



# 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

# Contents

<b>Reference Chart for Reading.....</b>	<b>3</b>
Word Meaning and Vocabulary Knowledge.....	4
Literature: Understand and Integrate Key Ideas and Details.....	5
Literature: Understand and Interpret Craft and Structure .....	6
Informational Texts: Understand and Integrate Key Ideas and Details .....	7
Informational Texts: Understand and Interpret Craft and Structure .....	8
<b>Reference Chart for Language Usage .....</b>	<b>9</b>
Writing: Plan, Organize, Develop, Revise, Research .....	10
Language: Understand, Edit for Grammar, Usage .....	11
Language: Understand, Edit Mechanics.....	12
<b>Reference Chart for Mathematics 2 – 5.....</b>	<b>13</b>
Operations and Algebraic Thinking .....	14
Numbers and Operations.....	15
Measurement and Data.....	16
Geometry .....	17
<b>Reference Chart for Mathematics 6+ .....</b>	<b>18</b>
Operations and Algebraic Thinking .....	19
The Real and Complex Number Systems.....	20
Geometry .....	21
Statistics and Probability.....	22
<b>Reference Chart for MPG Reading.....</b>	<b>23</b>
Literature and Informational .....	24
Vocabulary Use and Functions.....	25
Foundational Skills .....	26
Language and Writing .....	27
<b>Reference Chart for MPG Mathematics .....</b>	<b>28</b>
Operations and Algebraic Thinking .....	29
Number and Operations.....	30
Measurement and Data.....	31
Geometry .....	32
<b>Reference Chart for Science.....</b>	<b>33</b>
Physical Sciences.....	34
Life Sciences.....	35
Earth and Space Sciences.....	36

# RIT

## Reference Chart for 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 "Word Meaning and Vocabulary Knowledge" is 188, refer to the column labeled 181-190.
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4. The questions further down the page will probably require new learning on the student's part.

Please note:

Test items in this booklet are sample items, and many are not calibrated or field-tested. For purposes of this document, RIT scale alignment is an approximation.

Some passages have been truncated due to space considerations.

Word Meaning and Vocabulary Knowledge

Students can decode words and recognize and understand word relationships and structures. They can use context cues to decipher word meaning.

below **161**

Read the words.

- ball
- doll
- puzzle
- top

To which group do these words belong?

- 1. animals
- 2. colors
- 3. places
- ✓ 4. toys

**161-170**

Use the sentences and the glossary to answer the question.

Dinah and her sister went to the **market**. They saw many kinds of **produce**. Dinah wanted peas. Her sister wanted strawberries.

Glossary

**market** a place to sell food  
**produce** fruits and vegetables

What is another kind of produce?

- 1. cookies
- ✓ 2. apples
- 3. money
- 4. trees

**171-180**

Read the sentences.

Jackie couldn't believe how much fun she had on the field trip. She kept replaying the day's events in her mind on the bus ride back to school.

In the word "replaying," what does the prefix re- mean?

- 1. not
- 2. two
- ✓ 3. again
- 4. after

**181-190**

Read the paragraph and dictionary entries.

Mrs. Franz had just given her students a piece of clay the size of her hand. She told them to create something. (*passage continues*)

- scuba** (skoo-buh) *n.* equipment used to breathe under water
- scullery** (skuhl-er-ee) *n.* a small room near the kitchen
- sculpture** (skuhl-p-chur) *n.* an object created by carving or molding
- scum** (skuhm) *n.* a covering on the surface of a liquid

Based on the information in the paragraph, what is the meaning of the word sculpture?

- 1. slimy film
- 2. large pantry
- ✓ 3. piece of art
- 4. swimming gear

**191-200**

Read the sentences.

Lightning struck the \_\_\_\_\_ of the lilac tree.  
 Please put the \_\_\_\_\_ of old costumes in the attic.

Which word will fit in both spaces?

- ✓ 1. trunk
- 2. branch
- 3. limb
- 4. root

**201-210**

Which set of words all have the same root word?

- 1. extra, relax, index
- 2. contain, restrain, plain
- 3. here, everywhere, there
- ✓ 4. knowledge, unknown, knowing

**211-220**

Read the sentence.

Although the storm outside was ferocious, Nate left the comfort of the cabin and trudged toward home.

Which word best matches the connotative meaning of "ferocious" as it is used in the sentence?

- 1. barbaric
- 2. inhuman
- ✓ 3. intense
- 4. untamed

**221-230**

Read the sentence and dictionary entry.

The lives saved when the volcano exploded vindicated the expensive early warning system.

**vindicate** (vin-di-keyt) *v.*

- 1. to clear from an accusation
- 2. to justify by evidence or argument
- 3. to defend against opposition
- 4. to claim for oneself or another

Which definition of vindicate is used in the sentence above?

- 1. definition 1
- ✓ 2. definition 2
- 3. definition 3
- 4. definition 4

above **230**

Based on your knowledge of Latin roots, what is the meaning of "ambidextrous"?

- 1. lives on land and in water
- 2. walks quickly
- 3. before the flood
- ✓ 4. can use both hands equally

Literature: Understand and Integrate Key Ideas and Details

Students can read and comprehend literature, make inferences and predictions, and draw conclusions. They can determine key ideas, analyze the development of themes and ideas, and summarize.

below 161

Read the story.

Mother was ready. She had streamers and balloons. She baked a cake. She invited Sandy's friends. She asked them not to tell Sandy. Sandy will come home from school. Her friends will shout when she turns on the lights!

What is Sandy's mother planning?

- 1. Sandy's first day at school
- 2. a picnic in the backyard
- ✓ 3. Sandy's surprise party
- 4. a trip to the bakery

161-170

Read the passage.

I can't wait for winter vacation to start! Every day feels like a holiday! I love to have snowball fights with my friends and make snowmen in the yard. *(passage continues)*

Which word best describes how the author feels about winter vacation?

- 1. calm
- ✓ 2. excited
- 3. nervous
- 4. tired

171-180

Read the paragraph.

Gordon loves to visit his aunt and uncle in Vermont. He goes up every summer to visit them. They live on a houseboat on the lake. *(passage continues)*

What does Gordon like to do best?

- 1. swim in the lake
- 2. fish for perch and trout
- 3. read books on the boat deck
- ✓ 4. steer the boat around the lake

181-190

Read the passage.

The wind whipped the tops of the trees so they looked like they were dancing. Clouds raced across the sky. Leaves and bits of paper swirled around. *(passage continues)*

Which sentence best tells what the story is about?

- 1. They are having fun in the snow.
- 2. They are cleaning up after a big storm.
- 3. There is a double rainbow in the sky.
- ✓ 4. A big rainstorm is about to start.

191-200

Read the passage.

Molly stared out the bus window with blank eyes. Next to her, a woman pulled herself up. She got off at the next stop. Molly looked over and saw that she had left something on the seat. *(passage continues)*

What was Molly's first reaction when she picked up the wallet?

- ✓ 1. to turn it in to the bus driver
- 2. to look at the pictures
- 3. to call after the woman
- 4. to take the money

201-210

Read the story.

The lights went out, and people at the costume ball stopped dancing. They spoke in whispers. Then a guest dressed as a lion tamer cried aloud, "Watch out!" Polly screamed. *(passage continues)*

Who is most likely the thief in this story?

- 1. the lion tamer
- 2. Polly
- 3. Detective Cutler
- ✓ 4. the pirate

211-220

Read the passage.

He lived on the bank of a mighty river, broad and deep, which was always silently rolling on to a vast undiscovered ocean. It had rolled on, ever since the world began. It had changed its course sometimes, and turned into new channels, leaving its old ways dry and barren. *(passage continues)*  
(from "Nobody's Story" by Charles Dickens)

What is the main point in this passage?

- 1. The river supported life on its banks.
- 2. It is hard to swim against the tide.
- ✓ 3. The flow of the river to the ocean is unchanging.
- 4. Earth will continue to circle around the sun.

221-230

Read the passage.

Bernadou clung to his home with a dogged devotion. He would not go from it to fight unless compelled, but for it he would have fought like a lion. *(passage continues)*  
(from "A Leaf in the Storm" by Louise De La Ramee)

Based on the passage, which statement about Bernadou is most likely true?

- 1. Bernadou had traveled to the capital of his country many times.
- 2. Bernadou was a drifter, never spending much time in any one place.
- ✓ 3. Bernadou would fight with loyalty and fierceness for any good cause.
- 4. Bernadou felt a strong connection to his hometown, but not his country.

above 230

Read the passage.

Elizabeth Bennet had been obliged, by the scarcity of gentlemen, to sit down for two dances; and during part of that time, Mr. Darcy had been standing near. *(passage continues)*  
(from Pride and Prejudice by Jane Austen)

How is Elizabeth Bennet influenced by the dialogue between Mr. Darcy and Mr. Bingley?

- 1. Because Elizabeth overhears Mr. Darcy's insulting comments, she insists on sitting alone rather than dance with him.
- 2. Elizabeth discovers that Mr. Darcy's refusal to dance is due to his shy nature and forgives his behavior.
- ✓ 3. Despite believing that Mr. Darcy is impolite and self-important, Elizabeth maintains an upbeat attitude.
- 4. Elizabeth develops a new, playful sense of humor around Mr. Darcy to draw him out of his foul mood.

Literature: Understand and Interpret Craft and Structure

Students can analyze the structure of literary texts and evaluate the author’s craft and purpose. They can interpret figurative language and analyze literary devices.

below 161

**Read the story.**

Maria ate a big bowl of cereal. After breakfast, Maria put her book in her backpack. *(passage continues)*

**What did Maria do first?**

- ✓ 1. eat her breakfast
- 2. put her book in her backpack
- 3. put on her coat
- 4. walk to the bus stop

161-170

**Read the poem.**

**The Movie**

The movie theater is cool and dark. I can’t wait for the movie to start. *(poem continues)*

**Which word tells how the theater sounds?**

- 1. cool
- 2. dark
- 3. soft
- ✓ 4. loud

171-180

**Read the passage.**

Dave and Mike had a great time sledding. They pulled their sleds up the big hill and went down face-first. *(passage continues)*

**What did Mike and Dave do right after playing outside?**

- 1. They pulled their sleds up the big hill.
- 2. They raced down the hill.
- ✓ 3. They had grilled cheese and soup.
- 4. They fell asleep on the couch.

181-190

**Read the sentences.**

Scott opened his eyes and looked at the clock. He pulled the blankets over his head to keep the sun out. He yawned and closed his eyes. He just wanted to go back to sleep.

**What does the author want you to think about Scott?**

- 1. He is lazy.
- ✓ 2. He is tired.
- 3. He is hungry.
- 4. He is scared.

191-200

**Read the passage.**

Laura’s teacher asked to see her science project. “But Mrs. Thompson, I forgot it was due today!” Laura said. Then she asked if she could call her mom. “Mom, can you bring my science project to school? It’s due today!” She listened to her mother for a moment. *(passage continues)*

**How do readers learn about Laura?**

- 1. from what other characters say
- ✓ 2. from what she says to others
- 3. from what she looks like
- 4. from descriptions of her feelings

201-210

**Read the passage.**

The clouds lifted, and the pilot sighted the tower of the Jefferson City airport. He had already radioed ahead that he was arriving. *(passage continues)*

**What is the best title for this passage?**

- 1. Jefferson City Airport
- 2. One Cloudy Night
- ✓ 3. A Safe Landing
- 4. A Pilot’s Life

211-220

**Read the passage.**

Many years ago, a young man named Takoda decided to go on foot to Dark Mountain, a three-day journey from his village. Two days into his journey, he paused for nourishment in a narrow valley. *(passage continues)*

**How does the setting contribute to Takoda’s main problem in the story?**

- 1. He is unable to see clearly through dust from the valley floor.
- 2. He is unable to find shelter on the valley floor from threatening weather.
- 3. The valley does not provide him with the nourishment he needs for his journey.
- ✓ 4. The valley does not provide him with an easy way to avoid the buffalo stampede.

221-230

**Read the poem.**

It sifts from leaden sieves,  
It powders all the wood,  
It fills with alabaster wool  
The wrinkles of the road. *(poem continues)*  
 (“The Snow” by Emily Dickinson)

**How does the use of alliteration in line 13 build meaning in the poem?**

- 1. It highlights the eeriness of the snow’s frosty appearance.
- 2. It emphasizes the images of destruction caused by the snow.
- ✓ 3. It accentuates the completeness of the snow’s coverage, layer by layer.
- 4. It contrasts the quietness of the fallen snow with the sounds of harvest.

above 230

**Read the poem.**

Hope is the thing with feathers  
That perches in the soul,  
And sings the tune without the words,  
And never stops at all. *(poem continues)*  
 (“Hope” by Emily Dickinson)

**Which statement best expresses the meaning of the extended metaphor that compares hope to a bird throughout the poem?**

- ✓ 1. Hope is a constant presence and gives people comfort.
- 2. Hope flies away like a bird during storms and difficult times.
- 3. Hope is demanding, like a bird that constantly needs to be cared for.
- 4. Hope tries to sing songs that are uplifting, but forgets the words to them.

Informational Texts: Understand and Integrate Key Ideas and Details

Students can read and comprehend literary texts, making inferences and predictions, drawing conclusions, and citing textual support. They can determine central ideas, analyze the development of arguments, and summarize.

below 161

Read the passage.

Many kinds of dogs live in the world. Some have been around for a long time. *(passage continues)*

What do Mudis like?

- 1. other dogs
- ✓ 2. having work to do
- 3. living in the city
- 4. sleeping all day

161-170

Read the directions.

Making mud pies is fun. Find some nice sticky mud. Shape it into little pies. Set the pies in the warm sun to dry.

What type of weather is needed to make mud pies?

- ✓ 1. a sunny day
- 2. a rainy day
- 3. a snowy day
- 4. a cloudy day

171-180

Read the paragraph.

A hen lays about one egg a day. A chick takes three weeks to be born from an egg. *(passage continues)*

When do chicks start peeping?

- 1. after one week
- 2. after two weeks
- ✓ 3. after three weeks
- 4. after four weeks

181-190

Read the passages.

Passage 1

Cotton is a type of plant. The cotton plant grows from seeds. Then the plants grow flowers. After the flowers fall off, green pods, or bolls, are left. The bolls dry out in the sun. They burst open. White fluffy cotton pops out.

Passage 2

Cotton is a soft cloth that comes from a plant. White bolls of cotton are washed and stretched into long strings. The strings are twisted together to make a thread. *(passage continues)*

What is the main idea of both paragraphs?

- 1. plants
- 2. clothes
- ✓ 3. cotton
- 4. flowers

191-200

Read the paragraph.

Weasels are hunters. They prey on mice, rats, insects, and birds. They will attack larger animals too, such as rabbits and chickens. *(passage continues)*

What does the weasel do when it gets more food than it needs?

- 1. It eats until it is sick.
- 2. It shares the food with others.
- ✓ 3. It stores the food for later.
- 4. It lets the food go to waste.

201-210

Read the paragraph.

Platinum is a silver-white metal that is even more valuable than gold. It will not corrode or tarnish as many metals do when exposed to air. It can be used as a catalyst\* in processes that change harmful pollutants into nonpollutants. *(passage continues)*

\*Catalyst: a substance that can speed up or bring about a chemical reaction without being affected itself

According to the passage, why is platinum valued by jewelers?

- 1. It can be used as a catalyst.
- ✓ 2. It is good for gem settings.
- 3. It is rarer than gold.
- 4. It is produced in many countries.

211-220

Read the passage.

More Than a Writer

Many people today use bifocals, eyeglasses that aid people's vision for objects both near and far away. Some people use cast-iron wood-burning stoves to heat their homes. *(passage continues)*

Which aspect of the passage best supports the idea that Franklin was a creative visionary?

- 1. the danger associated with Franklin's famous kite-flying experiment
- ✓ 2. the example of the wide range of inventions that Franklin developed
- 3. the mention of Franklin's role in writing the Declaration of Independence
- 4. the similarities between today's bifocals and the bifocals that Franklin invented

221-230

Read the passage.

We observe today not a victory of party but a celebration of freedom—symbolizing an end as well as a beginning—signifying renewal as well as change. For I have sworn before you and Almighty God the same solemn oath our forbears prescribed nearly a century and three-quarters ago. *(passage continues)*  
 ("Inaugural Address" by John F. Kennedy)

Which statement best describes the main idea of this passage?

- 1. The past generations have secured freedom for the future.
- ✓ 2. The responsibilities of freedom rest with the individual.
- 3. Global alliances are the key to freedom for all people.
- 4. Well-equipped armies will fight to defend freedom.

above 230

Read the passage.

The efficiency of a book is like that of a man, in one important respect: its attitude toward its subject is the first source of its power. A book may be full of good ideas well expressed, but if its writer views his subject from the wrong angle even his excellent advice may prove to be ineffective. *(passage continues)*  
 (from *The Art of Public Speaking* by J. Berg Esenwein)

Which conclusion about becoming an effective speaker can be drawn from the passage?

- 1. Effective speaking is the result of study followed by earnest practice.
- 2. Effective speaking requires training in and adherence to a specific set of rules.
- ✓ 3. Effective speaking requires self-discipline and personal conviction about the topic.
- 4. Effective speaking is the result of practicing the speeches and styles of noted speakers.

Informational Texts: Understand and Interpret Craft and Structure

Students can analyze the structure of texts and evaluate a text for bias and for the quality of claims and evidence. Students can evaluate the author’s craft, determining author’s point of view and purpose.

below 161

Read the chart.





Favorite Sports			
Baseball	Basketball	Soccer	Swimming
Neha	Samuel	Javier	Addison
Max		Sarah	Julia
Jessica		Brandon	
		Codey	

Which sport do the most children like?

1. baseball
2. basketball
- ✓ 3. soccer
4. swimming

161-170

Read the chart.

Music	Piano	Drum	Bass	Guitar
				
Jazz	X	X	X	
Pop	X	X		X
Rock		X	X	X
Country		X	X	X

What types of music have the most in common?

1. country and jazz
- ✓ 2. country and rock
3. jazz and pop
4. pop and rock

171-180

Read the passage.

The best place to go on vacation is Florida. There are beautiful beaches, luxury hotels, good restaurants, and interesting shops. *(passage continues)*

What is the author’s opinion of Florida?

1. The weather is too hot.
2. Florida has no variety.
3. Only boaters will enjoy Florida.
- ✓ 4. Florida is a great place to visit.

181-190

Read the passage.

(1)One of the most famous bad guys in history was Robin Hood. (2)People think he lived in England, and hid in the forest with his friends. *(passage continues)*

In which sentence does the writer state how he feels about Robin Hood?

1. Sentence 2
2. Sentence 3
3. Sentence 4
- ✓ 4. Sentence 5

191-200

Read the passage.

There are many differences between the ancient Olympics and the Olympics of today. In ancient times, the games were held only during the summer, but today there are summer and winter Olympic Games. *(passage continues)*

Which organization structure is used in this passage?

1. sequence of events
2. order of importance
3. cause and effect
- ✓ 4. compare and contrast

201-210

Read the paragraphs.

Review 1

Happy Birthday, Maudie is a delightful movie. The characters are believable, and the plot is a tender love story. *(passage continues)*

Review 2

Don’t bother to see Happy Birthday, Maudie. It’s a sappy movie about a girl who lets everyone push her around. *(passage continues)*

Based on the descriptions in the two reviews, on which topic are the two reviewers most likely to agree?

1. the main character’s personality
2. the quality of the plot
- ✓ 3. the details of the setting
4. the overall quality of the movie

211-220

Read the passage.

**A Unique Creature: The Thorny Devil**

The thorny devil is a very interesting and unusual creature. From its name, one might guess that it is large and scary. *(passage continues)*

Which explanation is the most likely reason the author includes a chapter heading in this passage?

1. to present information about key vocabulary terms
2. to supply reasons why this is an interesting subject
3. to explain background information about the subject
- ✓ 4. to provide an idea of what the selection will be about

221-230

Read the report excerpt.

Changes in climate have also been manifested in altered precipitation patterns. Over the last century, the amount of precipitation has increased significantly across eastern parts of North America. *(passage continues)*  
(from “Adaptation Options for Climate-Sensitive Ecosystems and Resources” by the U.S. Environmental Protection Agency)

Which feature of this text most assures the validity of the information?

- ✓ 1. the use of citations
2. the vocabulary
3. the use of percents
4. the author’s tone

above 230

Read the passage written by a company that organizes scientific research into a database.

Our Mission: Our database of more than 3,000 articles of documented investigations is an easy-to-use tool for scientific research. Users may look for a general topic or narrow their search through the use of three topic code parameters. *(passage continues)*

Topic Code Parameters	Description
Social Context	Who conducted the research? Where was it conducted?
Method	How was the research conducted? What procedures were used?
Findings	What was observed? What results were achieved?

How does the chart complement the text?

1. It summarizes the text.
- ✓ 2. It provides detail not in the text.
3. It serves to contrast information in the text.
4. It provides transition between the two parts of the text.



# RIT

## Reference Chart for Language Usage



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.

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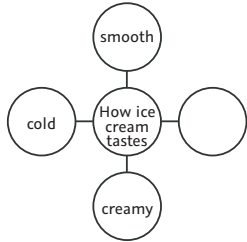
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Writing: Plan, Organize, Develop, Revise, Research

Students use skills to plan, develop, and revise writing and research.

below 161

Study the graphic organizer.



Which word would best complete the graphic organizer?

- 1. bitter
- ✓ 2. sweet
- 3. loud
- 4. salty

161-170

Which group of words would be best to use to tell about the Moon?

- 1. soft, small, blue
- 2. close, green, cold
- ✓ 3. white, round, full
- 4. wet, black, square

171-180

Read Sarah's draft.

Taking care of a pet fish is easy. Fish need a special bowl full of clean water. They need a filter to help keep the water clean. \_\_\_\_\_ Fish need to be fed a little bit each day.

Which sentence should be added to the blank to explain more about taking care of a pet fish?

- 1. Sharks are very large fish.
- 2. Some fish live deep in the ocean.
- 3. Goldfish are my favorite kind of fish.
- ✓ 4. You should change the water once a week.

181-190

Read the paragraph.

I always look forward to winter for one reason: hot chocolate. Hot chocolate is my favorite. It warms me up when I am really cold.

Which sentence could be added to describe what hot chocolate tastes like?

- ✓ 1. It is sweet and warm and so chocolaty!
- 2. Hot chocolate comes in different flavors.
- 3. I have hot chocolate every day in winter.
- 4. Hot chocolate is drunk by people of all ages.

191-200

Celine is writing a story about a trip to the train station. Her teacher said to use words that describe the sounds at the train station.

Which sentence should Celine add to her story?

- ✓ 1. An engine thundered down the track and clattered to a stop.
- 2. Two children waited on a bench and played with their toys.
- 3. A man rushed through the station carrying a big suitcase.
- 4. The conductor lifted a suitcase up the steps of the train.

201-210

Derrick is writing a science report about the moons of Jupiter.

Which source of information will be most useful to Derrick?

- 1. a chart that shows the orbits of all the planets
- 2. a science fiction movie about life on one of Jupiter's moons
- ✓ 3. a book that names and describes the moons of each planet
- 4. a magazine article that explains the origins of the universe

211-220

Your class just finished studying rivers. Your teacher has assigned you to write a research paper that further explores rivers.

Which of the following would be the best research question?

- 1. What is your favorite river?
- ✓ 2. How are the Nile and Amazon rivers different?
- 3. Where is the world's longest river?
- 4. How many times has the Nile River flooded?

221-230

Read the beginning of Nora's speech.

One sunny day a few years ago, I was out riding my road bike with my Aunt Natalia, a tri-athlete, and some of her training partners. We were riding in a single line at a fast pace on a country road with a nice wide shoulder. *(speech continues)*

Which revision of the underlined sentences best provides appropriate transition?

- 1. In addition to that, I knew I needed to stay on the front for, about a minute, but my legs drained immediately, and I began gasping in the humid air.
- 2. In either case, I knew I needed to stay on the front for, about a minute, and my legs drained immediately, and I began gasping in the humid air.
- 3. Eventually, I knew I needed to stay on the front for, about a minute, and my legs drained immediately, and I began gasping in the humid air.
- ✓ 4. Although I knew I needed to stay on the front for, about a minute, my legs drained immediately, and I began gasping in the humid air.

above 230

Which is the best thesis for a persuasive essay on World War I?

- 1. World War I began in 1914 when Archduke Ferdinand was shot.
- 2. The United States tried to stay neutral when World War I began.
- 3. World War I took place across Europe and Africa, lasting four long years.
- ✓ 4. World War I was inevitable due to many complicating factors.

## Language: Understand, Edit for Grammar, Usage

Students understand the conventions of grammar and usage.

## below 161

Choose the missing word.

The dog \_\_\_\_\_ in the house.

1. am
- ✓ 2. is
3. are
4. were

## 161-170

Choose the missing word.

Can you watch the movie with \_\_\_\_\_?

1. we
- ✓ 2. us
3. he
4. I

## 171-180

Click on the word in each box that correctly completes each sentence.

The ice cream truck comes to our apartments every Friday. My mom says buying ice cream from the ice cream truck was one of her favorite parts of child, childhood. We run outside when we hear the truck playing its song. Mom buys an ice cream sandwich, and we split it in half. Then we sit in the sunshine to eat our ice cream sandwich. It fills us both with happier, happiness to share an ice cream.

## 181-190

Read the sentence.

My mom wakes me up \_\_\_\_\_ on weekdays than on the weekend.

Which word correctly completes the sentence?

1. early
- ✓ 2. earlier
3. more early
4. most early

## 191-200

Read the sentence.

The student wrote a report \_\_\_\_\_ James Madison, the fourth president.

Which preposition best completes the sentence?

1. in
2. from
- ✓ 3. about
4. with

## 201-210

Read the sentence fragment.

Each penguin in the pool.

Which is a complete sentence?

1. Each penguin in the deep pool.
2. Each and every penguin in the pool.
- ✓ 3. Each penguin in the pool swam.
4. Each little penguin in the deep pool.

## 211-220

Click on the word in the parentheses that correctly completes each sentence.

I have a sister (who ✓, which) is training to be an airline pilot.

I do not like riding roller coasters (which, that ✓) flip upside down.

My brother is the only person on the team (who ✓, which) scored a goal.

My family took me to the ocean, (which ✓, that) is where I learned to swim.

## 221-230

Read the draft of Talia's paragraph.

The tallest mountain in the world is Mount Everest. Its elevation is 29,029 feet. It was summited in 1953 for the first time.

Talia wants to combine these statements into one sentence.

Which best combines these sentences?

1. The tallest mountain, at 29,029 feet, in the world is Mount Everest and it was first summited in 1953.
2. The tallest mountain in the world, Mount Everest (29,029 feet elevation), first successfully was summited in 1953.
- ✓ 3. Mount Everest, the tallest mountain in the world with an elevation of 29,029 feet, was summited in 1953 for the first time.
4. First successfully summited in 1953, the tallest mountain, Mount Everest, in the world has an elevation of 29,029 feet.

## above 230

Which sentence shows clear pronoun-antecedent agreement?

1. We unpacked our books from the boxes and then returned them to the office.
2. As soon as the monkeys left their cages, the janitors cleaned them.
3. If anybody wants to play professional basketball, you have to practice the fundamentals.
- ✓ 4. For English class, the students had to memorize a monologue by their favorite playwright.

## Language: Understand, Edit Mechanics

Students understand the conventions of punctuation, capitalization, and spelling.

## below 161

**Which sentence is punctuated correctly?**

1. Do flowers bloom in the spring!
- ✓ 2. Do flowers bloom in the spring?
3. Do flowers bloom in the spring,
4. Do flowers bloom in the spring.

## 161-170

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

My art teacher gave the note to mrs. Begay.

## 171-180

**Read the sentence.**

I plan to spend groundhog Day looking for holes in the park with my friend Doug.

**Which word in the sentence should begin with a capital letter?**

1. plan
- ✓ 2. groundhog
3. park
4. friend

## 181-190

**What is the correct spelling for more than one cherry?**

1. cherrys
- ✓ 2. cherries
3. cheryes
4. cherryses

## 191-200

**Which sentence correctly uses quotation marks?**

- ✓ 1. Mom said, "Brush your teeth before bed."
2. "What did you say? I asked."
3. "My sister said, I need a bedtime story."
4. "Mom," I asked, can I have a glass of water?"

## 201-210

**Drag the comma to the correct place in the sentence with dialogue.**

Lily studied for her science test all evening.  
"I think I will do well on my test today."  
Lily told her mother the next morning.



## 211-220

**Which sentence has the underlined word spelled correctly?**

1. Sarah wore a costum for the school play.
- ✓ 2. The movie will continue playing during recess.
3. The mannar of his speaking was formal.
4. I discribed the first time I went to the ocean.

## 221-230

**Which sentence is punctuated correctly?**

1. Pilar watch out for the bees in the garden.
2. It seems to us, Mr. Jones that the trip should be canceled.
3. What are you going to do after practice tonight Tom?
- ✓ 4. If you ask me, Lorraine, this phone book is outdated.

## above 230

**Proofread Carla's paragraph.**

I live in an area known as the great southwest—in Taos, New Mexico. Taos is a town well known for its art, history, and recreation. Located just north of the Santa Fe National Forest, Taos offers visitors the chance to ski during the winter months. There are also several museums whose goal it is to preserve artwork from the northern part of New Mexico. There are even more options for exploration nearby; Taos is only 40 miles northeast of Santa Fe, the capital of New Mexico.

**Which underlined word should be capitalized?**

- ✓ 1. southwest
2. north
3. northern
4. northeast

# RIT

## Reference Chart for Mathematics 2 – 5



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.

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Operations and Algebraic Thinking

Students can represent and solve problems involving the four operations, understand and apply properties of operations, generate and analyze patterns, and write and interpret numerical expressions.

below 161

$6 + 2 = \square$

- A. 4
- ✓B. 8
- C. 9
- D. 26
- E. 62

161-170

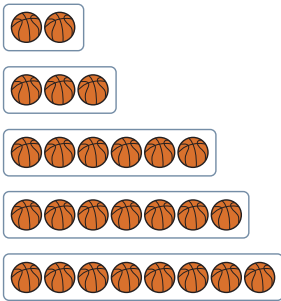
$\square + 7 = 13$

$\square = ?$

- ✓A. 6
- B. 9
- C. 10
- D. 11
- E. 18

171-180

Click on all the sets that have an odd number of basketballs.



181-190



Two children will share the dolls equally. How many dolls will each get?

- A. 1
- B. 2
- ✓C. 4
- D. 8

191-200

Jill sold bags of raisins. The first day she sold 6 bags, and the second day she sold 12. On the third day she sold 18.

If Jill continues to sell bags following the same pattern, how many bags will she sell on the sixth day?

- A. 54
- B. 48
- ✓C. 36
- D. 30
- E. 24

201-210

There are 8 hot dog buns in a package. Shay wants to buy the LEAST number of packages to have enough buns for 50 hot dogs.

Which statement is true?

- A. Shay should buy 6 packages. She will have exactly the correct number of buns.
- B. Shay should buy 6 packages. She will have 2 buns left over.
- C. Shay should buy 7 packages. She will have exactly the correct number of buns.
- ✓D. Shay should buy 7 packages. She will have 6 buns left over.

211-220

Which set contains all the factors of 20?

- A. (5, 10, 15, 20)
- B. (2, 4, 5, 10)
- ✓C. (1, 2, 4, 5, 10, 20)
- D. (1, 2, 4, 5, 8, 10, 15, 20)

221-230

$[6 \times (9 - 4)] + [(6 + 4) \div 2]$

What is the value of the expression?

- A. 20
- B. 30
- ✓C. 35
- D. 38
- E. 58

Numbers and Operations

Students understand the place value system by counting, representing, comparing, rounding, and performing operations with multi-digit whole numbers, fractions, and decimals.

below 161



How many?

- A. 4
- ✓B. 5
- C. 6
- D. 7
- E. 8

161-170

$$\begin{array}{r} 63 \\ + 34 \\ \hline \end{array}$$

- A. 31
- B. 37
- C. 71
- ✓D. 97
- E. 98

171-180

$$\begin{array}{r} 99 \\ - 56 \\ \hline \end{array}$$

- A. 34
- B. 42
- ✓C. 43
- D. 53
- E. 155

181-190

$$\begin{array}{r} 60 \\ \times 5 \\ \hline \end{array}$$

What is the product?

- A. 30
- B. 65
- ✓C. 300
- D. 365

191-200

$$\frac{5}{7} - \frac{3}{7} =$$

- A.  $\frac{8}{7}$
- B. 2
- ✓C.  $\frac{2}{7}$
- D. 0
- E. 7

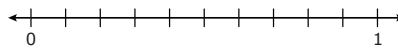
201-210

$$0.32 \div 8 =$$

- A. 4.3
- B. 0.15
- ✓C. 0.04
- D. 0.4
- E. 43.75

211-220

Drag the fractions from the toolbox to their correct location on the number line.



$\frac{4}{10}$	$\frac{9}{10}$	$\frac{6}{10}$
----------------	----------------	----------------

221-230

Drag the numbers to the boxes to make two different fractions equal to  $\frac{1}{3}$ .

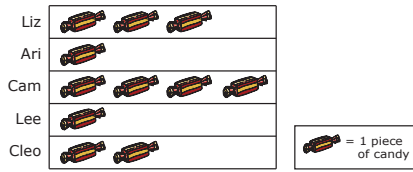
$$\frac{1}{3} = \frac{\square}{\square} = \frac{\square}{\square}$$

2	3	4	5	6	7	8	9	10	11	12
---	---	---	---	---	---	---	---	----	----	----

Measurement and Data

Students understand and solve measurement problems involving length, mass, liquid volume, time, money, area, perimeter, volume, and angles. They can generate, represent, and interpret data.

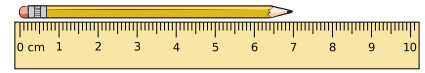
below 161



Who has the most candy?

- A. Liz
- B. Ari
- ✓C. Cam
- D. Lee
- E. Cleo

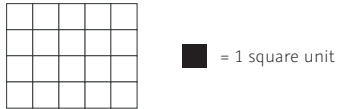
161-170



The pencil is about how many centimeters long?

- A. 4 cm
- B. 5 cm
- C. 6 cm
- ✓D. 7 cm
- E. 8 cm

171-180



What is the area of the figure?

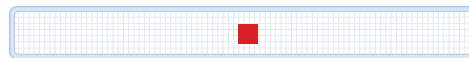
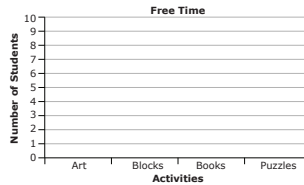
- A. 18 square units
- B. 9 square units
- ✓C. 20 square units
- D. 16 square units
- E. 5 square units

181-190

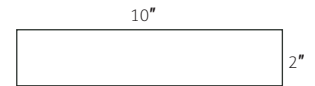
The list shows how students in a class spent free time.

- 4 students made art.
- 2 students played with blocks.
- 5 students read books.
- 3 students completed puzzles.

Drag the squares to make a bar graph of the data.



191-200



What is the perimeter of this rectangle?

- A. 12 inches
- ✓B. 24 inches
- C. 8 inches
- D. 16 inches
- E. 20 inches

201-210

A plane flew for 5 hours. Click on all the measurements that are equal to 5 hours.

- 15,000 seconds
- 18,000 seconds
- 30,000 seconds
- 300 minutes
- 150 minutes
- 250 minutes

211-220

4 yards =

- A. 16 feet
- B. 20 feet
- ✓C. 144 inches
- D. 80 inches
- E. 36 inches

221-230

Regina needs  $2\frac{1}{2}$  pounds of fertilizer for her plants. How many ounces is  $2\frac{1}{2}$  pounds?

- A. 16 ounces
- B. 20 ounces
- C. 30 ounces
- ✓D. 40 ounces
- E. 48 ounces








Geometry

Students understand and reason with geometric concepts by identifying, describing, creating, and classifying two- and three-dimensional figures. They can solve mathematical problems by graphing points on the coordinate plane.






below 161

Which shape does NOT have any corners?

- A. 
- B. 
- C. 
- ✓D. 
- E. 

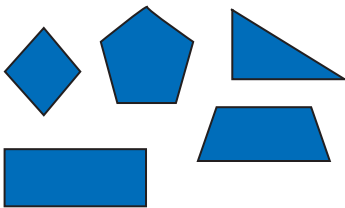
161-170

Which of these shapes is a triangle?

- A. 
- B. 
- C. 
- ✓D. 
- E. 






171-180

Click on all the quadrilaterals.

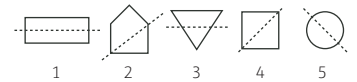


181-190

Which shape has symmetry?

- A. 
- B. 
- C. 
- D. 
- ✓E. 

191-200

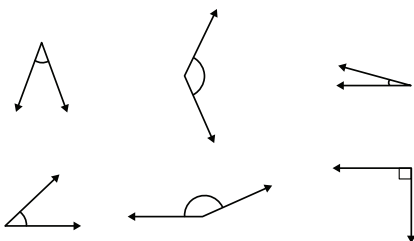


Which figures show a line of symmetry?

- ✓A. 1, 4, and 5
- B. 2, 4, and 5
- C. 4 and 5
- D. 1 and 4
- E. 2, 3, and 4

201-210

Click on all the obtuse angles.








211-220

Which statement about rectangles is true?

- A. All rectangles are squares.
- B. All rectangles are trapezoids.
- C. All rectangles are rhombuses.
- ✓D. All rectangles are parallelograms.

221-230

Which shape is a parallelogram?

- A. 
- B. 
- C. 
- D. 
- ✓E. 

# RIT

## Reference Chart for Mathematics 6+



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Operations and Algebraic Thinking

Students can apply and extend previous understandings of arithmetic to algebraic expressions, equations, and inequalities. They can model relationships between quantities using functions and compare, interpret, and build functions in different representations.

**201-210**

Simplify.

$5 + (2 + 3^2) - 1$

- A. 12
- ✓B. 15
- C. 17
- D. 29
- E. 99

**211-220**

If  $6n = 102$ ,  $n$  equals

- A. 12.
- ✓B. 17.
- C. 108.
- D. 196.
- E. 612.

**221-230**

Evaluate  $gh - b$  if  $g = 4$ ,  $h = 9$ ,  $b = 12$ .

- A. 48
- B. 37
- C. 25
- ✓D. 24
- E. 1

**231-240**

Drag a number into each box to represent 64 using exponents.

= 64

- 2   3   4   16   32   60

**241-250**

Ken works as a salesperson in a local electronics store. He earns \$200 each week plus 6% commission on his total sales.

Which equation correctly represents Ken's weekly earnings,  $E$ , based on  $s$ , his total sales?

- A.  $E = 0.06s(\$200)$
- B.  $E = 6s + \$200$
- ✓C.  $E = 0.06s + \$200$
- D.  $E = 6s(\$200)$

above **250**

Which expression is equivalent to  $\frac{8^{-9}}{8^{-3}}$ ?

- A.  $8^{-12}$
- ✓B.  $8^{-6}$
- C.  $8^{-3}$
- D.  $8^3$
- E.  $8^6$

**The Real and Complex Number Systems**

Students can apply and extend previous understandings of operations to the real and complex number systems by solving problems involving ratio, rate, proportion, rational numbers, irrational numbers, complex numbers, and the coordinate plane.

**201-210**

The sign shows the cost of a bag of apples at Hank's Fruit Stand.



What is the unit price?

- ✓A. \$0.85 per apple
- B. \$0.90 per apple
- C. \$1.10 per apple
- D. \$1.18 per apple

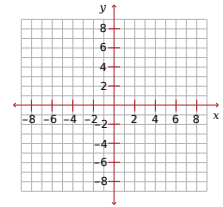
**211-220**

Which number line shows how to find the sum of  $-8 + (-2)$ ?

- A.
- ✓B.
- C.
- D.

**221-230**

Move the point to the coordinates  $(-5, 6)$ .



Input field for the coordinates (-5, 6).

**231-240**

Which is closest to  $\sqrt{10}$ ?

- A. 3.0
- ✓B. 3.2
- C. 3.5
- D. 5.0

**241-250**

A \$30.00 pair of jeans is discounted 20%.

If sales tax is 5%, what will be the final price for the jeans?

- A. \$22.80
- B. \$24.00
- C. \$24.20
- ✓D. \$25.20
- E. \$28.35

**above 250**

Which is the simplified form of  $2 + 3\sqrt{-12}$ ?

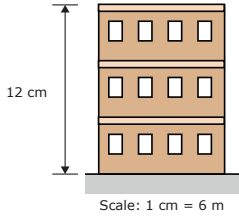
- A.  $8i\sqrt{3}$
- ✓B.  $2 + 6i\sqrt{3}$
- C.  $-i\sqrt{12}$
- D.  $2 - 3i\sqrt{12}$
- E.  $-4i\sqrt{12}$

**Geometry**

Students can solve problems involving area, circumference, surface area, volume, and angle measure. They understand congruence and similarity in terms of transformations and apply theorems involving properties of circles and right triangles.

**201-210**

Use the scale drawing of the building to answer the question.

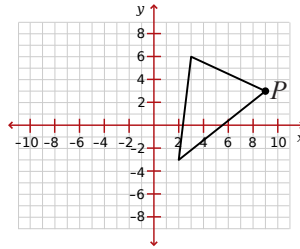


What is the actual height of the building?

- A. 2 m
- B. 6 m
- ✓C. 72 m
- D. 144 m

**211-220**

Use the graph to answer the question.

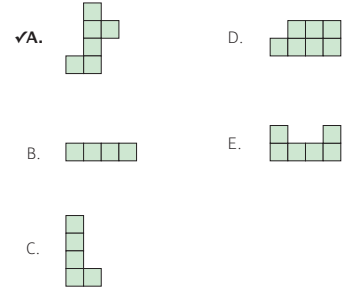


The triangle is reflected across the  $y$ -axis and then reflected across the  $x$ -axis.  $P'$  is the image of  $P$  after both reflections. What are the coordinates of  $P'$ ?

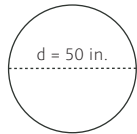
- A.  $(-9, -9)$
- ✓B.  $(-9, -3)$
- C.  $(-7, -9)$
- D.  $(-7, -3)$

**221-230**

Which of these nets would fold into a closed cube?



**231-240**

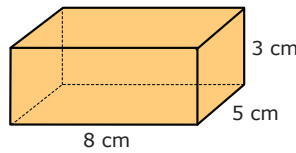


Use the formula  $C = \pi d$  with 3.14 as an approximation for  $\pi$ .

Find the circumference of this circle to the nearest inch.

- ✓A. 157 in.
- B. 150 in.
- C. 1570 in.
- D. 53.14 in.
- E. 46.86 in.

**241-250**



Calculate the surface area of this rectangular solid.

- A.  $79 \text{ cm}^2$
- B.  $110 \text{ cm}^2$
- C.  $120 \text{ cm}^2$
- D.  $128 \text{ cm}^2$
- ✓E.  $158 \text{ cm}^2$

**above 250**

Click on all the transformations that carry the regular hexagon onto itself.



Reflection over line  $k$



Reflection over line  $n$



Rotation  $60^\circ$  clockwise about  $P$



Rotation  $90^\circ$  clockwise about  $P$



Reflection over line  $r$



Reflection over line  $s$



Rotation  $120^\circ$  clockwise about  $P$



Rotation  $270^\circ$  clockwise about  $P$

Statistics and Probability

Students can summarize, represent, and interpret data, including measures of center and variability, and investigate patterns of association in bivariate data. They can understand and evaluate random processes and compute probabilities of events in a uniform probability model.

**201-210**

A box contains 13 balls. 3 balls are red, 5 are blue, 4 are orange, and 1 is yellow.

What is the probability of picking a red ball?

- A.  $\frac{3}{5}$
- B.  $\frac{3}{10}$
- C.  $\frac{1}{13}$
- ✓D.  $\frac{3}{13}$
- E.  $\frac{5}{13}$

**211-220**

Diana received scores of 100, 63, 80, 85, and 92 on her math tests.

What is her mean (average) score?

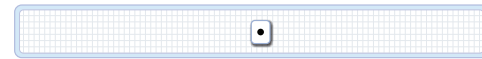
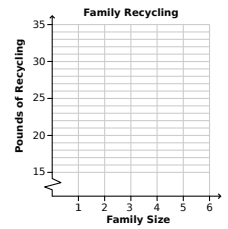
- A. 83
- ✓B. 84
- C. 85
- D. 86
- E. 87

**221-230**

The table shows family size and recycling information for several different families.

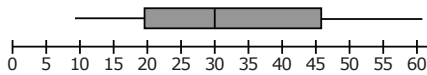
Drag the points onto the graph to make a scatter plot of the data.

Family Size	Pounds of Recycling
3	19
4	22
2	22
5	32
3	28
3	18
5	34



**231-240**

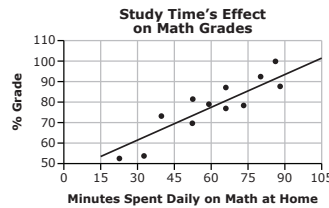
Look at the box-and-whisker plot.



Which number represents the median of the data?

- A. 20
- ✓B. 30
- C. 32.5
- D. 35
- E. 45

**241-250**



If Sally studies math for 45 minutes a day at home, predict her math grade based on the scatter plot.

- A. 50
- B. 60
- ✓C. 70
- D. 80
- E. 90

above **250**

At Washington High School, 20% of the teachers coach a sports team, and 12% of the teachers coach a sports team and lead an academic club.

If one teacher chosen at random coaches a sports team, what is the probability that this teacher also leads an academic club?

- A. 8%
- B. 16%
- C. 32%
- ✓D. 60%

# RIT

## Reference Chart for MPG Reading



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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.
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4. The questions further down the page will probably require new learning on the student's part.

Please note:

Test items in this booklet are sample items, and many are not calibrated or field-tested. For purposes of this document, RIT scale alignment is an approximation.

**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**

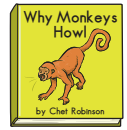


**Listen to the story.**

**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.

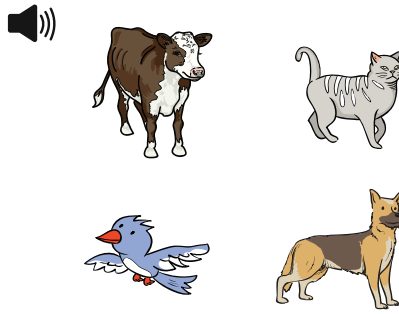
*(Passage is not read aloud.)*



**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.

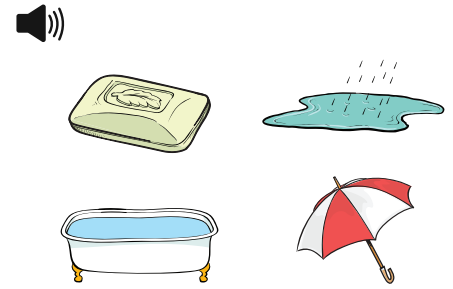
below **131**



Look at the pictures.

Click on the bird.

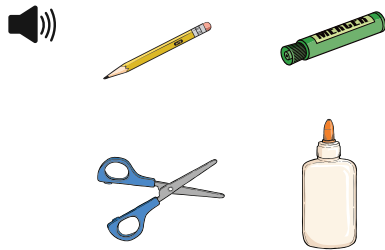
**131-140**



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?

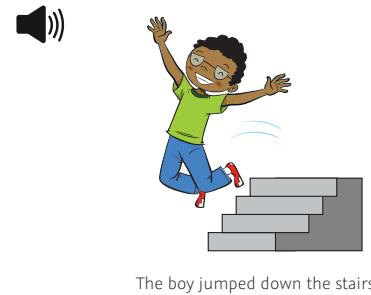
**151-160**

Fruits	
<input type="checkbox"/>	cherry
<input type="checkbox"/>	grape
<input type="checkbox"/>	pineapple
<input type="checkbox"/>	
<input type="checkbox"/>	

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
- excellent
- awful
- boring

above **191**

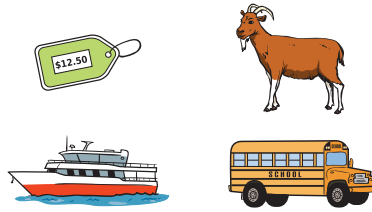
define – need      require – get  
 need – require      get – offer

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.)*

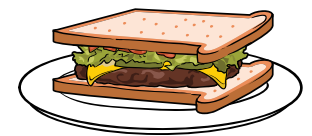
**151-160**



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

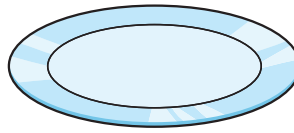
/

**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**



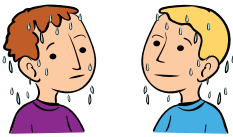
Look at the picture.

Where is the dog?

behind the girl  
 next to the girl

below 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**



Roses can have (menny) thorns.



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**

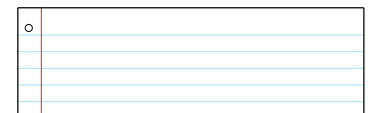


The United States flag has 50 stars.  
 Each star on the flag stands for one state.  
 My family and I live in the state of Oregon.  
 The United States flag has only three colors.  
 The colors are red, white, and blue.

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



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:

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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.

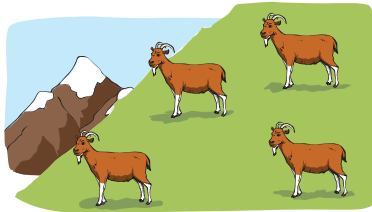
Two trucks and one more truck is how many trucks altogether?

**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:

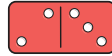
There are four goats on the hillside. Three goats leave the hillside.

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

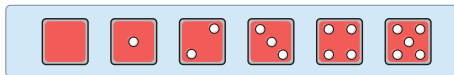
**151-160**



The domino shows one way to make 5.



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



**161-170**



$4 + \underline{\quad} = 6$

Blank input box for the answer to the equation.

0 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

Blank input box for the number of shells left.

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

0 1 2 3 4 5 6 7 8 9

above **191**



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

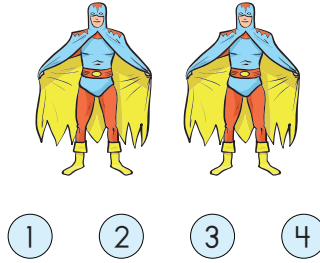
0 1 2 3 4 5 6 7 8 9

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.

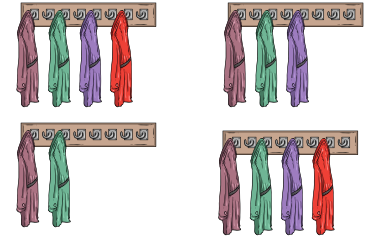
below **131**



Look at the picture.

How many superheroes are there?

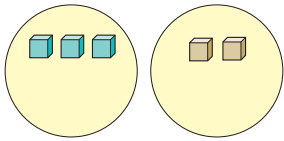
**131-140**



Look at the coat racks.

Click on the rack that has the fewest coats.

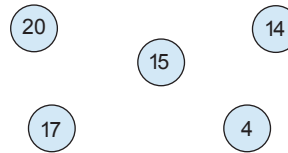
**141-150**



Look at the two groups.

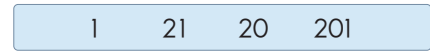
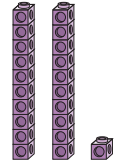
Move cubes to the circles to make the groups equal.

**151-160**



Click on the number that is 1 more than 13.

**161-170**



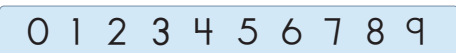
What number do the blocks show?

**171-180**



347

\_\_\_\_\_



Look at the number.

What is 100 more than 347?

**181-190**



Look at the numbers.

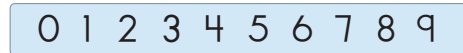
Put the correct symbol in each of these problems to make them true.

above **191**



6 hundreds and 5 ones

\_\_\_\_\_



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**

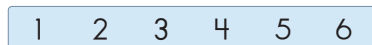
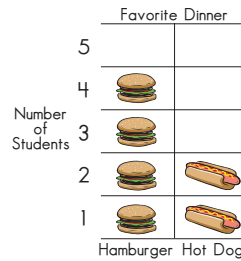


Gold Star Stickers	
Sarah	★★★★
Pablo	★
Jamal	★★★★★
Cher	★★
Maria	★★★★★

Look at the sticker chart.

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

**151-160**



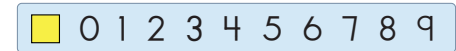
Look at the graph.

How many students chose hot dog as their favorite dinner?

**161-170**



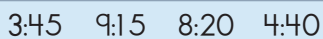
\_\_\_\_\_ blocks



Look at the picture of the bus.

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

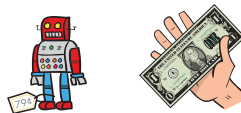
**171-180**



Look at the clock.

What time is shown on the clock?

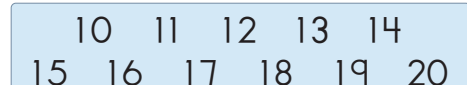
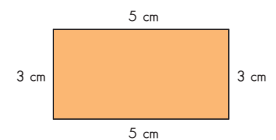
**181-190**



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**



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.

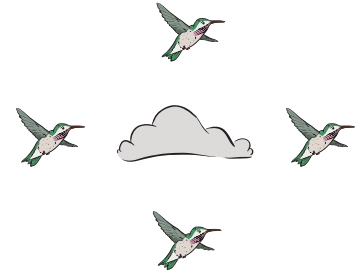
below **131**



Look at the shapes.

Which shape has only 3 sides?

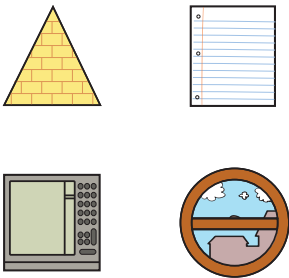
**131-140**



Look at the picture.

Which bird is over the cloud?

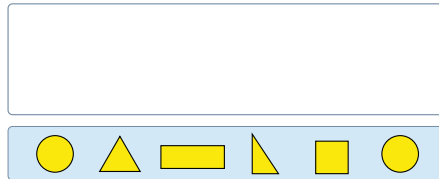
**141-150**



Look at the pictures.

Which is shaped like a circle?

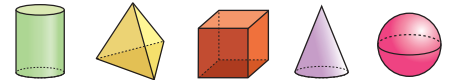
**151-160**



Look at the shapes.

Move ALL the shapes with four corners to the mat.

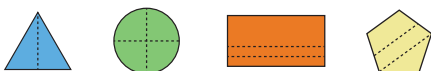
**161-170**



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.

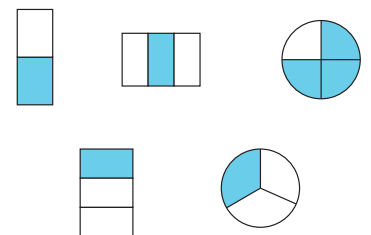
**181-190**



Look at the shapes.

Click on ALL of 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\*



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.

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\*The MAP for Science assessment is not aligned to the Common Core.

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.

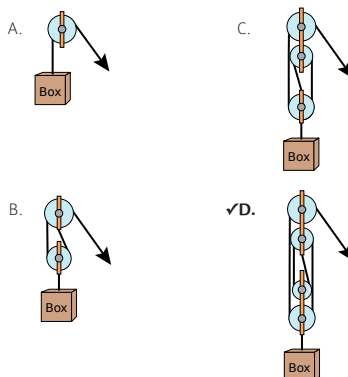
Which group of magnets has attractive forces between all 3 magnets?

- ✓A.
- B.
- C.
- D.

201-210

Students designed four pulley systems to lift a box.

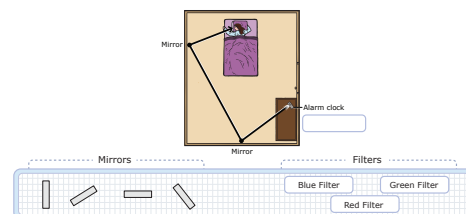
Which pulley system will lift the box with the LEAST input force?



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.

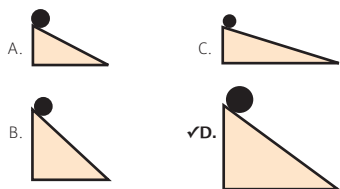
1. Position the mirrors so the light will shine directly into the student's eyes. Drag the 2 mirrors with the appropriate angles into the diagram.
2. Choose the filter that will change the color of the light. Drag the appropriate filter to the box.



221-230

Solid steel balls are located on ramps as shown.

Which ball has the greatest gravitational potential energy?



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.
- ✓B.
- C.
- D.

above 240

Which chemical equation represents a neutralization reaction?

- A.  $\text{CaCO}_3(s) \rightarrow \text{CO}_2(g) + \text{CaO}(s)$
- B.  $2 \text{HCl}(aq) + 2 \text{K}(s) \rightarrow 2 \text{KCl}(aq) + \text{H}_2(g)$
- C.  $\text{CH}_4(g) + \text{O}_2(g) \rightarrow \text{CO}_2(g) + \text{H}_2\text{O}(g)$
- ✓D.  $\text{NaOH}(aq) + \text{HCl}(aq) \rightarrow \text{NaCl}(aq) + \text{H}_2\text{O}(l)$

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
- B. leaf
- ✓C. root
- D. stem

181-190

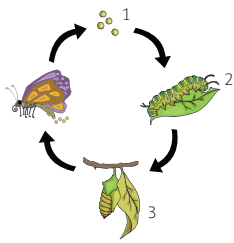
Students are comparing animals in an environment. They need to describe all predators.

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

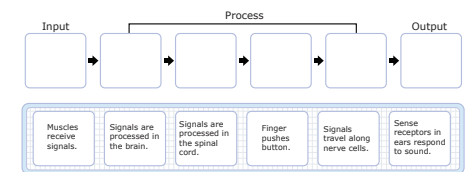
What is a function of the respiratory system in animals?

- 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

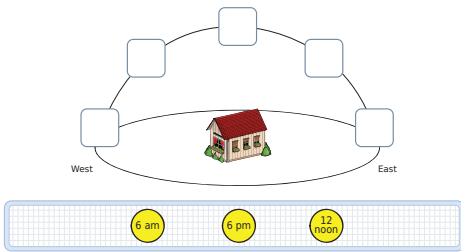
181-190

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.

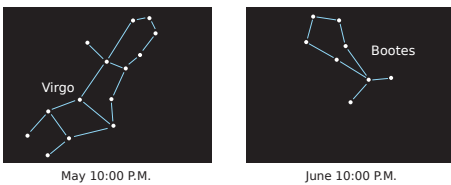


How did the geographic information from this map allow scientists to choose an appropriate location for the wind generator?

- 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.



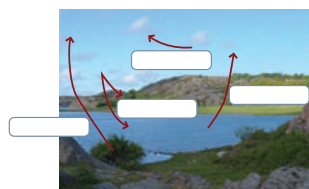
Why does the student observe the constellation Virgo in May and then Bootes in June?

- 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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