Name: _____ Date: _____

Why the Metal Gate Feels Colder Than the Fence

Circle group

It was a chilly morning. Mina touched the metal gate at the park. It felt very cold. Then she touched the wood fence. The wood felt warmer. Why?

The gate and the fence were the same temperature. They sat in the same cool air all night. The difference is how they move heat.

Heat goes from a warm thing to a cooler thing. Your hand is warm. So heat goes out of your hand when you touch something cooler. Metal carries heat away fast. Your skin feels cold.

Wood carries heat away slowly. Your hand stays warm. The wood feels less cold.

So the cold feeling is about how fast heat leaves your hand. A metal spoon in hot soup gets hot fast for this reason.

Questions

1. Which felt colder to Mina, the gate or the fence?

_____

_____

2. Were the gate and the fence the same temperature?

_____

_____

3. Which way does heat go?

_____

_____

4. What does metal do to the heat in your hand?

_____

_____

5. Why does wood feel less cold than metal?

_____

_____

6. What happens to a metal spoon in hot soup?

_____

_____

Words to know

chilly: cool enough to make you shiver
temperature: how hot or cold something is
metal: a hard, shiny material such as iron or steel

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 the Metal Gate Feels Colder Than the Fence

Triangle group

On a chilly morning, Mina touched the metal gate at the park. It felt very cold. Then she touched the wooden fence beside it. The wood felt much warmer. Mina wondered why.

The gate and the fence were really the same temperature. They had both sat in the same cool air all night. The difference is in how they move heat.

Heat always flows from a warm thing to a cooler thing. Your hand is warm, so heat flows out of it when you touch something cooler. Metal is very good at carrying heat away. It pulls heat out of your hand fast, so your skin senses cold.

Wood is a poor carrier of heat. It pulls heat from your hand slowly. Your hand stays warmer, and the wood feels less cold.

So the cold feeling is not just about the gate. It is about how quickly heat leaves your hand. That is also why a metal spoon in hot soup gets hot so fast.

Questions

1. Which felt colder to Mina, the gate or the fence?

_____

_____

2. Were the gate and the fence really the same temperature?

_____

_____

3. Which way does heat flow?

_____

_____

4. What does metal do to the heat in your hand?

_____

_____

5. Why does wood feel less cold than metal?

_____

_____

6. What happens to a metal spoon left in hot soup?

_____

_____

Words to know

chilly: cool enough to make you shiver
temperature: how hot or cold something is
metal: a hard, shiny material such as iron or steel
carrier: something that moves a thing from one place to another
flow: to move along smoothly

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 the Metal Gate Feels Colder Than the Fence

Square group

On a chilly morning at the park, Mina reached out and touched the metal gate. It felt startlingly cold. Next she touched the wooden fence beside it, and the wood felt much warmer. Mina wondered what could explain the difference.

In reality, the gate and the fence were exactly the same temperature, because both had sat in the same cool air throughout the night. The difference lies in the way each material moves heat.

Heat always flows from a warm object toward a cooler one. Since your hand is warm, heat leaves it whenever you touch something cooler. Metal is extremely good at carrying heat away, so it draws the heat out of your hand quickly, and your skin senses cold.

Wood, on the other hand, is a poor carrier of heat. It draws warmth out of your hand only slowly, so your hand stays warmer and the wood feels less cold.

The cold feeling, therefore, depends less on the gate itself than on how quickly heat escapes from your hand. This is also the reason a metal spoon resting in hot soup becomes hot so fast.

Questions

1. Which felt colder to Mina, the gate or the fence?

_____

_____

2. Were the gate and the fence really the same temperature?

_____

_____

3. Which direction does heat always flow?

_____

_____

4. What does metal do to the heat in your hand?

_____

_____

5. Why does wood feel less cold than metal?

_____

_____

6. What happens to a metal spoon resting in hot soup?

_____

_____

Words to know

chilly: cool enough to make you shiver
temperature: how hot or cold something is
metal: a hard, shiny material such as iron or steel
carrier: something that moves a thing from one place to another
flow: to move along smoothly

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 the Metal Gate Feels Colder Than the Fence

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

Circle: Why the Metal Gate Feels Colder Than the Fence

Easier · 126 words · Flesch-Kincaid grade 1.1

1. The metal gate.
2. Yes, they were the same temperature.
3. From a warm thing to a cooler thing.
4. It carries the heat away fast.
5. Wood carries heat away slowly, so your hand stays warm.
6. It gets hot fast.

Triangle: Why the Metal Gate Feels Colder Than the Fence

This passage · 165 words · Flesch-Kincaid grade 2.3

1. The metal gate.
2. Yes, they were the same temperature.
3. From a warm thing to a cooler thing.
4. It pulls the heat away fast.
5. Wood pulls heat from your hand slowly, so your hand stays warmer.
6. It gets hot fast.

Square: Why the Metal Gate Feels Colder Than the Fence

Harder · 187 words · Flesch-Kincaid grade 5.7

1. The metal gate.
2. Yes, exactly the same, because they sat in the same cool air all night.
3. From a warm object toward a cooler one.
4. It draws the heat away quickly.
5. Wood draws heat from your hand only slowly, so your hand stays warmer.
6. It becomes hot very fast.