The Bird Watcher's Guide</i>, vol. 224, no. 45. 13 June 2021. p. 64.</td></tr></table> OR <table><tr><th>Primary Sources</th><th>Secondary Sources</th></tr><tr><td>"The number of whooping cranes is increasing, but they remain endangered." Dr. B.D. Seed, lead bird researcher, Oklahoma Environmental College</td><td>"Scientists believe there are less than 1,000 whooping cranes left." Flyer, Hugh. <i>Endangered Birds of Oklahoma</i>. Tulsa, OKC Books, 2020.</td></tr></table> OR <table><tr><th>Primary Sources</th><th>Secondary Sources</th></tr><tr><td>"Today I counted 56 whooping cranes at the preserve." Beth Thunder, citizen scientist at the Salt Plains National Wildlife Refuge</td><td>"Loss of habitat is a big reason the population of whooping cranes is decreasing." www.whoopingcranesearch.org.</td></tr></table> OR <table><tr><th>Primary Sources</th><th>Secondary Sources</th></tr><tr><td>"The number of whooping cranes is increasing, but they remain endangered." Dr. B.D. Seed, lead bird researcher, Oklahoma Environmental College</td><td>"Scientists believe there are less than 1,000 whooping cranes left." Flyer, Hugh. <i>Endangered Birds of Oklahoma</i>. Tulsa, OKC Books, 2020.</td></tr></table> OR <table><tr><th>Primary Sources</th><th>Secondary Sources</th></tr><tr><td>"Today I counted 56 whooping cranes at the preserve." Beth Thunder, citizen scientist at the Salt Plains National Wildlife Refuge</td><td>"Whooping cranes were first observed in Oklahoma in 1745." Louis Booker, "Oklahoma's Birds." <i>The Bird Watcher's Guide</i>, vol. 224, no. 45. 13 June 2021. p. 64.</td></tr></table>	Primary Sources	Secondary Sources	"The number of whooping cranes is increasing, but they remain endangered." Dr. B.D. Seed, lead bird researcher, Oklahoma Environmental College	"Scientists believe there are less than 1,000 whooping cranes left." Flyer, Hugh. <i>Endangered Birds of Oklahoma</i> . Tulsa, OKC Books, 2020.	Primary Sources	Secondary Sources	"Whooping cranes are one of the rarest birds in North America." from the official U.S. Fish & Wildlife Service Report on endangered birds in the United States	"Whooping cranes were first observed in Oklahoma in 1745." Louis Booker, "Oklahoma's Birds." <i>The Bird Watcher's Guide</i> , vol. 224, no. 45. 13 June 2021. p. 64.	Primary Sources	Secondary Sources	"The number of whooping cranes is increasing, but they remain endangered." Dr. B.D. Seed, lead bird researcher, Oklahoma Environmental College	"Scientists believe there are less than 1,000 whooping cranes left." Flyer, Hugh. <i>Endangered Birds of Oklahoma</i> . Tulsa, OKC Books, 2020.	Primary Sources	Secondary Sources	"Today I counted 56 whooping cranes at the preserve." Beth Thunder, citizen scientist at the Salt Plains National Wildlife Refuge	"Loss of habitat is a big reason the population of whooping cranes is decreasing." www.whoopingcranesearch.org .	Primary Sources	Secondary Sources	"The number of whooping cranes is increasing, but they remain endangered." Dr. B.D. Seed, lead bird researcher, Oklahoma Environmental College	"Scientists believe there are less than 1,000 whooping cranes left." Flyer, Hugh. <i>Endangered Birds of Oklahoma</i> . Tulsa, OKC Books, 2020.	Primary Sources	Secondary Sources	"Today I counted 56 whooping cranes at the preserve." Beth Thunder, citizen scientist at the Salt Plains National Wildlife Refuge	"Whooping cranes were first observed in Oklahoma in 1745." Louis Booker, "Oklahoma's Birds." <i>The Bird Watcher's Guide</i> , vol. 224, no. 45. 13 June 2021. p. 64.
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English Language Arts		
Number	Reporting Category	Item Distractor Rationales
13	Vocabulary	A. "Application" is not what "way" means in the sentence, as "application" means an action. While the word might fit into the sentence logically, it is not the most precise word to replace "way." The advice from the U.S. Fish and Wildlife Service is a very specific procedure—conducted in a specific order. B. Correct. "Procedure" is what the word "way" refers to in the sentence, and more precisely communicates the advice. "Procedure" is an accurate description of the step-by-step instructions for how to dig for crystals. C. "Situation" might appear to fit in the sentence, but it does not accurately capture the intended meaning of "way." "Situation" means a set of circumstances rather than a specific way of doing something (procedure). D. "Structure" is not what "way" means in this sentence, as it suggests a completed organization of parts rather than a procedure for accomplishing a task, or perhaps that there is a type of structure needed for the task. The precise choice is "procedure," as that is the content of the advice.
14	Research	A. This statement is more of a general summary and lacks the scope of a thesis statement. B. This statement is incomplete, as it only includes one aspect of the topic (whooping cranes). C. Correct. This statement is a concise and complete thesis statement about the focus of the topic. D. This statement is incomplete, as it only includes one aspect of the topic (selenite crystals).
15	Critical Reading and Writing	Correct Response:

English Language Arts		
Number	Reporting Category	Item Distractor Rationales
16	Language	A. The sentence is passive because the subject (tours) receives the action (were opened) and the subject (the home) receives the action (was restored). B. The sentence is passive because the implied subject (the home) receives the action (being restored). The subject (tours) receives the action (were opened). C. The sentence is passive because the subject (the home) receives the action (being restored) and the subject (tours) receives the action (were being opened). D. Correct. The sentence is in active voice because the subject (conservationists) performs the actions (restored and opened) on the object (the home).
17	Language	A. This format incorrectly contains sentence fragments. B. This format incorrectly has a sentence fragment. C. Correct. This format contains a complete sentence, with no fragments or run-ons. D. This format incorrectly has two sentence fragments.
18	Language	A. The verbal in this excerpt is not a gerund because it does not function as a noun. B. The verbal is not an infinitive because it does not have a verb preceded by “to.” C. Correct. This verbal is a participial phrase being used as an adjective to describe Clayton. D. Prepositional phrases cannot be verbals.
19	Language	A. Although a gerund does consist of a verb form, it does not act as a verb in the sentence. B. Correct. The word “trading” is a noun being used as the object of the preposition “through.” C. Gerunds are not used as adverbs. D. Gerunds cannot be used as adjectives.
20	Language	A. Correct. This sentence has a compound verb and does not need a comma before the conjunction “and.” B. This is a sentence with compound verbs “talk” and “see,” and the sentence does not need the comma after the conjunction “and.” C. This is a sentence with compound verbs “talk” and “see,” and the sentence does not need the comma after the word “animals.” D. This is a sentence with compound verbs “talk” and “see,” and the sentence does not need the comma before the conjunction “and.”

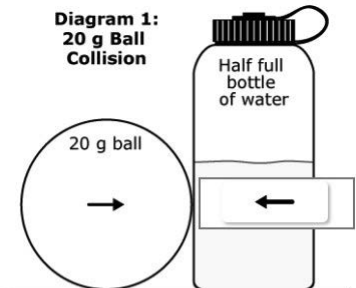
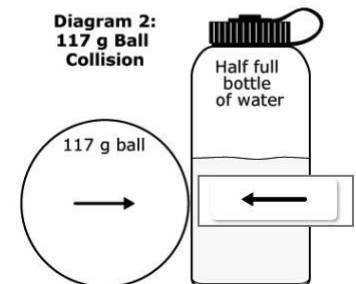
Mathematics																																						
Number	Reporting Category	Item Distractor Rationales																																				
1	Algebraic Reasoning & Algebra	A. The student confused the slope and the y-intercept. B. Correct. The student demonstrated an ability to write a linear equation for a real-world problem with one variable. C. The student did $11d + 6d$. D. The student ignored the 11 pages already read.																																				
2	Data & Probability	A. The student does not know how to read the data displayed on the scatterplot. B. The student saw that the data decreased from the left to the middle. C. The student does not know how to read the data displayed on the scatterplot or confused fewer and more. D. Correct. The student demonstrated an ability to interpret data displayed on a scatterplot.																																				
3	Number & Operations	A. The student computed $2.6 + 3.6$ to get the base number and then computed $4-1$ to get the exponent. B. The student computed $2.6 + 3.6$ to get the base number and then computed 4×3 to get the exponent. C. Correct. The student demonstrated an ability to multiply numbers expressed in scientific notation. D. The student computed the base number correctly, but then multiplied instead of added to find the exponent.																																				
4	Algebraic Reasoning & Algebra	A. Correct. The student demonstrated an ability to write a linear inequality with one variable. B. The student confused sum and product. C. The student reversed the inequality sign. D. The student confused sum and product and reversed the inequality sign.																																				
5	Geometry & Measurement	Sample Distractor Rationales: Correct <table border="1"> <tr> <td>length = 6 cm</td><td></td><td>width = 3.9 cm</td></tr> <tr> <td>width = 4 cm</td><td></td><td>height = 8.4 cm</td></tr> <tr> <td></td><td>length = 12 cm</td><td></td></tr> <tr> <td></td><td>height = 15.1 cm</td><td></td></tr> </table> Incorrect <table border="1"> <tr> <td>length = 6 cm</td><td></td><td></td></tr> <tr> <td>width = 4 cm</td><td></td><td></td></tr> <tr> <td></td><td></td><td>width = 10.5 cm</td></tr> <tr> <td></td><td></td><td>height = 9 cm</td></tr> </table> The student identified only the dimensions that show an area of 24 cm^2. <table border="1"> <tr> <td></td><td>length = 6.1 cm</td><td>width = 3.9 cm</td></tr> <tr> <td></td><td>height = 2 cm</td><td>height = 8.4 cm</td></tr> <tr> <td>length = 7.5 cm</td><td>length = 12 cm</td><td>width = 10.5 cm</td></tr> <tr> <td>width = 3.5 cm</td><td>height = 15.1 cm</td><td>height = 9 cm</td></tr> </table> The student selected all dimensions that included at least one non-whole number.	length = 6 cm		width = 3.9 cm	width = 4 cm		height = 8.4 cm		length = 12 cm			height = 15.1 cm		length = 6 cm			width = 4 cm					width = 10.5 cm			height = 9 cm		length = 6.1 cm	width = 3.9 cm		height = 2 cm	height = 8.4 cm	length = 7.5 cm	length = 12 cm	width = 10.5 cm	width = 3.5 cm	height = 15.1 cm	height = 9 cm
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Mathematics		
Number	Reporting Category	Item Distractor Rationales
6	Algebraic Reasoning & Algebra	A. The student changed y-intercept to 1. B. The student changed both the slope and the y-intercept to 1. C. The student changed the slope to -1. D. Correct. The student demonstrated an ability to predict the effect on the graph when the slope changes.
7	Number & Operations	A. The student divided the exponents. B. Correct. The student demonstrated an ability to apply the properties of integer exponents. C. The student added the exponents. D. The student multiplied the exponents.
8	Algebraic Reasoning & Algebra	A. The student ignored the fixed costs. B. Correct. The student demonstrated an ability to use a linear function to represent and model a situation. C. The student reversed the slope and y-intercept. D. The student added the fixed costs instead of subtracting.
9	Data & Probability	A. Correct. The student demonstrated an ability to explain how outliers affect measures of central tendency. B. The student confused median and range. C. The student defined median, but this did not answer the question. D. The student chose an explanation that is not true for this data set, nor did it answer the question.
10	Algebraic Reasoning & Algebra	A. Correct. The student demonstrated an ability to describe a linear relationship between two variables. B. The student identified the correct relationship for x only. C. The student reversed x and y. D. The student reversed x and y and thought y was decreasing.
11	Geometry & Measurement	A. The student computed 3^2 as 6 instead of 9. B. Correct. The student demonstrated an ability to calculate the surface area of a cylinder in terms of π. C. The student used the diameter, 6, instead of the radius, 3. D. Balance distractor
12	Algebraic Reasoning & Algebra	A. The student subtracted instead of multiplying. B. The student added instead of multiplying. C. Correct. The student demonstrated an ability to use substitution to evaluate an algebraic expression. D. The student substituted 35 for h and then read left to right, not understanding the implied multiplication.

Mathematics		
Number	Reporting Category	Item Distractor Rationales
13	Algebraic Reasoning & Algebra	Sample Distractor Rationales: Correct  Incorrect  The student confused $\frac{2}{3}$ and $-\frac{2}{3}$ for the slope.
14	Geometry & Measurement	A. Balance distractor B. The student computed $36 - 14$. C. Correct. The student demonstrated an ability to use the Pythagorean Theorem to solve a problem. D. The student computed $36 + 14$.
15	Number & Operations	A. Correct. The student demonstrated an ability to find the square root of a number as between two consecutive positive integers. B. Balance distractor C. The student computed $185 \div 2$. D. The student computed $185 \div 2$ incorrectly.

Science		
Number	Reporting Category	Item Distractor Rationales
1	Earth and Space Sciences	A. All three objects are roughly the same size, which does not reflect the large differences in the sizes of the Sun, Saturn, and Titan. B. Correct. This comparison does the best job of showing the size difference between all the objects. The Sun is 12 times larger than Saturn and 277 times larger than Titan. C. Although the watermelon is bigger than the orange, it is not enough larger to accurately reflect the difference in sizes between the Sun and Saturn. Also, the apple is almost the same size as the orange so a much smaller fruit should have been chosen. D. The three balls decrease in size; however, there is not much difference between the softball, baseball, and tennis ball. This does not effectively show the differences in the sizes of the Sun, Saturn, and Titan.
2	Earth and Space Sciences	A. The student making the claim has not taken into account the limitations of the model or that the model is only showing one interaction. B. Although moons do orbit planets, they also orbit the Sun as the planet orbits the Sun C. Correct. All objects in the solar system orbit the Sun, even if they orbit another object because the Sun's mass is so large that all objects within the solar system orbit its mass. D. Saturn does have less mass than the Sun, but Saturn is closer to the Sun, which is why it orbits Saturn as well as the Sun.
3	Earth and Space Sciences	Correct Response: • The gravitational force between Titan and Saturn is [greater than, less than, equal to] the gravitational force between Titan and the Sun because of the [masses of, distances between] the interacting objects. • The gravitational force between the Sun and Saturn is [greater than, less than, equal to] the gravitational force between the Sun and Titan because of the [masses of, distances between] the interacting objects.
4	Life Science	A. The student may think that the greater variety of Cretaceous forams indicates that there were more food sources. B. The student may think that the greater variety of Cretaceous forams indicates that there were more predators. C. Correct. The average foram size decreased in the Tertiary period, which indicates that smaller size was an advantage. D. The student may read the Cretaceous graph and may think the data reflects reproductive rates.
5	Life Science	A. The student may think that the different rocks come from different locations. B. Correct. The Tertiary graph shows sizes only from 0.01–0.19 mm, while the Cretaceous graph shows sizes from 0.01–0.59 mm. C. The student may be confused regarding the timing of the K-T extinction. D. The student may think that the zero values in the graph indicate that the fossils disappeared.

Science												
Number	Reporting Category	Item Distractor Rationales										
6	Life Science	A. The student may think that individuals become different species. B. The student may think that moving down from the surface is going forward in time rather than in reverse. C. Correct. The number of species increases from layers 3–5, indicating that diversification occurred. D. The student may think that migration is the most likely explanation.										
7	Physical Sciences	Scoring Rubric										
		<table><tr><th>Score</th><th>Description</th></tr><tr><td>2</td><td>Students select four correct matches.</td></tr><tr><td>1</td><td>Students select three correct matches.</td></tr><tr><td>0</td><td>Students select two or fewer correct matches.</td></tr><tr><td>Blank</td><td>No response</td></tr></table>	Score	Description	2	Students select four correct matches.	1	Students select three correct matches.	0	Students select two or fewer correct matches.	Blank	No response
		Score	Description									
		2	Students select four correct matches.									
		1	Students select three correct matches.									
		0	Students select two or fewer correct matches.									
		Blank	No response									
Correct Response:												
Mass of water bottle Movement of water bottle Mass of balls Distance of bottle from starting point Independent Variable Controlled Variable Dependent Variable												

Science		
Number	Reporting Category	Item Distractor Rationales
8	Physical Sciences	Scoring Rubric
		Score Description
		2 Students select two correct pairs of force indicators.
		1 Students select one correct pair of force indicators.
		0 Students select force indicators that do not constitute at least one correct pair.
		Blank No response
		Correct Response:
		Diagram 1: 20 g Ball Collision
		
		Diagram 2: 117 g Ball Collision
		
9	Physical Sciences	A. Correct. Adding more water to the water bottle will increase the mass of the water bottle.
		B. The student may think that rolling the ball with less force will affect the water bottle mass.
		C. The student may think that hitting the bottle more times will increase the mass of the bottle.
		D. The student may think that increasing the distance the ball rolls toward the water bottle will affect the water bottle mass.

Science		
Number	Reporting Category	Item Distractor Rationales
10	Earth & Space Sciences	A. Correct. This model correctly represents the position of Earth and the Sun in June because at this time Earth's North Pole is tilted toward the Sun and Earth's South Pole is tilted away from the Sun. B. This model does not represent the position of Earth and the Sun in June because it does not provide evidence that each hemisphere receives different intensities of sunlight. C. This model does not represent the position of Earth and the Sun in June because the model shows the Sun shining on both hemispheres rather than showing a difference in the intensity of sunlight each hemisphere receives. D. This model represents the position of Earth and the Sun at a time that better reflects the winter months on Earth since Earth's South Pole is tilted toward the Sun and Earth's North Pole is tilted away from the Sun.
11	Earth & Space Sciences	A. Students may have the misconception that the seasons are caused by Earth's general proximity to the Sun (when Earth is far away from the Sun it is winter because it is colder). B. Students may have the misconception that the rate at which Earth orbits the Sun primarily affects the seasons throughout the year. C. Correct. Since Earth has a tilted axis as it orbits the Sun, there is a differential intensity of sunlight on different parts of Earth throughout the year. D. Students may have the misconception that Earth's spin primarily affects the seasons throughout the year.
12	Earth & Space Sciences	A. This would indicate that both hemispheres are experiencing summer in December, but based on the table, the Northern Hemisphere is experiencing winter and the Southern Hemisphere is experiencing summer. B. This would indicate that both hemispheres are experiencing winter in December, but based on the table, the Northern Hemisphere is experiencing winter and the Southern Hemisphere is experiencing summer. C. Based on the table, this would better represent the Earth in the month of June since it would reflect summer in the Northern Hemisphere and winter in the Southern Hemisphere. D. Correct. The table indicates that in December it is winter in the Northern Hemisphere and summer in the Southern Hemisphere, so the model should show that this is due to each hemisphere receiving different intensities of sunlight at this time of the year.

Science		
Number	Reporting Category	Item Distractor Rationales
13	Life Sciences	A. This is not supported by the data because average annual winter temperature increased by 2010 and corresponded to an increase in the distribution of the phenolic trait in the thyme population, which suggests that individuals with this trait were surviving to reproduce. B. Students may have the misconception that individuals can change their traits over their lifetimes, rather than the distribution of traits changing in a population over time due to natural selection. C. Correct. The percentage of thyme plants with the phenolic trait increased relative to the nonphenolic trait during the same time period when average annual winter temperatures increased, suggesting that the freezing risk was lowered enough for the phenolic trait to be beneficial for reducing predation risk in the thyme plant population. D. Students may have the misconception that natural selection is driven by individuals being strong enough to survive (“survival of the fittest”) and that this explains why both phenolic and nonphenolic thyme plants are present in the 2010 thyme population.
14	Life Sciences	A. Students may have the misconception that organisms can change their features to suit their environment. B. Students may have the misconception that traits that are not used become less frequent in a population over time. C. Students may not recognize that the phenolic trait is disadvantageous in a colder environment. D. Correct. Since the nonphenolic trait helps thyme plants survive freezing temperatures, the increase in average winter temperatures from 1974–2010 likely explains why the frequency of nonphenolic thyme plants decreased, since nonphenolic thyme plants are at greater risk of being eaten by predators than phenolic thyme plants.
15	Life Sciences	A. If average annual winter temperature continued to increase, it’s likely that phenolic thyme plants that can deter predators would be more likely to survive and reproduce than nonphenolic thyme plants, so the frequency of phenolic thyme plants in the population would likely increase while nonphenolic thyme plants would decrease. B. If average annual winter temperatures continued to increase, it’s likely that phenolic thyme plants that can deter predators would be more likely to survive and reproduce than nonphenolic thyme plants, so the frequency of nonphenolic thyme plants in the population would likely decrease, not increase. C. If average annual winter temperatures continued to increase, it’s likely that phenolic thyme plants that can deter predators would be more likely to survive and reproduce than nonphenolic thyme plants, so the frequency of phenolic thyme plants in the population would likely increase, not decrease. D. Correct. Based on the frequency of thyme plants with the phenolic trait increasing and the nonphenolic trait decreasing with an increase in average annual winter temperature, a further increase in average winter temperatures would be likely to further provide phenolic thyme plants with a survival advantage against predation.

Science		
Number	Reporting Category	Item Distractor Rationales
16	Physical Sciences	A. Correct. SWS device design is an iterative process, where scientists consider alternate design pathways to improve the effectiveness of the SWS device. B. Scientists develop SWS devices through the design process so they can revisit how earlier devices were built and refine the design of the device instead of starting from scratch with a new design. C. Scientists designing an SWS device work to improve upon their initial designs, rather than assuming that the first solution is the best solution. D. The cost of an SWS device is a design constraint, as space missions typically operate within strict budget limits.
17	Physical Sciences	A. Decreasing the thickness of the rear wall would limit how much the shield reduces the acceleration of any remaining solid debris, so this would not help shield the spacecraft from a collision with debris. B. Correct. Adding more Nextel and Kevlar layers between the bumper wall and rear wall would improve how much the shield reduces the acceleration of the debris, so that the force of the collision would be reduced and therefore rear wall damage would be reduced. C. Reducing the amount of material that the space debris would collide with would limit how much the shield reduces the acceleration of the debris, so this would not be an improvement to reduce rear wall damage. D. Students may have the misconception that action-reaction forces can balance each other out, when this is not the case since these forces are between two different objects (the debris and the walls of the SWS).
18	Physical Sciences	A. Smaller pieces of debris would have a smaller mass, causing a decrease in speed. B. Correct. Breaking up the debris into smaller pieces (smaller mass) and reducing the speed of the debris would reduce the net force of the collision. C. The collision with thicker walls would break any remaining debris into pieces instead of breaking the rear wall, and any intact debris would increase in speed. D. The speed of the debris would decrease, not increase, because the collision with thicker walls would break any remaining debris into pieces instead of breaking the rear wall.

Blank



ANSWER SHEET

USE NO.2 PENCIL ONLY

ENGLISH LANGUAGE ARTS

- 1 (A) (B) (C) (D)
- 2 (A) (B) (C) (D)
- 3 (A) (B) (C) (D)
- 4 (A) (B) (C) (D)
- 5 (A) (B) (C) (D)
- 6 TEI
- 7 TEI
- 8 (A) (B) (C) (D)
- 9 (A) (B) (C) (D)
- 10 (A) (B) (C) (D)

- 11 (A) (B) (C) (D)
- 12 TEI
- 13 (A) (B) (C) (D)
- 14 (A) (B) (C) (D)
- 15 TEI
- 16 (A) (B) (C) (D)
- 17 (A) (B) (C) (D)
- 18 (A) (B) (C) (D)
- 19 (A) (B) (C) (D)
- 20 (A) (B) (C) (D)



MATHEMATICS

- 1 (A) (B) (C) (D)
- 2 (A) (B) (C) (D)
- 3 (A) (B) (C) (D)
- 4 (A) (B) (C) (D)
- 5 TEI
- 6 (A) (B) (C) (D)
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- 11 (A) (B) (C) (D)
- 12 (A) (B) (C) (D)
- 13 TEI
- 14 (A) (B) (C) (D)
- 15 (A) (B) (C) (D)



SCIENCE

- 1 (A) (B) (C) (D)
- 2 (A) (B) (C) (D)
- 3 TEI
- 4 (A) (B) (C) (D)
- 5 (A) (B) (C) (D)
- 6 (A) (B) (C) (D)
- 7 TEI
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- 12 (A) (B) (C) (D)
- 13 (A) (B) (C) (D)
- 14 (A) (B) (C) (D)
- 15 (A) (B) (C) (D)
- 16 (A) (B) (C) (D)
- 17 (A) (B) (C) (D)
- 18 (A) (B) (C) (D)





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