Name: _____ Date: _____

How a Volcano Erupts

Circle group

Deep in the Earth, it is hot enough to melt rock. Melted rock under the ground is called magma. Magma is lighter than the solid rock around it. So it slowly rises up.

Magma collects in a big pocket under a volcano. Gases are mixed in the magma. As magma and gas build up, the push inside grows, like in a shaken bottle of soda.

When the push is too strong, magma comes up through a crack called a vent. This is an eruption. Once magma gets to the top, it is called lava.

Some eruptions are gentle. Thin, runny lava flows down the side of the volcano like a slow river. Other eruptions blow up. Thick magma traps gas. It blasts out in a cloud of ash, gas, and bits of rock.

Lava cools and gets hard. It turns into new rock. Eruptions that happen again and again can pile up rock. They make a cone-shaped mountain. The islands of Hawaii were built this way, one eruption at a time.

Questions

1. What is magma?

_____

_____

2. What is lava?

_____

_____

3. Why does magma rise up?

_____

_____

4. What is a vent?

_____

_____

5. How is a gentle eruption not like one that blows up?

_____

_____

6. Why does the passage say a volcano is like a shaken bottle of soda?

_____

_____

7. How can a volcano make a mountain?

_____

_____

Words to know

magma: melted rock under the ground
lava: melted rock that has come out onto the surface
vent: an opening that magma and gas pass through
eruption: when a volcano pushes out lava, ash, and gas
ash: tiny bits of rock and glass thrown out by a volcano

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: _____

How a Volcano Erupts

Triangle group

Deep inside the Earth, it is hot enough to melt rock. Melted rock under the ground is called magma. Magma is lighter than the solid rock around it, so it slowly rises toward the surface.

Magma collects in a large pocket under a volcano. Gases are mixed into the magma. As more magma gathers and the gases build up, the pressure grows, much as it does inside a shaken bottle of soda.

When the pressure is too great, the magma pushes up through a crack called a vent. This is an eruption. Once magma reaches the surface, it is called lava.

Some eruptions are gentle. Thin, runny lava flows down the side of the volcano like a slow river. Other eruptions are explosive. Thick magma traps gas, and then it blasts out in a cloud of ash, gas, and pieces of rock.

When lava cools, it hardens into new rock. Eruptions that happen again and again can pile up rock into a cone-shaped mountain. The islands of Hawaii were built this way, one eruption at a time.

Questions

1. What is magma?

_____

_____

2. What is lava?

_____

_____

3. Why does magma rise toward the surface?

_____

_____

4. What is a vent?

_____

_____

5. How is a gentle eruption different from an explosive one?

_____

_____

6. Why does the author compare a volcano to a shaken bottle of soda?

_____

_____

7. How can a volcano build a mountain?

_____

_____

Words to know

magma: melted rock under the ground
lava: melted rock that has come out onto the surface
vent: an opening that magma and gas pass through
eruption: when a volcano pushes out lava, ash, and gas
pressure: a strong force pushing on something
ash: tiny bits of rock and glass thrown out by a volcano

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: _____

How a Volcano Erupts

Square group

Far beneath the Earth's surface, temperatures are high enough to melt solid rock. This molten rock underground is called magma. Because magma is less dense than the solid rock surrounding it, it gradually rises toward the surface.

Magma accumulates in a large chamber beneath a volcano. Gases are dissolved in the magma, and as additional magma gathers and the gases build up, the pressure steadily increases, much as it does inside a shaken bottle of soda.

When the pressure becomes too great, the magma forces its way upward through an opening called a vent. This event is known as an eruption. Once magma reaches the surface, scientists refer to it as lava.

Certain eruptions are relatively gentle. Thin, runny lava flows down the side of the volcano like a sluggish river. Other eruptions, however, are violently explosive. Thick magma traps gas, and eventually it blasts out in a billowing cloud of ash, gas, and fragments of rock.

As lava cools, it hardens into new rock. Over time, repeated eruptions can pile up layers of rock into a cone-shaped mountain. The islands of Hawaii were constructed in exactly this manner, one eruption at a time.

Questions

1. What is magma?

_____

_____

2. What is lava?

_____

_____

3. What causes magma to rise toward the surface?

_____

_____

4. What is a vent?

_____

_____

5. Contrast a gentle eruption with an explosive one.

_____

_____

6. Why does the author compare a volcano to a shaken bottle of soda?

_____

_____

7. Explain how a volcano can gradually construct a mountain.

_____

_____

Words to know

magma: melted rock under the ground
lava: melted rock that has come out onto the surface
vent: an opening that magma and gas pass through
eruption: when a volcano pushes out lava, ash, and gas
pressure: a strong force pushing on something
ash: tiny bits of rock and glass thrown out by a volcano

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: How a Volcano Erupts

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

Circle: How a Volcano Erupts

Easier · 172 words · Flesch-Kincaid grade 3.2

1. Melted rock under the ground.
2. Magma that has got to the top of the ground.
3. It is lighter than the solid rock around it.
4. A crack the magma comes up through in an eruption.
5. In a gentle one, thin, runny lava flows down the volcano. In one that blows up, thick magma traps gas and blasts out ash, gas, and bits of rock.
6. In both, gas builds up and the push grows until it comes out.
7. Lava cools and gets hard. Eruptions again and again pile up the rock.

Triangle: How a Volcano Erupts

This passage · 178 words · Flesch-Kincaid grade 5.1

1. Melted rock under the ground.
2. Magma that has reached the Earth's surface.
3. It is lighter than the solid rock around it.
4. A crack that magma pushes up through during an eruption.
5. In a gentle eruption, thin, runny lava flows down the volcano. In an explosive eruption, thick magma traps gas and blasts out ash, gas, and pieces of rock.
6. In both, gas builds up and the pressure grows until it pushes its way out.
7. Lava cools and hardens into new rock, and eruptions that happen again and again pile up the rock.

Square: How a Volcano Erupts

Harder · 195 words · Flesch-Kincaid grade 8.4

1. Molten rock beneath the Earth's surface.
2. Magma that has reached the Earth's surface.
3. It is less dense than the solid rock surrounding it.
4. An opening that magma forces its way up through during an eruption.
5. In a gentle eruption, thin, runny lava flows down the volcano. In an explosive eruption, thick magma traps gas and blasts out ash, gas, and fragments of rock.
6. In both, gas builds up and pressure increases until it forces its way out.
7. Lava cools and hardens into new rock, and repeated eruptions pile up the layers.