Name: _____ Date: _____

The Dry Side of the Mountain

Circle group

Some mountains have a wet side and a dry side. On the wet side, forests are green and thick. On the dry side, few plants grow. This is called a rain shadow.

It starts with wind. Wind from the ocean brings a lot of water vapor. The wind hits a mountain and goes up the slope. Air gets cooler as it goes up. Cool air holds less water, so the vapor turns into drops. The drops make clouds. Then rain or snow falls on the side that faces the wind.

The air goes over the top with very little water left. It sinks down the other side and gets warm. Warm air can hold water again, so no rain falls. That side stays dry.

Deserts often sit in the rain shadow of tall mountains. Farmers there must plan for water.

Questions

1. What is the dry area behind a mountain called?

_____

_____

2. What happens to air as it goes up a mountain slope?

_____

_____

3. Why does rain fall on the side facing the wind?

_____

_____

4. Why does no rain fall on the far side of the mountain?

_____

_____

5. Where does the wet air come from?

_____

_____

6. Why must farmers on the dry side plan for water?

_____

_____

Words to know

vapor: water in the form of a gas in the air
slope: the slanted side of a hill or mountain
shadow: a dark area where light or rain does not reach

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: _____

The Dry Side of the Mountain

Triangle group

Some mountains split the land into two very different worlds. On one side, forests are thick and green. On the other side, the ground is dry and the plants are few. The mountains cause this difference, and the effect is called a rain shadow.

It starts with wind. Wind blowing off the ocean carries a lot of water vapor. When this moist air reaches a mountain, it cannot go through, so it is pushed up the slope. As air rises, it cools. Cool air cannot hold as much water vapor as warm air, so the vapor turns into tiny drops. The drops form clouds, and rain or snow falls on the side that faces the wind.

By the time the air crosses the top, most of its water is gone. The air then slides down the other side. As it sinks, it warms up and can hold water again, so clouds melt away instead of making rain. The land on that side stays dry.

Deserts and grasslands often sit in the rain shadow of tall mountain ranges. Farmers there must plan carefully for water, while the wet side can grow forests.

Questions

1. What is the name for the dry area behind a mountain?

_____

_____

2. What happens to air as it is pushed up a mountain slope?

_____

_____

3. Why does rain or snow fall on the side facing the wind?

_____

_____

4. Why do clouds melt away on the far side of the mountain?

_____

_____

5. Where does the moist air in this passage come from?

_____

_____

6. Why might farmers on the dry side need to plan carefully?

_____

_____

Words to know

vapor: water in the form of a gas in the air
slope: the slanted side of a hill or mountain
moist: a little bit wet
range: a long row of mountains
shadow: a dark area where light or rain does not reach

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: _____

The Dry Side of the Mountain

Square group

Certain mountain ranges divide the landscape into two strikingly different worlds. On one side, dense forests cover the hills in green. On the opposite side, the ground is parched and only a scattering of hardy plants survives. The mountains themselves are responsible for this contrast, and the effect is known as a rain shadow.

The process begins with wind. Air blowing in from the ocean carries a great deal of water vapor. When this moist air meets a mountain, it cannot pass straight through, so it is forced to climb the slope. As air rises, it cools, and cool air cannot hold as much water vapor as warm air can. The vapor condenses into tiny drops, which gather into clouds, and rain or snow falls on the side that faces the wind.

By the time the air crosses the summit, most of its moisture has been lost. It then descends the far side, and as it sinks, it warms and becomes able to hold water again, so clouds dissolve instead of producing rain. The land on that side remains dry.

Deserts and grasslands frequently lie in the rain shadow of tall mountain ranges. Farmers there must plan carefully for every drop of water, while the wet side can support forests.

Questions

1. What is the name for the dry region that lies behind a mountain range?

_____

_____

2. What happens to air as it is forced up a mountain slope?

_____

_____

3. Why do rain or snow fall on the side that faces the wind?

_____

_____

4. Why do clouds dissolve on the far side of the mountain?

_____

_____

5. What is the source of the moist air in this passage?

_____

_____

6. Why would farmers on the dry side need to plan carefully?

_____

_____

Words to know

vapor: water in the form of a gas in the air
slope: the slanted side of a hill or mountain
moist: a little bit wet
range: a long row of mountains
shadow: a dark area where light or rain does not reach

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: The Dry Side of the Mountain

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

Circle: The Dry Side of the Mountain

Easier · 140 words · Flesch-Kincaid grade 1.5

1. A rain shadow.
2. It gets cooler.
3. Cool air makes the vapor turn into drops and clouds.
4. The air sinks and gets warm, so it can hold water again.
5. The ocean.
6. Little rain falls there.

Triangle: The Dry Side of the Mountain

This passage · 191 words · Flesch-Kincaid grade 3.9

1. A rain shadow.
2. It cools.
3. The rising air cools, and its water vapor turns into drops and clouds.
4. The air sinks and warms, so it can hold water again.
5. The ocean.
6. Little rain falls there, so water is hard to find.

Square: The Dry Side of the Mountain

Harder · 210 words · Flesch-Kincaid grade 6.4

1. A rain shadow.
2. It cools.
3. As the rising air cools, its water vapor condenses into drops and clouds.
4. The sinking air warms and can hold water again.
5. The ocean.
6. Little rain falls there, so water is scarce.