Name: _____ Date: _____

Brain Freeze: The Ice Cream Headache

Circle group

It is a hot day. You eat a big bite of ice cream, and fast. Then it hits you. Your forehead hurts! Many people call this brain freeze. But your brain is not freezing. The cold touches your mouth.

The top of your mouth has nerves and blood vessels. When ice touches it, the blood vessels shrink. Then they open wide again. This change seems to wake up the nerves close by. The nerves send a message to your brain. Your brain gets mixed up. It thinks the pain started in your forehead.

The ache is harmless. It goes away fast. You can help it. Press your tongue to the top of your mouth. That warms the spot. A sip of water that is not cold helps too.

The best plan is to take small bites. Let each bite sit in your mouth for a moment. Then you can eat the whole cone with no ache.

Questions

1. What do many people call the ache from a big bite of ice cream?

_____

_____

2. Where does the cold touch your body?

_____

_____

3. What do the blood vessels do when ice touches them?

_____

_____

4. Why does the pain seem to start in your forehead?

_____

_____

5. How does pressing your tongue to the top of your mouth help?

_____

_____

6. Why do small bites help you avoid the ache?

_____

_____

Words to know

nerves: thin pathways that carry messages to the brain
vessels: the tiny tubes that carry blood around the body
harmless: not able to cause real damage

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: _____

Brain Freeze: The Ice Cream Headache

Triangle group

Picture a hot day and a big bowl of ice cream. You take a huge bite and swallow it fast, and then a sharp ache bursts across your forehead. Many people call this feeling brain freeze, but your brain is not freezing at all, because the trouble actually starts in your mouth.

The top of your mouth is full of nerves and blood vessels. When something icy touches that spot, the blood vessels there shrink to hold in heat, and a moment later they open wide again. This quick change seems to set off nearby nerves, and those nerves carry a message to the brain, which gets mixed up about where the pain began. It feels as if the ache comes from your forehead, even though the cold touched your mouth.

The ache is harmless, and it usually fades fast. You can help it along. Press your tongue flat against the top of your mouth so it warms that spot. A small sip of water that is not cold can also help.

The best plan is to avoid the problem in the first place. Take small bites of frozen treats and let each one rest in your mouth for a moment. Then you can finish the whole cone without any ache at all.

Questions

1. What do many people call the ache that follows a huge bite of ice cream?

_____

_____

2. Where does the cold really touch your body to start the trouble?

_____

_____

3. What do the blood vessels do when something icy touches them?

_____

_____

4. Why does the pain seem to come from your forehead?

_____

_____

5. How does pressing your tongue against the top of your mouth help?

_____

_____

6. Why do small bites of a frozen treat help you avoid the ache?

_____

_____

Words to know

nerves: thin pathways that carry messages to the brain
vessels: the tiny tubes that carry blood around the body
harmless: not able to cause real damage
frozen: made hard by being very, very cold
avoid: to stay away from something

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: _____

Brain Freeze: The Ice Cream Headache

Square group

Imagine a sweltering afternoon and an enormous bowl of ice cream. You take a giant bite, swallow it quickly, and suddenly a sharp ache bursts across your forehead. People commonly call this sensation brain freeze, although your brain is not freezing at all. The real trouble begins inside your mouth.

The roof of your mouth is crowded with nerves and blood vessels. When something icy presses against that spot, the blood vessels there shrink in order to conserve heat, and a moment later they open wide again. Scientists believe this rapid change sets off nearby nerves. Those nerves relay a message to the brain, and the brain becomes confused about where the pain originated. It feels as if the ache comes from your forehead, even though the cold only touched your mouth.

Fortunately, the ache is harmless, and it usually fades within a short time. You can speed things along by pressing your tongue flat against the roof of your mouth, which warms the chilled area. Taking a small sip of water that is not cold can also bring relief.

The wisest strategy, however, is to prevent the problem altogether. Take small bites of frozen treats, and allow each one to rest in your mouth for a moment before you swallow. That way you can finish the entire cone without any ache at all.

Questions

1. What name do people commonly give to the ache that follows a giant bite of ice cream?

_____

_____

2. Where does the cold actually touch your body to start the trouble?

_____

_____

3. What do the blood vessels do when something icy presses against them?

_____

_____

4. Why does the pain feel as if it comes from your forehead?

_____

_____

5. How does pressing your tongue flat against the roof of your mouth bring relief?

_____

_____

6. Why is taking small bites of frozen treats the wisest strategy?

_____

_____

Words to know

nerves: thin pathways that carry messages to the brain
vessels: the tiny tubes that carry blood around the body
harmless: not able to cause real damage
frozen: made hard by being very, very cold

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: Brain Freeze: The Ice Cream Headache

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

Circle: Brain Freeze: The Ice Cream Headache

Easier · 156 words · Flesch-Kincaid grade 0.5

1. Brain freeze.
2. The top of the mouth.
3. They shrink and then open wide again.
4. The brain gets mixed up about where the pain began.
5. It warms that spot.
6. Less cold touches your mouth at once, and each bite has time to warm up.

Triangle: Brain Freeze: The Ice Cream Headache

This passage · 213 words · Flesch-Kincaid grade 4.8

1. Brain freeze.
2. The top of the mouth.
3. They shrink to hold in heat and then open wide again.
4. The brain gets mixed up about where the pain began.
5. It warms that spot.
6. Less cold touches your mouth at once, and each bite has time to warm up.

Square: Brain Freeze: The Ice Cream Headache

Harder · 224 words · Flesch-Kincaid grade 6.9

1. Brain freeze.
2. The roof of the mouth.
3. They shrink to conserve heat and then open wide again a moment later.
4. The brain is confused about where the pain originated.
5. It warms the chilled area.
6. Less cold touches the mouth at once, and each bite has time to warm before you swallow.