Name: _____ Date: _____

Why a Bike Reflector Glows at Night

Circle group

Look at the back of a bike. You will see a small red piece of plastic. It is a reflector. It has no battery. It has no bulb. But it glows in the dark.

How? A reflector does not make light. It sends light back. The plastic has many tiny bumps. They bounce light back the way it came.

A car comes up behind a bike at night. The headlights shine on the reflector. The reflector sends the light back to the car. The driver sees a bright red spot. The driver knows a bike is ahead.

Many bikes have reflectors on the wheels and pedals. A rider should still use a light and wear bright clothes.

Questions

1. What color is the reflector at the back of a bike?

_____

_____

2. Does a reflector have a battery?

_____

_____

3. What do the tiny bumps do with light?

_____

_____

4. Where else might a bike have reflectors?

_____

_____

5. What does the driver see when headlights hit the reflector?

_____

_____

6. Why does a reflector not glow in a dark room?

_____

_____

Words to know

reflector: a piece that sends light back to where it came from
bulb: the glass part of a lamp that makes light
bounce: to spring back after hitting something
headlights: the bright lights on the front of a car
pedals: the parts of a bike you push with your feet

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 a Bike Reflector Glows at Night

Triangle group

Look at the back of a bicycle. You will see a small red piece of plastic. It is called a reflector. It has no battery and no bulb, but it can glow in the dark.

How does that happen? A reflector does not make light. It sends light back. The plastic is covered with many tiny bumps shaped like little corners. When light shines on them, the bumps bounce it back in the same direction it came from.

Picture a car coming up behind a bike at night. The car's headlights shine on the reflector. The reflector sends that light right back toward the car. The driver sees a bright red spot and knows a bike is ahead.

Many bikes also have reflectors on the wheels and pedals. They help riders be seen. A rider should still use a light and wear bright clothes.

Questions

1. What color is the reflector at the back of a bicycle?

_____

_____

2. Does a reflector have a battery?

_____

_____

3. What do the tiny bumps do with light?

_____

_____

4. Where else might a bike have reflectors?

_____

_____

5. What does the driver see when headlights hit the reflector?

_____

_____

6. Why does a reflector not glow in a dark room with no lights?

_____

_____

Words to know

reflector: a piece that sends light back to where it came from
bulb: the glass part of a lamp that makes light
bounce: to spring back after hitting something
headlights: the bright lights on the front of a car
pedals: the parts of a bike you push with your feet

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 a Bike Reflector Glows at Night

Square group

Take a look at the back of a bicycle, and you will notice a small piece of red plastic. It is called a reflector. It has no battery and no bulb, yet it is able to glow in the dark.

How can that happen? A reflector does not produce light of its own. Instead, it sends light back. The plastic is covered with many tiny bumps that are shaped like little corners. When light shines on them, the bumps bounce it straight back in the same direction it came from.

Imagine a car coming up behind a bike at night. The car's headlights shine on the reflector, and the reflector sends that light right back toward the car. The driver sees a bright red spot and understands that a bike is ahead.

Many bicycles also have reflectors on the wheels and pedals, which help riders to be seen. A rider should still use a light and wear bright clothes.

Questions

1. What color is the reflector at the back of a bicycle?

_____

_____

2. Does a reflector have a battery or a bulb?

_____

_____

3. What do the tiny bumps do with the light that shines on them?

_____

_____

4. Where else might a bicycle have reflectors?

_____

_____

5. What does the driver see when headlights hit the reflector?

_____

_____

6. Why would a reflector not glow in a dark room with no lights?

_____

_____

Words to know

reflector: a piece that sends light back to where it came from
bulb: the glass part of a lamp that makes light
bounce: to spring back after hitting something
headlights: the bright lights on the front of a car
pedals: the parts of a bike you push with your feet

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 a Bike Reflector Glows at Night

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

Circle: Why a Bike Reflector Glows at Night

Easier · 117 words · Flesch-Kincaid grade 1.2

1. Red.
2. No, it has no battery and no bulb.
3. They bounce it back the way it came.
4. On the wheels and pedals.
5. A bright red spot.
6. It only sends back light. It makes none.

Triangle: Why a Bike Reflector Glows at Night

This passage · 144 words · Flesch-Kincaid grade 2.7

1. Red.
2. No, it has no battery and no bulb.
3. They bounce it back the way it came.
4. On the wheels and pedals.
5. A bright red spot.
6. It only sends back light, and it makes none of its own.

Square: Why a Bike Reflector Glows at Night

Harder · 159 words · Flesch-Kincaid grade 4.3

1. Red.
2. No, it has neither one.
3. They bounce it straight back in the same direction it came from.
4. On the wheels and pedals.
5. A bright red spot.
6. It only sends back light, and it makes none of its own.