Name: _____ Date: _____

Why Your Ears Pop on a Mountain Road

Circle group

A car climbs a steep mountain road. Pop! Your ears click, and sounds get clear again. What happened?

Behind each eardrum is a small space full of air. A thin tube joins that space to the back of your throat. The tube is mostly shut. It opens a tiny bit now and then.

Air pressure is how hard the air pushes. It changes when you go up a mountain or fly in a plane. Your eardrum feels it and bends out. Your ears feel full.

You can swallow, yawn, or chew gum. This opens the tube for a moment. Air flows through. The pressure becomes equal on both sides. That is the pop! Then your ears feel fine.

Questions

1. What joins the space behind the eardrum to the back of the throat?

_____

_____

2. When does air pressure change?

_____

_____

3. What does the eardrum do when the pressure changes?

_____

_____

4. What is one thing you can do to make your ears pop?

_____

_____

5. What do you hear when air flows through the tube?

_____

_____

6. Why does chewing gum help on a plane?

_____

_____

Words to know

eardrum: a thin skin inside the ear that shakes when sound reaches it
tube: a long, narrow, hollow pipe
pressure: the push of air or water against something
equal: the same on both sides

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: _____

Why Your Ears Pop on a Mountain Road

Triangle group

Imagine a car climbing a steep mountain road. Suddenly, pop! Your ears make a small click, and sounds seem clear again. What just happened?

Behind each eardrum is a little space filled with air. A thin tube links that space to the back of your throat. The tube is usually shut, but it opens a tiny bit now and then.

The air pressure outside your body changes when you go up a mountain or ride in a plane. Air pressure is how hard the air pushes. Your eardrum feels the difference. It bends outward, and your ears may feel full or a bit muffled.

To fix this, you can swallow, yawn, or chew gum. These actions open the tube for a moment. Air flows through, and the pressure on both sides of the eardrum becomes equal. That is the pop you hear. Then your eardrum relaxes, and your ears feel normal again.

Questions

1. What links the space behind the eardrum to the back of the throat?

_____

_____

2. When does the air pressure outside your body change?

_____

_____

3. What does the eardrum do when the air pressure changes?

_____

_____

4. What is one thing you can do to make your ears pop?

_____

_____

5. What do you hear when air flows through the tube?

_____

_____

6. Why might chewing gum help on a plane ride?

_____

_____

Words to know

eardrum: a thin skin inside the ear that shakes when sound reaches it
tube: a long, narrow, hollow pipe
pressure: the push of air or water against something
muffled: sounding soft and hard to hear clearly
equal: the same on both sides

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: _____

Why Your Ears Pop on a Mountain Road

Square group

Imagine riding in a car as it winds up a steep mountain road. All at once, pop! Your ears make a small click, and the sounds around you become clear again. What exactly just happened?

Behind each of your eardrums is a small space filled with air. A narrow tube connects that space to the back of your throat. The tube usually stays closed, but it opens slightly every now and then.

The air pressure outside your body, which is how hard the air pushes, changes when you climb a mountain or travel in an airplane. Your eardrum feels the difference and bends outward, so your ears may seem full or a little muffled.

You can solve this problem by swallowing, yawning, or chewing gum. Those actions open the tube for a moment, and air rushes through until the pressure on both sides of the eardrum is equal. That rush of air is the pop you hear. Afterward, your eardrum relaxes, and your hearing returns to normal.

Questions

1. What connects the space behind the eardrum to the back of the throat?

_____

_____

2. When does the air pressure outside your body change?

_____

_____

3. What does the eardrum do when the air pressure changes?

_____

_____

4. What is one action that can make your ears pop?

_____

_____

5. What causes the pop you hear?

_____

_____

6. Why might chewing gum help during an airplane flight?

_____

_____

Words to know

eardrum: a thin skin inside the ear that shakes when sound reaches it
tube: a long, narrow, hollow pipe
pressure: the push of air or water against something
muffled: sounding soft and hard to hear clearly
equal: the same on both sides

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: Why Your Ears Pop on a Mountain Road

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

Circle: Why Your Ears Pop on a Mountain Road

Easier · 118 words · Flesch-Kincaid grade 0.8

1. A thin tube.
2. When you go up a mountain or fly in a plane.
3. It bends out.
4. Swallow, yawn, or chew gum.
5. A pop or click.
6. Chewing makes you swallow, which opens the tube.

Triangle: Why Your Ears Pop on a Mountain Road

This passage · 152 words · Flesch-Kincaid grade 3.1

1. A thin tube.
2. When you go up a mountain or ride in a plane.
3. It bends outward.
4. Swallow, yawn, or chew gum.
5. A pop or click.
6. Chewing makes you swallow, which opens the tube so the pressure can even out.

Square: Why Your Ears Pop on a Mountain Road

Harder · 167 words · Flesch-Kincaid grade 5.2

1. A narrow tube.
2. When you climb a mountain or travel in an airplane.
3. It bends outward.
4. Swallowing, yawning, or chewing gum.
5. Air rushing through the tube until the pressure is equal.
6. Chewing makes you swallow, which opens the tube so the pressure can even out.