Name: _____ Date: _____

Squeezed Snow: How a Glacier Is Born

Circle group

A glacier begins with a snowflake. In very cold places, some snow does not melt in summer. The next winter, more snow falls on top. Year after year, the layers pile up.

The weight of the top snow squeezes the snow below. Fluffy flakes turn into small, hard grains. The air between them is pushed out. After many years, the grains pack into solid ice. When the ice grows thick enough, a glacier is born.

A glacier looks still, but it moves. Its weight makes the ice flow slowly downhill, like thick syrup. It moves so slowly that you cannot watch it. The ice scrapes up rocks and carries them. Over a long time, a glacier can carve a mountain valley into a wide U shape.

When the glacier reaches warmer land, its front edge melts. The rocks drop in piles. The meltwater runs into streams, rivers, and lakes. So a glacier gives water to the land below.

Questions

1. What must happen to snow for a glacier to begin?

_____

_____

2. What happens to the air between the snow grains?

_____

_____

3. How does a glacier move?

_____

_____

4. How can a glacier change the shape of a valley?

_____

_____

5. Why can you not watch a glacier move?

_____

_____

6. How does a glacier give water to the land below?

_____

_____

Words to know

glacier: a huge, slow mass of ice that moves over land
layers: levels of something piled one above another
grains: tiny, hard bits of something
carve: to cut and shape something slowly
meltwater: water that comes from melting ice or snow

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Squeezed Snow: How a Glacier Is Born

Triangle group

A glacier begins with a snowflake. In very cold places, some of the snow that falls in winter does not melt away in summer. The next winter, more snow lands on top of it. Year after year, the layers pile up.

The weight of the upper snow squeezes the snow below. Fluffy flakes turn into small, hard grains, and the air between them is pushed out. After many years, the grains pack together and become solid ice. When a mass of ice grows thick enough, a glacier has been born.

A glacier may look still, but it moves. Its great weight makes the ice flow slowly downhill, a little like thick syrup. It moves so slowly that you cannot watch it happen. As it creeps along, the ice scrapes up rocks and carries them. Over a long time, a glacier can carve a mountain valley into a wide U shape.

When the glacier reaches warmer land, its front edge melts. The rocks it carried are dropped in piles. The meltwater runs into streams, rivers, and lakes, so a glacier also gives water to the land below.

Questions

1. What must happen to snow for a glacier to begin?

_____

_____

2. What happens to the air between the snow grains?

_____

_____

3. How does a glacier move?

_____

_____

4. How can a glacier change the shape of a valley?

_____

_____

5. Why can you not watch a glacier move?

_____

_____

6. How does a glacier give water to the land below?

_____

_____

Words to know

glacier: a huge, slow mass of ice that moves over land
layers: levels of something piled one above another
grains: tiny, hard bits of something
carve: to cut and shape something slowly
meltwater: water that comes from melting ice or snow

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Squeezed Snow: How a Glacier Is Born

Square group

Every glacier begins with a single snowflake. In extremely cold places, some of the snow that falls during winter fails to melt away in the summer. The following winter, fresh snow settles on top of it, and year after year the layers continue to accumulate.

The weight of the upper snow compresses the snow beneath it. Fluffy flakes are transformed into small, hard grains, and the air trapped between them is forced out. After many years, the grains pack together tightly and become solid ice. Once a mass of ice has grown thick enough, a glacier has been born.

A glacier may appear motionless, but it is in fact moving. Its enormous weight causes the ice to flow gradually downhill, somewhat like thick syrup, though so slowly that no one could watch it happen. As it creeps along, the ice scrapes up rocks and carries them with it. Over a very long time, a glacier can carve a mountain valley into a wide U shape.

When the glacier eventually reaches warmer land, its front edge begins to melt, and the rocks it was carrying are dropped in heaps. The meltwater flows into streams, rivers, and lakes, so a glacier also supplies water to the land below.

Questions

1. What must happen to the snow for a glacier to begin?

_____

_____

2. What happens to the air trapped between the snow grains?

_____

_____

3. How does a glacier move?

_____

_____

4. How can a glacier change the shape of a mountain valley?

_____

_____

5. Why is it impossible to watch a glacier move?

_____

_____

6. How does a glacier supply water to the land below it?

_____

_____

Words to know

glacier: a huge, slow mass of ice that moves over land
layers: levels of something piled one above another
grains: tiny, hard bits of something
carve: to cut and shape something slowly
meltwater: water that comes from melting ice or snow

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

For the teacher: Squeezed Snow: How a Glacier Is Born

Each student sheet carries a shape, not a level. The same topic and facts, written three ways.

Circle: Squeezed Snow: How a Glacier Is Born

Easier · 158 words · Flesch-Kincaid grade 2.8

1. Some snow must last through summer, and new snow must pile on top each winter.
2. It is pushed out as the weight squeezes the snow.
3. Its weight makes the ice flow slowly downhill.
4. It scrapes up and carries rocks, which carve the valley into a wide U shape.
5. It moves very slowly, like thick syrup.
6. Its front edge melts, and the meltwater runs into streams, rivers, and lakes.

Triangle: Squeezed Snow: How a Glacier Is Born

This passage · 186 words · Flesch-Kincaid grade 4.1

1. Some snow must last through summer, and new snow must pile on top each winter.
2. It is pushed out as the weight squeezes the snow.
3. Its great weight makes the ice flow slowly downhill.
4. It scrapes up and carries rocks, which carve the valley into a wide U shape.
5. It moves very slowly, like thick syrup.
6. Its front edge melts, and the meltwater runs into streams, rivers, and lakes.

Square: Squeezed Snow: How a Glacier Is Born

Harder · 206 words · Flesch-Kincaid grade 7.2

1. Some snow must last through the summer, and fresh snow must settle on top each winter.
2. It is forced out as the weight compresses the snow.
3. Its enormous weight causes the ice to flow gradually downhill.
4. It scrapes up and carries rocks, which carve the valley into a wide U shape.
5. It moves very slowly, somewhat like thick syrup.
6. Its front edge melts, and the meltwater flows into streams, rivers, and lakes.