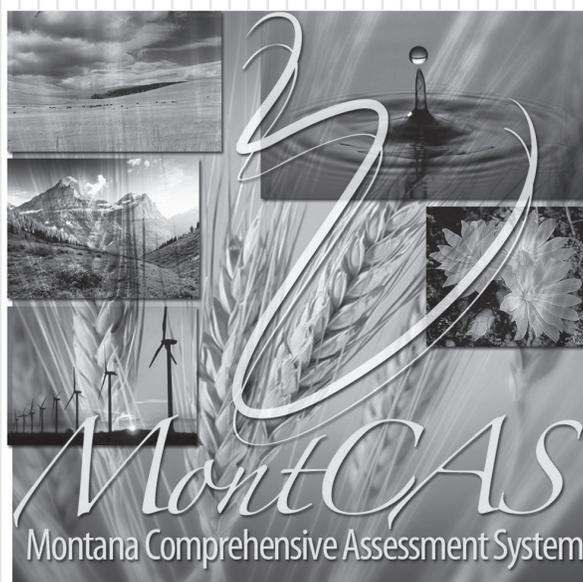


Montana Comprehensive Assessment System (MontCAS CRT)

GRADE 4
COMMON RELEASED ITEMS
SPRING 2011



opi.mt.gov

Montana
Office of Public Instruction
Denise Juneau, State Superintendent

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For information, contact Measured Progress, P.O. Box 1217, Dover, NH 03821-1217.

Printed in the United States of America.

Reading Directions

This Reading test contains three test sessions. Mark or write your answers in the Answer Booklet. Use a pencil to mark or write your answers.

This test includes two types of questions: multiple-choice and constructed-response questions.

For the multiple-choice questions, you will be given four answer choices—A, B, C, and D. You are to choose the correct answer from the four choices. Each question has only one answer. After you have chosen the correct answer to a question, find the question number in your Answer Booklet and completely fill in the circle for the answer you chose. Be sure the question number in the Answer Booklet matches the question number in the Test Booklet. The example below shows how to completely fill in the circle.

CORRECT MARK ●	INCORRECT MARKS ○ ⊙ ● ✗
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If you decide to change your answer to a question, erase the wrong mark completely before filling in the circle of the new answer. Be sure you have only one answer marked for each question. **If two circles are bubbled in for the same question, that question will be scored as incorrect.**

If you are having difficulty answering a question, skip the question and come back to it later. Make sure you skip the circle for the question in your Answer Booklet.

For the other types of questions in the Test Booklet, you will be asked to write your answers in the box provided. Read the question carefully. If a question asks you to explain your answer or to show your work, be sure to do so.

You may make notes or use highlighters in your Test Booklet, but you must bubble or write your final answers in your Answer Booklet. **Do not make any stray or unnecessary marks in your Answer Booklet.**

Let's work through a sample question together to be sure you understand the directions.

Sample Question

1. What is the capital of Montana?
 - A. Browning
 - B. Glendive
 - C. Helena
 - D. Missoula

Reading

Read this passage about a boy who goes fishing at night with his father. Then answer the questions that follow.

Moonlight Catch

by Michelle Myers Lackner

“TELL ME AGAIN, Papa! How do we catch the grunion?”* I toss a twisted stick at the pile of driftwood. “We don’t need a rod and reel,” Papa says. “No bait, no boat. Just bare hands and a bucket.” He strikes a match and touches it to the paper. Flames jump and lick the wood. Glowing colors dance around Papa’s face like sunlight playing on water. The fire blazes, and my skin feels hot and dry. Papa’s shadow keeps me cool.

“When will the grunion run?” I ask.

3 Papa points to my name, drawn in the sand. “When those letters disappear, it’ll be high tide and they’ll come.” Fires flicker up and down the beach where others are waiting, too. Mama and Maria are probably asleep. I’m not going to bed until I have a bucket of grunion with extra for Maria, like I promised.

“Are you sure this is the right night?” I ask.

5 “Somewhere out there, Pepito, a wave is turning into a silver stripe, and the grunion are getting ready to run.”

I look over the dark water. The shining moon makes a wrinkly trail to my feet, stars glitter, and lights bob from a boat way off in the blackness. I sniff to see if the air smells fishier. It doesn’t.

I aim my flashlight, looking for flashes of silver. I know there are sharks and stinging jellyfish hiding out there. A wave tickles my toes, and when it leaves, the sand under my feet slides away. I run back to Papa. The orange and green stripes on his shirt are fuzzy like my blanket. I yawn and put my head on his lap.

“Maria will be excited when I show her the grunion,” I say, “so don’t let me fall asleep.”

9 Papa’s lap is a warm cocoon, and I am a caterpillar. I close my eyes. The crashing ocean sounds farther and farther away.

“Grunion!” someone shouts in the distance.

“Wake up, Pepito!” a voice says close by. “They’re here!” My cocoon wiggles, and cold air swirls around me.

Inside me, a voice whispers, “I’m too tired.” But, also inside me, a louder voice makes my hands and feet jerk. My eyes open. Am I awake or dreaming? I shake my head, and the ocean roars again.

The beach is a shimmering, quivering mirror. The letters I scratched in the sand are covered with shiny fish, flipping fish—wiggling, slippery grunion.

“Let’s fill those buckets!” Papa yells.

“Do they bite?” I ask.

* grunion: a small, silvery ocean fish that is the only saltwater fish to come ashore to spawn in southern California and Mexico

“No, but they’re tricky to catch.” Papa splashes, grabbing fish and plopping them in his bucket.

17 The grunion look slimy. “Maybe I’ll just watch,” I shout. The ocean thunders, and Papa doesn’t hear me. Flashlights show streaks and shadows of people hollering, laughing, and splashing on the beach. Everyone else is catching grunion.

A wave slides over my feet, and a fish lands between them. I pinch its tail and hold it up. It swings back and forth.

“I caught one! I caught one!” I shout. The fish flips out of my hand and hops toward the water. I chase it. A big wave knocks me over. I spit, but the salty taste stays in my mouth.

“Watch me!” I holler, reaching for another grunion. I look at my hand. It’s full of sand. Papa laughs. I laugh, too. “The next one won’t get away,” I say. The grunion are piled as high as a sandcastle wall. Slowly, my bucket fills. Some for Maria, some for me.



When my flashlight shines on some grunion, they stop dancing like they’re frozen. I see a fish buried in the sand—only its head sticks out. Sometimes I bury Papa in the sand like that! I scoop the wet sand away and see a slimy puddle of round shapes. Eggs! The fish is laying eggs! Half-buried fish are all over the beach.

“It was a good run tonight,” Papa says as we walk back to the fire. He pokes a stick into glowing, orange embers. Sparks float into the sky. My wet, shivery body starts to warm up.

“Well, Pepito, are you ready to take your moonlight catch home?” Papa asks.

I look in my bucket. The fish are sliding over each other in circles. They look like they’re trying to find a way out.

“Those will be the best fish you have ever eaten,” Papa says.

“Papa?” I say slowly. “I’d rather have a bean burrito.”

“What?” Papa asks. “H’m . . .” he says. I feel his eyes looking at me.

“There are enough fish in my pail for all of us,” he says, ruffling my hair.

The beach is empty now, but grunion eggs are hiding in the sand, under my feet, where my name used to be. I pour my fish into the sea, and a shiny white circle, like a flat moon, slides past me and bounces under a clear wave. It moves away from my hand, but I grab the glistening sand dollar. “For Maria!” I shout.

Papa lifts me up on his shoulders. With the moon and flashlight showing us the way, we leave the beach, each of us carrying a moonlight catch.

1. How will Papa and Pepito catch the grunion?
 - A. with a fishing pole
 - B. with a twisted stick
 - C. with their bait
 - D. with their hands

2. In the first paragraph, “Flames jump and lick the wood.” In this sentence, the word lick means the flame will
 - A. brightly color the wood.
 - B. lightly touch the wood.
 - C. quickly break the wood.
 - D. slowly dry the wood.

3. In paragraph 3, what will cause the letters in Pepito’s name to disappear?
 - A. fire
 - B. sand
 - C. water
 - D. wind

4. In paragraph 5, what is the “silver stripe”?
 - A. the fish
 - B. the flashlight
 - C. the moonlight
 - D. the stars

5. What does paragraph 9 **mainly** suggest about Pepito?
 - A. He seems to get bored easily.
 - B. He feels comfortable near Papa.
 - C. He likes the sound of the ocean.
 - D. He spends time thinking about insects.

6. In paragraph 17, the word thunders means the ocean
 - A. feels hot.
 - B. looks stormy.
 - C. smells salty.
 - D. sounds loud.

7. Why are some grunion buried in the sand?
- A. They are going back to the water.
 - B. They are laying eggs.
 - C. They are trying to hide.
 - D. They are waiting for a big wave.
8. What is Pepito **most likely** doing in the picture?
- A. catching the grunion
 - B. putting grunion in the sea
 - C. taking grunion out of the pail
 - D. waiting for the grunion
9. How did Pepito's father **most likely** learn how to catch the grunion?
- A. from a book
 - B. from a friend
 - C. from his father
 - D. from his son
10. What is the **main** purpose of this passage?
- A. to teach the reader how to catch grunion
 - B. to warn the reader of the dangers on the beach
 - C. to entertain the reader with a story about a boy
 - D. to persuade the reader to visit the coast of Mexico
11. Which sentence from the passage shows an **opinion**?
- A. "We don't need a rod and reel," Papa says."
 - B. "I sniff to see if the air smells fishier."
 - C. "I know there are sharks and stinging jellyfish hiding out there."
 - D. "Those will be the best fish you have ever eaten," Papa says."
12. Which source is the **best** for learning more about grunion?
- A. a book of poems about grunion
 - B. a collection of ocean maps
 - C. the dictionary under "G"
 - D. the "G" volume of an encyclopedia

13. Describe what Pepito learns from his night on the beach. Use details from the passage to explain your answer.

Scoring Guide

Score	Description
4	Response provides a thorough explanation of what Pepito learns from his night on the beach. Explanation includes specific, relevant details from the passage.
3	Response provides an explanation of what Pepito learns from his night on the beach. Explanation includes supporting details from the passage, but lacks specificity, relevance, and/or development.
2	Response provides a partial explanation of what Pepito learns from his night on the beach. Explanation includes limited details from the passage and/or is partially correct.
1	Response makes a vague or minimal statement about Pepito being on the beach.
0	Response is totally incorrect or irrelevant.
Blank	No response.

Scoring Notes

A thorough response will include an explanation that Pepito learns when the grunion run, how to catch them, and that they come ashore to spawn. Details from the passage may include, but are not limited to, the following:

- He learns that the grunion run at high tide.
- He learns that the grunion are caught with bare hands and a bucket. You do not need a rod, reel, bait, or boat.
- He learns that the grunion do not bite.
- He learns that the grunion are tricky to catch. On his first attempt, he pinches a grunion by its tail, but the fish flips and gets away.
- He learns that the grunion look slimy.
- He learns that the grunion come ashore to lay their eggs (spawn) by burying their eggs in the sand.
- When he looks in the pail at the fish that he has caught, he feels sorry for them. He thinks they look like they are trying to get out. He puts his fish back in the sea, but he and Papa leave with their moonlight catch—Papa with grunion; Pepito with his sand dollar for Maria. Pepito learns that he doesn't have to keep the grunion to have fun.

Example of Score Point 4

Peptio learned how to catch the grunion. For example, his dad told him that all you need is your bare hands and a bucket. He also learned what time the fish come. He found this out because he and his dad wrote his name in the sand and his dad said to him "when those letters disappear, the grunion will come" and the time when his name disappeared was at night and sure enough they came. Finally, he learned how to care for the fish. He let the fish go, even though his dad said these are going to be the best fish you have ever tasted.

Example of Score Point 3

Pepito Learns that you don't need tools to catch a Grunion. Pepito learns that the fish lay eggs when they are buried. He also learns that the Grunion are hard to catch. He learns that the fish don't really bite. He learns that the fish are really slimy. He learns that there was a sand dollar in the ocean. This is what Pepito learned.

Example of Score Point 2

What Pepito learns from the night on the beach is how to catch gunnion, when to catch gunnion and how slippery gunnion are. That is what Pepito learns from the night on the beach.

Example of Score Point 1

He learns that you can catch granion with
just your bear hands.

Example of Score Point 0

penite means that the moon +
light is shining in something.

Read this passage about how to make a print of bubbles. Then answer the questions that follow.

Bubble Prints

by Diane Willow and Emily Curran

The foam on top of a liquid is formed by many, many tiny bubbles. When these bubbles form clusters, they join together in distinctive* patterns. To have a longer look at bubble cluster patterns, you can record their shapes with a bubble print!

You will need:

old newspaper

two cups

poster paint or food coloring (food coloring is available at the supermarket in a package of four little squeeze bottles: red, yellow, green, and blue)

water

dishwashing liquid

a sheet of white paper

a drinking straw

an eyedropper

This can get messy, so spread newspaper around wherever you do this activity.

* distinctive: unlike others

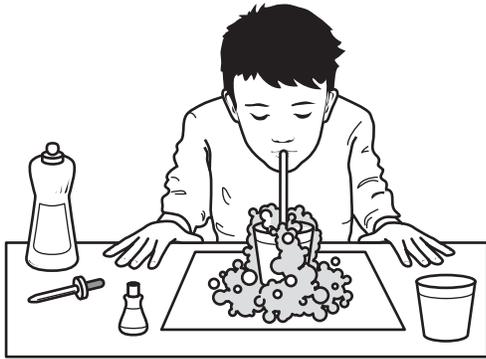
1. Pour a little food coloring or poster paint into a cup. Keep your eyedropper nearby; you're going to need it.



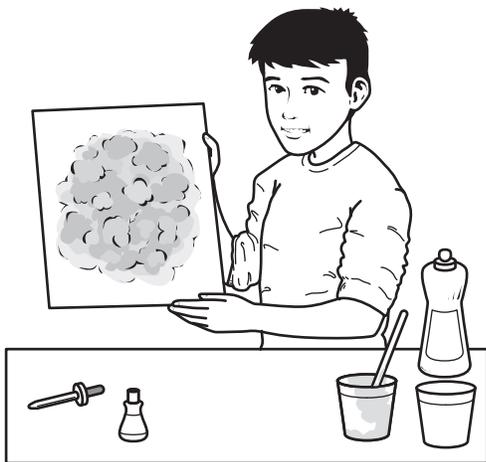
2. Pour about one-half inch of water into the other cup. Add a squirt of dishwashing liquid.



- Place the cup of bubble soap in the middle of a sheet of white paper.
- Now stick a drinking straw into the bubble solution and—gently—start blowing into the liquid. Bubbles will fill your cup and start spilling over the rim.



- Keep blowing! You want the bubbles to overflow and pile up on your sheet of white paper. Be careful not to blow too hard; you want to cover your paper with bubbles, not the bubble water.
- When you have a beautiful pile of bubbles on the paper, lift off the cup and admire your work.



To make a print of the bubbles, you need to quickly and carefully fill your eyedropper with poster paint or use a food coloring bottle to gently drop two or three drops onto the middle of the mound of bubbles. Watch the color flow along the lines where one bubble joins another until it reaches the bottom bubbles and, at last, touches the paper. All the while bubbles will be bursting and the bubble mound will be shrinking. Within half an hour all the bubbles will be gone, but they'll have left something behind: a bold and beautiful bubble print.

Long-lasting Bubbles

If you want to make some bubbles that last longer, try this. Get a clean, clear plastic soda bottle. Pour in enough bubble soap to cover the bottom of the bottle. Join two straws together to make a very long straw. Put this long straw into the bottle and blow bubbles until they fill the bottle. Now you have some longer lasting bubbles to watch. How long do you think they will last? Look for shapes in the bubble froth. Do you see some familiar patterns, especially on the swirling surfaces of the bubbles?

14. What is the **main** purpose of the first paragraph?
- A. to describe the way to make bubbles
 - B. to introduce the topic of the passage
 - C. to show how the topic is organized
 - D. to explain how to record bubble shapes
15. Why is an old newspaper needed to make the print?
- A. to catch the bubbles on the cup
 - B. to cover the cup of water
 - C. to keep the sheet of paper clean
 - D. to keep the work area clean
16. When making the bubbles, in which step should the dishwashing liquid be added?
- A. step 1
 - B. step 2
 - C. step 3
 - D. step 4
17. When making the print, the eyedropper is used to hold
- A. the bubble soap.
 - B. the dishwashing liquid.
 - C. the poster paint.
 - D. the water.
18. What makes the mound of bubbles disappear?
- A. The bubbles blow away.
 - B. The bubbles burst.
 - C. The bubbles grow.
 - D. The bubbles turn into water.

19. What is the **main** purpose of the information in the part titled **Long-lasting Bubbles**?
- A. to describe a different way to make bubbles
 - B. to provide new facts about bubble clusters
 - C. to suggest that everyone can blow bubbles
 - D. to compare bubble clusters to bubble prints

20. The pictures in the passage are useful because they show how
- A. to blow long-lasting bubbles.
 - B. to draw different shapes.
 - C. to follow some of the steps.
 - D. to make bubbles in less time.

Read these poems about ice skating. Then answer the questions that follow.

Poem 1: My Mother Took Me Skating

My mother took me skating
and we glided on the ice,
I wasn't very good at it
and stumbled more than twice.

My mother made a figure eight,
and since it seemed like fun,
I tried a little trick myself
and made a figure one.

—Jack Prelutsky



Poem 2: When the Pond Freezes Solid

When the pond freezes solid,
we skate,
skimming thick ice with thin silver blades,
making heart shapes and figure-eights,
playing wild hockey with puck and wooden sticks,
creating a ruckus* on the ice.

Sharpening old blades dulled by falls,
we take breaks by the bonfire,
drinking lots of hot chocolate brought by
friends.

Lacing our skates,
we return to blade-sliced ice,
enticing Bessie the crazy cow
to learn to walk, dazed, clumsily,
upon the frozen water.

—Linda Oatman High

**ruckus*: noisy confusion

21. In **Poem 1**, what is the **most likely** reason the poet makes a figure one instead of a figure eight?
- A. It is something he knows how to do.
 - B. He wants to do something difficult.
 - C. It is what his mother teaches him to do.
 - D. He wants to play a trick on his mother.
22. In **Poem 2**, the ruckus is caused when the people
- A. take breaks by the bonfire.
 - B. play wild hockey on the ice.
 - C. sharpen their skate blades.
 - D. bring the cow onto the ice.
23. In **Poem 2**, what makes the skate blades dull?
- A. falling on the ice
 - B. playing wild hockey
 - C. skimming thick ice
 - D. making heart shapes
24. What is Bessie the cow doing at the end of **Poem 2**?
- A. trying to balance on the ice
 - B. coming up close to people
 - C. trying to drink the frozen water
 - D. watching people skate on the ice
25. How are the people in each poem **alike**?
- A. They are learning how to skate.
 - B. They are playing with friends.
 - C. They are having fun on the ice.
 - D. They are taking breaks by a fire.

26. Which fact shows that “My Mother Took Me Skating” and “When the Pond Freezes Solid” are poems?

- A. They are about winter.
- B. They contain main characters.
- C. They take place outdoors.
- D. They contain lines and stanzas.

27. Which source would **most likely** contain information about types of ice skates?

- A. an atlas
- B. a dictionary
- C. the Internet
- D. a thesaurus

Mathematics Directions

This Mathematics test contains three test sessions. Mark or write your answers in the Answer Booklet. Use a pencil to mark or write your answers.

This test includes three types of questions: multiple-choice, short-answer, and constructed-response questions.

For the multiple-choice questions, you will be given four answer choices—A, B, C, and D. You are to choose the correct answer from the four choices. Each question has only one answer. After you have chosen the correct answer to a question, find the question number in your Answer Booklet and completely fill in the circle for the answer you chose. Be sure the question number in the Answer Booklet matches the question number in the Test Booklet. The example below shows how to completely fill in the circle.

CORRECT MARK <input checked="" type="radio"/>	INCORRECT MARKS <input type="radio"/> <input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>
--------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------

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For the other types of questions in the Test Booklet, you will be asked to write your answers in the box provided. Read the question carefully. If a question asks you to explain your answer or to show your work, be sure to do so.

You may make notes or use highlighters in your Test Booklet, but you must bubble or write your final answers in your Answer Booklet. **Do not make any stray or unnecessary marks in your Answer Booklet.**

Let's work through a sample question together to be sure you understand the directions.

Sample Question

1. Montana is the **fourth** largest state. How many states are larger than Montana?
 - A. 1
 - B. 3
 - C. 10
 - D. 42

Mathematics (No Calculator)

1. Which is another way to write 400,710?
- A. four hundred thousand seven hundred ten
 - B. four thousand seven hundred ten
 - C. forty hundred thousand seven hundred ten
 - D. forty thousand seven hundred ten

2. Chris is making a necklace. She can choose one color for the string and one color for the beads. The colors she can choose from are shown below.

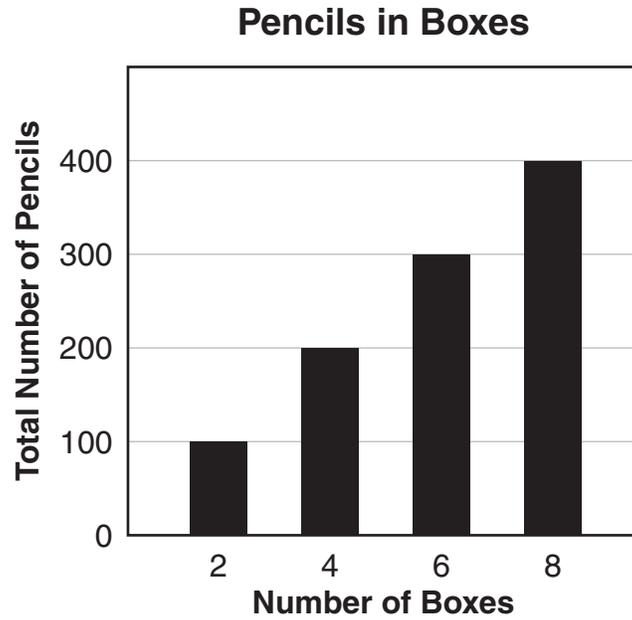
Necklace

Color for String	Color for Beads
Black	Red
Purple	Green
	Blue
	Yellow

How many different ways can Chris choose one color for the string and one color for the beads?

- A. 2
- B. 4
- C. 6
- D. 8

3. Miranda made the bar graph below to show the total number of pencils in different numbers of boxes.



Which table correctly shows this information?

Pencils in Boxes

A.

Number of Boxes	Total Number of Pencils
1	2
2	4
3	6
4	8

Pencils in Boxes

C.

Number of Boxes	Total Number of Pencils
2	200
4	400
6	600
8	800

Pencils in Boxes

B.

Number of Boxes	Total Number of Pencils
1	100
2	200
3	300
4	400

Pencils in Boxes

D.

Number of Boxes	Total Number of Pencils
2	100
4	200
6	300
8	400

4. Nathan earned the money shown below.



How much money did Nathan earn?

- A. \$1.39
- B. \$1.46
- C. \$1.55
- D. \$1.70

5. Jenny planted all her seeds in pots. She planted 6 seeds in each pot. How many seeds could Jenny have planted?

- A. 13
- B. 16
- C. 22
- D. 24

6. Gregg has 26 buttons he can use to make puppets. He uses 4 buttons for each puppet he makes. Gregg wrote the division problem shown below to find how many puppets he can make.

$$26 \div 4 = 6 R2$$

What is the greatest number of puppets Gregg can make?

- A. 2
- B. 4
- C. 6
- D. 8

7. Jimmy solved the problem shown below.

$$155 - 34 = 121$$

Which two number sentences can Jimmy use to check his answer?

- A. $34 + 155 = \square$ and $34 - 155 = \square$
B. $34 + 155 = \square$ and $121 + 155 = \square$
C. $34 + 121 = \square$ and $34 - 155 = \square$
D. $34 + 121 = \square$ and $155 - 121 = \square$
8. Jerome has \$5.67 in his piggy bank and \$7.50 in his pocket. How much money does Jerome have altogether?
- A. \$12.17
B. \$12.27
C. \$13.17
D. \$13.27
9. The numbers below follow a pattern.
169, 163, 173, 167, 177, 171, 181, ___?
What number comes next in the pattern?

10. Look at the set of stars below.



What fraction of the set of stars is white?

- A. $\frac{3}{8}$
- B. $\frac{2}{5}$
- C. $\frac{1}{2}$
- D. $\frac{3}{5}$

11. Julio will start at 5 and count by 3s.
Which is a number he will say?

- A. 13
- B. 14
- C. 15
- D. 16

12. Trevor counted all the different types of stickers on his notebook. He counted

- 10 dinosaur stickers,
- 2 ladybug stickers, and
- 7 star stickers.

Which tally chart shows the number of **each** type of sticker on Trevor's notebook?

Stickers on Notebook

A.

Type of Sticker	Number of Stickers
Dinosaur	
Ladybug	
Star	

Stickers on Notebook

B.

Type of Sticker	Number of Stickers
Dinosaur	
Ladybug	
Star	

Stickers on Notebook

C.

Type of Sticker	Number of Stickers
Dinosaur	
Ladybug	
Star	

Stickers on Notebook

D.

Type of Sticker	Number of Stickers
Dinosaur	
Ladybug	
Star	

13. Look at the number sentence below.

$$2 \times 10 \times 1 = \square \times 1 \times 2$$

What number belongs in the box?

- A. 2
- B. 10
- C. 20
- D. 40

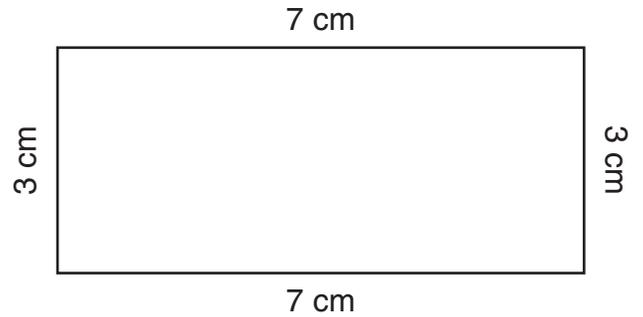
14. Wyatt has some marbles. He put

- 10 yellow marbles,
- 12 blue marbles, and
- 1 red marble into a jar.

Wyatt picks a marble from the jar without looking. Which **best** describes his chances of picking a red marble?

- A. certain
- B. impossible
- C. unlikely
- D. very likely

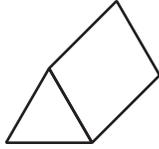
15. Look at the shape below.



What is the area, in square centimeters, of the shape?

- A. 9 square centimeters
- B. 10 square centimeters
- C. 20 square centimeters
- D. 21 square centimeters

16. The figure shown below was made by folding a pattern.



Which pattern can be folded to make this figure?

- A.
- B.
- C.
- D.

17. Carmen used cubes to make the pattern shown below.

					?	?
Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7

The pattern continues. How many **gray** cubes will be in Step 7?

- A. 4
- B. 5
- C. 7
- D. 9

18. Three students guessed the population of Montana. They wrote their guesses on the cards shown below.

965,385	1,000,000	940,529
Paul	Trish	Kirk

Which list shows their guesses in order from **least** to **greatest**?

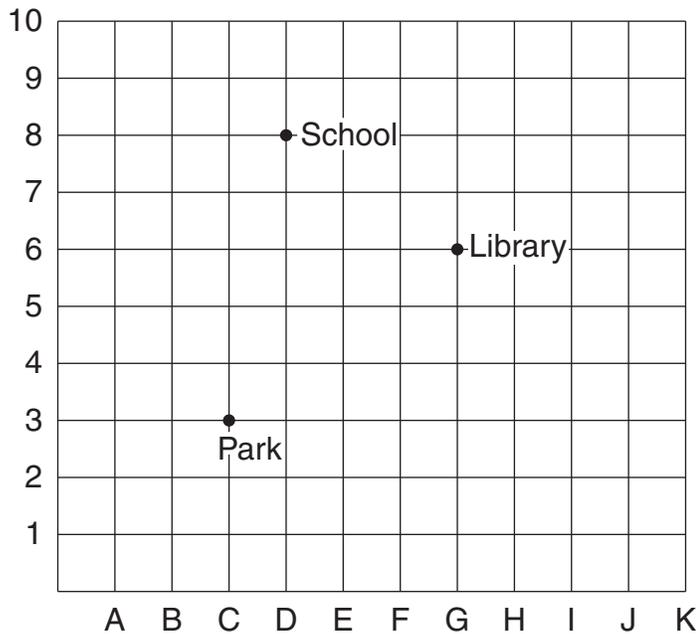
- A.
- B.
- C.
- D.

19. Subtract:

$$\$64.85 - \$5.70 =$$

Mathematics (Calculator)

20. Kyle made the map below to show the places he went to today.



First Kyle went to the school, next the library, and last the park. Which list of ordered pairs shows the order in which he went to the school, the library, and the park?

- A. (C, 3), (D, 8), (G, 6)
- B. (C, 3), (G, 6), (D, 8)
- C. (D, 8), (C, 3), (G, 6)
- D. (D, 8), (G, 6), (C, 3)

21. A rowboat is 14 feet long. How long is this rowboat in yards and feet?

- A. 1 yard 2 feet
- B. 1 yard 4 feet
- C. 2 yards 4 feet
- D. 4 yards 2 feet

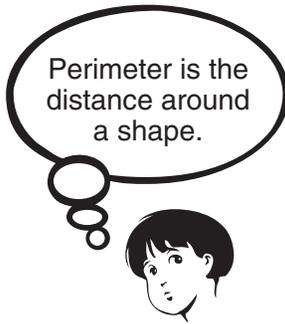
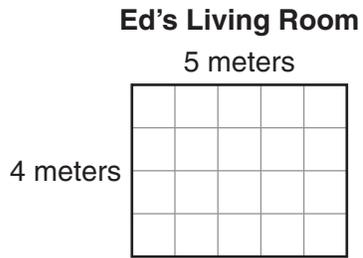
22. Mrs. Harrison asked some students to each pick a number. The number each student chose is shown in the chart below.

Student	Number
Juan	4
Katie	9
Scott	3
Lisa	5
Calvin	1

Mrs. Harrison asked the students to line up in order of the numbers they picked. Which student should be in the middle of the line?

- A. Juan
- B. Katie
- C. Scott
- D. Lisa

23. Ed made the map of his living room shown below.



What is the perimeter of his living room in meters?

- A. 9
- B. 14
- C. 18
- D. 20

24. Look at the number sentences below.

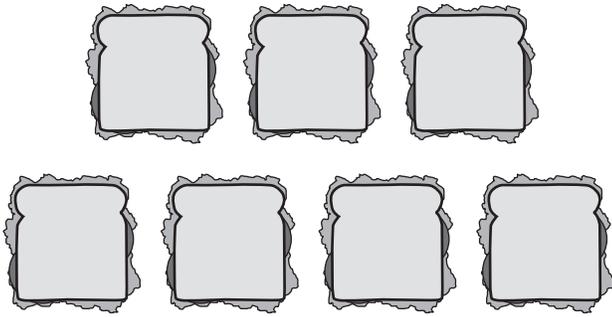
$$1 + \bigcirc = 5$$

$$\bigcirc \times 7 = \triangle$$

In these number sentences, \bigcirc represents the same number. What number does \triangle represent?

- A. 4
- B. 28
- C. 35
- D. 42

25. Look at the sandwiches shown below.



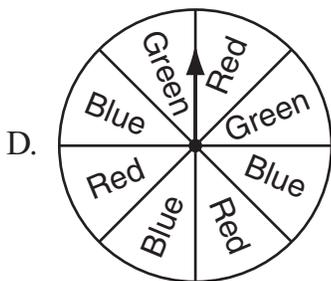
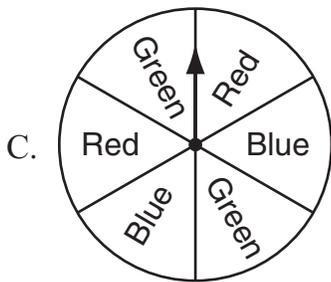
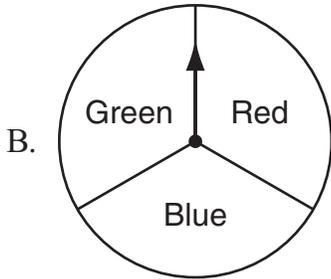
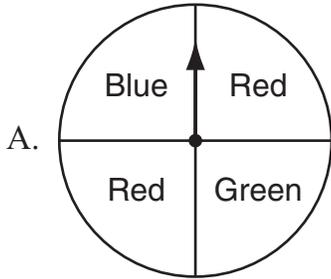
Myles ate $\frac{2}{7}$ of the sandwiches, and Roger ate $\frac{1}{7}$ of the sandwiches. What fraction of the sandwiches did they eat altogether?

- A. $\frac{3}{4}$
- B. $\frac{4}{7}$
- C. $\frac{3}{7}$
- D. $\frac{3}{14}$

26. The National Park Service reported that 213,063 people visited Bighorn Canyon in 2007. What is 213,063 rounded to the nearest ten thousand?

- A. 210,000
- B. 210,070
- C. 213,000
- D. 220,000

27. On which spinner is the arrow **most likely** to stop on red?



28. The numbers below follow a pattern.

10, 15, 14, 19, 18, 23, 22, 27, 26, ?, ?

What are the next two numbers in the pattern?

- A. 31, 36
- B. 25, 24
- C. 31, 30
- D. 27, 22

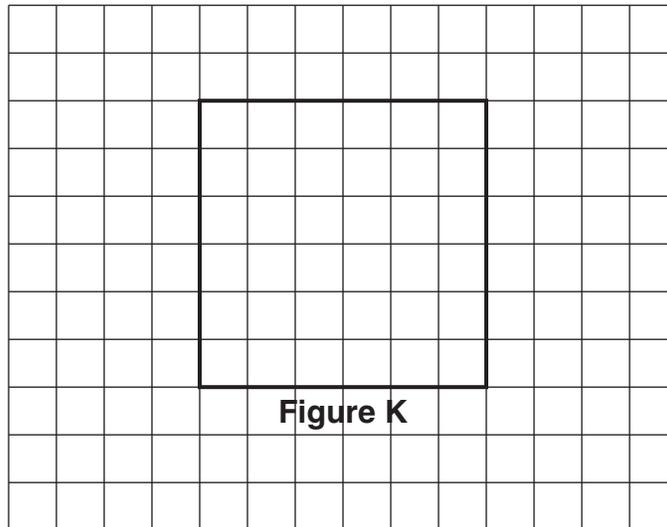
29. Look at the number sentence below.

$$500 + 200 + \square = 1000$$

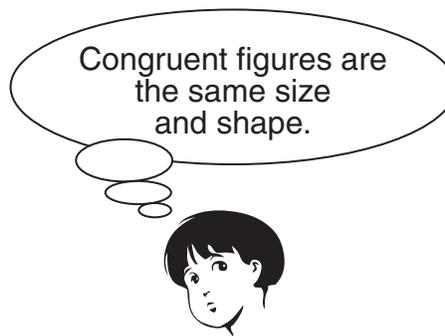
What number belongs in the box?

- A. 300
- B. 700
- C. 1000
- D. 1700

30. Look at Figure K on the grid below.



- a. On the grid in your Answer Booklet, draw a figure that is congruent to Figure K. Use a ruler. Label your drawing Figure N.



- b. Draw two lines on Figure N that divide it into four congruent shapes.
c. Explain why or why not the lines you drew on Figure N are lines of symmetry.

Scoring Guide

Score	Description
4	4 points
3	3 points
2	2 points
1	1 point
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Scoring Notes

Part a: 1 point correct drawing, **shape congruent to Figure K**

Part b: 2 points correct drawing, **Figure N divided into four congruent shapes**

or

correct drawing based on incorrect drawing in part a

OR

1 point correct drawing of Figure N divided into 2 or 3 congruent shapes with no incongruent shapes

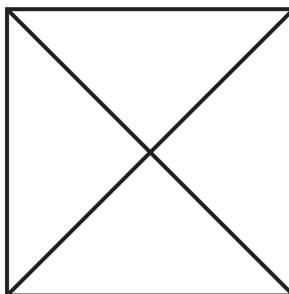
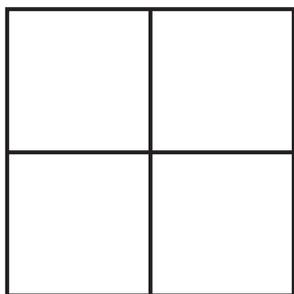
or

correct drawing of 8 congruent shapes when the student draws all 4 lines of symmetry

Part c: 1 point correct explanation of symmetry

Sample Response:

Parts a and b:



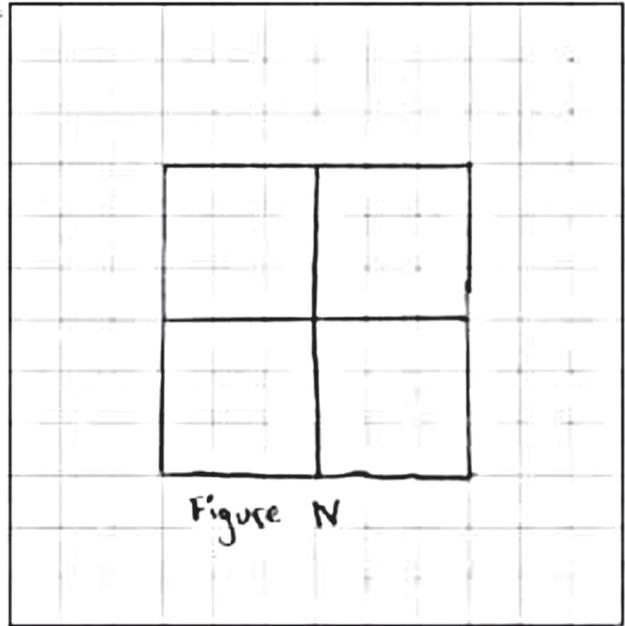
Part c: If you fold my drawing on the lines, the sides will be the same.

The lines divide the shape into sides that match.

Example of Score Point 4

Sample 1

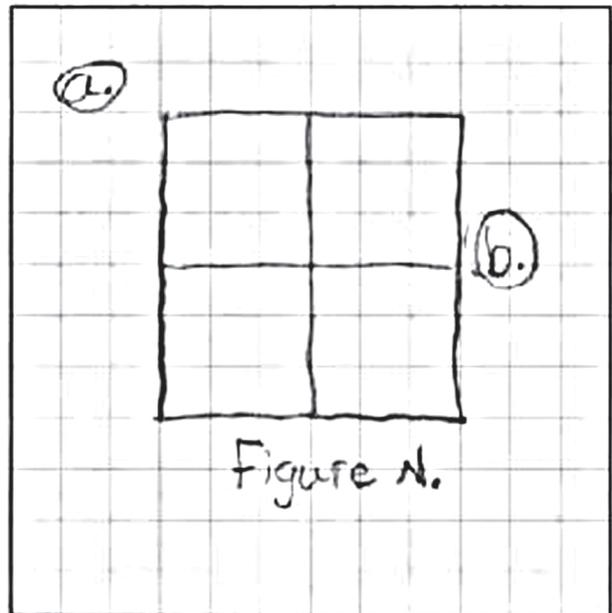
The lines on Figure N are lines of symmetry because if you fold both sides over it will be equal.



Example of Score Point 4

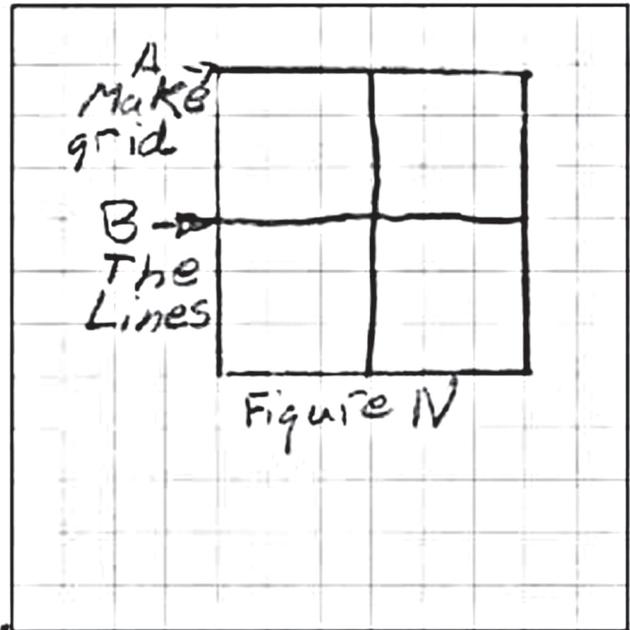
Sample 2

(c) The lines I drew on figure N are lines of Symmetry because if you fold figure N on the lines the sides fit perfectly over each other. That's how you know that the lines I drew on figure N are lines of symmetry!!



Example of Score Point 3

Sample 1

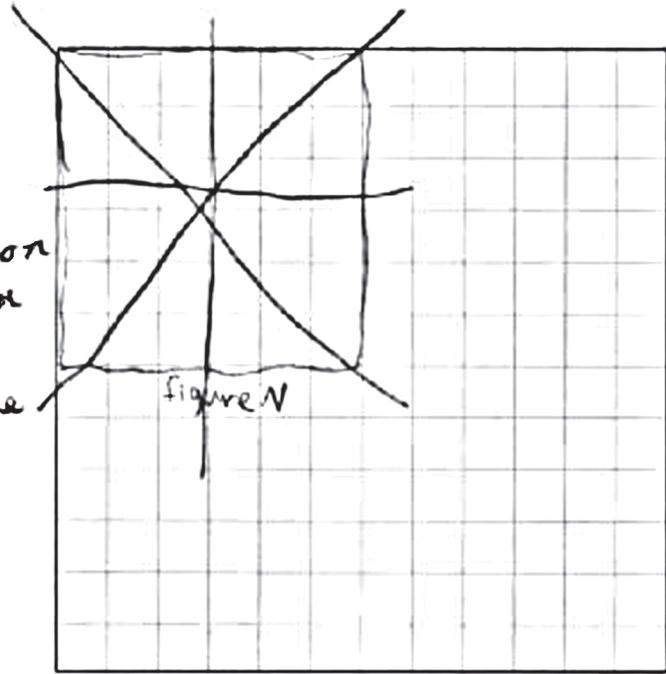


C. It is Lines of symmetry because they are all equal.

Example of Score Point 3

Sample 2

There lines of symmetry
because if you draw it on
a piece of paper and you
fold it one at a time
on the lines, they look the
same, both sides!

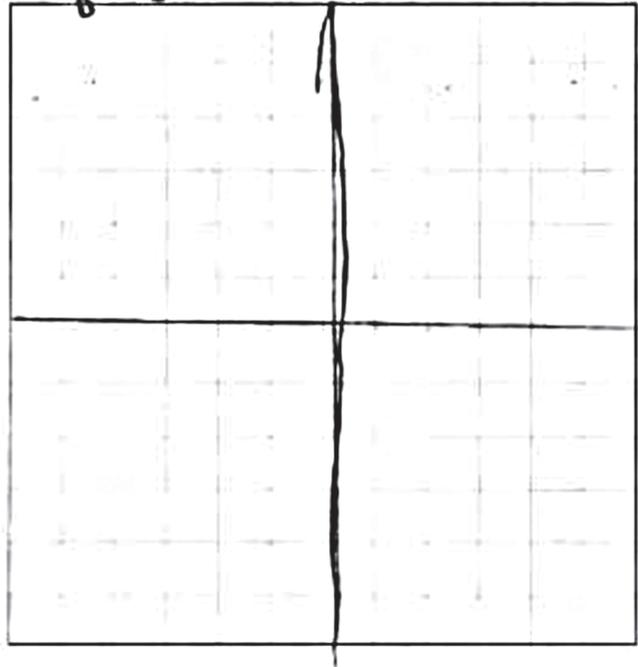


Example of Score Point 2

Sample 1

If you flood it on the line it will show
proof of life.

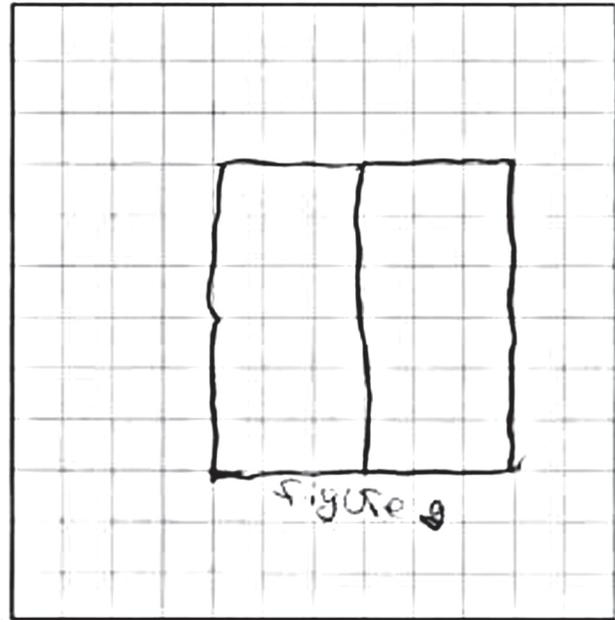
figure N



Example of Score Point 2

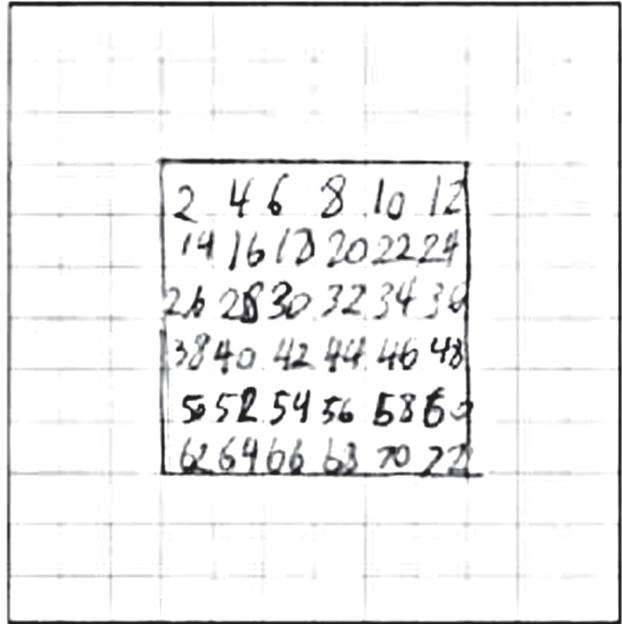
Sample 2

Because they are even
and all the other
lines of symmetry
aren't



Example of Score Point 1

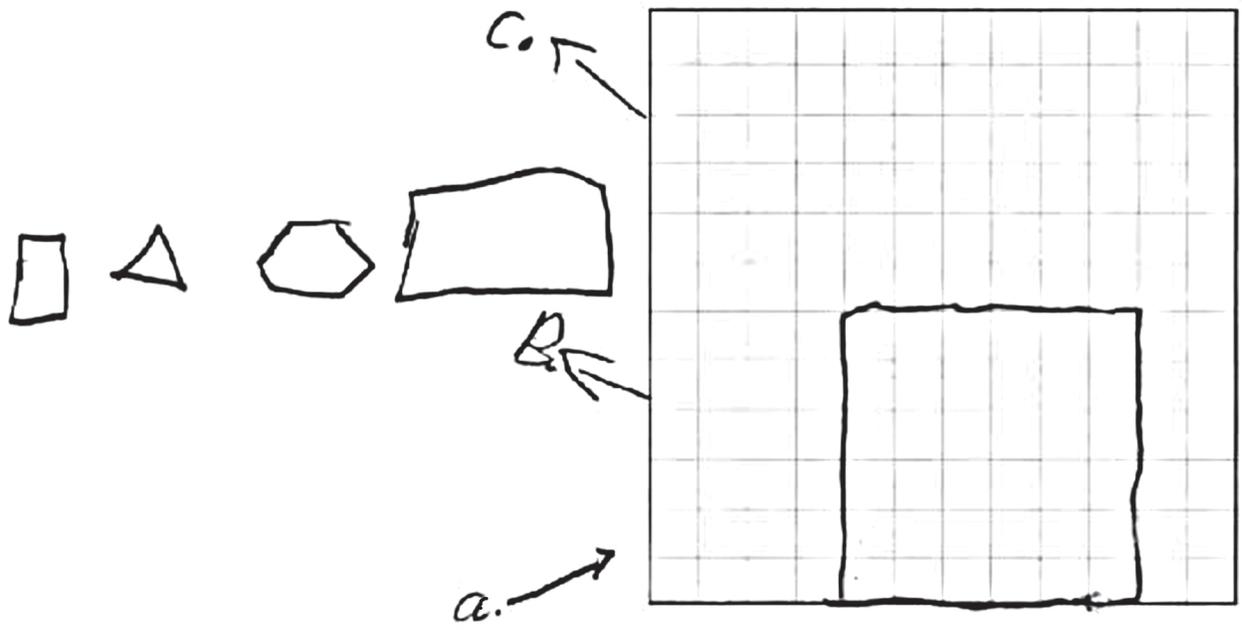
Sample 1



Example of Score Point 1

Sample 2

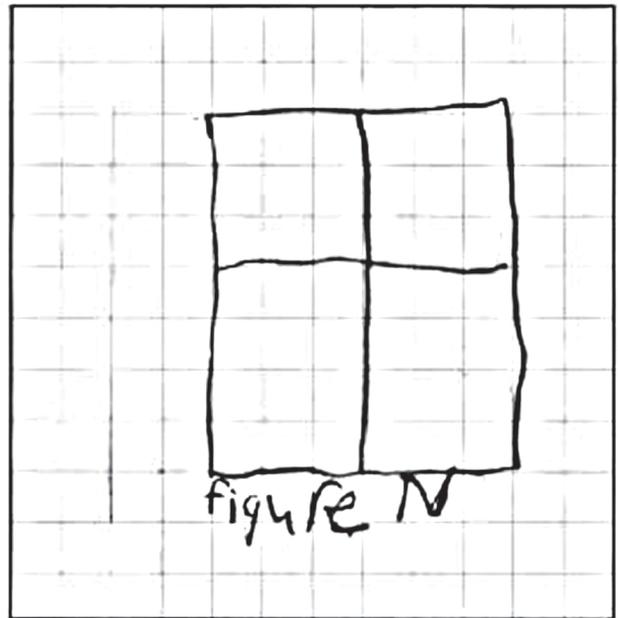
*They are not line of symmetry
they are not congruent.*



Example of Score Point 0

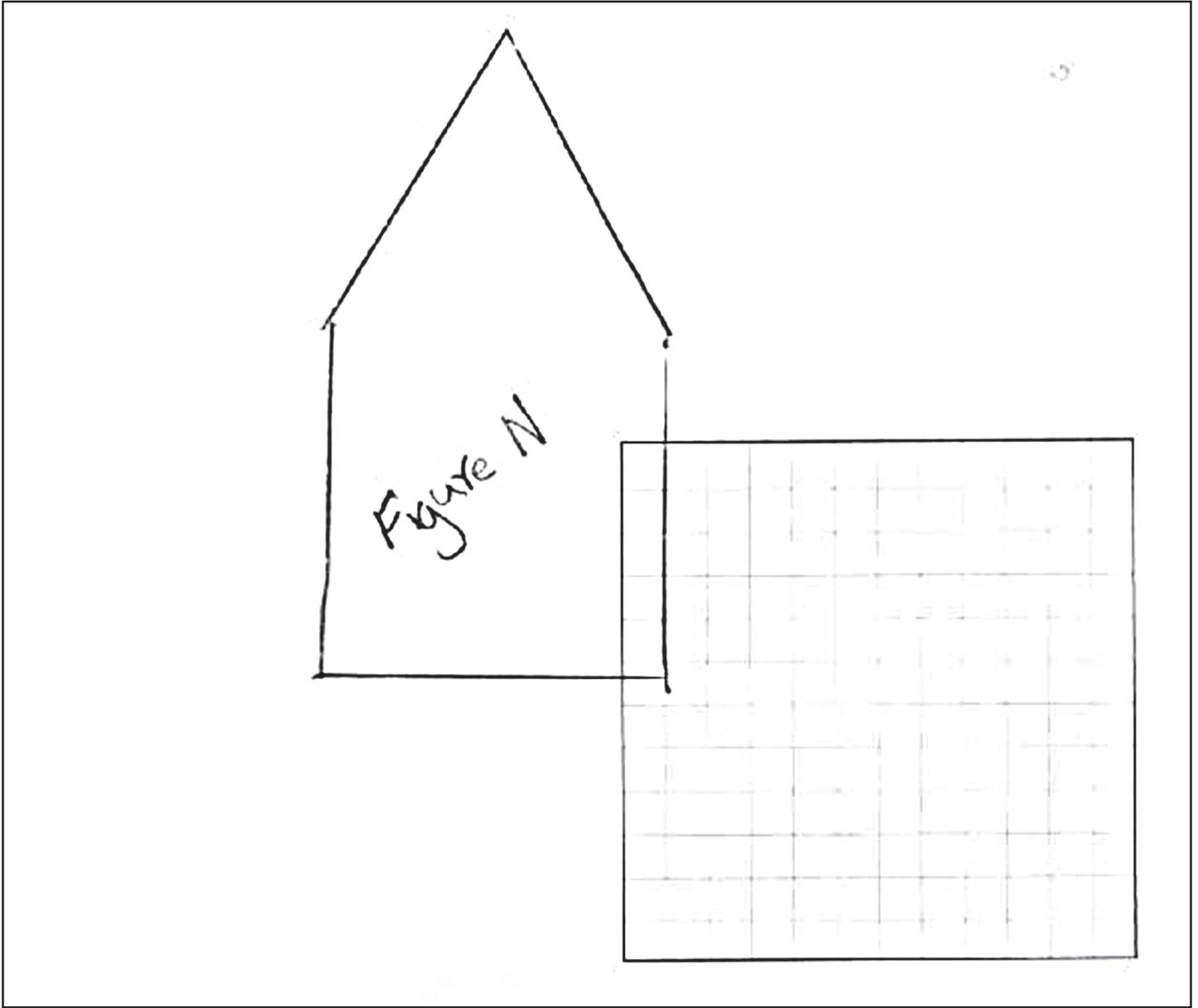
Sample 1

a. yes because you can fold them in half and you can make 4 little squares.



Example of Score Point 0

Sample 2



Science Directions

This Science test contains three test sessions. Mark or write your answers in the Answer Booklet. Use a pencil to mark or write your answers.

This test includes two types of questions: multiple-choice and constructed-response questions.

For the multiple-choice questions, you will be given four answer choices—A, B, C, and D. You are to choose the correct answer from the four choices. Each question has only one answer. After you have chosen the correct answer to a question, find the question number in your Answer Booklet and completely fill in the circle for the answer you chose. Be sure the question number in the Answer Booklet matches the question number in the Test Booklet. The example below shows how to completely fill in the circle.

CORRECT MARK <input checked="" type="radio"/>	INCORRECT MARKS <input type="radio"/> <input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>
--------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------

If you decide to change your answer to a question, erase the wrong mark completely before filling in the circle of the new answer. Be sure you have only one answer marked for each question. **If two circles are bubbled in for the same question, that question will be scored as incorrect.**

If you are having difficulty answering a question, skip the question and come back to it later. Make sure you skip the circle for the question in your Answer Booklet.

For the other types of questions in the Test Booklet, you will be asked to write your answers in the box provided. Read the question carefully. If a question asks you to explain your answer or to show your work, be sure to do so.

You may make notes or use highlighters in your Test Booklet, but you must bubble or write your final answers in your Answer Booklet. **Do not make any stray or unnecessary marks in your Answer Booklet.**

Let's work through a sample question together to be sure you understand the directions.

Sample Question

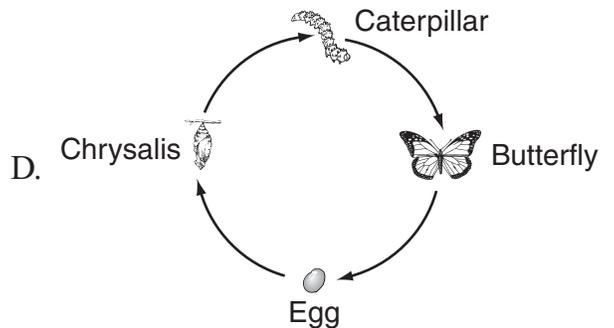
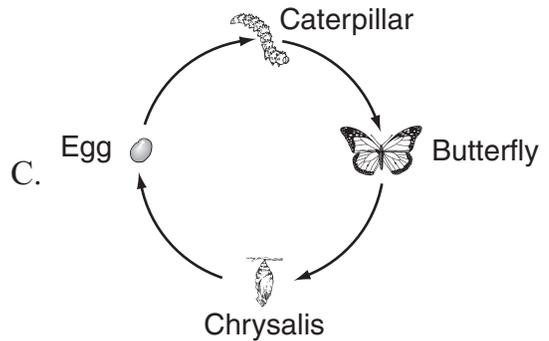
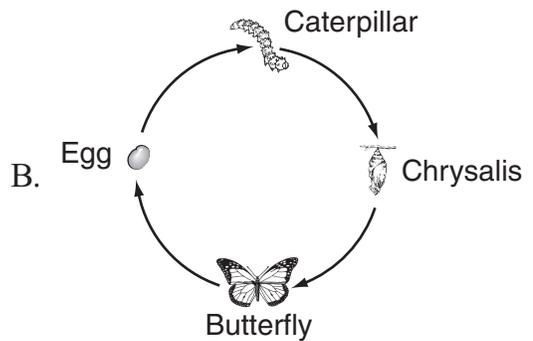
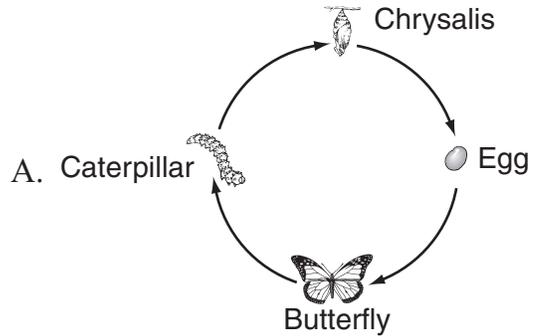
1. What is the state animal of Montana?
 - A. elephant
 - B. grizzly bear
 - C. zebra
 - D. giraffe

Science

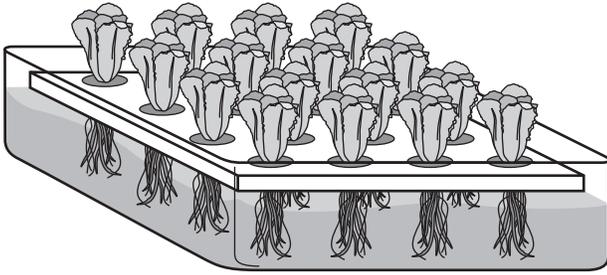
1. A lightbulb gives off light. What else does a lightbulb give off?
 - A. electricity
 - B. heat
 - C. magnetism
 - D. sound

2. Which animal behavior is an example of a learned behavior?
 - A. a caterpillar making a cocoon
 - B. a salamander laying her eggs
 - C. a polar bear cub grabbing a seal that comes up for air
 - D. a young bird opening its mouth to feed

3. Which drawing correctly shows the life cycle of a butterfly?



4. The picture below shows lettuce growing without soil.



The lettuce roots are in water. The roots supply the lettuce plants with what they need from the water.

What should be added to the water so the plants will grow more quickly?

- A. energy
- B. fertilizer
- C. salt
- D. sand

5. A fossilized skull of an animal is shown below.

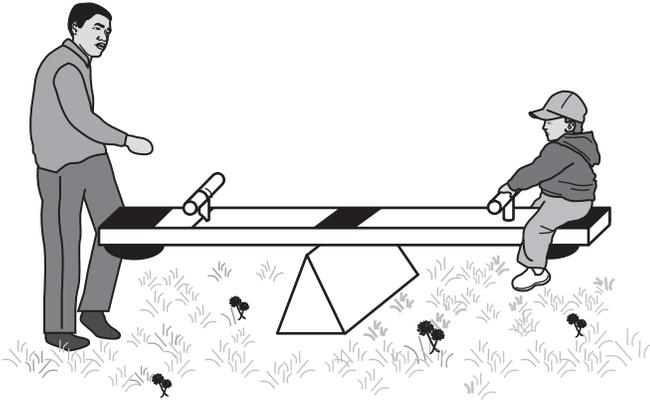
A Large Fossil



Which statement is **most likely** true of this fossilized animal?

- A. It flew like a bird.
- B. It lived in the water.
- C. It ate mostly soft plants.
- D. It ate other animals.

6. The picture below shows a seesaw.



What will happen when the adult sits on the opposite side of the seesaw?

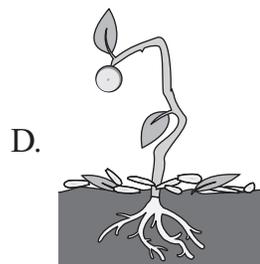
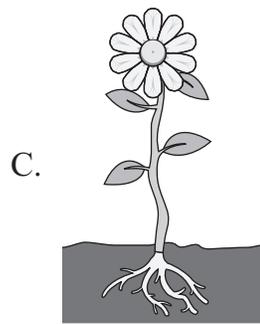
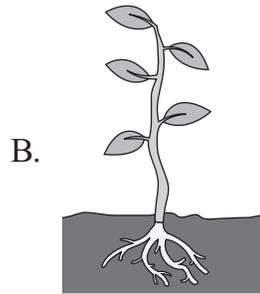
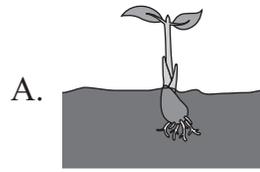
- A. On the child's side, the force of gravity will push the child up.
- B. On the adult's side, the force of the adult's weight will push the seesaw down.
- C. The weight of the child will become less.
- D. The weight of the adult will become more.

7. Montana Indians on the Blackfeet reservation have observed that the wind blows mainly from the west. How do the Blackfeet people use this information to set up their tipis?
- A. The tipis have an inner lining for warmth.
 - B. The doors of the tipis always face east.
 - C. The smoke holes of the tipis are centered over the fire.
 - D. The tipis are placed in the shape of a circle.

8. Which tool should be used to see the details on a cricket's wings and legs?

- A. a balance
- B. a magnifying lens
- C. a meterstick
- D. a telescope

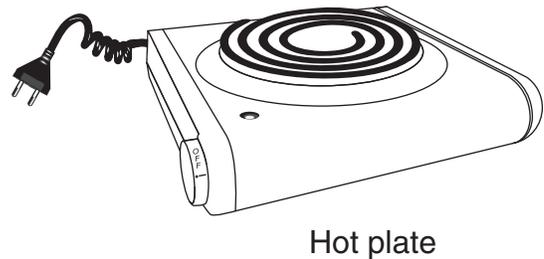
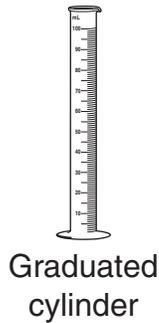
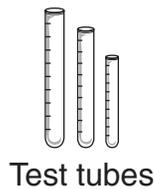
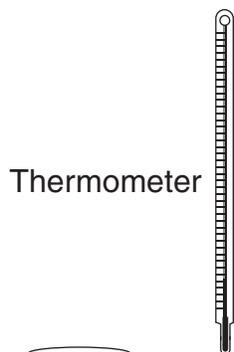
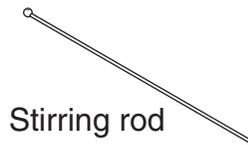
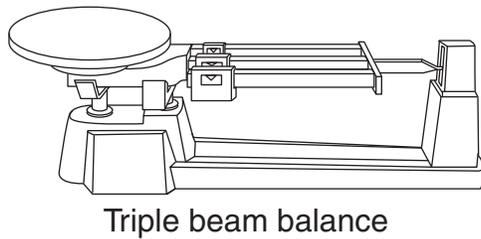
9. At which stage in this flower's life cycle does pollination happen?



10. A group of students wants to know if temperature changes of water can affect how fast sugar dissolves. The students will add 30 g of sugar to three containers of water at each of the three temperatures listed below, stir, and then measure the amount of time it takes for the sugar to dissolve.

- 100 mL of water at 70°C
- 100 mL of water at 40°C
- 100 mL of water at 10°C

- a. From the pictures below, select at least **three** tools needed for the investigation.
- b. Explain how three of the tools selected in part a would be used in the investigation.



Scoring Guide

Score	Description
4	The student demonstrates a thorough understanding of how to select and use appropriate tools to make measurements in basic scientific investigations. Response has listed three tools and appropriately explained the function of each tool in the investigation. Response has no errors or omissions.
3	The student demonstrates a general understanding of how to select and use appropriate tools to make measurements in basic scientific investigations. Response has listed three tools and appropriately explained the function of each tool in the investigation. Response has an error or omission.
2	The student demonstrates a limited understanding of how to select and use appropriate tools to make measurements in basic scientific investigations. Response has listed three tools and appropriately explained the function of each tool in the investigation. Response has two errors or omissions.
1	The student demonstrates a minimal understanding of how to select and use appropriate tools to make measurements in basic scientific investigations. Response has listed three tools and appropriately explained the function of each tool in the investigation. Response has one correct piece of information and contains several errors or omissions.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Scoring Notes

Acceptable choices and functions

- graduated cylinder - measure 100 mL of water
- hot plate - heat water in beaker
- beaker - hold water for heating and dissolving sugar
- thermometer - measure water temperature
- stirring rod - stir water and sugar
- triple beam balance - mass 30 g of sugar
- stopwatch - time dissolving rate
- accept if response has “beaker cover - to hold and measure sugar”
- Items not in picture that will be accepted are:
 - paper - to hold and measure sugar on triple beam balance
 - computer - to record and store lab data, make graphs
 - pencil, paper, ruler - to record data, make graphs

Points

1 point for part a

1 point each for explanation (3 total)

Example of Score Point 4

Stirring rod, Thermometer, Graduated cylinder
They would use the stirring rod to stir the water.
They would use the Thermometer to see how hot or
how cold the water is. They would measure how much
water they have with the Graduated cylinder.

Example of Score Point 3

a. Thermometer, graduated cylinder, hot plate, stirring rod, and beaker.

b. The graduated cylinder would be used for measuring 30 g of sugar. The stirring rod would be used to stir it. The beaker would be used to put the water and sugar in it.

Example of Score Point 2

a Stirring rod Graduated cylinder
Hot plate

b stirring rod will stir

Example of Score Point 1

stop watch, thermometer, beaker

Example of Score Point 0

There was these kids wondering how
temperature can. They used this tool
so they can mix the sugar and
the water.

11. Before European settlers arrived, which natural resource did American Indians in Montana use **most** often to provide food, shelter, and clothing?

- A. buffalo
- B. rivers
- C. timber
- D. wheat

12. A student has a mixture of sand and iron filings. What is the **easiest** way to separate the iron filings from the mixture?

- A. by washing the mixture in water
- B. by heating the mixture in an oven
- C. by using a magnet to remove the iron filings
- D. by using tweezers to remove the iron filings

13. A student is doing an experiment with chemicals. What should the student do before the experiment to safely use the chemicals?

- A. measure the temperature
- B. put on safety glasses
- C. measure the chemicals
- D. check the floor for spills

14. What is the **main** job of gills on a fish?

- A. to help with swimming
- B. to carry blood throughout the body
- C. to pass waste from the body
- D. to get oxygen from the water

15. The table below shows the differences between paper and plastic bags. The question marks show that some of the information is missing.

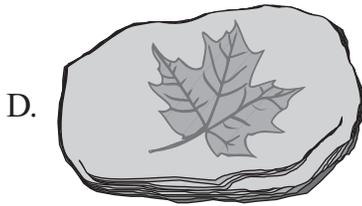
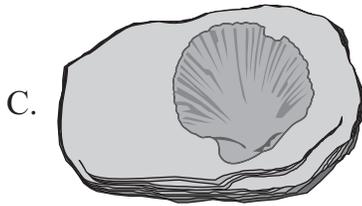
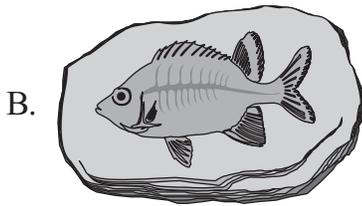
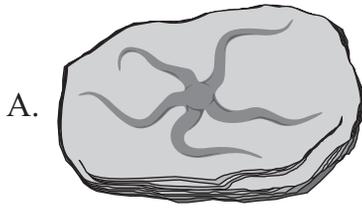
Differences between Plastic and Paper Bags

Properties	Plastic	Paper
Waterproof	?	?
Cost to make them	Almost equal	Almost equal
What they are made from	Oil	?
Whether it causes pollution	Causes less pollution	Causes more pollution

Which information should go into the boxes with the question marks?

- A. Paper is waterproof and made from trees. Plastic is not waterproof.
- B. Plastic is waterproof. Paper is not waterproof and is made from trees.
- C. Paper and plastic are both waterproof and made from oil.
- D. Paper is not waterproof. Plastic is waterproof and made from trees.

16. Which fossil is of an organism that lived on land?



17. The milkweed plant makes a substance that tastes very bad to many animals, but not to the monarch butterfly caterpillar that eats it. When birds eat a monarch butterfly caterpillar, they spit it out. What **most likely** causes birds to dislike these caterpillars?

- A. The caterpillars are the same color as the milkweed plant.
- B. The caterpillars remind the birds of the milkweed plant.
- C. The caterpillars taste like the milkweed plant.
- D. The caterpillars look like the milkweed plant.

18. A woman is moving a full wheelbarrow, as shown in the picture below.



Which forces are shown in the picture?

- A. the handles pushing up and the wheel pushing down
 - B. the wheel pulling forward and the woman pushing down
 - C. the weight of the plants pushing down and the woman pulling up
 - D. the weight of the plants pulling up and the woman pushing down
19. Which would provide food for a squirrel?
- A. fish in a pond
 - B. large snakes
 - C. large cacti
 - D. trees in the woods

20. A student is deciding what to wear to an outdoor activity that will take place in three days. Which source would be **most** useful?
- A. a Web page about the region's climate
 - B. a weather report
 - C. a science article about global warming
 - D. a diagram of the water cycle
21. Caves form when water dissolves limestone. Which process **most likely** forms caves?
- A. blizzards
 - B. heating
 - C. recycling
 - D. weathering
22. Which living thing needs the most food, water, and space to live?
- A. earthworm
 - B. mountain lion
 - C. mouse
 - D. robin

23. The picture below shows the head of an insect. The table below describes the mouthparts of several groups of insects.



Group of Insects	Kind of Mouthpart
Grasshoppers and crickets	Sharp jaw for biting
Mosquitoes	Needle for piercing and sucking
Butterflies and moths	Tube for sucking
Flies	Sponge for lapping

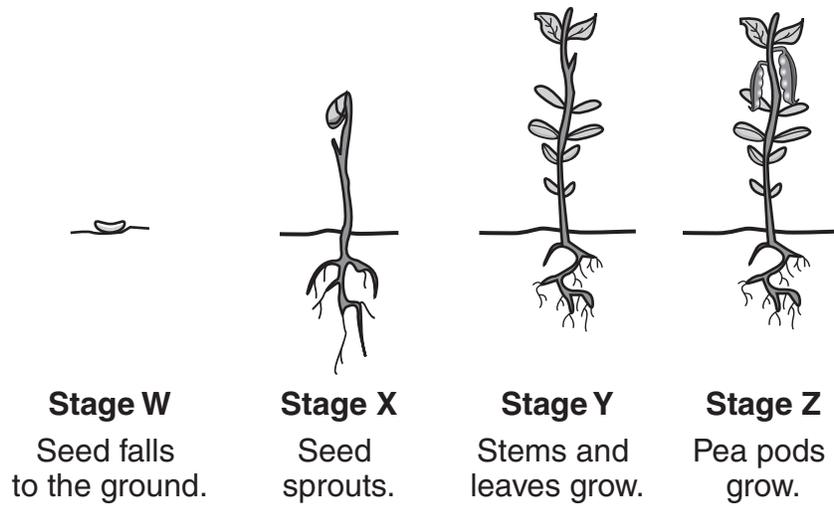
To which group does the insect in the picture belong?

- A. grasshoppers and crickets
- B. mosquitoes
- C. butterflies and moths
- D. flies

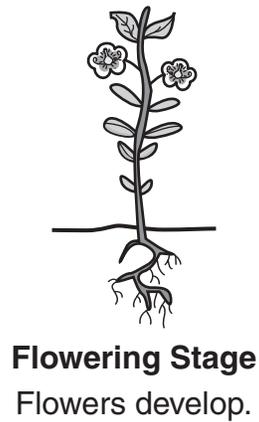
24. How did the Grand Canyon form?

- A. The rocks were moved by farming.
- B. The rocks were moved by mining.
- C. The rocks were eroded by a glacier.
- D. The rocks were eroded by a river.

25. The pictures below show four stages of a pea plant's life cycle.



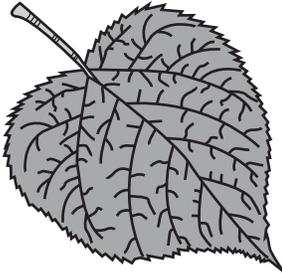
During another stage, pea plants develop flowers, as shown in the picture below.



Where does the Flowering Stage belong in the pea plant life cycle?

- A. after Stage W
- B. after Stage X
- C. after Stage Y
- D. after Stage Z

26. The picture below shows a leaf.



The tables below describe the edges and shapes of leaves.

Leaf Edges

Smooth	Toothed	Wavy
Redbud	Alder	Witch hazel
	Gray birch	Swamp oak
	Poplar	
	Basswood	

Leaf Shapes

Oval	Heart-shaped	Triangular
Alder	Basswood	Poplar
Witch hazel	Redbud	Gray birch
Swamp oak		

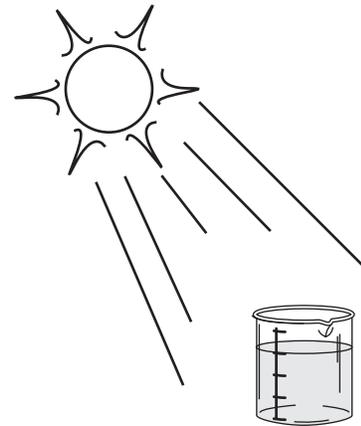
Based on the tables, what kind of leaf is shown in the picture?

- A. basswood
- B. poplar
- C. redbud
- D. witch hazel

27. Which process would **most** quickly change Earth's surface?

- A. a volcano erupting
- B. water eroding a canyon
- C. wind shaping a rock formation
- D. a glacier moving over land

28. A student uses the model shown below to learn about the water cycle.



What makes this model different from the real water cycle?

- A. the evaporation of the water
- B. the source of energy that moves the water
- C. the amount of water involved
- D. the changing form of the water

Acknowledgments

Measured Progress and the Montana Office of Public Instruction wish to acknowledge and credit the following authors and publishers for use of their work in the Montana Comprehensive Assessment System—2011.

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