RIT Reference Charts

For Common Core and Science

Measures of Academic Progress® (MAP®) and MAP for Primary Grades (MPG)

Included in this book:

- Reading
- Language Usage
- Mathematics 2 – 5
- Mathematics 6+
- MPG for Reading
- MPG for Mathematics
- Science

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Contents

MPG Primary Reading and Math only!

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RIT
Reference Chart for MPG Reading

MAP tests produce scores that make it possible to monitor student growth from year to year along developmental curriculum scales or continua. The chart inside shows examples of the kinds of work students can do at various points along the MAP RIT scale, assuming they have been exposed to content. This type of information is helpful in supporting appropriate instruction.

Please note that each subject area has a unique alignment to the RIT scale. As a result, scores between subjects are not equivalent.

How to use the charts:

1. **Find the column containing the student's score for a particular subject. For example, if the student's score in "Foundational Skills" is 188, refer to the column labeled 181-190.**
2. **Read the column(s) from left to right to locate a sample test question for a given reporting area, such as "Foundational Skills." A student's score suggests that, currently, he or she is likely to get about half of the questions of this difficulty correct.**
3. **Now look at the questions in the column(s) to the left, and higher on the page. The student is likely to get most of these correct, assuming he or she has been instructed in these skills and concepts.**
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Literature and Informational

Students understand what they read or hear read aloud. They can make inferences, cite textual evidence, and determine central ideas, main topics, or themes. They can identify and use various text features and determine or clarify the meaning of unknown words in context.

below 131

Listen to the story.

Which picture shows where the story probably takes place?

(This is a listening comprehension item. The passage is not presented here.)

131–140

Maureen wants to learn more about taking care of dogs.

Click on the book that she should read.

141–150

Why does the bus stop in this picture?

It is raining.
A train is passing.
A bike is passing.
The people want to ride.

151–160

Listen to the story.

What does Jayna do before she eats breakfast?

(This is a listening comprehension item. The passage is not presented here.)

161–170

Wolves	6
Foxes	10
Dogs	14
Bears	20
Cats	25

Read the table of contents.

Click on the page where information about dogs can be found.

171–180

Skating is the best sport for kids.
Hockey is a team sport on skates.
In speed skating, racers try to finish first.
Figure skating is the most fun.

Read the passage.

Click on ALL the sentences that are facts.

181–190

Mr. Lee made lunch for his sons each day. Each son liked some foods best. The oldest son liked nuts and fruit. The middle son liked fruit and string cheese. The youngest son liked soup, fruit, and juice.

juice fruit soup nuts

Read the passage.

Which food did every son like?

above 191

Birds are one of the few animals that can fly, so they go places other animals cannot. Robins build their nests high up in trees. There is a good reason for this. Robin parents stay in their nests with the babies as much as possible. But they must leave to find food. Sometimes baby birds must be left alone. This would be dangerous if the nests were on the ground because other animals could get to the baby birds. But since the nests are in trees, few animals can reach them. Baby robins are safer up in the trees than on the ground.

Read the story.

What is the main idea of the passage?

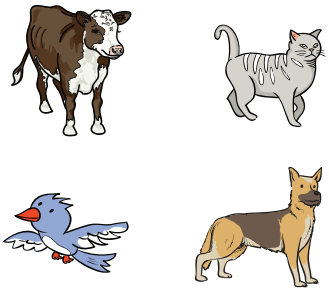
Birds are one of the few animals that can fly.
Robins build their nests in trees.
Sometimes baby birds must be left alone.
Baby robins are safer up in trees than on the ground.

(Passage is not read aloud.)

Vocabulary Use and Functions

Students determine the meaning of unknown and multiple-meaning words and phrases by using context clues and analyzing word parts. They understand figurative language and word relationships. Students can use glossaries and beginning dictionaries to clarify word meanings.

below 131



Look at the pictures.

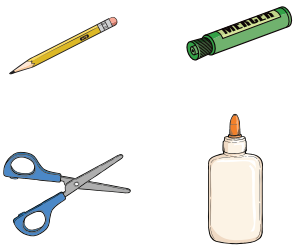
Click on the bird.

131–140

Look at the pictures.

Click on the bathtub.

141–150

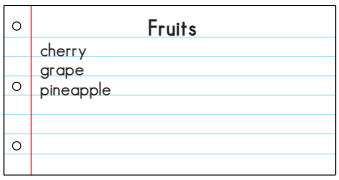


Look at the pictures.

"Ronnie took something back to the art shelf. He made sure its lid was on tight, so things would not get sticky."

Which item did Ronnie take back to the art shelf?

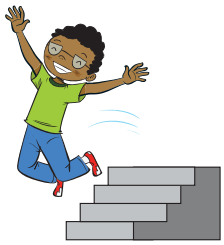
151–160



apple horse banana truck

Move ALL the words that are fruits to the paper to help the class complete the list.

161–170



The boy jumped down the stairs.

Listen to the sentence: "The boy jumped down the stairs."

Click on the word with an ending that means "in the past."

(Audio plays for the student, but text is not shown on the screen.)

171–180

"Max looked out the window on the bus ride. For just a moment, he got a glimpse of the new toy store. Very soon, the bus had passed it, and the store was out of sight again."

Which means the same as glimpse?

a quick look
a gift card
a daydream
a buzzing sound

181–190

Jamal had a good time at his friend's party.

Which word shows that Jamal had more than just a good time at the party?

quiet
awful
excellent
boring

above 191

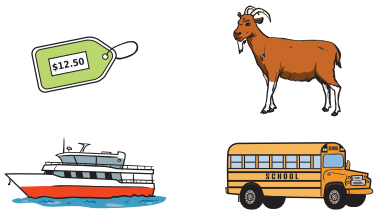
define – need
require – get
need – require
get – offer

Which pair of words means the same thing?

Foundational Skills

Students understand the organization and basic features of print. They know and apply grade-level phonics and word analysis skills in decoding words. Students demonstrate understanding of spoken words, syllables, and sounds. They can isolate, manipulate, and blend individual sounds to form words.

below 131



Listen to the names of the pictures: tag, goat, boat, bus.

Click on the two pictures that rhyme.

(Audio plays for the student, but text is not shown on the screen.)

131–140

Nn

Look at the letter: *N*.

Click on the picture that begins with the letter *N*.

Kite, dog, pie, net.

(Audio plays for the student, but text is not shown on the screen.)

141–150

Listen to the word: car.

Which picture has the same beginning sound as "car"?

Bug, cat, light, pan.

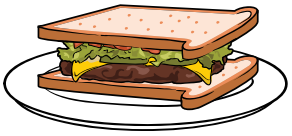
(Audio plays for the student, but text is not shown on the screen.)

151–160

The tree is tall and green.

Click on the word that has a capital letter.

161–170



ph th sh ch

Click on the letters that make the ending sound in this picture: sandwich.

(Audio plays for the student, but text is not shown on the screen.)

171–180

cuin coin coan cown

Listen to the word: coin.

Click on the word "coin."

(Audio plays for the student, but text is not shown on the screen.)

181–190

not to view to view poorly

to view again to view before

What does "preview" mean?

above 191

surprise

/

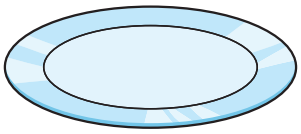
Listen to the word: surprise.

Move the slash to divide the word into its syllables.

Language and Writing

Students understand conventions of standard English capitalization, punctuation, and spelling. They know conventions of standard English grammar and usage. Students develop persuasive, informative, and narrative writing by planning, revising, editing, rewriting, and adding details.

below 131



Look at the plate.

Put the apple on the plate.

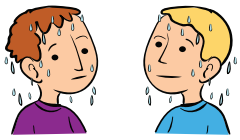
131–140

Look at the picture.

Where is the dog?

behind the girl
below the girl
next to the girl
on the girl

141–150



_____.

are boys The wet

Listen to the sentence: The boys are wet.

Move the words to the lines to write the sentence.

(Audio plays for the student, but text is not shown on the screen.)

151–160

_____ _____ _____ _____.

a gets He book

Use all the words to write a sentence about this picture.

161–170

The class pet mouse is named marilyn.

Find the mistake in the sentence.

Click on the word that should begin with a capital letter.

171–180

_____

a e g i m n u w y

Read the sentence.

"Many" is not spelled correctly. Use the letters to spell the word correctly.

(Audio plays for the student, but text is not shown on the screen.)

181–190

The United States flag has 50 stars.
Each star on the flag stands for one state.
My family and I live in the state of Oregon.
The United States flag has only three colors.
The colors are red, white, and blue.

Nick wrote this report about the United States flag for social studies class.

Click on the sentence that should NOT be in Nick's report for class.

above 191

When they finally got home, they made an apple pie.
Gabe was busy on Sunday afternoon.
First, his mom took him to the park.
At the grocery store, Gabe chose apples.
After the park, they went to the grocery store.

Read the sentences.

Put the sentences in the best order to make a paragraph.

RIT
Reference Chart for MPG Mathematics

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Operations and Algebraic Thinking

Students can represent and solve problems involving addition, subtraction, multiplication, and division. They understand and can apply properties of operations, and understand the relationship between operations.

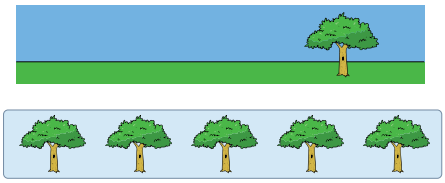
below 131

1 2 3 4 5

Look at the trucks.

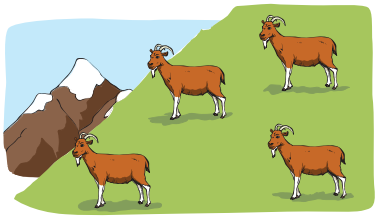
Two trucks and one more truck is how many trucks altogether?

131–140



Listen to the story problem:
There is 1 tree in the yard. 2 more get planted in the yard.
Move the trees to the yard to show how many there are altogether.

141–150



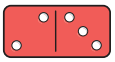
Listen to the story problem:

There are four goats on the hillside. Three goats leave the hillside.

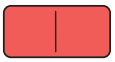
Click on the goats to show how many are on the hillside now.

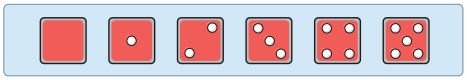
151–160

The domino shows one way to make 5.



Move dots to the empty domino to show a different way to make 5.





161–170

4 + ___ = 6

1 2 3 4 5 6 7 8 9

You can use the buttons to help you find the answer to the problem.

Move the correct number to the blank line to make the sentence true.

171–180

_____ shells

30 35 43 48
78 112 121

Bella had 78 shells in her collection. She gave 43 shells away to her friends.

How many shells are left in Bella's collection?

You can move base ten blocks to help you solve the problem.

181–190

The Lions had 47 points at halftime.
At the end of the game they had 89.

How many points did the Lions score after halftime?

_____ points

1 2 3 4 5 6 7 8 9

above 191

$$\begin{array}{r} 2 \\ \times\ 7 \\ \hline \\ \hline \end{array}$$

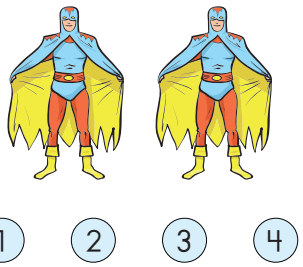
1 2 3 4 5 6 7 8 9

What is the answer?

Number and Operations

Students can understand place value, the counting sequence, and counting strategies. They can compose and decompose numbers into hundreds, tens, and ones. Students can use place value understanding to compare numbers, perform multi-digit arithmetic, and develop understanding of fractions.

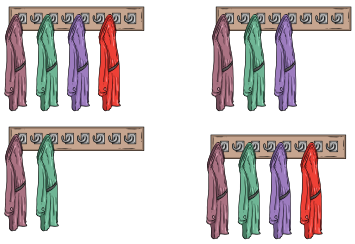
below 131



Look at the picture.

How many superheroes are there?

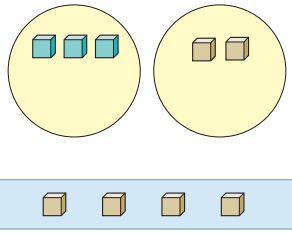
131–140



Look at the coat racks.

Click on the rack that has the fewest coats.

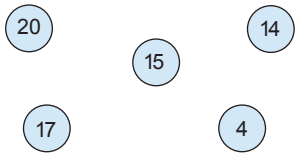
141–150



Look at the two groups.

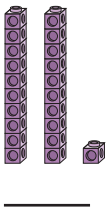
Move cubes to the circles to make the groups equal.

151–160



Click on the number that is 1 more than 13.

161–170



1 21 20 201

What number do the blocks show?

171–180

347

1 2 3 4 5 6 7 8 9

Look at the number.

What is 100 more than 347?

181–190

532 ☐ 591 358 ☐ 358 823 ☐ 453

< > =

Look at the numbers.

Put the correct symbol in each of these problems to make them true.

above 191

6 hundreds and 5 ones

1 2 3 4 5 6 7 8 9

Which number is described?

Measurement and Data

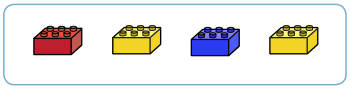
Students can solve problems involving measurement and estimation of lengths, time, liquid volumes, and masses of objects. They can use geometric measurement to understand area and perimeter. Students can organize, represent, and interpret data in various graphical representations.

below 131

Look at the picture.

Click on the shortest student.

131–140



Look at the group of objects. The objects in this group belong together.

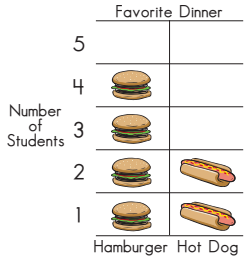
Click on the object that belongs with the group.

141–150

Look at the sticker chart.

Click on the name of the student with the most star stickers.

151–160



1 2 3 4 5 6

Look at the graph.

How many students chose hot dog as their favorite dinner?

161–170

____ blocks

1 2 3 4 5 6 7 8 9

Look at the picture of the bus.

Measure the length of the bus using blocks. How many blocks long is the bus?

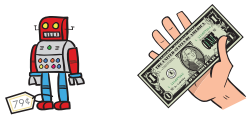
171–180

3:45 9:15 8:20 4:40

Look at the clock.

What time is shown on the clock?

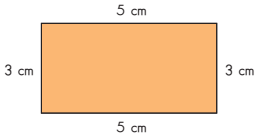
181–190



Listen to the story: Julia bought a robot toy for 79 cents. She paid for it with one dollar.

Show the change that Julia should receive. Take as many coins as you need from each stack.

above 191



10 11 12 13 14
15 16 17 18 19 20

What is the perimeter of the rectangle?

Geometry

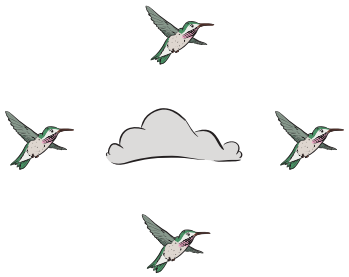
Students can reason with shapes and their attributes. They can identify and describe shapes having specified attributes. Students can partition shapes into equal shares to gain an understanding of fractional parts of a whole.

below 131

Look at the shapes.

Which shape has only 3 sides?

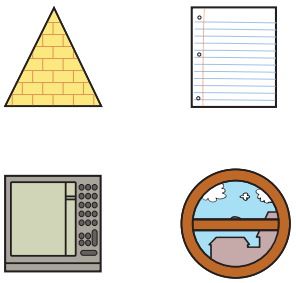
131–140



Look at the picture.

Which bird is over the cloud?

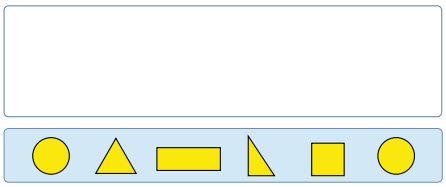
141–150



Look at the pictures.

Which is shaped like a circle?

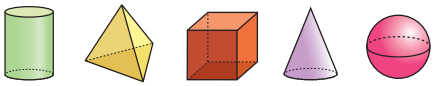
151–160



Look at the shapes.

Move ALL the shapes with four corners to the mat.

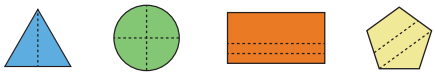
161–170



Look at the shapes.

Click on the pyramid.

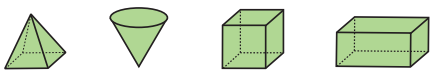
171–180



Look at the shapes.

Click on ALL of the shapes that are divided into equal shares.

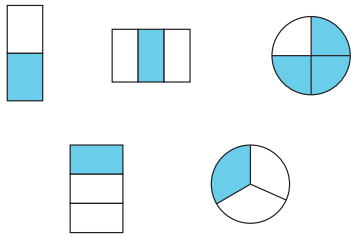
181–190



Look at the shapes.

Click on the shapes that have six faces.

above 191



Look at the shapes.

Click on ALL of the shapes with one-third shaded.

RIT
Reference Chart for Science*

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Physical Sciences

Students demonstrate understanding of the ideas about the interactions of matter, the relationship between force and motion, how energy forms transfer and transform, and the nature and use of waves. Students also demonstrate their understanding of these ideas in the context of the practices of science and engineering.

below 181

Which is a solid?

A. air
B. milk
✓**C.** rock
D. water

181–190

Which action is an example of melting?

✓**A.** heating a block of ice until the ice turns to water
B. warming a pan of water until the water is all gone
C. stirring some sugar in water until the sugar is invisible
D. cooling water in the freezer until the water becomes solid

191–200

A student experiments with magnets.

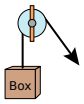
Which group of magnets has attractive forces between all 3 magnets?

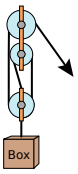
✓**A.** S N S N S N
B. S N N S S N
C. N S S N S N
D. S N S N N S

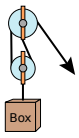
201–210

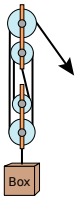
Students designed four pulley systems to lift a box.

Which pulley system will lift the box with the LEAST input force?

A. 

C. 

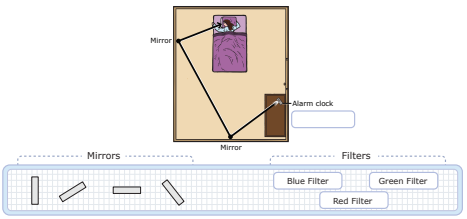
B. 

✓**D.** 

211–220

A physics student has an alarm clock that flashes a beam of white light when the alarm sounds. The student wants a green light from the alarm clock to flash directly into her eyes to help her wake up.

1. **Position the mirrors so the light will shine directly into the student's eyes. Drag the 2 mirrors with the appropriate angles into the diagram.**
2. **Choose the filter that will change the color of the light. Drag the appropriate filter to the box.**



221–230

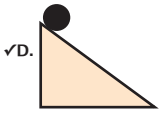
Solid steel balls are located on ramps as shown.

Which ball has the greatest gravitational potential energy?

A. 

C. 

B. 

✓**D.** 

231–240

Students made this model of two electrically charged objects.

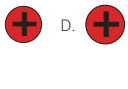
Model 1

Which model shows objects with more energy stored in the electric field between them compared to Model 1?

A. 

C. 

✓**B.** 

D. 

above 240

Which chemical equation represents a neutralization reaction?

A. $CaCO_3(s) \longrightarrow CO_2(g) + CaO(s)$

B. $2\ HCl(aq) + 2\ K(s) \longrightarrow 2\ KCl(aq) + H_2(g)$

C. $CH_4(g) + O_2(g) \longrightarrow CO_2(g) + H_2O(g)$

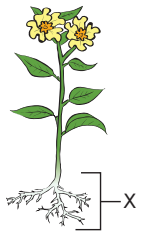
✓**D.** $NaOH(aq) + HCl(aq) \longrightarrow NaCl(aq) + H_2O(l)$

Life Sciences

Students demonstrate understanding of the ideas about the structure and processes of organisms, how matter and energy move through ecosystems, how heredity affects organisms, and how biological evolution affects the unity and diversity of life. Students also demonstrate their understanding of these ideas in the context of the practices of science and engineering.

below 181

The diagram shows the parts of a plant.



Which part is labeled with the X?

A. flower
✓**C.** root
B. leaf
D. stem

181–190

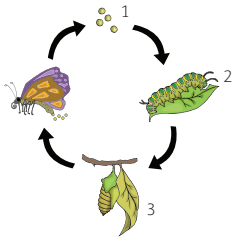
Students are comparing animals in an environment. They need to describe all predators.

Which phrase describes all predators?

A. animals that eat plants and fungi
B. animals that hibernate in the winter
✓**C.** animals that hunt other animals for food
D. animals that live in herds with other animals

191–200

Students made this model of the life cycle of a butterfly.



How should they label stages 1, 2, and 3?

A. egg, pupa, and larva
B. larva, egg, and pupa
✓**C.** egg, larva, and pupa
D. pupa, larva, and egg

201–210

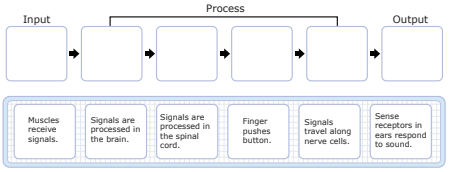
What is a function of the respiratory system in animals?

A. to move blood
B. to detect sound
✓**C.** to obtain oxygen
D. to break apart food

211–220

Students test how quickly they can hit a button after hearing a sound. The student with the quickest time took 0.17 seconds. They wonder why no one was faster than 0.17 seconds. Students make a model to explain what happens in the nervous system during this time.

Complete the model by dragging statements to the empty boxes. Statements can be used more than once or not at all.



221–230

A student plans to cross 2 purebred guinea pigs. One has black fur and one has white fur. The color of a guinea pig's fur depends on a single gene pair. Black fur is dominant to white fur.

If there are 6 guinea pig offspring, what fur color will they most likely have?

A. 3 with black fur and 3 with white fur
B. 4 with black fur and 2 with white fur
C. 5 with black fur and 1 with white fur
✓**D.** 6 with black fur and 0 with white fur

231–240

Why is DNA the storage molecule for hereditary information?

A. It contains the nitrogenous base uracil.
B. It contains strong covalent bonds.
✓**C.** It can be replicated and transcribed.
D. It translates the genetic code.

above 240

Which statement did Darwin NOT accept in forming his theories?

A. Variation is a characteristic of all living things.
✓**B.** Acquired characteristics can be passed on to offspring.
C. Individuals that are best adapted tend to survive and reproduce.
D. Organisms tend to produce more offspring than the environment can support.

Earth and Space Sciences

Students demonstrate understanding of the ideas about the history of Earth in terms of the Universe, the Solar System, and the fossil record; Earth's systems including the cycling of matter, plate tectonics, weather, and climate; and how Earth is affected by human activity. Students also demonstrate their understanding of these ideas in the context of the practices of science and engineering.

below 181

Which object is shaped most like Earth?

A. an oval egg
✓**B.** a round ball
C. a flat pancake
D. a square block

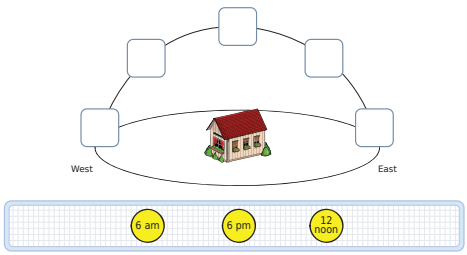
181–190

Which observation of weather usually indicates rain?

A. The wind speed is low.
✓**B.** The sky has many clouds.
C. The air temperature is high.
D. The wind direction is from the north.

191–200

Show the position of the Sun in the sky at 6 a.m., 12 noon, and 6 p.m. in March by dragging the 3 Suns to the correct boxes.



201–210

How does air in Earth's atmosphere move while being heated?

A. around in circles
✓**B.** upward in columns
C. downward in funnels
D. horizontally in layers

211–220

This GIS map shows a region where scientists placed a wind generator within the circled area.

How did the geographic information from this map allow scientists to choose an appropriate location for the wind generator?

A. High winds often occur far from rivers.
B. The lack of vegetation allows high winds to develop.
✓**C.** High winds are associated with mountain pass areas.
D. The nearby flat plains produce fast-moving air masses.

221–230

In May, a student observes the constellation Virgo in one area of the sky. One month later, the student observes the constellation Bootes in the same area of the sky.

May 10:00 P.M.

June 10:00 P.M.

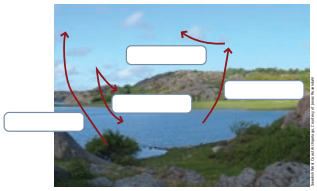
Why does the student observe the constellation Virgo in May and then Bootes in June?

A. Stars fade in and out.
B. Earth rotates on its axis.
C. Stars revolve around the Sun.
✓**D.** Earth revolves around the Sun.

231–240

The diagram represents the water cycle in an area with a lake and plants.

Label the arrows by dragging the names of the processes into the appropriate boxes.



Evaporation | Condensation | Precipitation | Transpiration

above 240

Which evidence does NOT support the theory of plate tectonics?

A. the mapping of glacial features on different continents
B. the matching of fossil types in South America and Africa
C. the mid-ocean ridges with alternating magnetic stripes on the seafloor
✓**D.** the mass extinction of species on a continent within a small period of time

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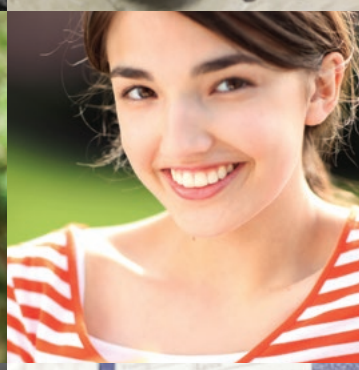


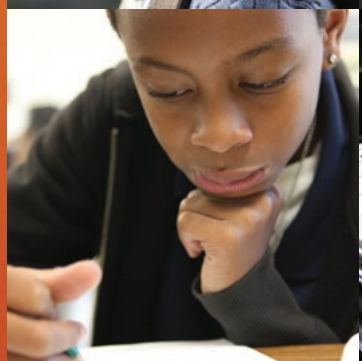


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