**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_I can explain the relationship between two or more**

 **scientific concepts/ideas using specific information given in a**

 **text.**

**Read this selection. Then answer the question below.** [D](http://ritter.tea.state.tx.us/student.assessment/resources/online/2003/grade5/read/zoo.txt)

**Melting Away**

Temperatures are rising worldwide. That's causing weather to change. It is also affecting wildlife. Glacier National Park in Montana is a place of beauty. It has towering cliffs, jagged ridges, and deep valleys. All these features were made by ice. That's right: Ice carved the rocks. Of course, small pieces of ice could not do all that. But giant ice sheets could and did. Ice still covers some parts of the park.

ICE AT WORK

Ice sheets form when more snow falls in winter than can melt in summer. Year after year, the snow piles up. Huge mounds cover the land. The bottom layers of snow slowly turn into ice.

When the ice grows heavy enough, it starts to move downhill. That's when a sheet of ice becomes a glacier. People often describe glaciers as "rivers of ice." Some glaciers were once more than a mile thick. Only the highest mountains poked through the giant ice sheets.

This has been happening at Glacier National Park for millions of years. Glaciers have slowly moved across the land, changing the landscape. They plowed away the soil. They ground down mountains. They carved out valleys. Glaciers don't last forever, though. If the weather heats up, they melt. That happened at Glacier National Park about ten thousand years ago. And it is happening again today.

I'M MELTING

Today, 26 glaciers cover parts of the park. Those glaciers are still changing the land.

The park's glaciers, however, are in danger of melting away. Take Grinnell Glacier, for instance. It's the most famous one in the park. In 1910, Grinnell Glacier covered almost 440 acres. By 1931, it had shrunk to 290 acres. In 1998, only 180 acres remained. Water from the glacier has formed a new lake in the park. At this rate, the once mighty Grinnell Glacier could soon vanish completely. So could the park's 25 other glaciers.

TURNING UP THE HEAT

Why is Grinnell Glacier wasting away? It's simple: The park is getting warmer. Since 1910, the average summer temperature there has risen more than three degrees Fahrenheit (F).

The park isn't the only place that's warming up. Most scientists agree that the rest of Earth is slowly warming up too. The rising surface temperature is called global warming. Since 1850, Earth has warmed by about one degree F. Some places, such as Glacier National Park, have warmed up more. Some have warmed up less.

WORLDWIDE WARMING

One degree may seem small. But it is causing big changes worldwide. In the Antarctic and Arctic, sea ice is melting. The meltdown forms clouds that can make more snowfall than usual. More snow can harm wildlife. Penguins in Antarctica are having a hard time finding a place to lay eggs. They normally lay eggs on dry ground in the spring. But more snow is falling today. The penguins have to lay their eggs in the snow. When the snow melts, the water rots many of the eggs. That's causing the number of penguins to drop.

TROUBLE IN THE TROPICS

Earth's warmer areas are also affected. Tiny animals called coral polyps build huge reefs in warm ocean water. Reefs come in many different colors. Fish dart around the reefs. Lots of other creatures call coral reefs home. But many coral reefs are in trouble. Because of global warming, ocean water is heating up. If the water near a reef gets too warm, the polyps die. Then the once colorful reef turns white. When a reef dies, fish and other creatures have to find new homes, or they die too.

WHAT'S GOING ON?

No one is sure what is causing the worldwide warm-up. Most scientists blame some gases in Earth's atmosphere. They point to one gas in particular—carbon dioxide. That gas keeps our planet warm by trapping heat from the sun. If there isn't enough of the gas, temperatures go down. If too much of the gas builds up, temperatures rise. Many things make carbon dioxide. For example, erupting volcanoes make it. Cars, trucks, factories, and power plants also make it. All these things combined may be causing the gas to build up in Earth's atmosphere. Some scientists blame the sun. They say its temperature can change. Right now, it is warming. This also happened 1,000 to 500 years ago. Then the sun cooled. Now the sun and Earth are warming again.

THE MELTDOWN

If the warming continues, glaciers in Glacier National Park will continue to melt. Of course, the park will still be there. Only the glaciers will be gone. The melting glaciers could push wildlife out of the area. Grizzly bears are one example. They often move into the park's meadows to eat berries and other favorite snack foods. Huge avalanches make the meadows. An avalanche happens when lots of snow suddenly crashes down a mountainside. The crashing snow tears down trees, giving berry bushes a place to grow. Without avalanches, there will be fewer berries. That means fewer bears. And bears are just one of the many animals affected by global warming. The warming trend could affect many plants and animals because it is happening very fast. Some plants and animals might have to find new homes. Others might die out, or become extinct. To survive, they will all have to find ways to beat the heat.

*Article by Glen Phelan. Online Extra and Links by Brian LaFleur. "Melting Away" appears on pages 4-9 of our January-February 2005 issue.*

 **EXTENDED-RESPONSE QUESTION**

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| The scientific ideas in the text *Melting Away* are connected. Use the relationships within this informational text to answer the question below. |
|  |  |
| A. Describe the effects of global warming on colder AND warmer areas of Earth.B. Explain a result that might occur if the global warming trend continues to melt glaciers in Glacier National Park. Use information from the passage to support your answer. |
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