Name: _____ Date: _____

A Pebble's Long Trip Down the Mountain

Circle group

Picture a pebble. It starts as part of a mountain cliff. Its trip shows how rock changes on Earth.

First, water gets into a crack in the cliff. It freezes. The ice pushes the crack open. A chunk of rock breaks free. It tumbles down and lands in a stream.

Next, the stream carries the rock. It bumps into other stones. Its sharp corners wear away. Sand rubs it smooth. By the time it reaches a wide river, it is a round pebble.

Then the river slows near the sea. It drops the pebble with sand and mud. More layers settle on top. Over a long time, the weight presses the bottom layers together. Minerals in the water glue the grains into rock.

That new rock may be lifted up one day. Then wind and rain wear it down again. This change that never ends is called the rock cycle.

Questions

1. How does a chunk of rock break free from the cliff?

_____

_____

2. What wears away the sharp corners in the stream?

_____

_____

3. Where does the river drop the pebble?

_____

_____

4. What helps glue the grains into rock?

_____

_____

5. Why is the pebble round when it reaches the river?

_____

_____

6. Why is the rock cycle called never-ending?

_____

_____

Words to know

tumbles: falls while rolling over and over
settle: to sink down and stay in one place
grains: tiny hard bits, like sand

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: _____

A Pebble's Long Trip Down the Mountain

Triangle group

Picture a pebble that begins its life as part of a mountain cliff. Its story shows how rock moves and changes on Earth.

First, water slips into a crack in the cliff and freezes. The ice pushes the crack open, and a chunk of rock breaks free. It tumbles down the slope and lands in a stream.

Next, the stream carries the rock along. As it bumps against other stones, its sharp corners wear away. Rubbing against sand smooths it more. By the time the stream reaches a wide river, the chunk has become a rounded pebble.

Then the river slows near the sea and drops the pebble with sand and mud. More layers settle on top. Over a very long time, the weight of those layers presses the bottom ones together. Minerals in the water help glue the grains into solid rock.

That new rock may one day be lifted up again, and wind and rain will start to wear it down. This never-ending change is called the rock cycle. A pebble in your hand is only one page of a very long story.

Questions

1. How does a chunk of rock first break free from the cliff?

_____

_____

2. What wears away the sharp corners of the rock in the stream?

_____

_____

3. Where does the river drop the pebble?

_____

_____

4. What helps glue the grains into solid rock?

_____

_____

5. Why is the pebble round when it reaches the river?

_____

_____

6. Why is the rock cycle called never-ending?

_____

_____

Words to know

tumbles: falls while rolling over and over
rounded: smooth and curved, without sharp corners
settle: to sink down and stay in one place
grains: tiny hard bits, like sand

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: _____

A Pebble's Long Trip Down the Mountain

Square group

Picture a pebble that begins its existence as part of a towering mountain cliff. Its long journey illustrates how rock is constantly moved and transformed across the surface of Earth.

First, water slips into a narrow crack in the cliff and freezes. The expanding ice pries the crack open, and a chunk of rock breaks free. It tumbles down the steep slope and lands in a rushing stream.

Next, the stream carries the rock along its course. As it collides with other stones, its sharp corners gradually wear away, and rubbing against sand polishes it even further. By the time the stream joins a wide river, the jagged chunk has become a smooth, rounded pebble.

Then the river slows as it nears the sea and deposits the pebble together with sand and mud. Additional layers settle on top, and over an enormous stretch of time, their weight presses the lower layers firmly together. Minerals dissolved in the water help cement the grains into solid rock.

That brand-new rock may someday be lifted up again, and wind and rain will begin to wear it down. This endless cycle of change is known as the rock cycle. A pebble in your hand is only one page of a very long story.

Questions

1. How does a chunk of rock initially break free from the cliff?

_____

_____

2. What wears away the sharp corners of the rock in the stream?

_____

_____

3. Where does the river deposit the pebble?

_____

_____

4. What helps cement the grains into solid rock?

_____

_____

5. Why is the pebble smooth and rounded by the time it reaches the river?

_____

_____

6. Why is the rock cycle described as endless?

_____

_____

Words to know

tumbles: falls while rolling over and over
rounded: smooth and curved, without sharp corners
settle: to sink down and stay in one place
grains: tiny hard bits, like sand

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: A Pebble's Long Trip Down the Mountain

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

Circle: A Pebble's Long Trip Down the Mountain

Easier · 150 words · Flesch-Kincaid grade 1.7

1. Water freezes in a crack and the ice pushes it open.
2. Bumping into other stones and rubbing against sand.
3. Near the sea, with sand and mud.
4. Minerals in the water.
5. The stream wore its corners away.
6. New rock can be lifted and worn down again, so it keeps repeating.

Triangle: A Pebble's Long Trip Down the Mountain

This passage · 186 words · Flesch-Kincaid grade 3.8

1. Water freezes in a crack and the ice pushes it open.
2. Bumping against other stones and rubbing against sand.
3. Near the sea, along with sand and mud.
4. Minerals in the water.
5. The stream wore its corners away as it was carried along.
6. New rock can be lifted up and worn down again, so the changes keep repeating.

Square: A Pebble's Long Trip Down the Mountain

Harder · 210 words · Flesch-Kincaid grade 6.6

1. Water freezes in a narrow crack and the expanding ice pries it open.
2. Colliding with other stones and rubbing against sand.
3. Near the sea, together with sand and mud.
4. Minerals dissolved in the water.
5. The stream gradually wore its sharp corners away as it carried the rock along.
6. New rock can be lifted up and worn down again, so the changes keep repeating.