

Fact or Fiction: The Four Seasons, Part I

BLIZZARD BAG #3

entirely	throughout	circular	tilted
orbit	elliptical	series	logical
position	brainpower	hemisphere	northern
particular	tilt	inaccurate	affect

Directions: Fill in each blank with the word that best completes the reading comprehension.

Understanding the Earth's four seasons takes a lot more (1) _____ than you might think. There are a lot of things that can (2) _____ what each season is like in a (3) _____ place on Earth. There are also a lot of (4) _____ explanations out there. In this (5) _____, we are going to talk about some common misconceptions about the four seasons. Then, we'll separate fact from fiction.

Statement 1: The Earth's orbit around the sun is not (6) _____. The distance between the sun and the Earth changes as the Earth moves around the sun. The changes (7) _____ the year in the distance between the Earth and the sun are what cause the four seasons.

Statement 1 is not true, at least not (8) _____. It is true that the Earth's orbit around the sun is not circular. Earth's orbit is (9) _____. It is more like the shape of an egg than a circle. It is also true that the Earth is closer to the sun during some parts of the year and farther away from it at others. As (10) _____ as it may sound, though, this is not what causes the Earth's four seasons. The Earth experiences four seasons because its axis is tilted. As the Earth moves around the sun, the tilt causes the North Pole to be tilted toward the sun during part of the year. This is summer in the northern (11) _____. Six months later the Earth's orbit has moved it around to the opposite side of the sun. Now, the North Pole is tilted away from the sun. This is winter in the (12) _____ hemisphere. Spring and fall are transition months. They happen as the North Pole begins to (13) _____ toward, or away from, the sun again.

The truth is this: The Earth's four seasons are caused by the Earth's axis being tilted 23.5 degrees. As the Earth moves around the sun in its orbit, this tilt causes the North Pole to be (14) _____ toward the sun during part of the year, summer, and tilted away from the sun during another part of the year, winter. Spring and fall happen as the Earth moves its (15) _____ in (16) _____ between summer and winter.

1. The Earth's orbit around the sun is _____.

- A Spherical
- B Straight
- C Circular
- D Elliptical

2. The Earth is _____ to the sun during some parts of the year than it is during others.

3. What cause(s) Earth's four seasons.

- A Changes in the distance between the Earth and the moon
- B The tilt of Earth's axis
- C Changes in the distance between the sun and the Earth
- D All of the above

6. Look carefully at the picture. Write the numbers 1, 2, 3, 4 here. Then write the name of the season in the northern hemisphere shown by each number in the picture.

5. Twenty-three and five tenths degrees is the measurement of _____.

- A The rate at which the Earth is spinning
- B The tilt of Earth's axis
- C The high temperature during the summer at the North Pole
- D The change in Earth's temperature between summer and winter

4. Where is the Earth, in relation to the sun, during summer and winter?

- A Farther away from the sun in winter and closer to the sun in summer
- B All of the above statements are true.
- C On opposite sides of the sun
- D Equally far from the sun during all parts of the year

Fact or Fiction: The Four Seasons, Part II

between	orbits	affect	separate	tilts	northern
toward	orbit	particular	hemisphere	tilt	entirely
inaccurate	tilted	fiction	position	series	brainpower

Directions: Fill in each blank with the word that best completes the reading comprehension.

Understanding the Earth's four seasons takes a lot more (1) _____ than you might think. There are a lot of things that can (2) _____ what each season is like in a (3) _____ place on Earth. There are also a lot of (4) _____ explanations out there. In this (5) _____, we are going to talk about some common misconceptions about the four seasons. Then, we'll (6) _____ fact from (7) _____.

Statement 2: The Earth experiences four seasons because the Earth's axis tilts. As the Earth moves around the sun, Earth's axis (8) _____ back and forth. In the (9) _____ hemisphere, the North Pole is tilted (10) _____ the sun during the summer. During the winter months, the North Pole is tilted away from the sun.

Statement 2 is not true, at least not (11) _____. It is true that the Earth experiences four seasons because of a tilt in the Earth's axis. It is also true that in the northern (12) _____, the North Pole points toward the sun in the summer and away from the sun in the winter. (Similarly, in the southern hemisphere, the South Pole points toward the sun in the summer and away from the sun in the winter.) While Earth's axis is (13) _____, it does not tilt back and forth as the Earth (14) _____ the sun. Earth's axis always points in the same direction in space. It is simply the movement of the Earth from one side of the sun to the other that causes the poles to point toward or away from the sun.

The truth is this: The Earth's four seasons are caused by the Earth's axis being tilted at a constant 23.5 degrees to one side. As the Earth moves around the sun in its orbit, this (15) _____ causes the North Pole to be tilted toward the sun during part of the year, summer, and tilted away from the sun during another part of the year, winter. Spring

Name _____

LA1 LA2 LA3 LA4

and fall happen as the Earth moves its (16) _____ in (17) _____
(18) _____ summer and winter.

1. The Earth experiences _____ because Earth's axis is tilted.

- A Gravity
- B Four seasons
- C An orbit around the sun
- D Daylight and darkness

2. The North Pole and South Pole are _____ tilted toward the sun at the same time.

- A Rarely
- B Never
- C Always
- D Almost always

3. Earth's axis _____.

- A Passes through the equator and the International Date Line
- B Tilts back and forth as the Earth orbits the sun
- C Is tilted at a constant angle of 23.5 degrees
- D All of the above

4. _____ happens in the northern hemisphere as the Earth moves along its orbit around the sun between the time when the North Pole is pointed toward the sun, summer, and the North Pole is pointed away from the sun, winter.

- A Winter
- B Spring
- C Summer
- D Fall

Problem solving using percents**Applying Linear Equations**

Percent is used in problem solving in algebra in many different situations. Percent is related to sales tax, profit and cost, salary and commission, and the discount of an item. For example, the sale price of an item, which is the difference between the original price and the amount of discount, can be written as:

$$\text{original price} - \text{amount of discount} = \text{sale price.}$$

A jacket is on sale for 33% off. The sale price is \$55. Find the original price of the jacket and the amount of discount.

Let p = original price, then the amount of discount will be $0.33p$.

Using the formula original price - amount of discount = sale price, solve.

$$100(p - 0.33p) = (55)100 \quad \text{Multiply both sides by 100 to get rid of the decimal.}$$

$$100p - 33p = 5500$$

$$67p = 5500$$

$$p = \$82.09 \text{ (original price) Amount of discount} = 0.33(82.09) = \$27.09$$

Thus, the original price is \$82.09, and the amount of discount is \$27.09.

Solve each problem.

1. A couch is on sale for \$750. The discount rate is 25%. Find the original price and the amount of discount.
2. Alisha bought a shirt with a marked price of \$25.99. If the sales tax was 7%, what was the total price Alisha paid for the shirt?
3. George earned \$450 last week, plus a 4% commission on his total sales. If his total earnings were \$700, what were his sales?
4. The selling price of a car is \$15,000. A 20% profit is included in this cost. Find the cost of the car.
5. Mark is paid 12% commission on all his sales, plus \$4 an hour for a 40-hour week. If he earned \$760, what were his total sales?
6. A TV's selling price is \$550. Find the store's cost if the profit is 25% of the cost.



Assignment

Date _____ Period _____

Solve each equation.

1) $12 = 2b$

2) $1 = k - 13$

3) $-33 = v - 17$

4) $-15 = x - 20$

5) $31 = x + 17$

6) Envelopes cost \$5 / box. How many boxes did Kim buy if she spent \$20?

7) Eight years ago, Ming was 77 years old.
How old is she now?

SECTION 1

Enrichment

Studying Seafloor Spreading on Land

You know from your textbook how seafloor spreading changes the ocean floor. You know that magma rises at the mid-ocean ridge and flows away from the ridge. In general, this activity is hidden beneath the ocean's water. But there is a place where seafloor spreading can be seen on land.

Figure 1

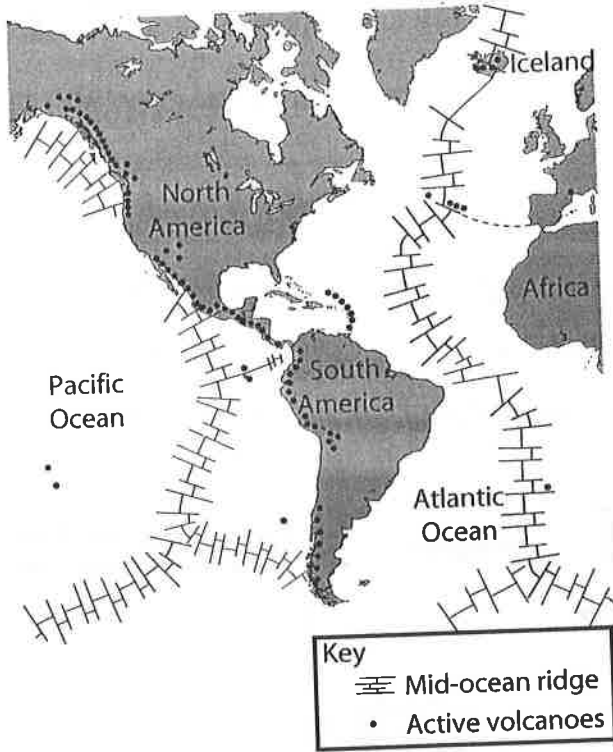
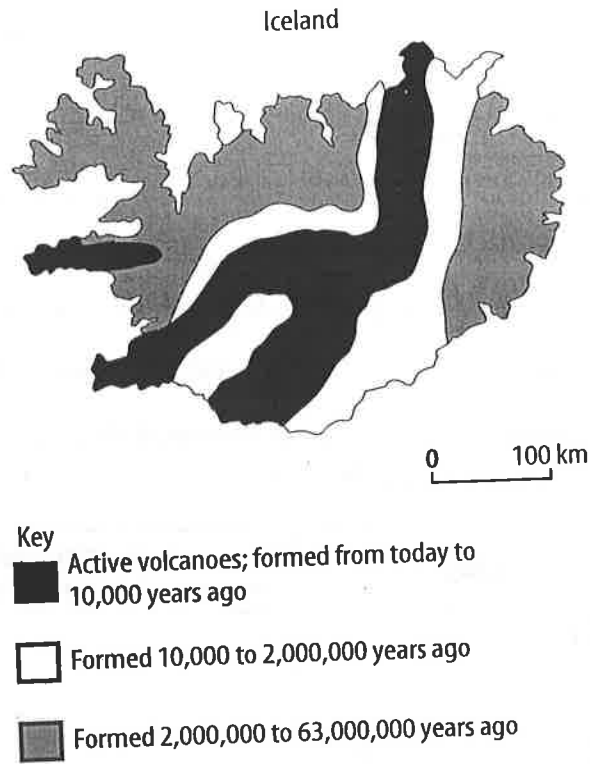


Figure 2



Meeting Individual Needs

1. What is the name of the landmass through which the mid-ocean ridge in the Atlantic Ocean passes?

2. How do the land structures of Iceland help confirm seafloor spreading?

3. Why do you think geologists might find Iceland a useful place to conduct research on seafloor spreading?

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SECTION
3
Reinforcement
Theory of Plate Tectonics

Directions: Use the following words to fill in the blanks below.

asthenosphere

lithosphere

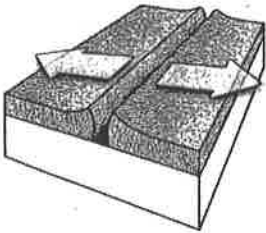
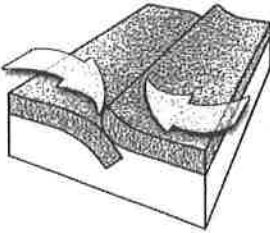
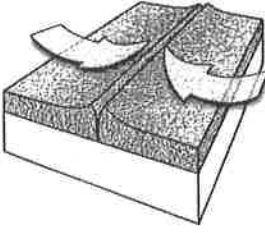
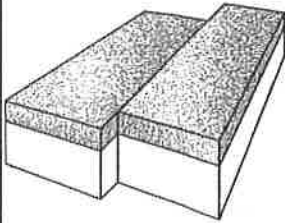
plate tectonics

convection

plates

1. The theory of _____ states that Earth's crust and upper mantle are broken into sections.
2. These sections, called _____, are composed of the crust and a part of the upper mantle.
3. The crust and upper mantle together are called the _____.
4. Beneath this layer is the plasticlike _____.
5. Scientists suggest that differences in density cause hot, plasticlike rock to be forced upward toward the surface, cool, and sink. This cycle is called a _____ current.

Directions: Four diagrams are shown in the table below. Label and describe each diagram in the space provided in order to complete the table.

Diagram	Type of boundary and motion at boundary	Diagram	Type of boundary and motion at boundary
6. 		8. 	
7. 		9. 	

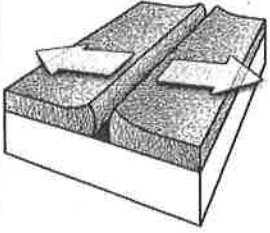
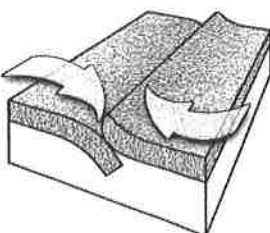
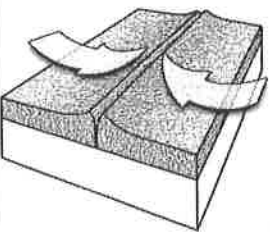
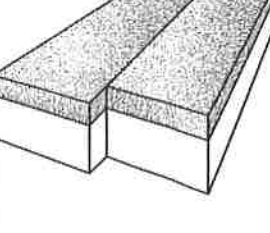
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lithosphere
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convection
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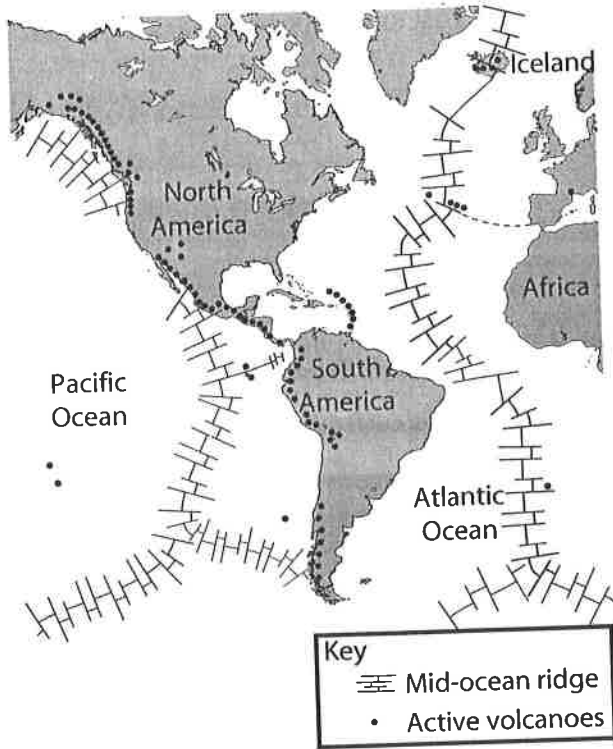
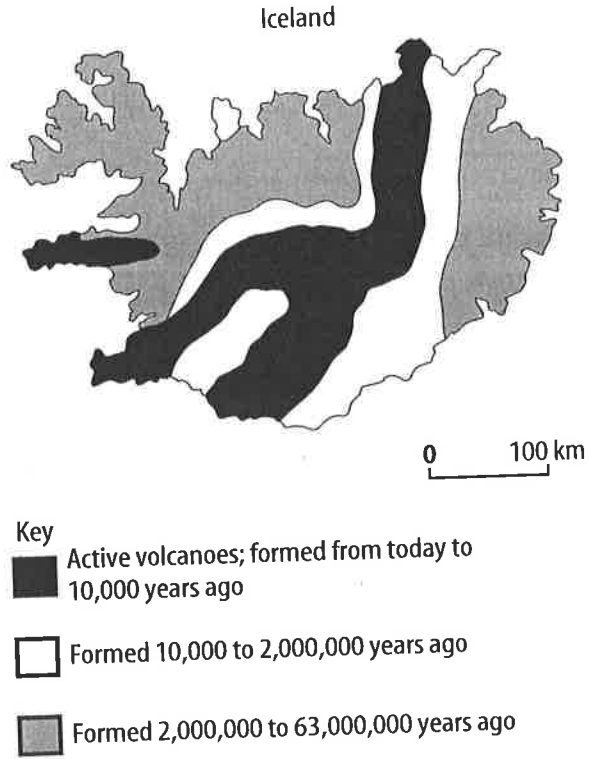


Figure 2



Meeting Individual Needs

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★ Chapter Skills Activity 6

Reading a Military Map

A military map shows where battles occurred. Symbols show troop movements, victories, and defeats. A military map may also show important geographic features that influence military strategy.

DIRECTIONS: Use the map to answer these questions.

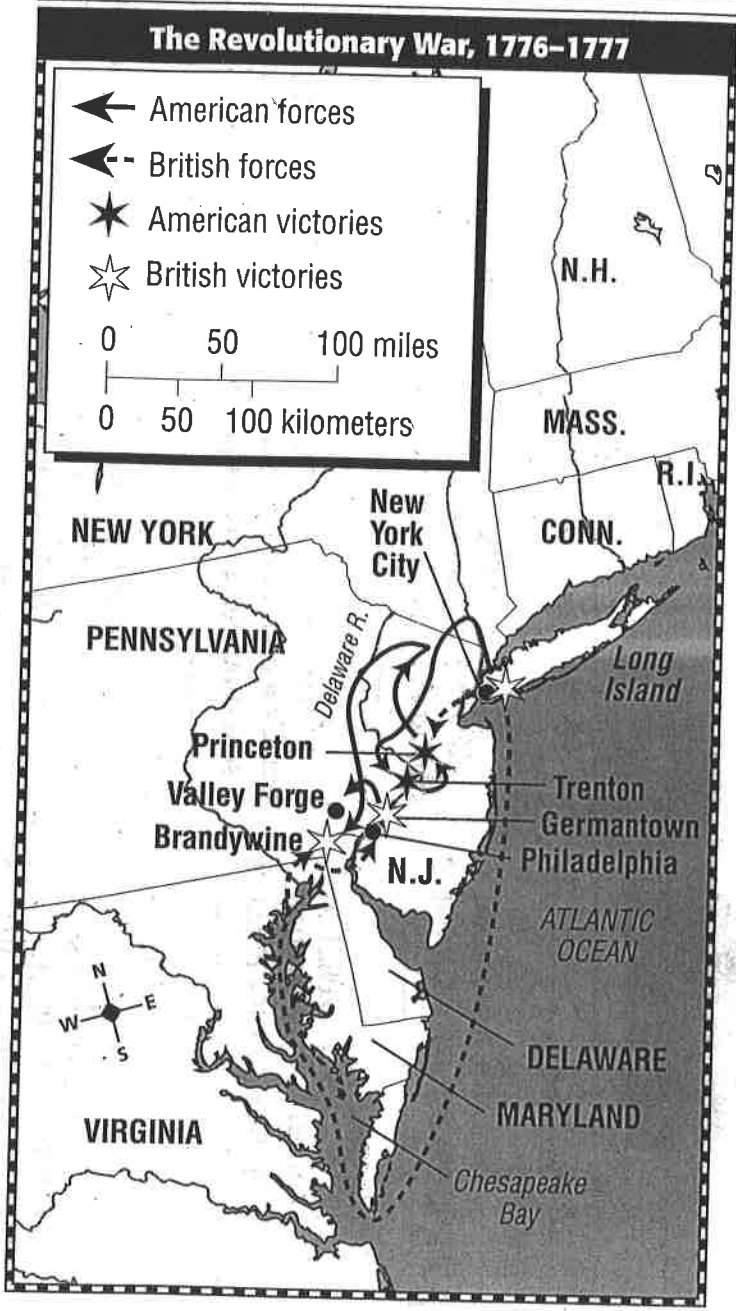
1. In which three states did most of the fighting in 1776-1777 take place?

2. What symbol is used to indicate American troop movements?

3. From what direction did the British troops march on Philadelphia?

4. Which side won victories at Trenton and Princeton?

5. From looking at the map, which side do you think had a larger navy? How can you tell?



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Activity

DIRECTIONS: You are a Revolutionary War soldier, either on the British or the American side. On a separate sheet of paper, write several diary entries as a soldier might have written them. Use the map to identify places and troop movements for each diary entry.

