MCA Paper Student Readiness Tool

Grades 7–8

m1 DEPARTMENT OF EDUCATION
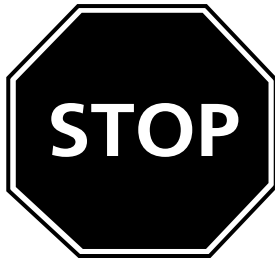
18 Point

Symbols on the Test

You will see the following symbols in your test book:

Go on to the next page. ⟩ This symbol means you can continue answering questions on the next page.

STOP This symbol means you have finished a segment. You must wait until you are told to go to the next segment.

Put sticker here When you finish a segment of the test, raise your hand to receive a sticker from the Test Monitor. Place this sticker on the symbols to seal the segment.

Mathematics Test General Information

- Your test will contain different segments. Segment pages look like this:

Segment 1

You will be told when to begin this segment.

You **MAY NOT** use a calculator for this segment.

Segment 2

You will be told when to begin this segment.

You **MAY** use a calculator for this segment.

- You are allowed to use a calculator for certain segments of the test. These symbols tell you whether a calculator is allowed.

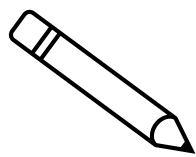**Allowed**   **Not Allowed**

- You can write in your test book or use scratch paper.

- You must answer each question in the test book.

- Your mathematics test includes multiple-choice and fill-in-the-blank questions.

Go on to the next page.

For multiple-choice questions, circle the answer in your test book. The sample below shows you how to do this.

Sample Question Answered in Test Book:

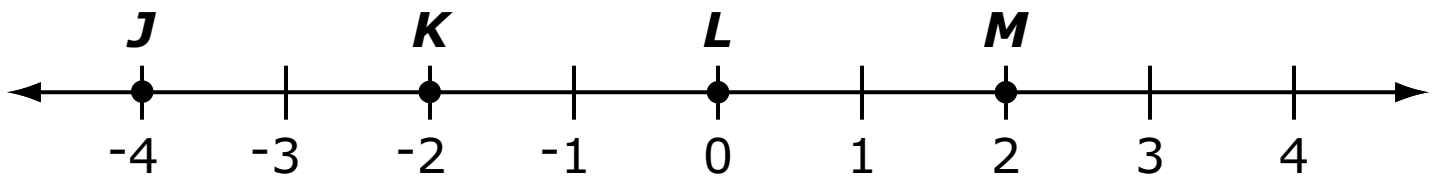Which value is equivalent to $5\frac{2}{15}$?

A. $5.1\overline{3}$

B. $5.\overline{13}$

C. 5.13

D. $5.\overline{3}$

Practice

Practice answering this multiple-choice question by circling option C.

1. Four points are graphed on a line.

J   K   L   M

-4   -3   -2   -1   0   1   2   3   4

Which point is located at 0?

A. Point *J*

B. Point *K*
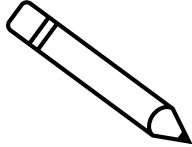
C. Point *L*

D. Point *M*

For fill-in-the-blank questions, you will need to write the answer in the space provided. You can also use this space to solve the question. The sample below shows you how to do this.

Note: Every fill-in-the-blank question includes instructions about which numbers and symbols can be used in your answers. It is important to follow these instructions when writing your answers.

Sample Question Answered in Test Book:

Please write your answer in the space below the question. You may use the digits: 0–9 and the symbols: slash for a fraction bar (/), a decimal (.), and a negative sign (−). If your answer is a mixed number, you must change it to an improper fraction or a decimal.

What is 15,000 + 1?

$$15000 + 1 = 15001$$

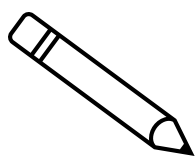
For some fill-in-the-blank questions, you will need to write answers with negative signs and/or decimals. The sample below shows you how to do this.

Sample Question Answered in Test Book:

Please write your answer in the space below the question. You may use the digits: 0–9 and the symbols: slash for a fraction bar (/), a decimal (.), and a negative sign (−). If your answer is a mixed number, you must change it to an improper fraction or a decimal.

What is the decimal equivalent of $\frac{1}{4} - \frac{2}{4}$?

−0.25

Practice

Practice answering this question in the space provided by writing −0.32.

Please write your answer in the space below the question. You may use the digits: 0–9 and the symbols: slash for a fraction bar (/), a decimal (.), and a negative sign (−). If your answer is a mixed number, you must change it to an improper fraction or a decimal.

2. Subtract.

$$0.30 - 0.62$$

For some fill-in-the-blank questions, the answer may be a mixed number. It is important to change mixed numbers into improper fractions or decimals because the space bar character is not an accepted symbol. If an answer is given as a mixed number, it will be marked as incorrect. The sample below shows you how to do this.

Sample Question Answered in Test Book:

Please write your answer in the space below the question. You may use the digits: 0–9 and the symbols: slash for a fraction bar (/), a decimal (.), and a negative sign (−). If your answer is a mixed number, you must change it to an improper fraction or a decimal.

What is the difference between $48\frac{5}{8}$ and 47.5?

$$48\tfrac{5}{8} - 47.5$$

$$48\tfrac{5}{8} - 47\tfrac{1}{2}$$

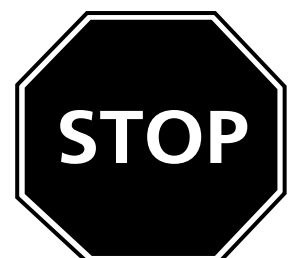$$\tfrac{389}{8} - \tfrac{95}{2}$$

$$\tfrac{389}{8} - \tfrac{380}{8} = \tfrac{9}{8}$$

Practice

Practice answering this question in the space provided by writing the sum of the mixed numbers in the form of the improper fraction 325/4.
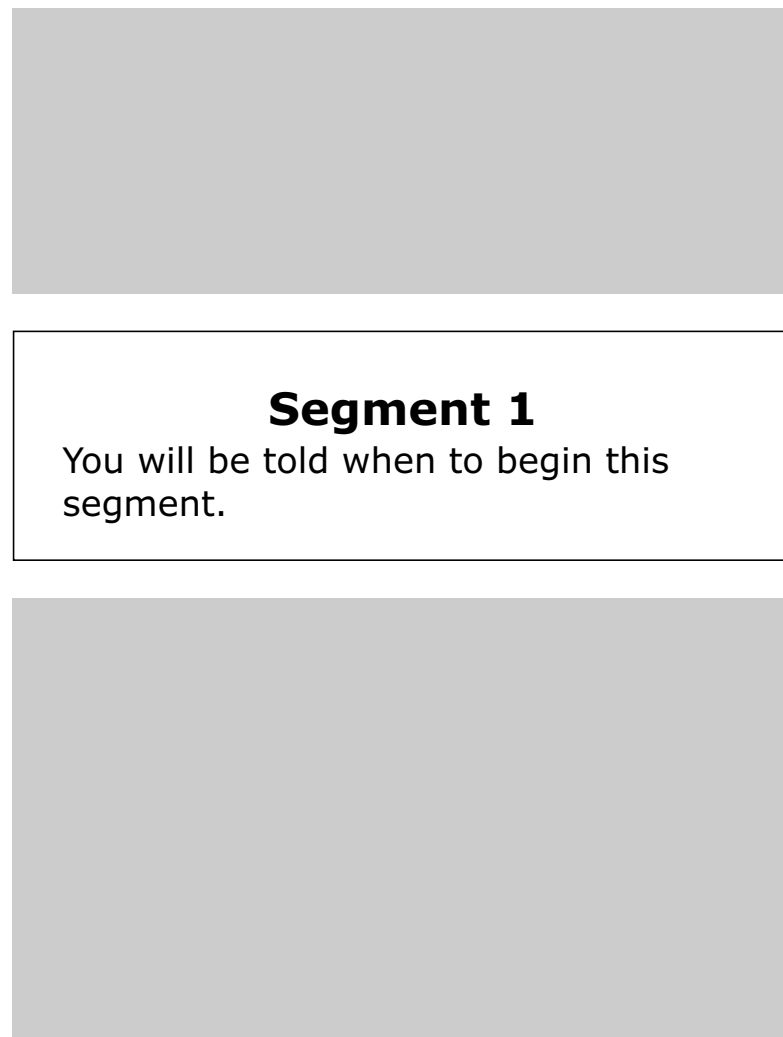
Please write your answer in the space below the question. You may use the digits: 0–9 and the symbols: slash for a fraction bar (/), a decimal (.), and a negative sign (−). If your answer is a mixed number, you must change it to an improper fraction or a decimal.

3. Add $50\frac{3}{4}$ and $30\frac{1}{2}$.

STOP

Reading Test General Information

- Your test will contain different segments. Segment pages look like this:

- In each segment, you will read a passage or passages before answering questions. There are different types of passages, such as poems, stories, and articles.

- You can write in your test book or use scratch paper.

- You must answer each question in the test book.

- Your reading test includes multiple-choice questions only.

Put sticker here

Instructions are included at the top of each passage. Read the passage. Then answer each multiple-choice question by circling the answer in your test book. The sample below shows you how to do this.

Read this article about bats. Then answer the questions. Some questions may ask you about certain paragraphs. The paragraphs are numbered on the left side.

Creatures of the Night

written for the
Minnesota Department of Education

1   What is that flying around in the dark? Is it a bird? Is it a mouse? Is it a flying mouse?

2   Popular myths make bats seem frightening. However, they are actually helpful creatures that are in danger of vanishing. Disease and human beings are threats to bats. Most bats live only ten to twenty years. For these reasons, bats face an uncertain future. Hopefully, people will take notice of these interesting and useful creatures before they disappear from the planet.

Sample Question Answered in Test Book:

According to paragraph 2, how long do most bats live?

A. Five to nine years

B. Ten to twenty years

C. Thirty to forty years

D. Fifty to one hundred years

Practice

Practice answering this multiple-choice question by circling option C.

> Read this article about bats. Then answer the questions. Some questions may ask you about certain paragraphs. The paragraphs are numbered on the left side.
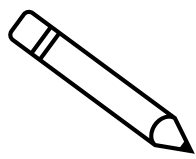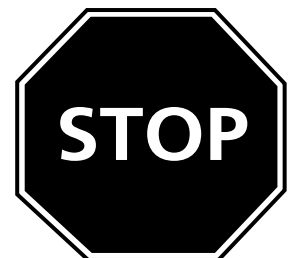
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1.   Which creatures is this article about?

    A. Mice

    B. Dogs

    C. Bats
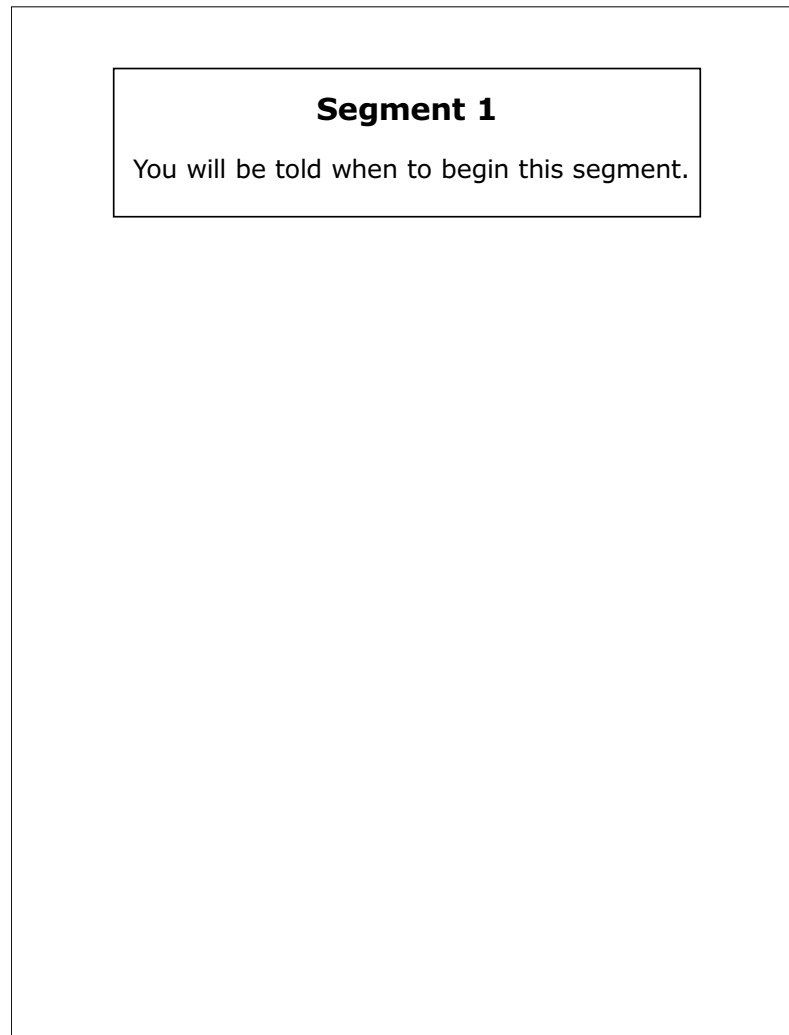
    D. Cats

STOP

SCIENCE ONLY

Grade 8

The following section is used only by 8th graders who will take the Science MCA. **Do not** use this section unless you are taking the 8th grade Science MCA.

Science Test General Information

- Your test will contain different segments. Segment pages look like this:

  Segment 1

  You will be told when to begin this segment.

- You can write in your test book or use scratch paper.

- You must answer each question in the test book.

- You may use a handheld calculator for some questions.

- Your science test includes scenarios and different types of diagram, graphing, fill-in-the-blank, and multiple-choice questions.

For some diagram questions, you will need to circle the answer you want to choose. The sample scenario below and the sample questions on the next page show you how to do this.

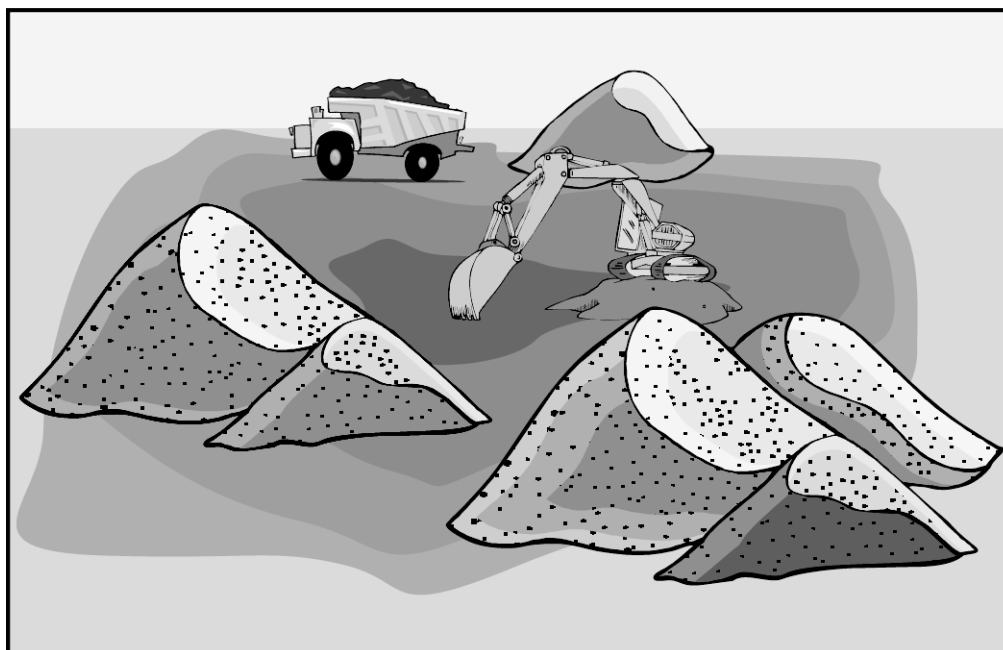## Sample Scenario and Questions Answered in Test Book:

Sample Scenario

Before this area was mined, the land looked very different.

Before Mining

After Mining

Sample Question

Mining in a forest area can have positive and negative effects. Identify 2 possible negative effects on the environment.

Circle the 2 effects you want to choose.

Possible Effects

Discover source of groundwater	Decreases natural habitat
Pollution produced by machines	Find needed resources

Sample Question

Natural resources are often used to supply energy to peoples' homes. Identify resources that are a source of nonrenewable energy.

Circle each resource you want to choose.
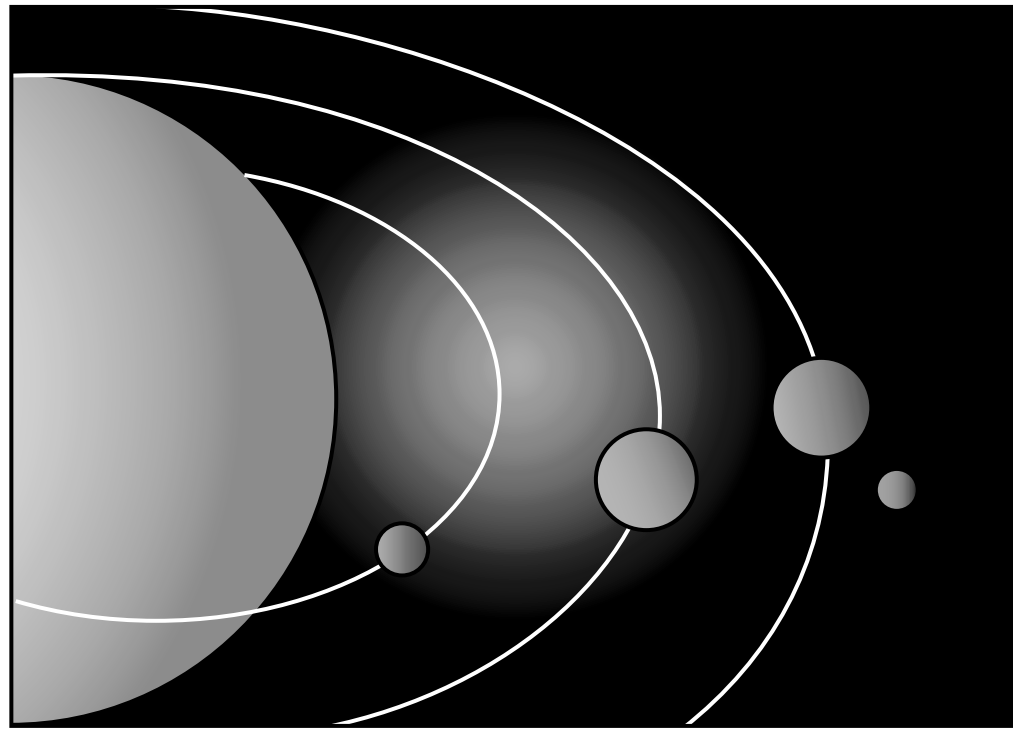
Coal

Water

Oil

Wind

Solar

Practice

Practice answering this diagram question by circling Moon and Earth.

Scenario

Satellites are natural or artificial objects that orbit a planet or star. The Moon and Earth are both natural satellites. For thousands of years, humans have used natural satellites and stars to determine the time of day and predict the change of the seasons.

Question

1. Satellites move in regular, predictable patterns. Identify 2 natural satellites.

   Circle 2 natural satellites you want to choose.

   Moon

   Stars

   Meteors

   Earth

Go on to the next page.

For some diagram questions, you will need to write the label letters (such as A, B, C) in the boxes. The sample below shows you how to do this.

Sample Question Answered in Test Book:

A student conducts an experiment to determine how the height of a plant is affected by the amount of water it is given. The student does not change the amount of light or the size of the container for each plant. Identify each of the 4 variables shown as changed, measured, or kept the same.

Each variable is labeled A, B, C, or D. Write the letter of the correct variable or variables in each empty box. Use each letter 1 time.

Pea Plant Experiment

Variable(s) Changed	A
Variable(s) Measured	C
Variable(s) Kept the Same	B D

Amount of light

Amount of water

Height of plant

Size of container

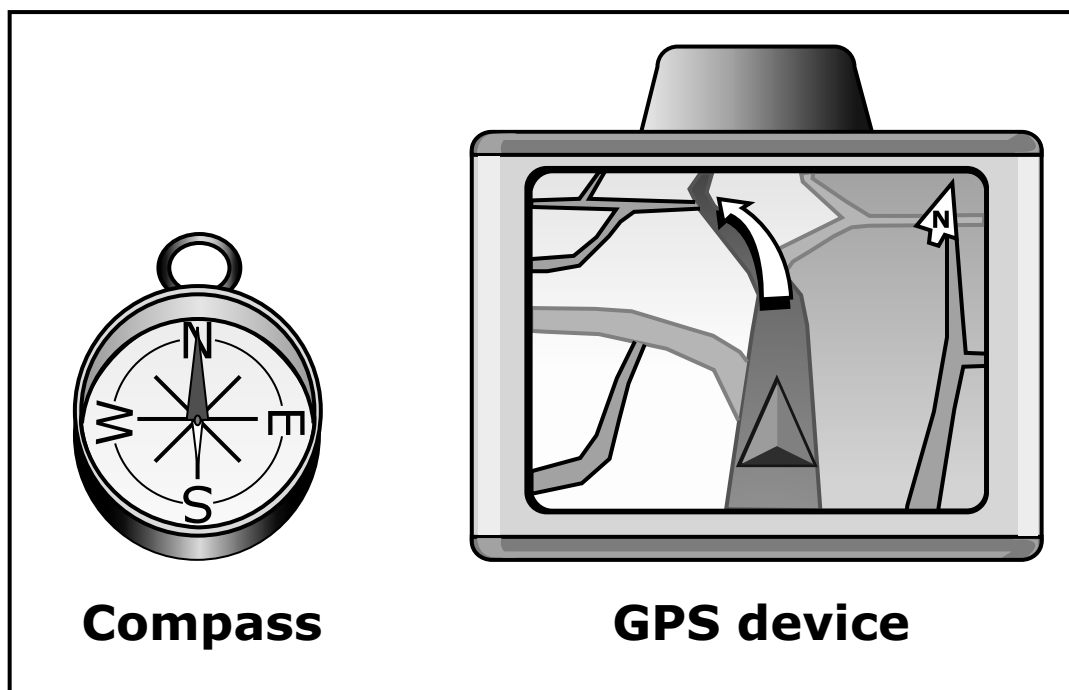| A.	B.	C.	D.
Amount of water	Amount of light	Height of plant	Size of container

Practice

Practice answering this diagram question by writing letter A in the Similar box and letters B, C, and D in the Different box.

Scenario

The global positioning system, known as GPS, uses artificial satellites. People can use a GPS device to get directions to a location.

Question

2. A compass and a GPS device have similar features and different features. Identify which features are similar and which are different.

Compass   **GPS device**

Each feature is labeled A, B, C, or D. Write the letter of each feature in the correct box. You will use each letter 1 time.

A.	B.	C.	D.
Shows directions	Cost	Device components	Includes a map

Similar	Different

For some graphing questions, you will need to write a "+" above each bar where the top of the bar should be. The sample below shows you how to do this.
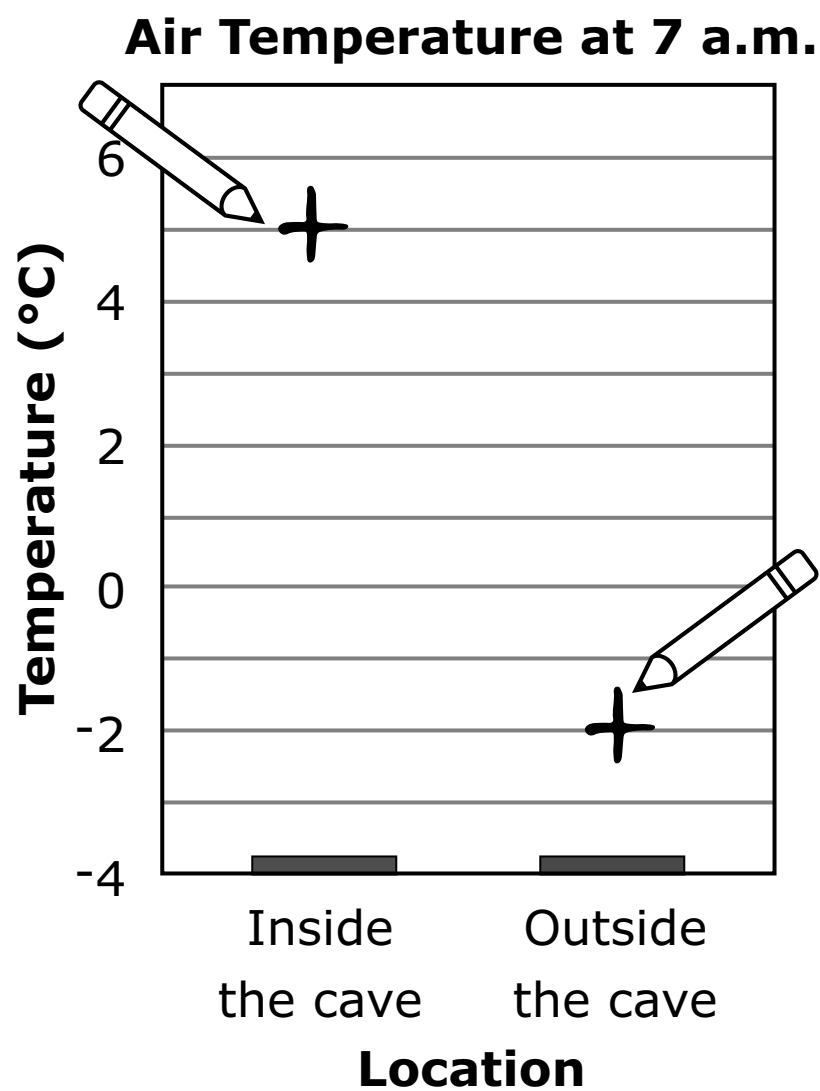
Sample Question Answered in Test Book:

Make a graph of the air temperatures inside and outside of a cave at 7 a.m.

Air Temperature

	Inside	Outside
7 a.m.	5°C (41°F)	−2°C (28°F)

Write a "+" above each bar where the top of the bar should be.

Air Temperature at 7 a.m.

Temperature (°C)

Inside
the cave

Outside
the cave

Location

Practice

Practice answering this graphing question by writing a "+" above "Inside the cave" at 13°C and a "+" above "Outside the cave" at 18°C.
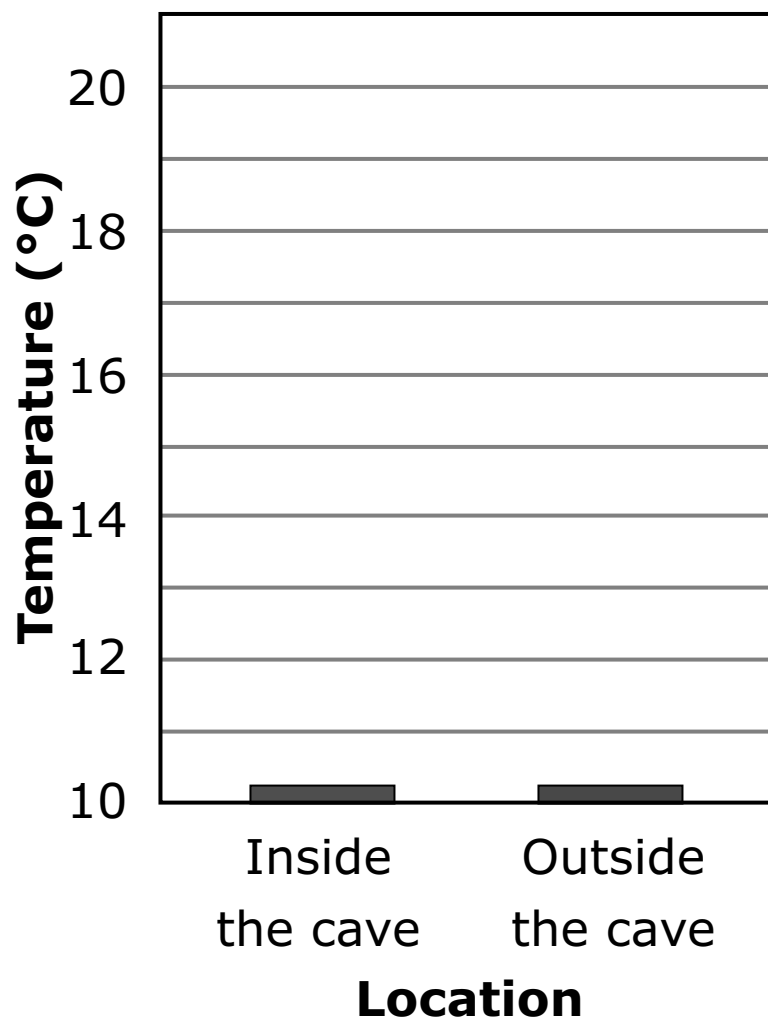
3.   Make a graph of the air temperatures inside and outside of a cave at 6 p.m.

Air Temperature

	Inside	Outside
6 p.m.	13°C (55°F)	18°C (65°F)

Write a "+" above each bar where the top of the bar should be.

Air Temperature at 6 p.m.

For fill-in-the-blank questions, you will need to write the answer in the box provided. The sample scenario below and the sample question on the next page show you how to do this.

Note: Every fill-in-the-blank question includes instructions about which numbers and symbols can be used in your answers. It is important to follow these instructions when writing your answers.

Sample Scenario and Question Answered in Test Book:

Sample Scenario

Each planet in our solar system is a different distance from the Sun.

Distance of Each Planet from the Sun

Planets	Distance (million km)
Mercury	58
Venus	108
Earth	150
Mars	228
Jupiter	778
Saturn	1,426
Uranus	2,870
Neptune	4,498

Sample Question

What is the combined distance of Jupiter and Mars from the Sun?

You can use a calculator to help you answer this question.

Write your answer in the box using numbers. Your answer cannot be more than 5 digits.

| 1006 | million km |

Practice

Practice answering this question by writing the sum 5,924 in the box provided.

Scenario

Each planet in our solar system is a different distance from the Sun.

Distance of Each Planet from the Sun

Planets	Distance (million km)
Mercury	58
Venus	108
Earth	150
Mars	228
Jupiter	778
Saturn	1,426
Uranus	2,870
Neptune	4,498

Question

4. What is the combined distance of Neptune and Saturn from the Sun?

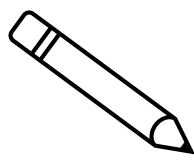   You can use a calculator to help you answer this question.

   Write your answer in the box using numbers. Your answer cannot be more than 5 digits.

   [   ] million km

For multiple-choice questions, circle the answer in your test book. The sample below shows you how to do this.

Sample Question Answered in Test Book:

Which of the following is a renewable resource?

A. Wind

B. Coal

C. Natural Gas

D. Oil

Practice

Practice answering this multiple-choice question by circling option C.

5. What happens when water evaporates?

    A. The water gets hotter.

    B. The water changes color.

    C. The water turns into a gas.

    D. The water turns into a solid.

STOP

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