

# OKLAHOMA SCHOOL TESTING PROGRAM

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PARENT, STUDENT, AND TEACHER GUIDE

**ENGLISH LANGUAGE ARTS,  
MATHEMATICS & SCIENCE**

2025–2026 **GRADE 5**



**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](http://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](http://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](http://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](http://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](mailto:assessments@sde.ok.gov).

Sincerely,

Oklahoma State Department of Education, Office of Assessments

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# THE OKLAHOMA SCHOOL TESTING PROGRAM

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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 5 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: [okpracticetest.cognia.org/student/login](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?

Students in fifth grade will read a variety of more challenging texts of different types (books, newspapers, and poems, for example). They will read for different purposes, such as to find information or for fun. Fifth graders are focusing on elements of writing including style, structure, and the author’s purpose for writing. They can explore words with multiple meanings and make educated guesses about what words mean based on how and where they are used. This information is a snapshot of learning in English language arts (ELA) for Grade 5.

## How can I help my student at home?

- Encourage your child to read several pieces of information on a topic and discuss the differences between them.
- Work together to write a paragraph on a topic your child is interested in, including key details, facts, and information.
- Ask your child to find and discuss interesting words in the books they are reading. Consider words with several meanings (bark, for example) or more descriptive words, such as saunter instead of walk.
- Help your student to identify and correct mistakes in their writing or to notice mistakes in other people’s writing.
- Help your student evaluate the quality of various sources.
- Read a text together and discuss the author’s reason for writing the piece.

## How can I help increase my student’s reading comprehension?

Reading is a building block for success in all school subjects and a critical skill that develops with time and practice. Encourage your child to read for pleasure, and be a good role model by reading things you enjoy.

Use the following questions to help fifth graders understand what they are reading.

Before Reading	During Reading	After Reading
<ul style="list-style-type: none"><li>• Is this the type of book you usually choose? Why or why not?</li><li>• By looking at the cover, what do you think the author’s reason for writing the book might be?</li><li>• What do you think the book will be about?</li></ul>	<ul style="list-style-type: none"><li>• What figurative language do you notice?</li><li>• What do you do when you don’t understand what you just read?</li><li>• What resources can you use to understand words you aren’t familiar with?</li></ul>	<ul style="list-style-type: none"><li>• Give a summary of the book in 10 words.</li><li>• What problem did the main character face? What was the solution to that problem?</li><li>• What message is the author sharing with the reader? Why do you think that?</li></ul>

## English Language Arts Practice Questions

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The OSTP Grade 5 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 a 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:** [okpracticetest.cognia.org/student/login](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 5 ELA 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 the test booklet. Then mark your answer in the answer document.

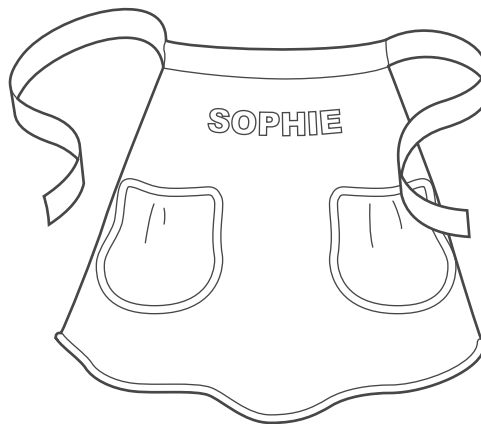
Read the passage. Then answer the questions that follow.

## Scratch Cooking

- 1 On Saturday, Aunt Lila came to stay with Sophie while her father and mother went to visit friends. Immediately, Aunt Lila took charge of making dinner. She placed chicken in a big pot, supplied Sophie with an apron, and then announced that tonight's menu would be chicken and noodles "from scratch."
- 2 "Nothing can compete with scratch cooking," said Aunt Lila, lifting the chicken out of its broth and arranging it on a platter. "Now for the noodles."
- 3 "I'll get a bag of noodles from the cupboard," said Sophie.
- 4 "Are you kidding? We're going to make our own noodles!" Aunt Lila said with the enthusiasm of a cheering fan.
- 5 "Making noodles from scratch seems like a lot of work," grumbled Sophie.
- 6 "Positive results require hard work," declared Aunt Lila. "We'll need some flour, salt, an egg, a little milk, and a rolling pin."
- 7 Aunt Lila mixed the flour and salt in a big bowl and with a spoon made a little crater in the middle. She told Sophie to beat the egg in a bowl, measure two tablespoons of milk, and then put the egg and milk into the crater in the flour and stir.
- 8 Sophie stirred and stirred, and the dough became stiffer and stiffer. Sophie's hands began to hurt. "It's too hard to stir," she complained. "Isn't it ready yet?"
- 9 "Good things are worth the effort," replied Aunt Lila, dusting the counter with flour. She then took the bowl from Sophie, lifted out the dough, and positioned it on the cutting board. "Now we must knead the dough." She showed Sophie how to use the palms of her hands to press out the dough and then fold it until it was stretchy like a big rubber band.
- 10 Next, using a rolling pin, Aunt Lila rolled the dough forward and back, forward and back in a repetitive rhythm, until it finally became a large rectangle. She handed the rolling pin to Sophie and said, "Your turn."
- 11 Sophie attempted to roll the dough exactly as Aunt Lila had done. The dough fought against Sophie's efforts. "This sure is hard work," she said.



- 12 "Keep rolling," said Aunt Lila, "because the dough has to be extremely thin."
- 13 Sophie rolled and rolled until the dough was as thin as a sheet of paper. Finally, Aunt Lila examined the dough, gave an approving smile, and said, "Now we cut the noodles."
- 14 Aunt Lila picked up one edge of the dough and rolled the rectangle into a long rope. With a sharp knife, she sliced a thin chunk of dough from the end of the rope. The chunk of dough was coiled up like a snail. Handing the dough to Sophie, she instructed, "Shake it out."
- 15 Sophie took one end of the spiraled dough and shook it until it became a long golden ribbon. "It's a noodle!" she said, her eyes shining in amazement. "Can I cut some?"
- 16 Aunt Lila helped Sophie cut the rest of the dough rope into many small pieces. Together they unrolled each piece until a huge pile of golden noodles blanketed the counter. Aunt Lila dusted the noodles with some more flour while Sophie spread out the noodles so they would not stick together.
- 17 "We'll let the noodles dry a little as we take the chicken off the bone," said Aunt Lila. "Then we'll cook the noodles in the chicken broth, and when they're done, we'll add the chicken."
- 18 For dinner that night Sophie had a big bowl of chicken and noodles.
- 19 "So what do you think of our meal?" asked Aunt Lila, her eyes sparkling.
- 20 With a grin Sophie proclaimed, "Scratch cooking—mmm!" She swallowed her last bite. "May I please have another helping?"



"Scratch Cooking." Copyright © 2022 by Cognia, Inc.



**1** At the beginning of the passage, why is Aunt Lila's view of scratch cooking different from Sophie's view?

- A** Aunt Lila knows no other way to make chicken and noodles.
- B** Aunt Lila worries that Sophie might dislike her chicken and noodles.
- C** Aunt Lila dreads teaching Sophie how to make noodles from scratch.
- D** Aunt Lila understands it is worth the extra time to make noodles from scratch.

**2** Based on the Latin word *repetere*, which means "to do again," the word **repetitive** from paragraph 10 means

- A** to repair something.
- B** to repeat something.
- C** to rewind something.
- D** to remove something.

**3** Read the sentence.

The dough fought against Sophie's efforts.

**What does the personification of the dough suggest?**

- A** The dough does not have all the ingredients.
- B** The dough is not ready to be rolled out.
- C** The dough is difficult to knead.
- D** The dough prefers Aunt Lila.

**4 Which sentence from the passage best suggests that Aunt Lila is determined?**

- A** “Nothing can compete with scratch cooking,” said Aunt Lila, lifting the chicken out of its broth and arranging it on a platter.
- B** “Are you kidding? We’re going to make our own noodles!” Aunt Lila said with the enthusiasm of a cheering fan.
- C** “Good things are worth the effort,” replied Aunt Lila, dusting the counter with flour.
- D** “We’ll let the noodles dry a little as we take the chicken off the bone,” said Aunt Lila.

**5 What is the best summary of “Scratch Cooking”?**

- A** Aunt Lila comes to watch Sophie and begins preparing chicken and noodles. Aunt Lila tells Sophie that homemade noodles are better than store-bought noodles, and she asks Sophie to help her make noodles. Sophie discovers that she enjoys homemade food.
- B** Aunt Lila wants to cook dinner with Sophie while her parents are out, and she suggests they cook a chicken. Aunt Lila convinces Sophie that homemade food tastes the best. They make noodles together, and Sophie shakes them open.
- C** Sophie is interested in cooking chicken and noodles with Aunt Lila, and Aunt Lila agrees to show her how. After the noodles are done, they prepare the chicken. When the meal is ready, Sophie and Aunt Lila have dinner.
- D** Sophie mixes the dough for Aunt Lila, and then she kneads it. When it is ready, Aunt Lila rolls the dough out until it is very thin. Sophie decides that making noodles is too much work.



6

These paragraphs are in the incorrect order. Rearrange the paragraphs to create a clear organization.

To rearrange a paragraph, click and hold the paragraph, and drag it to the desired position.

Cooking at home often takes more preparation. A main course, such as veggie burgers or pot roast, must be seasoned and prepared. Fresh fruits and vegetables need to be cleaned and often must be cut up. Sometimes a dessert is even made! Each of these tasks can be done by different family members, and preparing meals together allows them to visit with each other while they work.

Many people enjoy cooking their meals at home. There are several different reasons for this, which include more time to spend with family, saving money on home-cooked meals that cost less than restaurant meals, and gaining nutritional benefits.

Eating out is a nice treat, but cooking meals at home has many benefits. It is usually a much healthier option than eating out and gives family members opportunities to spend quality time together without having to break the bank.

Some restaurant meals can be healthy, but oftentimes they are not. Restaurants want their food to taste good. They often add ingredients like butter, salt, or sugar that can be unhealthy. When cooking at home, these ingredients can be closely measured. That means people will not get too much sugar, fat, or salt. Also, restaurant meals are often too big. It is easier to control meal sizes when eating at home.

Another reason people are cooking at home is because home-cooked meals are usually less expensive than eating at a restaurant. When cooking at home, the food is purchased from a grocery store. Food from a grocery store costs much less than food at a restaurant. At a restaurant, customers must also pay for chefs to prepare the food and waitstaff to bring it to the table.





7

This question has 3 drop-down boxes.

After making chicken and noodles with Aunt Lila, Sophie writes in her journal about the experience. Edit Sophie's journal entry for correct spelling by selecting the correct word.

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 3 drop-down options.

Tonight, Aunt Lila and I made chicken and noodles from scratch. It was {dealichous/deelishous/delicious/deelicious}. I hope I can {rember/remember/remeber/reemember} the recipe because I will {definitely/definately/defanately/defenately} make it again!

Tonight, Aunt Lila and I made chicken and noodles from scratch. It was . I hope I can . I .

Tonight, Aunt Lila and I made chicken and noodles from scratch. It was . I hope I can  the recipe because I  make it again!

Tonight, Aunt Lila and I made chicken and noodles from scratch. It was . I hope I can  the recipe because I  make it again!



**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.**

### Quiz Bowl

- 1 "Ladies and gentlemen, boys and girls, welcome to the tenth annual Meadow Elementary Quiz Bowl! Please join me in welcoming our contestants, representatives from each fifth and sixth grade homeroom!" A wild roar followed Mr. Smith's remarks. Instead of smiling, I just sat there; my face was stone.
- 2 The youngest child in our family, I dreamed of carrying on the Wilson family tradition of being the homeroom representative at the Quiz Bowl. While other kids goofed around with their friends, I studied trivia cards. Actually, I ate, drank, and slept trivia for months, and today was my big day.
- 3 Mr. Smith officially started the game. "Adam Wilson, the first question will be yours. Who was the fortieth President of the United States?"
- 4 Without even consulting my brain, the answer rolled off my tongue, "President Reagan!"
- 5 "Correct! Give the young man ten points." Each time I answered correctly, my classmates beamed with pride. One by one, we churned out answers like butter.
- 6 Suddenly, it seemed as if my rhythm had gone from melodic to flat. Mr. Smith asked, "Adam, what is the name of the Minnesota state bird?" My brain was an ice cube. I knew it started with the letter *L*, but the word would not come. "Five seconds, Adam," Mr. Smith cautioned. In the very last second, I spit out the word *loon*, and the audience let out a relieved sigh.
- 7 My biggest rival, Sara Jensen, had the edge over me by only ten points. Aware the last round would be worth double, I knew I had a great chance of overtaking her.
- 8 The final round was upon us. "Contestants, I want you all to know that each of you will be asked one last question worth twenty points. Sara, in what year did the very first astronaut land on the moon?" Sara's eyes grew wide, and her face turned as pale as a sun-bleached towel. It was obvious she did not know the answer, and after what seemed like an eternity, she spoke, "1978."
- 9 "I'm sorry, but that answer is incorrect, Sara." My heart was racing a thousand miles a minute now. Sara had just opened the door to victory for me—one correct answer, and the championship was mine.
- 10 "Ladies and gentlemen, this will be the final question of our Quiz Bowl. Adam Wilson, are you ready?"
- 11 "Yes sir," I replied.



- 12 "In which country is the world's tallest mountain found?" My grandfather, an expert mountain climber, and I had discussed this, and though I could recall our conversation vividly, I could not remember the name of the country. My mind raced, and then it happened. The name was on the tip of my tongue, but when I opened my mouth to let it out, it would not come; my voice was paralyzed.
- 13 "Time is up, Adam. I'm sorry."
- 14 "Nepal!" I shouted, snapping out of my trance, but it was too late.



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

### Talent Show

I remember the whole school, silent,  
the bright white of the spotlight  
from the back of the gymnasium,  
a light I could not take my eyes away from,  
5 like staring at the sun  
until I started to see small spots.

I stood there, my classmates, teachers,  
six grades of students with legs crossed  
and chins resting on their folded hands  
10 waiting for me to recite my poem.

I opened my mouth to speak—  
I stuttered  
and sputtered  
and swallowed my voice.

15 I looked at the piece of paper in my hands,  
the words floating around the white page,  
the letters swimming like insects  
in a pond during a hard rain.

I imagined my poem looking back at me,  
20 seeing my dry mouth and shaking its head,  
thinking of the weeks that we had practiced  
in front of the long mirror  
at the end of the hall.

I imagined my poem's disappointment growing,  
25 first a small hill,  
then as tall as the tallest mountain.



My poem and I stood atop that mountain of disappointment;  
we took one step to the side,  
and then my voice began to work.  
30 It wheezed and whined  
and whistled  
and went.

"Talent Show." Copyright © 2022 by Cognia, Inc.



- 8** Which conclusion can be drawn about Adam's siblings?
- A** They enjoy goofing around with their friends.
  - B** They were all Quiz Bowl representatives.
  - C** They help him study for the Quiz Bowl.
  - D** They are much older than he is.
- 9** In "Quiz Bowl," what effect does Adam's conversation with his grandfather have on the plot?
- A** It helps Adam know the answer to a question.
  - B** It disrupts the rhythm Adam has answering questions.
  - C** It causes Adam to lose his concentration during a round.
  - D** It makes Adam think that his rival will answer a question incorrectly.
- 10** In "Talent Show," what seems to cause the speaker to remember the lines to the poem?
- A** the speaker's paper
  - B** the audience's stares
  - C** the speaker's memories
  - D** the poem's disappointment



**11** The theme in “Talent Show” is about

- A** preparing for a poetry contest.
- B** looking down from a mountaintop.
- C** participating in the writing process.
- D** being nervous in front of an audience.

**12** Which idea is supported by details in **both** “Talent Show” and “Quiz Bowl”?

- A** Standing under a spotlight can cause one to lose focus.
- B** Trying to live up to the expectations of others is usually challenging.
- C** No matter how much one prepares, performing in front of others is difficult.
- D** Once a person gets used to it, speaking to an audience becomes second nature.



Read this passage. Then answer the questions that follow.

### Man's Best Friend

- 1 Did you know that people have been keeping dogs as pets for thousands of years? Dogs have been kept both for companionship and for work. Many people in ancient Greece kept watchdogs. People living in ancient Rome also used dogs to guard their homes. In fact, Romans who kept a watchdog were required to post a sign warning "Cave Canem," which translates roughly to "Beware of Dog."
- 2 In modern times, many dogs still work as watchdogs or guard dogs. Dogs often work other types of jobs too. Ranchers and farmers still use dogs to help with livestock. Many dogs are used for hunting.
- 3 Other dogs work as guides, helping people with a disability. Dogs also help rescue workers. The dogs' incredible sense of hearing and sharp sense of smell help them find people who are lost or hurt. Some dogs even work side by side with police officers helping to keep the public safe.
- 4 While many dogs perform important jobs, most dogs in the United States today are kept as pets. Millions of families have one or more of these canine companions. They are prized for their friendship and loyalty. Unfortunately, people sometimes choose a dog that is not right for their lifestyle. Veterinarians suggest that people learn how different types of dogs behave before choosing one as a pet.
- 5 Potential dog owners should first consider how large their pets will grow. Almost all puppies are cute, cuddly, and little. However, the puppy stage will not last long—most dogs reach full size in less than a year. That tiny pup may grow into a surprisingly large adult dog. Dog owners must make sure they are just as willing to take care of the adult dog as they are the puppy.
- 6 To make sure they continue to be happy with their pets, dog owners must take care to choose the right breed. Different types of dogs have different types of personalities. Some are calm and relaxed. Others are playful and energetic. Dog owners who want to play ball or go jogging with their pets should choose an active and lively breed. A collie or shepherd might be a good choice. Likewise, someone who spends most of his or her free time watching television needs a less active dog. A poodle or basset hound might be a better choice. Some dogs are more patient than others. They are better with smaller children. People who live alone and spend much of their time at work need a dog that is more independent.





- 7 By taking the time to do a little research, potential dog owners have a better chance of choosing the right pet. However, dogs are unpredictable. They do not always turn out as expected. Purebred dogs are easiest to predict. They usually have personalities and habits similar to other dogs in their breed. Mixed-breed dogs are harder to predict, but these dogs tend to be more social.
- 8 Whether working side by side with people or as family pets, dogs have proven to be faithful companions. They are certainly worthy of the title “man’s best friend.”



“Man’s Best Friend.” Copyright © 2022 by Cognia, Inc.



**13** In which word is the prefix **dis-** used in the same way as it is used in **disability** in paragraph 3?

- A** discuss
- B** distance
- C** dislike
- D** display

**14** Read the dictionary entry.

**stage** (stāj) *n.* 1. A raised level platform for performing. 2. The scene of an event or series of events. 3. A part or section of a trip or journey. 4. A step or level of development.

Which **best** fits the meaning of **stage** as it is used in paragraph 5?

- A** 1
- B** 2
- C** 3
- D** 4

**15** Paragraphs 4 through 7 are **mainly** about

- A** the jobs dogs can perform.
- B** how cute and cuddly puppies are.
- C** choosing the right dog to be a pet.
- D** dogs that are good for active people.



**16** Based on the information in the passage, which detail from the passage is a fact?

- A** A collie or shepherd is a good pet choice for active people.
- B** Some dogs work with the police to keep the public safe.
- C** Almost all puppies are cute, cuddly, and little.
- D** Dogs are known to be friendly and loyal pets.

**17** Based on the passage, the reader can conclude that pet owners

- A** keep dogs mainly to guard their homes.
- B** need to play or jog with their dogs often.
- C** do not need to research their pet choices.
- D** do not always choose the right dog breeds.

**18** Which of these would be a subtopic in an outline of this passage?

- A** Caring for Your New Puppy
- B** Training Your New Puppy
- C** Finding the Right Dog
- D** Popular Dog Breeds



**19** Which of these would be the **best** resource for locating additional information about specific dog breeds?

- A** an encyclopedia article: "Dogs Throughout Human History"
- B** a website: "Veterinary Association's Guide to Dog Types"
- C** a book: "The Pet Lover's Handbook for a Happy Dog"
- D** an article: "How to Train Your New Puppy"



**20** Read the sentence.

Joel ran faster than Mike he won the race.

What change, if any, should be made to the sentence?

- A** Joel ran faster than Mike, he won the race.
- B** Joel ran faster than Mike and won the race.
- C** Joel ran faster than Mike. And won the race.
- D** Joel ran faster than Mike: And he won the race.

**21** Read the sentence.

Everybody in the auditorium \_\_\_\_\_ asked to stand.

Which verb correctly completes the sentence?

- A** am
- B** was
- C** are
- D** were

**22** Read the sentence.

"Ouch! That really hurt!" I cried after I fell off my bike.

Why is the interjection "Ouch!" used in the sentence?

- A** to show pain
- B** to show worry
- C** to give directions
- D** to give suggestions



**23** Read the sentence.

The dogs caught sight of the cat, and at once they chased it.

What is the effect of the verb tense used in the sentence

- A** It shows that the dogs will chase the cat in the future.
- B** It shows that the dogs chased the cat in the past.
- C** It shows that the dogs are always chasing the cat.
- D** It shows that the dogs are currently chasing the cat.

**24** Read the sentence.

"Let's record ourselves reading aloud, said Frank.

What change, if any, should be made to the punctuation in the sentence?

- A** "Let's record ourselves reading aloud, said Frank."
- B** Let's record ourselves reading aloud, "said Frank."
- C** "Let's record ourselves reading aloud," said Frank.
- D** no change





## 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:**

**Write an informative essay explaining how camouflage and vision work together to help animals survive in their environments. Be sure to use information from both passages in your paper.**

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

- 1. Animals in Disguise**
- 2. Seeing Animals Differently**

**Animals in Disguise**

- 1 Many animals are masters of disguise. Some change their skin color. Others shape themselves in ways that help them look like their surroundings. These different forms of camouflage help animals survive.
- 2 The type of camouflage an animal develops depends mostly on its predators and its environment. Animals change in different ways to trick their predators. In most cases, their camouflage is designed to match their environment. This helps them become more difficult for their predators to spot.

**Texture**

- 3 Another way animals blend into their environment is through texture. Some insects have smooth shells that make them look like the leaves around them. Other animals, such as squirrels, have rough and uneven fur. This helps them blend in with tree bark, so they are nearly impossible to see when they hide in trees.

**Design**

- 4 Even pretty designs on some animals can be a type of camouflage. Animals that live in areas with tall grass may have stripes to help them hide. These stripes can confuse predators. A group of zebras with black and white stripes tricks the lion's eyes into thinking the group is a single large animal. This makes it difficult for the lion to hunt just one zebra.

**Color**

- 5 Animals may also use color as a disguise. The white polar bear's fur lets it blend into the snowy land. This helps the polar bear sneak up on its prey. Surprisingly, the polar bear's skin is black, but it looks white because of the way the light bounces off its skin and fur. Since some animals live in places where their surroundings change with the seasons, the color of their fur must also change. In order to blend in, these animals usually grow new fur every few months.
- 6 Other animals change their skin color in order to hide from predators. The cuttlefish is able to change its skin color by flexing its muscles. The cuttlefish has several small blobs on its skin that are colored with a special material called pigment. The blobs are so small that the color is hard to see when the muscles are relaxed. When the cuttlefish squeezes certain muscles, it forces the blobs to spread out. While this happens, more pigment is pushed in. The spreading blobs give the cuttlefish a whole new color. When the cuttlefish relaxes its muscles, the blobs become small again. The cuttlefish then returns to its normal color. In addition to helping the cuttlefish hide, scientists believe the changing colors help the cuttlefish communicate with each other.
- 7 The cuttlefish is not the only animal that can change its color. Nudibranches, which are small sea creatures, also have this amazing ability. To change color, the nudibranch eats a certain type of coral. After eating the coral, the nudibranch changes to match the color of the coral it just ate. Since the nudibranch also lives in this coral, the new color is the perfect disguise.

**Shape**

- 8 Other animals use shape as a disguise. There are some that look like they are part of the trees or the grass. Some animals even look like certain predators. For example, the hawk moth caterpillar looks like a snake head, so many of its predators leave it alone. Katydid's use a similar trick. They look like tree leaves, so predators will move right past them without even noticing.

"Animals in Disguise." Copyright © by Cognia, Inc.



### Seeing Animals Differently

- 1 From insects to mammals, animals have found ways to help them survive. One way is by developing interesting ways to see and use their eyes.
- 2 Many animals have eyes that see color differently than humans. Some are colorblind which means they cannot see certain colors. Other animals can see certain colors more easily than humans. The gecko, for example, has nighttime color vision that is almost 350 times better than that of humans.
- 3 Other animals can see light that is invisible to humans. Certain species of snakes have special areas called pits that allow them to see in infrared. This means they can actually see heat. Having this ability helps the snakes find their prey while staying safe from predators. Butterflies can see another type of light that cannot be seen by humans. This light is called ultraviolet light. Butterflies also see in all directions at the same time. The trade-off is that their vision is somewhat blurry.
- 4 Some animals do not have special vision. Instead, they have unusual eye features that help them survive. Frogs' eyes bulge out from their heads so they can see above the water while their bodies are underwater. They also have two sets of eyelids. One set is clear. When frogs close the clear set of eyelids, they can see underwater while keeping their eyes protected.
- 5 The cuttlefish can change the shape of its eye. It can see behind itself and in front of itself at the same time. Although the cuttlefish is colorblind, it is able to see well in dim light. Like the cuttlefish, the chameleon is able to look in two directions at the same time. This helps the chameleon catch insects as they fly by.
- 6 Even goats can see around themselves better than humans. While humans can see at a 185-degree angle, goats can see at a 330-degree angle. This means the goat can almost see completely behind itself without turning its head. The owl, on the other hand, is not able to move its eyes to see around itself. Instead, the owl can turn its head almost completely around to see what is behind it.

"Seeing Animals Differently." Copyright © 2022 by Cognia, Inc.



## PRACTICE PLANNING PAGE

### Writing Topic:

**Write an informative essay explaining how camouflage and vision work together to help animals survive in their environments. Be sure to use information from both passages in your paper.**

---



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

**Write an informative essay explaining how camouflage and vision work together to help animals survive in their environments. Be sure to use information from both passages in your 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 are no margins, text, or other markings on the paper.

[illegible]

[illegible]



[illegible]

[illegible]

**Example of a Well-Written Response**

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

**Example Writing Topic:**

**Write an informative essay explaining how camouflage and vision work together to help animals survive in their environments. Be sure to use information from both passages in your paper.**

**Example Response**

Have you ever seen a butterfly or a frog and wondered how it survives in this cruel, harsh world? Well, it's because they have some tricks to help them out! Animals use camouflage and special vision to keep themselves alive. Today I learned that those tricks both work together to help the animals.

Squirrels, zebras, polar bears, and other animals all use camouflage to survive. They look like things in nature. It's almost like they're invisible! Animals use camouflage to hide from predators, and to hunt their prey. I remember one time when I was little, I asked my mom why the army wore camouflage clothing. She told me that it was to hide from the enemies. I feel like that's exactly what animals do!



## Example Response (continued)

Snakes, butterflies, and goats, use vision to help them survive. Most animals with special vision can see all around themselves. Others, like the snake, can see heat. Imagine just looking out your window to check the temperature! Frogs have two eyelids to help them see underwater, like built-in goggles. Owls have good vision, but can't move their eyes. That's why they can turn their heads all the way around. This helps them stay aware of others.

Vision and camouflage both work together by keeping animals from going extinct. The animals that have gone extinct, probably didn't have camouflage or good vision. I noticed that the cuttlefish has both! That's probably why they are still alive today. Also, if animals didn't have these tricks, the food chain would get messed up. Animals would go extinct, and their predators would starve. Their prey would really increase, and it



## Example Response (continued)

all be a big, huge mess!

Now you know why and how ~~most~~ animals survive. I hope that in a million years, all species are still alive. I hope the lions are still roaring, and the dogs are still barking. So next time you see an animal, remember that it might not survive without some very special tricks to help them out!



## OSTP Grade 5 Holistic Writing Rubric

Score	Description
4	<ul style="list-style-type: none"> <li>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.</li> <li>Organization is strong, creating unity and coherence; contains an engaging introduction, effective conclusion and logical sequencing with smooth, effective transitions.</li> <li>Word choice is varied and conveys meaning; language is effective and connects to the audience.</li> <li>Sentence structure is clear and correct, and the writing demonstrates a rich variety of structures, types, and lengths; any errors are minor.</li> <li>The writing demonstrates appropriate control of grammar, usage, and mechanics; errors are minor and do not affect readability.</li> </ul>
3	<ul style="list-style-type: none"> <li>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.</li> <li>Organization is adequate, creating some unity and coherence; introduction and conclusion are appropriate, and sequencing is logical with limited transitions.</li> <li>Word choice is general and includes some variety; language is adequate and attempts to connect to the audience.</li> <li>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.</li> <li>The writing demonstrates adequate control of grammar, usage, and mechanics; errors are noticeable but do not significantly affect readability.</li> </ul>
2	<ul style="list-style-type: none"> <li>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.</li> <li>Organization lacks clarity, demonstrating weak unity and coherence; introduction and conclusion are ineffective, there is little or random sequencing, and transitions are limited.</li> <li>Word choice lacks precision and variety; language may be inappropriate, ineffective, simplistic, or vague.</li> <li>Sentence structure lacks control, and the writing demonstrates limited variety of structures, types, and lengths; errors interfere with fluency.</li> <li>The writing demonstrates limited control of grammar, usage, and mechanics; errors are distracting and may interfere with readability.</li> </ul>
1	<ul style="list-style-type: none"> <li>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.</li> <li>Organization lacks logical direction; there is no evidence of unity or coherence.</li> <li>Word choice is extremely limited or inaccurate; language fails to communicate meaning. The writing may be too short to demonstrate variety.</li> <li>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.</li> <li>The writing demonstrates minimal control of grammar, usage, and mechanics; errors are numerous and impede readability.</li> </ul>

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.



### What is my student learning?

In fifth grade, students will practice more complex computation with fractions, decimals, and larger numbers using the four basic operations: addition, subtraction, multiplication, and division. Fifth-grade math also emphasizes real-world situations to help students strengthen their skills and solve problems that occur in their daily lives. This information is a snapshot of learning in mathematics for Grade 5.

### How can I help my student at home?

- Cook with children using recipes that include fractions, then ask them to double or triple the recipe ingredients.
- Using a receipt, ask your child how the total would change if 0.10 were added or subtracted.
- Ask your child to keep track of how many times people do something (leave a room or make baskets in a basketball hoop, for example), then ask them to create a graph of that data and explain it to you.
- Give your child five numbers—for example, 26, 30, 32, 32, 35. Ask your child to use the data to find the mean, or average (31); median, or middle number (32); mode, or number that occurs the most (32); and range, the difference between the highest and lowest number ( $35 - 26 = 9$ ).

### How can I help increase my student's math curiosity?

Children are naturally curious and motivated to learn about things that interest them. Since curiosity helps students be successful in the classroom, it is important to encourage it at home. Play is a wonderful way to spark curiosity, so be sure to allow plenty of playtime. Encourage your child to ask questions, be creative, discover answers, and explore their world.

Support your child's curiosity with questions like these:

- What would happen if houses were shaped like pyramids? How big would they have to be for our family to live comfortably?
- Who do you think knows the largest number in the world, and how did they figure it out?
- Have your child measure objects around the house to the nearest  $\frac{1}{16}$  inch or whole centimeter.

Your child will have plenty of questions. It's okay if you don't always have the answer. The best response is always, "Let's find out together."

### Questions to ask your Fifth Grade Math Student:

- While grocery shopping, have your student compare the prices of two different items. Ask them which one costs more or less. Have them explain their thinking. Or give them a few items and have your student put them in order from least to greatest based on their prices.
- While cooking, have your student add the ingredients that involve fractions. For example,  $\frac{1}{2}$  cup of sugar +  $\frac{3}{4}$  cup of flour =  $1\frac{1}{4}$  cups of ingredients.
- How many edges, faces, and vertices (corners) are on various items around the house?
- Have your student count the number of cars that pass in one minute and repeat this 10 times throughout the day. Ask them to find the mean, median, mode, and range of the number of cars.

## Mathematics Practice Questions

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The OSTP Grade 5 Mathematics Assessment consists of selected-response (multiple-choice) questions 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:** [okpracticetest.cognia.org/student/login](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 is located at the end of this guide with the answer key.

For more information about the Grade 5 Math Standards and/or Assessment, visit the Test and Item Specifications at <https://oklahoma.gov/education/services/assessments/assessment-materials2.html>.



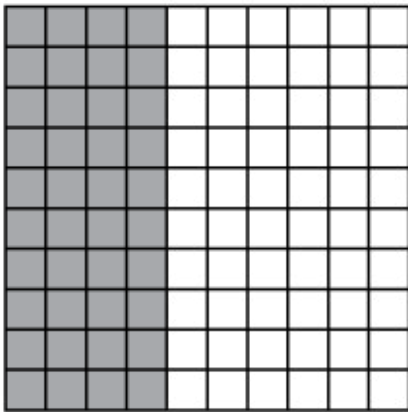


# Directions

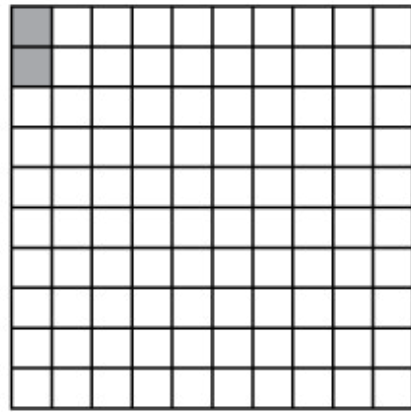
Read each question and choose the best answer. Find the question number in the answer document that matches the question number in the test booklet. Then mark your answer in the answer document.

- 1 In Tara's class,  $\frac{2}{5}$  of the students had cereal for breakfast. Which grid has  $\frac{2}{5}$  of its area shaded?

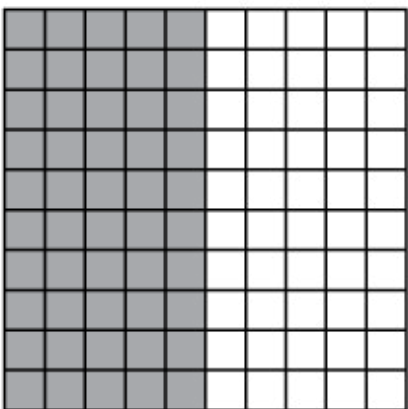
A



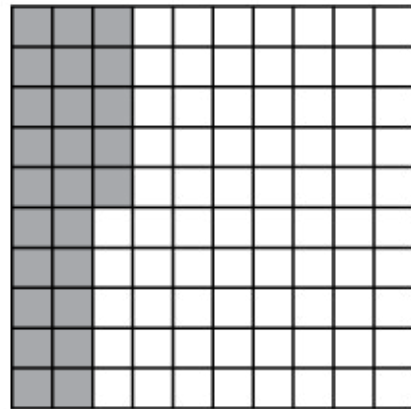
B



C



D





- 2** Misty created the number pattern below.

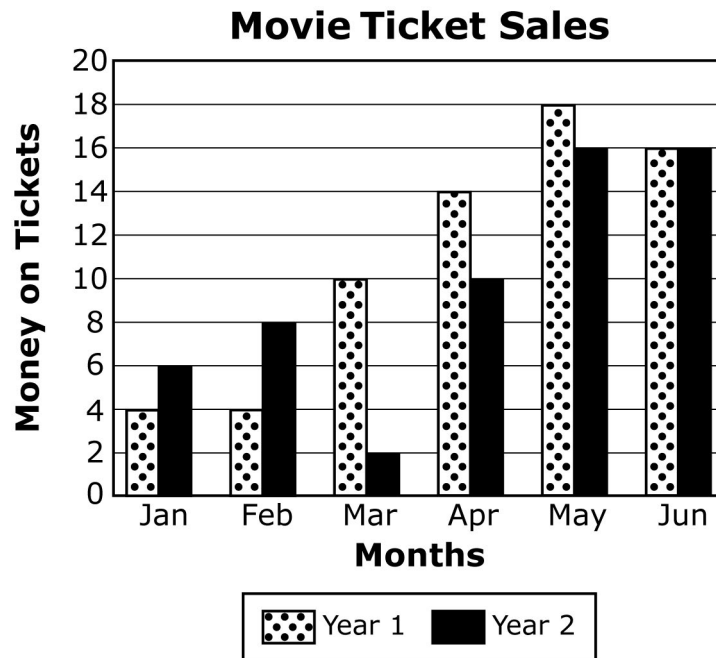
**32, 28, 24, 20, . . .**

If  $n$  represents a number in this pattern, which rule could be used to find the next number in the pattern?

- A**  $n + 4$
- B**  $n - 4$
- C**  $n \cdot 4$
- D**  $n \div 4$



- 3** The graph below shows how much money Tisha spent on movie tickets for the first six months of two different years.

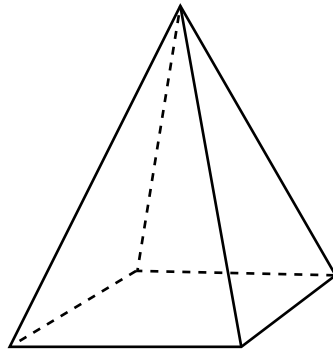


**Which month had the greatest difference in the amount of money spent on movie tickets between year 1 and year 2?**

- A** March
- B** April
- C** May
- D** June



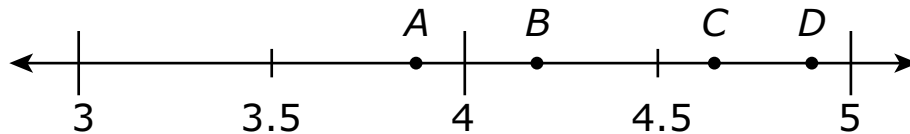
- 4** Wade drew a square pyramid for his art project.



Which statement is true of the square pyramid?

- A** The square pyramid has 8 faces.
- B** The square pyramid has 2 bases.
- C** The square pyramid has 5 vertices.
- D** The square pyramid has a triangular base.

- 5** Which point on the number line below best represents the location of 4.82?



- A** point A
- B** point B
- C** point C
- D** point D



- 6** Triangle  $PQR$  has at least two angles that are congruent.
- All of the following could describe triangle  $PQR$  **except** which term?
- A** right
  - B** scalene
  - C** isosceles
  - D** equilateral

- 7** Todd bought a coat for \$29.95. He gave the clerk \$40. Which is closest to the amount of change he should have received?
- A** \$60
  - B** \$20
  - C** \$15
  - D** \$10

- 8** An expression is shown.

$$15 - 2x$$

What is the value of this expression when  $x = 4$ ?

- A** 7
- B** 9
- C** 23
- D** 52



- 9** This table shows the high temperatures for some Oklahoma towns in January.

**High Temperatures**

<b>Town</b>	<b>Temperature (°F)</b>
Arnett	67
Beaver	70
Boise City	64
Buffalo	68
Goodwell	67
Kenton	64
Slapout	70

What is the range of these high temperatures?

- A** 2°
- B** 3°
- C** 4°
- D** 6°

- 10** An art teacher has 381 beads for making necklaces. Students will put 18 beads on each necklace.

Which is the **best** estimate for the number of necklaces the students can make?

- A** 10 necklaces
- B** 20 necklaces
- C** 30 necklaces
- D** 40 necklaces



- 11** Elise handed out paper to 8 students. Each student received 3 pieces of yellow paper, 4 pieces of red paper, and 2 pieces of black paper. Elise wrote this expression to show the total number of pieces of paper she handed out.

$$8 \times (3 + 4 + 2)$$

Which is equivalent to the expression Elise wrote?

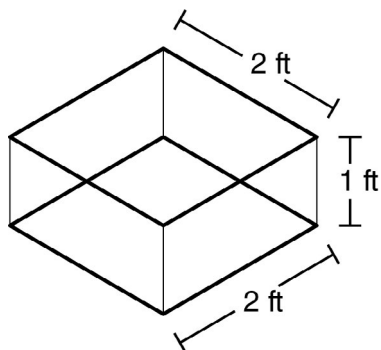
- A**  $(8 \times 3) + (4 + 2)$
- B**  $(8 + 3) + (8 + 4) + (8 + 2)$
- C**  $(8 + 3) \times (8 + 4) \times (8 + 2)$
- D**  $(8 \times 3) + (8 \times 4) + (8 \times 2)$



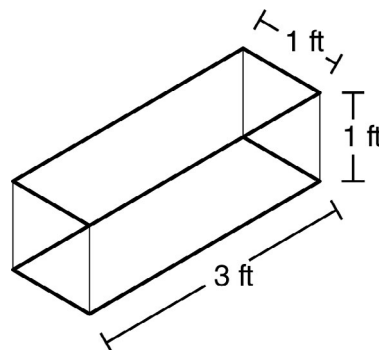
- 12** Pedro will buy an aquarium in the shape of a rectangular prism for his fish. He will choose from four options.

Which aquarium has the greatest volume?

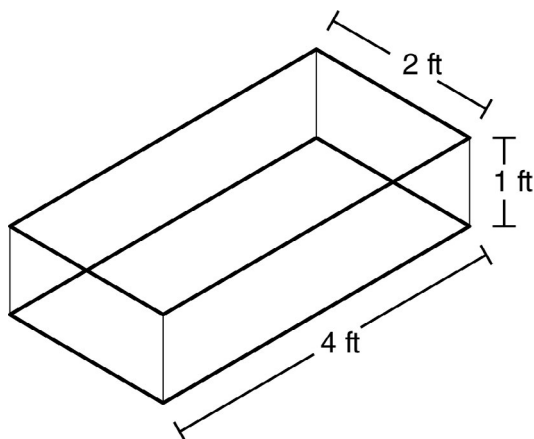
**A**



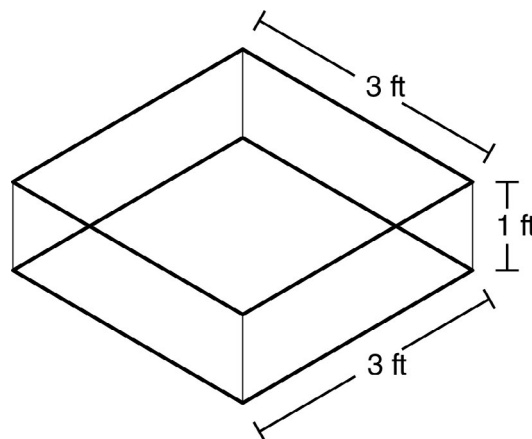
**B**



**C**



**D**

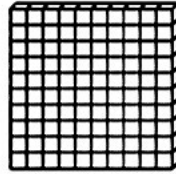




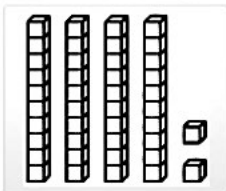
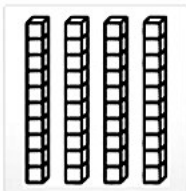
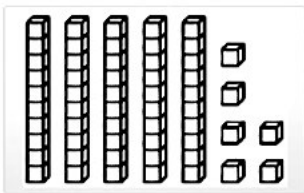


13

This model represents 1.



Match the model in the left column to the correct fraction in the right column. Each model in the left column matches to only one fraction in the right column. Click one model 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.



$$\frac{1}{10}$$

$$\frac{56}{100}$$

$$\frac{42}{100}$$

$$\frac{4}{10}$$



Use the information to answer the following questions.

**A baker made 64 doughnuts at his bakery on Monday.**

**14** The baker wants to put the doughnuts he made on Monday into boxes. Each box holds 12 doughnuts. What is the total number of boxes the baker can fill and the total number of doughnuts he will have left over?

- A** 8 boxes with 6 doughnuts left over
- B** 6 boxes with 8 doughnuts left over
- C** 5 boxes with 4 doughnuts left over
- D** 4 boxes with 5 doughnuts left over

**15** The baker continues to make the same number of doughnuts each day. How many days will it take to make an additional 768 doughnuts?

- A** 10 days
- B** 12 days
- C** 100 days
- D** 120 days



### What is my student learning?

In fifth grade, students are able to answer more advanced scientific questions. These include: “When matter changes, does its weight change?”, “Where can water be found on Earth?”, “Can new substances be created by combining other substances?”, “How does matter work its way through ecosystems?”, “Where does the energy in food come from, and what is it used for?”, “How do shadows or the amount of daylight and darkness change from day to day?”, and “How does the appearance of some stars change in different seasons?” This information is a snapshot of learning in science for Grade 5.

### How can I help my student at home?

- Ask your child to cook with you and discuss how, when you mix two or more substances or ingredients together, they sometimes form a new substance.
- Talk about how the construction of a new house or building might change the ecosystem.
- Go outside on clear nights and look at the stars. Ask your child to describe patterns they see and explain how the sky looks different in the summer and winter.
- Research the impact of recycling on natural resources.

### How can I help increase my student’s science curiosity?

Children are naturally curious and are motivated to learn about things that interest them. Since curiosity contributes to success in the classroom, it is important to encourage it at home. Play is a wonderful way to spark curiosity, so be sure to allow plenty of playtime. Encourage your child to ask questions, be creative, discover answers, and explore their world.

Support your child’s curiosity with questions like these:

- What happens to the air inside a balloon when it is deflated? Why?
- How does the weather in your community change throughout the year? What causes those changes?
- Does the night sky look the same every night of the year? Why or why not?

Your child will have plenty of questions. It’s okay if you don’t have the answer every time. The best response is always, “Let’s find out together.”

## Science Practice Questions

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The OSTP Grade 5 Science Assessment consists of selected-response (multiple-choice) questions 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:

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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 is located at the end of this guide with the answer key.

For more information about the Grade 5 Science Standards and/or Assessment, visit the Test and Item Specifications at [oklahoma.gov/education/services/assessments/assessment-materials2.html](http://oklahoma.gov/education/services/assessments/assessment-materials2.html).

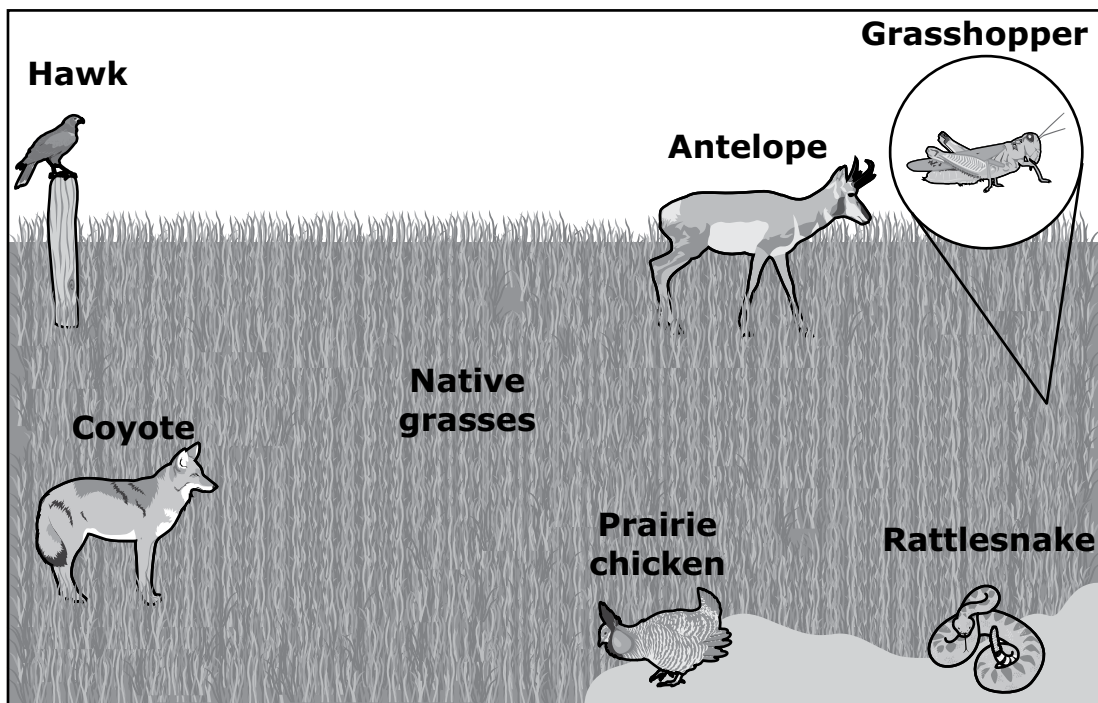


# Directions

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.

The drawing shows some plants and animals that live in the Black Kettle National Grassland in southwestern Oklahoma.



Some students wanted to make a model to show how matter moves through this grassland. The students had learned that the movement of matter allows plants and animals in the grassland to get nutrients or food. If the plants and animals do not get the nutrients or food they need, they cannot survive.

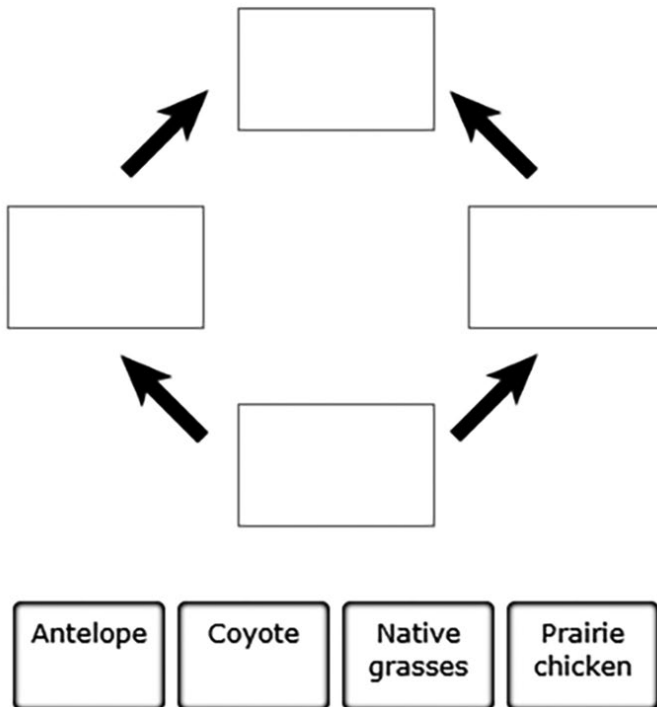
By making the model, the students could predict how well plants and animals would survive if events such as fire or drought happened in the ecosystem.

**1**

The students also learned what some of the organisms eat.

- Prairie chickens eat native grasses and coyotes eat prairie chickens.
- Native grasses are eaten by antelope and antelope are eaten by coyotes.

Drag the organisms into the food web to show how matter moves among the organisms. To drag an organism, click and hold the organism, and then drag it to the desired space. To change an organism, click and hold it, and then drag it back to the original location.





**2** What can the students add to their model to show that matter also moves between organisms and the environment?

- A** rocks, because they are a common part of soil
- B** Sun, because it allows plants to make their own food
- C** wind, because it carries air and dust around the grassland
- D** decomposers, because they break down dead plants and animals

**3** Which set of events should the students' model also include to show how matter moves in the ecosystem?

- A** Plants take up air and water to make food. → Animals eat plants. → Animals breathe out air.
- B** Plants release food as waste. → Animals break down waste from plants. → Animals breathe out air.
- C** Animals take in air and water to make food. → Other animals eat these animals. → Animals release waste.
- D** Animals release water into air. → Water is taken up by animals to make food. → Other animals eat these animals.



Use the information to answer the following questions.

**constellation**—a group of stars

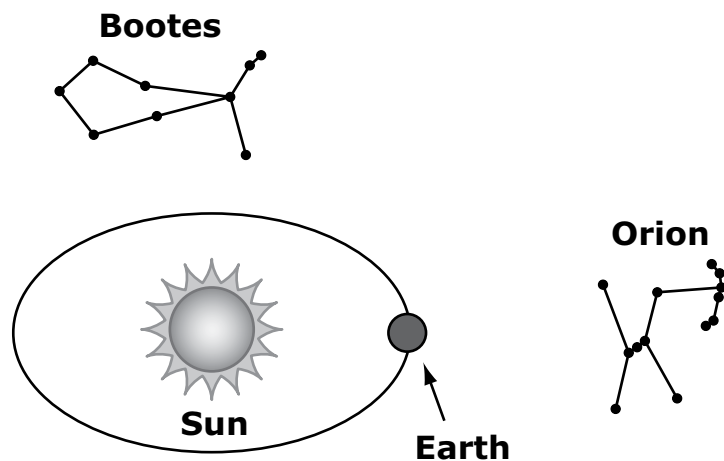
A student in Oklahoma studying the night sky wondered why different stars are seen at different times of the year. The student decided to study two constellations. One of the constellations was Orion, and the other constellation was Bootes.

The student found two pieces of information about the constellations. First, the student found the number of hours Orion is visible each night. The student recorded the data for different months in a table. Next, the student found a picture to show where Earth is in its path around the Sun in December. The student copied the picture and also marked where the constellations, Orion and Bootes, are in December.

The student's table and picture are shown.

### When Can Orion Be Seen?

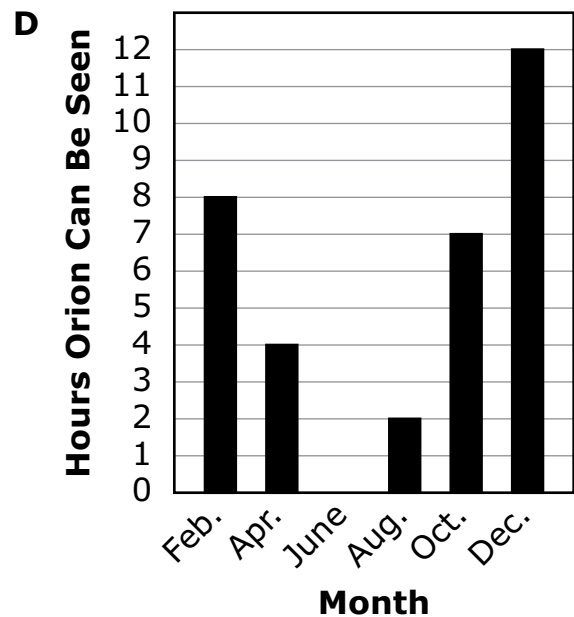
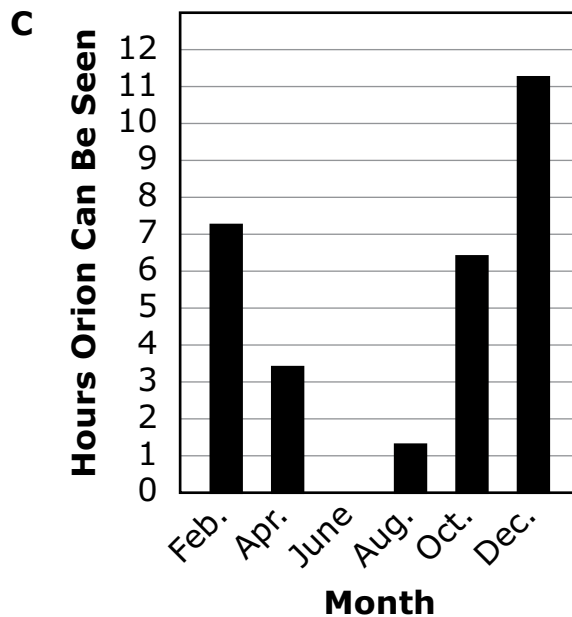
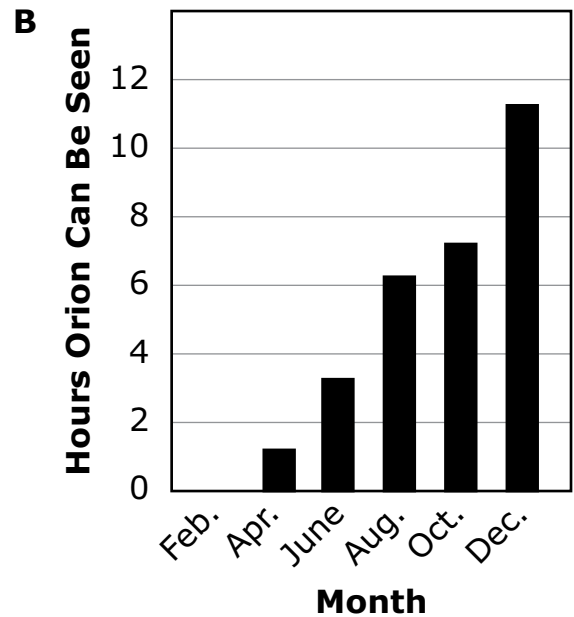
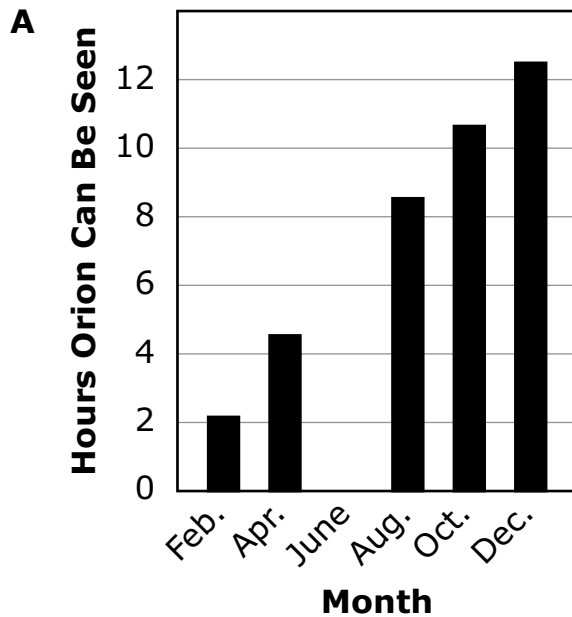
Month	Hours Orion Can Be Seen at Night in Oklahoma
February	7.2
April	3.4
June	0.0
August	1.3
October	6.4
December	11.2







- 4** During the year, the number of hours Orion can be seen in Oklahoma changes. Which graph correctly shows the changes?





- 5** Some months are missing from the student's data table.

Which table shows the number of hours Orion will likely be seen in September and November in Oklahoma?

**A**

Month	Hours Orion Can Be Seen at Night
September	1.25
November	6.25

**B**

Month	Hours Orion Can Be Seen at Night
September	3.8
November	9.8

**C**

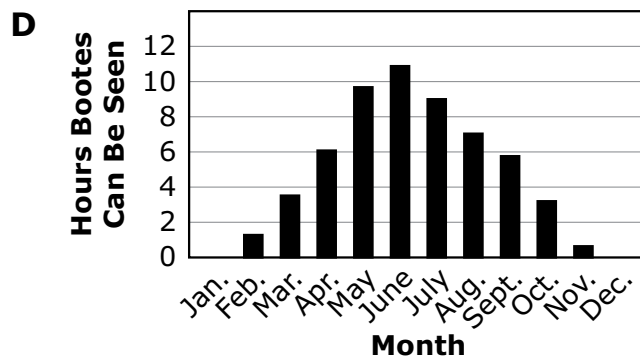
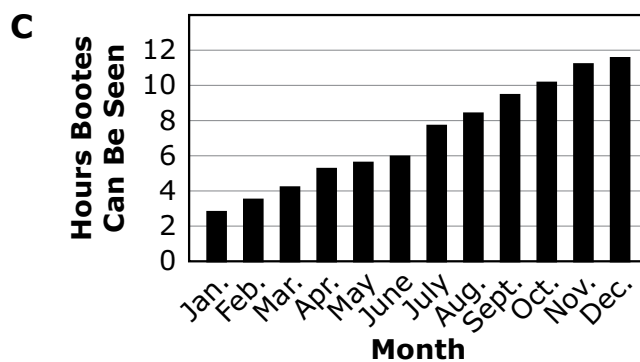
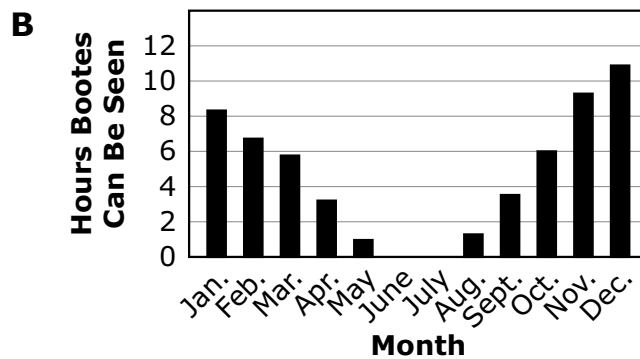
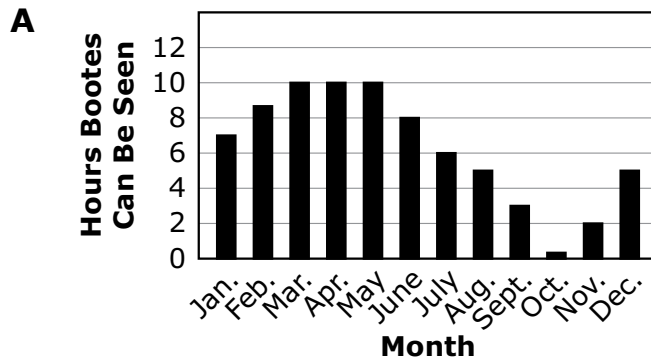
Month	Hours Orion Can Be Seen at Night
September	0.8
November	5.3

**D**

Month	Hours Orion Can Be Seen at Night
September	7.25
November	3.25



- 6 Which graph shows the number of hours Bootes will **most likely** be seen in the Oklahoma night sky during the year?

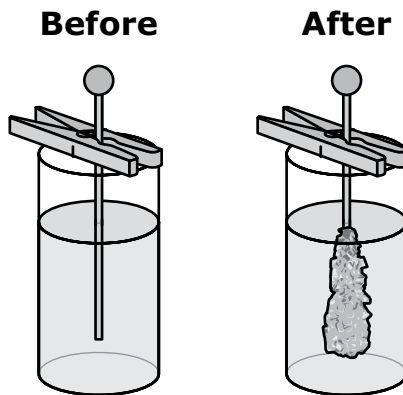




Use the information to answer the following questions.

A student and a teacher made homemade syrup from sugar and water. They noticed that when they added too much sugar to the water, the syrup formed crystals when it cooled. During an investigation of why this happened, the following occurred:

1. They added sugar to boiling water and stirred.
2. The sugar was no longer visible and the mixture was clear.
3. They poured the mixture into jars and placed a stick inside each jar.
4. After several days, crystals of sugar started forming around each stick.
5. The student drew these pictures of the jar before and after the crystals of sugar formed.

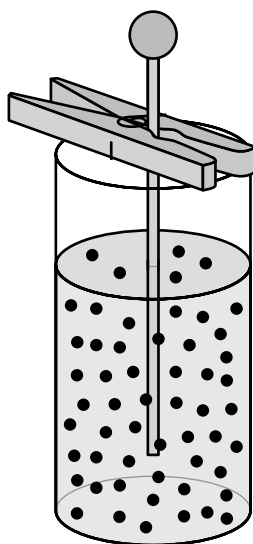


**7** Which statement describes the particles in the sugar crystals after they formed on the stick?

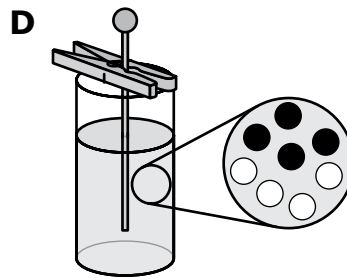
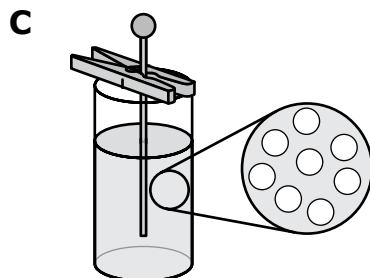
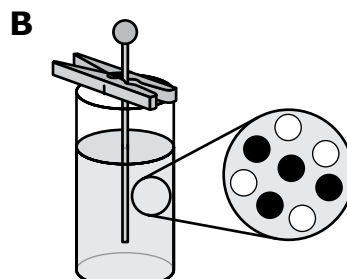
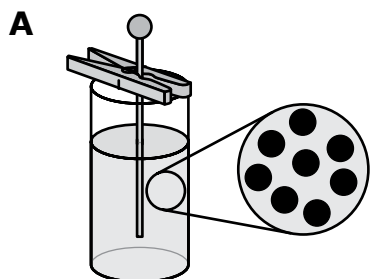
- A** far apart and stuck to each other
- B** far apart and not stuck to each other
- C** close together and stuck to each other
- D** close together and not stuck to each other



- 8** The teacher drew this model of the sugar and water particles after the sugar was added to the water. The teacher used black circles to represent sugar particles and white circles to represent water particles.



Which model shows the mixture in the jar when the sugar was no longer visible?





- 9 Which statement **best** describes how sugar crystals formed during the investigation?
- A It took a long time for sugar to form in water.
  - B Sugar particles were destroyed when the water was stirred.
  - C Sugar particles collected together until they were big enough to see.
  - D The amount of sugar inside the jar increased when the stick was added.



Use the information to answer the following questions.

A student is on a field trip at the beach and looks out at the ocean. The student can't see where the ocean ends and wonders how much water is in the ocean compared to other water sources around the world. The student finds an incomplete table that lists the volume in thousands of cubic kilometers ( $\text{km}^3$ ) of Earth's water sources.

**Earth's Water Volume**

Water Source	Volume (thousands of $\text{km}^3$ )
Ocean	1,338,000
Groundwater	?
Lakes, rivers, streams, wetlands	?
Ice caps, glaciers, permanent snow	24,064

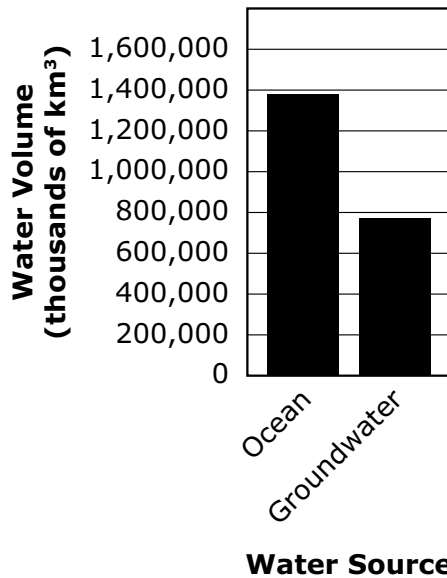
- 10** Which statement could the student make to **best** describe freshwater sources on Earth?
- A** Most of Earth's fresh water is in lakes, rivers, streams, and wetlands.
  - B** There is a smaller fraction of Earth's fresh water in the ocean than in groundwater.
  - C** Most of Earth's fresh water is in ice caps, glaciers, permanent snow, and groundwater.
  - D** There is a smaller fraction of Earth's fresh water in ice caps, glaciers, and permanent snow than in other freshwater sources.



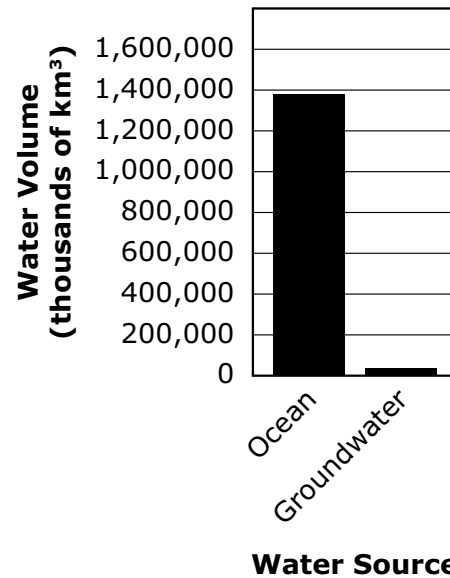
- 11** Based on the Earth's Water Volume table, the student wonders how the amount of groundwater on Earth compares to the amount of water in the ocean.

Which bar graph represents Earth's water sources by comparing the total volume of groundwater to the total volume of Earth's ocean?

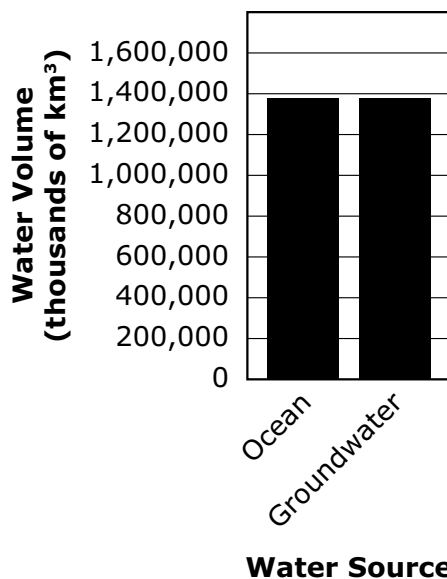
**A** Earth's Water Sources



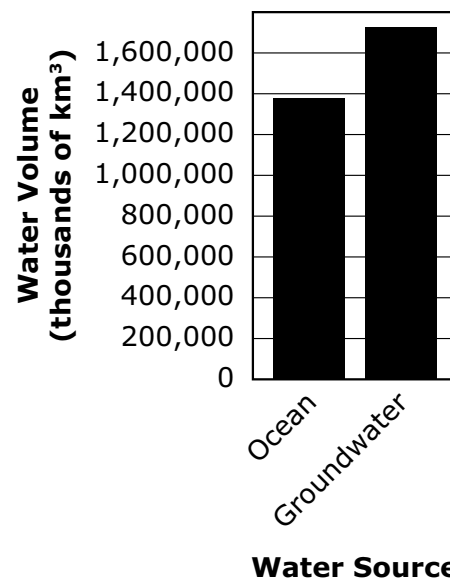
**B** Earth's Water Sources



**C** Earth's Water Sources



**D** Earth's Water Sources





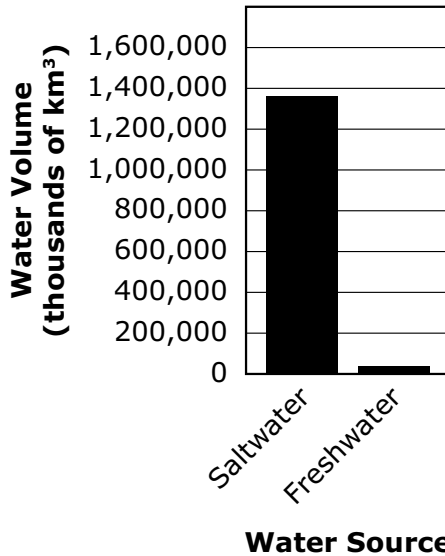


- 12** Based on the Earth's Water Volume table, the student wonders how the amount of salt water on Earth compares with the amount of fresh water.

Which bar graph represents the comparison of saltwater and freshwater sources on Earth?

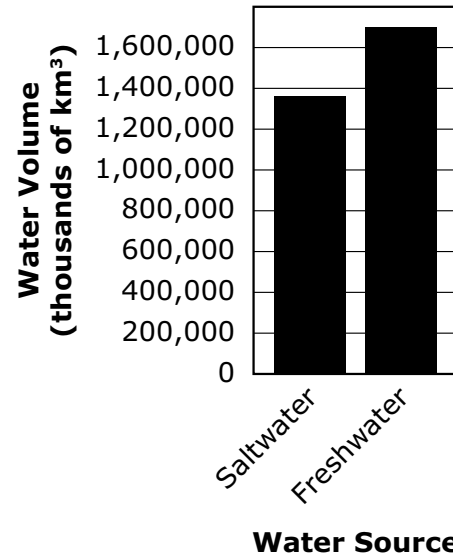
**A**

**Earth's Total  
Saltwater and  
Freshwater Sources**



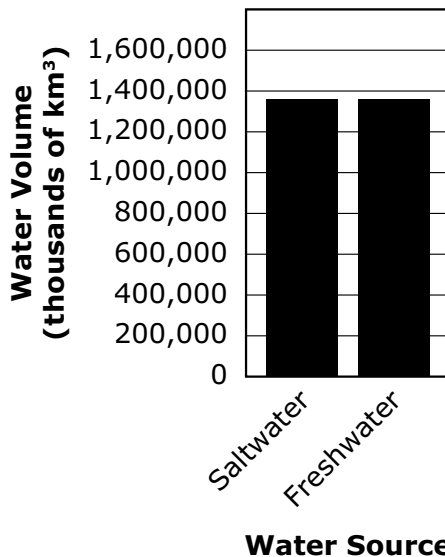
**B**

**Earth's Total  
Saltwater and  
Freshwater Sources**



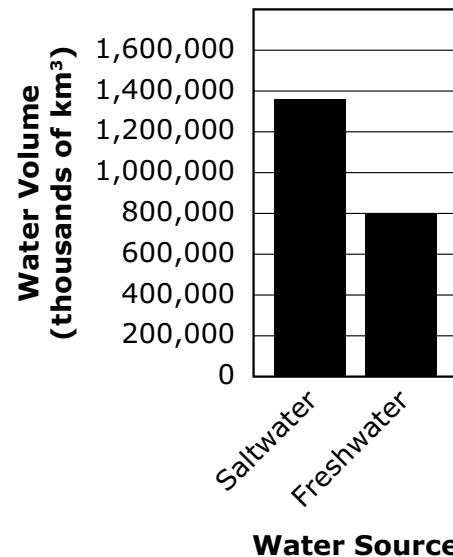
**C**

**Earth's Total  
Saltwater and  
Freshwater Sources**



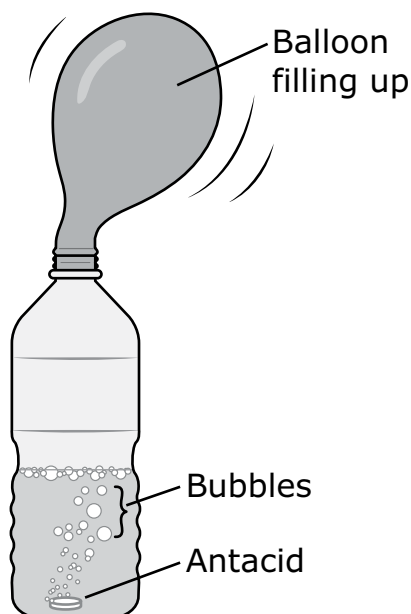
**D**

**Earth's Total  
Saltwater and  
Freshwater Sources**



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

Students watched their teacher drop an antacid into a bottle of water and mix the substances. A balloon was placed onto the opening of the bottle. The students noticed that after the substances were mixed, bubbles were present in the water and the balloon filled up so that it became bigger. The diagram shows what the students observed.



The students wonder why this happened and decided to mix different substances to investigate. The teacher gives the students several substances for their investigation:

- An antacid (a white solid)
- Water (a clear liquid)
- Lemon juice (a light yellow liquid)
- Salt (a white solid)



The students make three different mixtures using these substances and record their observations in a table.

**Investigation Observations After Mixing**

<b>Observations After Mixing</b>	<b>Mixture 1 (Antacid + Water)</b>	<b>Mixture 2 (Antacid + Lemon Juice)</b>	<b>Mixture 3 (Lemon Juice + Salt)</b>
Presence of bubbles	Yes	Yes	No
Temperature change	Yes	Yes	No
Solid is leftover	No	No	Yes



**13** The students claim that a new substance formed in Mixture 2.

Which observation from the students' investigation supports this claim?

- A** The mixture is a liquid.
- B** The mixture has lemon juice.
- C** Bubbles are present in the mixture.
- D** Solids are not present in the mixture.

**14** The students make a fourth mixture by mixing water and an unknown solid in a bottle and placing a balloon on the opening of the bottle.

Which observation would **best** help the students determine that a new substance may have been formed in Mixture 4?

- A** After mixing, the solid dissolved in water.
- B** After mixing, the balloon remained unfilled.
- C** After mixing, the resulting liquid looked clear.
- D** After mixing, there was a temperature change.

**15** The students want to change their investigation to gather evidence that a new substance formed.

Which change to their investigation procedure would **best** help the students gather evidence of a new substance forming?

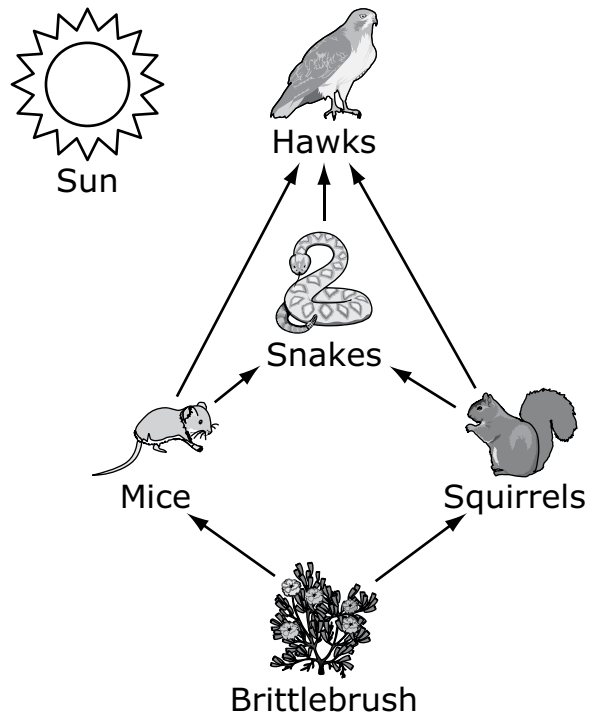
- A** Mix different amounts of each substance in each mixture.
- B** Increase the amount of each substance in each mixture.
- C** Determine whether some of the substances remain solid after becoming part of each mixture.
- D** Record whether there is a difference between the properties of each substance and the mixture.



Use the information to answer the following questions.

A student is learning about the desert ecosystem in class. They learn that even though the Sun makes the desert hot, many different organisms can survive there. The student is given a food web of a desert ecosystem. The food web includes brittlebrush, which is a type of plant.

**Desert Ecosystem Food Web**





- 16** Based on the Desert Ecosystem Food Web, which statement describes the movement of energy in this ecosystem?
- A** Snakes get energy from squirrels and provide it to hawks.
  - B** Hawks get energy from snakes and provide it to squirrels.
  - C** Brittlebrush gets energy from mice and squirrels and provides it to hawks.
  - D** Squirrels get energy from snakes and hawks and provide it to brittlebrush.

- 17** Which statement about the Desert Ecosystem Food Web **best** describes the original source of energy for hawks in this ecosystem?
- A** brittlebrush, because hawks get energy directly from brittlebrush
  - B** mice, because hawks eat mice and this food helps hawks grow
  - C** the soil, because brittlebrush gets energy from the soil and hawks gain that energy when they eat brittlebrush
  - D** the Sun, because brittlebrush uses energy from the Sun to grow and hawks gain that energy when they eat mice

- 18** The student learns that while deserts can be very hot during the day, they can be very cold at night. While thinking about this information, the student wonders how squirrels would be affected at night if there were no brittlebrush plants in the desert.

Based on the Desert Ecosystem Food Web, which statement **best** describes how squirrels would be affected in a desert ecosystem without brittlebrush plants?

- A** Squirrels would get energy they need from the air to stay warm on cold nights.
- B** Squirrels would not need the energy they get from hawks to stay warm on cold nights.
- C** Squirrels would not get the energy from food that is needed to stay warm on cold nights.
- D** Squirrels would need to make their own energy from sunlight to stay warm on cold nights.



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## ANSWER KEYS

English Language Arts		
Number	Reporting Category	Item Distractor Rationales
1	Critical Reading/Writing	<p>A. There is no indication in the passage that Aunt Lila does not know other ways to make chicken and noodles.</p> <p>B. There is no indication in the passage that Aunt Lila has concerns that Sophie may not like the chicken and noodles.</p> <p>C. It is clear that Aunt Lila enjoys teaching Sophie how to make noodles from scratch because she frequently encourages her.</p> <p><b>D. Correct. Aunt Lila makes it very evident at the beginning of the passage that making noodles from scratch is worth the effort.</b></p>
2	Vocabulary	<p>A. “Repeat” means “to do again,” but “repair” means “to fix.”</p> <p><b>B. Correct. “Repeat” means “to do again.”</b></p> <p>C. “Repeat” means “to do again,” but “rewind” means “to go backward.”</p> <p>D. “Repeat” means “to do again,” “remove” means “to take something away.”</p>
3	Critical Reading/Writing	<p>A. The personification does not suggest that ingredients are missing.</p> <p>B. The personification does not suggest that the dough is not ready to be rolled out.</p> <p><b>C. Correct. The personification suggests that the dough is difficult to knead.</b></p> <p>D. The personification does not suggest that the dough prefers a certain person.</p>
4	Critical Reading/Writing	<p>A. This sentence indicates that Aunt Lila thinks cooking from scratch is better than other ways of cooking.</p> <p>B. This sentence indicates that Aunt Lila is excited about cooking from scratch.</p> <p><b>C. Correct. This sentence indicates that Aunt Lila believes that sticking with a difficult task is worth the outcome.</b></p> <p>D. This sentence indicates that Aunt Lila is following the steps of a process.</p>
5	Reading and Writing Process	<p><b>A. Correct. This paragraph summarizes the important details of the passage.</b></p> <p>B. This paragraph focuses only on the details of making the dinner but omits what Sophie learned in the process.</p> <p>C. This paragraph focuses only on the details of preparing the dinner and eating it but omits what Sophie learned in the process. It also includes a misread in regards to whose idea it was to cook chicken and noodles.</p> <p>D. This paragraph focuses only on the process of making the noodles.</p>



English Language Arts		
Number	Reporting Category	Item Distractor Rationales
6	Reading and Writing Process	<p><b>Correct Response:</b></p> <p>Many people enjoy cooking their meals at home. There are several different reasons for this, which include more time to spend with family, saving money on home-cooked meals that cost less than restaurant meals, and gaining nutritional benefits.</p> <p>Cooking at home often takes more preparation. A main course, such as veggie burgers or pot roast, must be seasoned and prepared. Fresh fruits and vegetables need to be cleaned and often must be cut up. Sometimes a dessert is even made! Each of these tasks can be done by different family members, and preparing meals together allows them to visit with each other while they work.</p> <p>Another reason people are cooking at home is because home-cooked meals are usually less expensive than eating at a restaurant. When cooking at home, the food is purchased from a grocery store. Food from a grocery store costs much less than food at a restaurant. At a restaurant, customers must also pay for chefs to prepare the food and waitstaff to bring it to the table.</p> <p>Some restaurant meals can be healthy, but oftentimes they are not. Restaurants want their food to taste good. They often add ingredients like butter, salt, or sugar that can be unhealthy. When cooking at home, these ingredients can be closely measured. That means people will not get too much sugar, fat, or salt. Also, restaurant meals are often too big. It is easier to control meal sizes when eating at home.</p> <p>Eating out is a nice treat, but cooking meals at home has many benefits. It is usually a much healthier option than eating out and gives family members opportunities to spend quality time together without having to break the bank.</p>
7	Reading and Writing Process	<p><b>Correct Response:</b></p> <p>Tonight, Aunt Lila and I made chicken and noodles from scratch. It was <input type="text" value="delicious"/> . I hope I can <input type="text" value="remember"/> the recipe because I will <input type="text" value="definitely"/> make it again!</p>

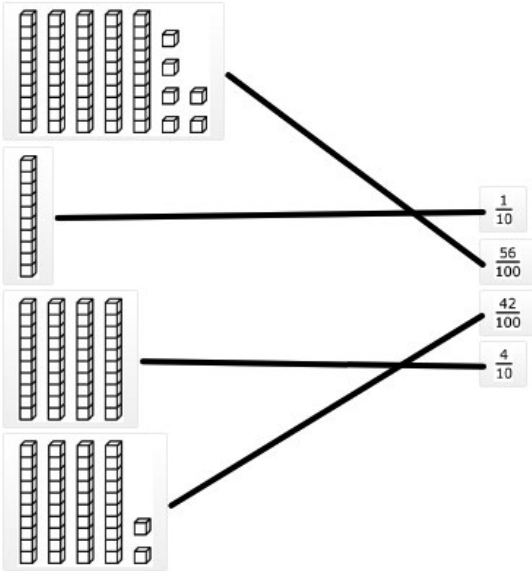
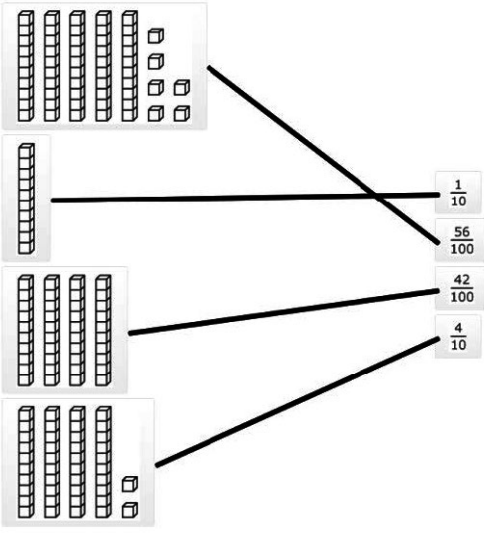
English Language Arts		
Number	Reporting Category	Item Distractor Rationales
8	Critical Reading and Writing	<p>A. This indicates a misunderstanding of the passage. The second sentence compares Adam to other kids not his siblings.</p> <p><b>B. Correct. The first sentence states, “...I dreamed of carrying on the Wilson family tradition of being the homeroom representative...” The word “tradition” indicates that a child from the Wilson family represents their homeroom in the Meadow Elementary Quiz Bowl.</b></p> <p>C. Nothing in the passage suggests that Adam’s siblings helped him prepare for the quiz bowl.</p> <p>D. The ages of Adam’s siblings are not addressed in the passage. The passage only states that Adam is the “youngest child in our family.”</p>
9	Critical Reading/Writing	<p><b>A. Correct. Based on the details in paragraph 12, recalling the conversation with his grandfather helped him remember the answer to the question.</b></p> <p>B. The passage does not suggest that remembering this conversation had any effect with Adam’s rhythm. In fact, the rhythm of the contest seems to have changed in paragraph 6 rather than at the end of the contest.</p> <p>C. The passage does not suggest that Adam lost his concentration; rather, it seems to direct his focus.</p> <p>D. The recollection of the conversation does not cause Adam to think Sara will answer a question incorrectly. In fact, she has already answered incorrectly. Adam has the last question.</p>
10	Critical Reading/Writing	<p>A. There is nothing in the passage to suggest this.</p> <p>B. The passage does mention the audience at the beginning of the poem, but it is not mentioned after line 10.</p> <p>C. The passage does not mention the speaker’s memories to help her recall the poem.</p> <p><b>D. Correct. Lines 24–29 illustrate the moment when the speaker senses the poem’s disappointment.</b></p>
11	Critical Reading and Writing	<p>A. There is nothing in the poem to suggest that the speaker is in a poetry contest.</p> <p>B. A mountain is first mentioned in line 26, but the speaker is not actually standing on a mountain top.</p> <p>C. There is nothing in the poem to suggest that the speaker is actually writing the poem.</p> <p><b>D. Correct. Throughout the poem, the speaker talks about not being able to say the words in front of a large group of people.</b></p>
12	Critical Reading/Writing	<p>A. Only the speaker in “Talent Show” stands under a spotlight.</p> <p>B. In “Quiz Bowl,” Adam is challenging himself to follow in his siblings’ tracks by being the homeroom representative in the game, but he is not trying to live up to the expectations of others. In “Talent Show,” the speaker does not try to live up to anyone’s expectations.</p> <p><b>C. Correct. In “Quiz Bowl,” paragraph 2 states that Adam studies trivia cards for months, and in “Talent Show,” lines 21–23 share that the speaker practiced for weeks. Yet in both passages Adam and the speaker experience stage fright at a critical moment.</b></p> <p>D. Neither passage shows characters becoming increasingly comfortable speaking in front of an audience.</p>

English Language Arts		
Number	Reporting Category	Item Distractor Rationales
13	Vocabulary	<p>A. “Dis” is not used as a prefix in this word.</p> <p>B. “Dis” is not used as a prefix in this word.</p> <p><b>C. Correct. In this word, dis is a prefix that means “not.”</b></p> <p>D. “Dis” is not used as a prefix in this word.</p>
14	Vocabulary	<p>A. The “puppy stage” is referring to a level of development and not a raised platform for the dog.</p> <p>B. The “puppy stage” is referring to growth and development, not the scene of an event.</p> <p>C. The “puppy stage” is referring to the dog’s growth, which aligns better with the level of development than a section of a trip.</p> <p><b>D. Correct. The “puppy stage” is referring to a level of the dog’s development, and it grows from a puppy to an adult dog.</b></p>
15	Reading and Writing Process	<p>A. The passage describes some jobs that dogs perform, but this is not what the paragraphs are mainly about.</p> <p>B. The passage mentions puppies being cute and cuddly, but this is not what the paragraphs are mainly about.</p> <p><b>C. Correct. The paragraphs are mainly about choosing the right dog to be a pet.</b></p> <p>D. The passage says that some dogs are more active than others, but this is not what the paragraphs are mainly about.</p>
16	Critical Reading and Writing	<p>A. This sentence is an opinion. Not all collies or shepherds are a good pet choice for active people.</p> <p><b>B. Correct. It can be proven that some dogs work with police. This statement is a fact.</b></p> <p>C. “Cute” and “cuddly” are subjective qualities that cannot be proven. This sentence is an opinion.</p> <p>D. Not all dogs are friendly and loyal pets, so this statement is an opinion.</p>
17	Critical Reading and Writing	<p>A. The passage suggests that dogs have many different types of important jobs.</p> <p>B. The passage suggests that only certain breeds need time to be active.</p> <p>C. The passage suggests that people should learn about different types of dogs before choosing one as a pet.</p> <p><b>D. Correct. Pet owners do not always choose the right dog breeds.</b></p>
18	Critical Reading and Writing	<p>A. The passage does not address how to care for a puppy.</p> <p>B. The passage does not address training a puppy.</p> <p><b>C. Correct. The passage gives suggestions on how to find the right dog.</b></p> <p>D. The few breeds mentioned in the passage support the idea it is important for people to find the breed that is right for them rather than what is popular.</p>
19	Research	<p>A. An encyclopedia article about the history of dogs would probably not provide information on specific dog breeds.</p> <p><b>B. Correct. A website about dog types would provide additional information about specific dog breeds.</b></p> <p>C. A book about having a happy dog would not likely provide information on specific dog breeds.</p> <p>D. An article about training a puppy would focus on teaching a puppy how to behave rather than provide information on specific dog breeds.</p>

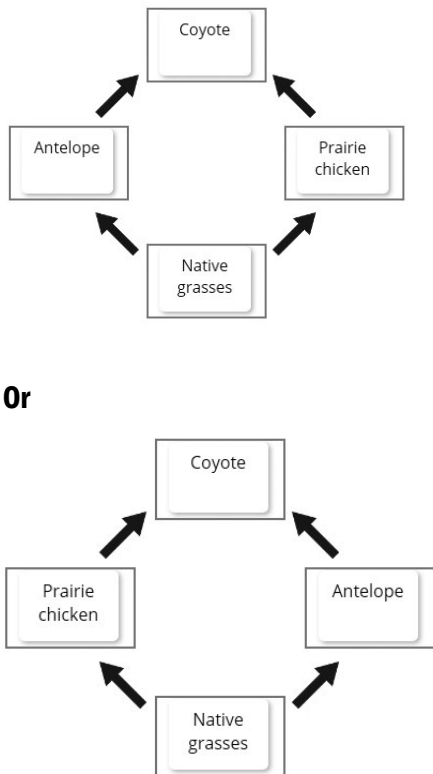
English Language Arts		
Number	Reporting Category	Item Distractor Rationales
20	Language	<p>A. This run-on sentence forms a comma splice, which is created when two independent clauses are joined with a comma and no accompanying coordinating conjunction.</p> <p><b>B. Correct. This is a complex sentence with an independent and a dependent clause.</b></p> <p>C. This structure includes a sentence fragment.</p> <p>D. A colon is not used to separate two connected ideas in a sentence.</p>
21	Language	<p>A. “Everybody” is a singular subject and “am” is a singular verb, but it is the incorrect form for the subject.</p> <p><b>B. Correct. “Everybody” is a singular subject and “was” is a singular verb in the past tense.</b></p> <p>C. “Everybody” is a singular subject and “are” is a plural verb.</p> <p>D. “Everybody” is a singular subject and “were” is a plural verb.</p>
22	Language	<p><b>A. Correct. The interjection is emphasizing the pain that is felt.</b></p> <p>B. The interjection is not showing worry.</p> <p>C. The interjection is not giving directions.</p> <p>D. The interjection is not giving suggestions.</p>
23	Language	<p>A. A sentence that tells about something happening in the future is written in the future tense. If the sentence was written in the future tense, the sentence would read, “The dogs will catch sight of the cat, and they will chase it.”</p> <p><b>B. Correct. The sentence uses past tense verbs to show that the action has already taken place.</b></p> <p>C. A sentence that tells about something that is ongoing is written in the progressive tense. If the sentence were written in the progressive tense, the sentence would read, “The dogs have caught sight of the cat and they are chasing it.”</p> <p>D. A sentence that tells about something happening now is written in the present tense. If the sentence is being written in the present tense, the sentence would read, “The dogs see the cat, and they chase it.”</p>
24	Language	<p>A. Quotation marks belong before the first word and after the last word being spoken. In this sentence the closing quotation is at the end of the complete sentence.</p> <p>B. Quotation marks belong before the first word and after the last word being spoken not the tag.</p> <p><b>C. Correct. Quotation marks belong before the first word and after the last word being spoken. In this sentence, the opening quotation mark is placed before the word “Let’s” and the closing quotation mark belongs after the word “aloud.”</b></p> <p>D. Quotation marks belong before the first word and after the last word being spoken. In this sentence the closing quotation mark is placed after the tag rather than the last word spoken.</p>

Mathematics		
Number	Reporting Category	Item Distractor Rationales
1	Number & Operations	<p><b>A. Correct. The student demonstrated an ability to recognize equivalent fractions.</b></p> <p>B. The student focused on the numerator.</p> <p>C. The student focused on the denominator.</p> <p>D. The student thought <math>\frac{2}{5}</math> was the same as <math>\frac{25}{100}</math>.</p>
2	Algebraic Reasoning & Algebra	<p>A. The student thought this was an addition pattern.</p> <p><b>B. Correct. The student demonstrated an ability to describe a pattern of change with a rule.</b></p> <p>C. The student chose an incorrect operation.</p> <p>D. The student chose an incorrect operation.</p>
3	Data & Probability	<p><b>A. Correct. The student demonstrated an ability to analyze a double-bar graph with whole numbers.</b></p> <p>B. The student did not understand how to analyze a double bar graph.</p> <p>C. The student chose the month with the highest bar in the graph.</p> <p>D. The student did not know what difference means and identified two bars with the same height in the graph.</p>
4	Geometry & Measurement	<p>A. The student confused faces and edges.</p> <p>B. The student confused square pyramids and square prisms (cubes).</p> <p><b>C. Correct. The student demonstrated an ability to describe a square pyramid by the number of edges, faces, or vertices as well as the shape of faces.</b></p> <p>D. The student confused base and face.</p>
5	Number & Operations	<p>A. The student thought 4.82 is to the left of 4.</p> <p>B. The student confused 4.82 and 4.2.</p> <p>C. The student knew that 4.82 is more than 4.5, but did not go far enough.</p> <p><b>D. Correct. The student demonstrated an ability to locate a decimal on the number line.</b></p>
6	Geometry & Measurement	<p>A. The student did not realize that right triangles can have two congruent angles.</p> <p><b>B. Correct. The student demonstrated an understanding of the attributes of specific triangles.</b></p> <p>C. The student did not understand the attributes of an isosceles triangle.</p> <p>D. The student did not understand the “at least” part of the triangle’s description.</p>
7	Number & Operations	<p>A. The student rounded \$29.95 to \$20 and then added that to \$40.</p> <p>B. The student rounded \$29.95 to \$20.</p> <p>C. The student computed the actual amount of change and then rounded the answer up to the next largest answer choice, \$15.</p> <p><b>D. Correct. The student demonstrated an ability to estimate a difference with decimals.</b></p>
8	Algebraic Reasoning & Algebra	<p><b>A. Correct. The student demonstrated an ability to evaluate an expression involving a variable when a value for the variable is given.</b></p> <p>B. The student computed <math>15 - (2 + 4)</math> instead of <math>15 - (2 \times 4)</math>.</p> <p>C. The student added instead of subtracted.</p> <p>D. The student selected because both 5 and 2 are in the expression.</p>

Mathematics		
Number	Reporting Category	Item Distractor Rationales
9	Data & Probability	<p>A. The student found the difference between the highest temperature and the second highest temperature.</p> <p>B. The student found the range for the first and last temperatures in the table.</p> <p>C. The student did not know how to find the range of a set of data.</p> <p><b>D. Correct. The student demonstrated an ability to find the range of a set of data.</b></p>
10	Number & Operations	<p>A. The student underestimated the number of necklaces.</p> <p><b>B. Correct. The student demonstrated an ability to estimate the solution to a division problem.</b></p> <p>C. The student overestimated the number of necklaces.</p> <p>D. The student overestimated the number of necklaces.</p>
11	Algebraic Reasoning & Algebra	<p>A. The student did not realize that the multiplication sign needs to apply to the 4 and 2.</p> <p>B. The student did not understand how to apply the multiplication sign before the parentheses.</p> <p>C. The student did not understand how to apply the multiplication sign before the parentheses.</p> <p><b>D. Correct. The student demonstrated an ability to generate equivalent numerical expressions by applying the distributive property.</b></p>
12	Geometry & Measurement	<p>A. The student made a multiplication error.</p> <p>B. The student made a multiplication error or thought Pedro wanted the aquarium with the least volume.</p> <p>C. The student chose the aquarium with the greatest single dimension.</p> <p><b>D. Correct. The student demonstrated an ability to find the volume of a rectangular prism.</b></p>

Mathematics		
Number	Reporting Category	Item Distractor Rationales
13	Number & Operations	<p><b>Correct:</b></p>  <p><b>Incorrect:</b></p>  <p>The student saw the 4 ten rods as 40 and chose 42/100 because this is close to 40.</p>
14	Number & Operations	<p>A. Balance distractor</p> <p>B. The student computed <math>6 \times 12 = 72</math> and then thought the 8 as left over meant subtraction.</p> <p><b>C. Correct. The student demonstrated an ability to represent a quotient as a number and an amount left over.</b></p> <p>D. The student confused the number of boxes and the number left over.</p>
15	Number & Operations	<p>A. The student made a division error.</p> <p><b>B. Correct. The student demonstrated an ability to divide a multi-digit number by two-digit divisor.</b></p> <p>C. The student made division and place value errors.</p> <p>D. The student made a place value error.</p>



Science		
Number	Reporting Category	Item Distractor Rationales
1	Life Sciences	<p><b>Correct Response:</b></p>  <p><b>Or</b></p>
2	Life Sciences	<p>A. The student may think that rocks in the soil will show movement of matter.          B. The student may think that the Sun provides matter for organisms.          C. The student may think that wind will show movement of matter into organisms.  <b>D. Correct. Decomposers (an organism) move matter from organisms into the environment.</b></p>
3	Life Sciences	<p><b>A. Correct. This traces part of the path carbon takes in an ecosystem.</b>          B. The student may think that plants make food as waste and that animals break down waste from plants.          C. The student may think that animals make food.          D. The student may think that animals make food and that animals exhale water.</p>
4	Earth & Space Sciences	<p>A. The student may think the values should increase from left to right and incorrectly interprets some of the numbers from the data table.          B. The student may think the values should increase from left to right and that the values in the graph should not match what is in the data table.  <b>C. Correct. This graph has a proper y-axis and correctly matches the data from the table to the data shown in the graph.</b>          D. The student may think that they should round the values in the graph to the nearest integer.</p>



Science		
Number	Reporting Category	Item Distractor Rationales
5	Earth & Space Sciences	<p>A. The student may think that the time Orion is visible each month after the months shown in the table should be less than the previous month.</p> <p><b>B. Correct. The September value is between the August and October values while the November value is between the October and December values.</b></p> <p>C. The student may think that the time Orion is visible each month after the months shown in the table should be significantly less than the previous month.</p> <p>D. The student may think that September is a month that Orion is visible for a peak amount of time before decreasing into October and November.</p>
6	Earth & Space Sciences	<p><b>A. Correct. Given the location of Bootes relative to Orion and the Orion data, this graph shows the amount of time Bootes will be visible each month.</b></p> <p>B. The student may think that Bootes will have the same amount of visible time as Orion.</p> <p>C. The student may think that Bootes has an increasing visibility time throughout a calendar year.</p> <p>D. The student may think that Bootes will be offset 6 months relative to Orion, rather than 3 months.</p>
7	Physical Science	<p>A. The student may think that the particles are held together, but remain far apart as they are when they are dissolved.</p> <p>B. The student may think that solids have particles that are far apart and not held together.</p> <p><b>C. Correct. The sugar particles are close to each other and held together by intermolecular forces.</b></p> <p>D. The student may not understand that the sugar crystals are held together.</p>
8	Physical Science	<p>A. The student may not understand that sugar particles and water particles should be represented differently.</p> <p><b>B. Correct. There are different representations for sugar particles and water particles and the two types of particles are mixed together.</b></p> <p>C. The student may not understand that sugar particles and water particles should be represented differently.</p> <p>D. The student may not understand that the sugar and water particles would not be divided into two separate groups; they should be mixed together.</p>
9	Physical Science	<p>A. The student may not understand that the amount of time does not describe how the sugar crystals formed.</p> <p>B. The student may think that dissolving destroys matter.</p> <p><b>C. Correct. While dissolved in water, sugar particles are too small to be seen; as sugar particles come out of solution, the particles grow in size until they are visible.</b></p> <p>D. The student may think that enough sugar is created to make the sugar visible.</p>

Science		
Number	Reporting Category	Item Distractor Rationales
10	Earth & Space Sciences	<p>A. Most of Earth's fresh water is in glaciers or groundwater.</p> <p>B. Students may have the misconception that the ocean is fresh water rather than salt water and that most fresh water is in lakes, rivers, streams, wetlands, glaciers, ice caps, and permanent snow instead of groundwater.</p> <p><b>C. Correct. This represents the correct distribution of Earth's fresh water, with most of it in glaciers and groundwater and the rest, a small fraction, in lakes, rivers, streams, and wetlands.</b></p> <p>D. Students may not recognize that most fresh water is in ice caps, glaciers, and permanent snow rather than in other freshwater sources.</p>
11	Earth & Space Sciences	<p>A. Groundwater is a large freshwater source but is not so large that it would be half as much as the volume of ocean water since fresh water is still a much smaller fraction of Earth's total water volume.</p> <p><b>B. Correct. Groundwater is a much smaller fraction of Earth's total water volume compared to the ocean, since most of the water on Earth is salt water (the ocean).</b></p> <p>C. Groundwater is a freshwater source and is therefore a much smaller fraction of Earth's total water volume than the ocean, so those water volumes are not equal.</p> <p>D. The ocean makes up the vast majority of Earth's total water volume, so groundwater cannot have a larger water volume than ocean water.</p>
12	Earth & Space Sciences	<p><b>A. Correct. The ocean makes up the vast majority of Earth's water and consists of salt water, so there is much more salt water than fresh water on Earth.</b></p> <p>B. Students may think that the ocean is fresh water rather than salt water.</p> <p>C. Students do not recognize that there is much more salt water on Earth (the ocean) rather than fresh water.</p> <p>D. There is more salt water than fresh water on Earth but fresh water is a very small fraction, much smaller than half the amount of Earth's total saltwater volume.</p>
13	Physical Science	<p>A. The state of the mixture is irrelevant to whether a new substance formed.</p> <p>B. This information about what substances were combined to form the mixture does not indicate whether a new substance formed.</p> <p><b>C. Correct. Bubbles indicate that gas formed, which would support the students' claim that a new substance formed.</b></p> <p>D. This observation would not support the students' claim because it would indicate that a new solid substance did not form.</p>
14	Physical Science	<p>A. A solid can dissolve in a liquid without forming a new substance.</p> <p>B. This evidence would suggest that a gas did not form to fill the balloon, which would indicate that a new substance did not form.</p> <p>C. Substances can change appearance in mixtures without a new substance forming.</p> <p><b>D. Correct. A change in temperature can provide evidence that a chemical reaction occurred and therefore a new substance formed.</b></p>

Science		
Number	Reporting Category	Item Distractor Rationales
15	Physical Science	<p>A. The amount of each substance mixed is irrelevant to whether new substances form afterwards and the variable of how much each substance is mixed would not be controlled to gather reliable evidence.</p> <p>B. Changing the amount of substance mixed would not affect the outcome of the same substances being combined together and may not result in a new substance forming.</p> <p>C. Students may have the misconception that after a chemical reaction, the product is a mixture in which some of the substances remain unchanged.</p> <p><b>D. Correct. Measuring whether there was a change in properties could indicate whether a new substance formed as a result of substances being mixed.</b></p>
16	Life Sciences	<p><b>A. Correct. The food web indicates that snakes eat squirrels and hawks eat snakes, so energy is transferred from squirrels to snakes to hawks.</b></p> <p>B. The food web indicates that hawks eat squirrels, so energy is transferred from squirrels to hawks.</p> <p>C. The food web indicates that mice and squirrels eat brittlebrush, and hawks eat mice and squirrels, so energy is transferred from brittlebrush to mice and squirrels to hawks.</p> <p>D. The food web indicates that snakes eat mice and mice eat brittlebrush, so energy is transferred from brittlebrush to mice to snakes to hawks.</p>
17	Life Sciences	<p>A. Plants like brittlebrush derive their energy from the Sun and hawks do not eat brittlebrush, but instead eat the mice and squirrels that eat brittlebrush.</p> <p>B. Mice are not the original source of energy in this ecosystem since energy is transferred from the Sun to brittlebrush plants and then to mice.</p> <p>C. Students may have the misconception that brittlebrush plants get their energy from the soil rather than the Sun and that hawks directly eat brittlebrush instead of eating the mice and squirrels that eat brittlebrush plants.</p> <p><b>D. Correct. All organisms in the food web either directly or indirectly eat plants, like brittlebrush, and plants obtain their energy from the Sun.</b></p>
18	Life Sciences	<p>A. Squirrels do not obtain energy from the air but instead from eating brittlebrush plants, and that food provides squirrels with the energy they need to maintain body warmth.</p> <p>B. Squirrels eat brittlebrush plants, not hawks.</p> <p><b>C. Correct. The food web indicates that energy is transferred from brittlebrush plants to squirrels and the food that squirrels eat provides them with the energy needed to maintain body warmth.</b></p> <p>D. Students may have the misconception that squirrels can make their own food like plants.</p>

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# ANSWER SHEET

USE NO.2 PENCIL ONLY

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