Name: _____ Date: _____

Glass Beads in the Paint on the Road

Circle group

At night, the lines on a road seem to glow in your headlights. That glow is not a trick of the paint. It comes from thousands of tiny glass beads. A road marking crew puts them there.

Here is how the work goes. A special truck drives slowly down the road. A nozzle sprays a stripe of paint on the pavement. Right behind it, another nozzle drops small glass beads on the wet stripe. The paint dries and holds the beads. The top half of each bead shows like a tiny dome.

When a car's headlights shine on the line, each bead catches the light and bends it. The light bounces back to the car. So the driver sees a bright line, even when the road is dark or wet. This is called reflection. It helps drivers stay in their lane.

The crew must work with care. The truck must follow a straight line. So a worker often guides it with marks set on the road first. Cones and signs keep the crew safe from cars. The weather matters too. Paint needs dry pavement to stick well.

Over time, tires wear away the paint and beads. The lines slowly fade. So crews come back now and then to paint them fresh.

Questions

1. What makes road lines glow at night?

_____

_____

2. When are the beads dropped on the stripe?

_____

_____

3. What do the beads do with headlights?

_____

_____

4. Why does the crew use cones and signs?

_____

_____

5. Why does the paint need dry pavement?

_____

_____

6. Why must crews come back and paint again?

_____

_____

Words to know

nozzle: a small opening at the end of a pipe that sprays liquid
pavement: the hard surface of a road
reflection: light that bounces off a surface
dome: a rounded shape like half a ball
crew: a group of people who work together

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: _____

Glass Beads in the Paint on the Road

Triangle group

At night, the lines on a road seem to glow in your headlights. That glow is not a trick of the paint. It comes from thousands of tiny glass beads, and a road marking crew is the team that puts them there.

Here is how the work goes. A specialized truck travels slowly along the road while a spray nozzle applies a stripe of paint to the pavement. Right behind the paint, another nozzle drops small glass beads onto the wet stripe, and the paint dries and holds the beads in place, with the top half of each bead showing like a tiny dome.

When a car's headlights shine on the line, each bead catches the light and bends it, and the light bounces back toward the car. Because of this, the driver sees a bright line even when the road is dark or wet. This effect is called reflection, and it helps keep drivers inside their lane.

Crews must work with care. The truck has to follow a straight line, so a worker often guides it using marks set on the road beforehand. Cones and warning signs protect the crew from passing cars. The weather matters too, since paint needs dry pavement to stick well.

Over time, tires wear away the paint and beads, so the lines slowly fade. That is why crews return every so often to paint them fresh.

Questions

1. What makes road lines glow at night?

_____

_____

2. When are the beads dropped onto the stripe?

_____

_____

3. What do the beads do with a car's headlights?

_____

_____

4. Why do crews use cones and warning signs?

_____

_____

5. Why does the paint need dry pavement?

_____

_____

6. Why do crews have to come back and repaint lines?

_____

_____

Words to know

nozzle: a small opening at the end of a pipe that sprays liquid
pavement: the hard surface of a road
reflection: light that bounces off a surface
dome: a rounded shape like half a ball
crew: a group of people who work together

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: _____

Glass Beads in the Paint on the Road

Square group

After dark, the lines on a road appear to glow in your headlights. That glow is not merely a trick of the paint. It originates from thousands of tiny glass beads, and a road marking crew is the team responsible for placing them there.

Here is how the work unfolds. A specialized truck travels slowly along the road while a spray nozzle applies a stripe of paint to the pavement. Immediately behind the paint, a second nozzle scatters small glass beads onto the wet stripe. The paint dries and grips the beads, leaving the upper half of each one exposed like a miniature dome.

When a car's headlights sweep across the line, each bead captures the light and bends it. The light then bounces back toward the car, so the driver perceives a bright line even when the road is dark or soaked with rain. This phenomenon is called reflection, and it helps keep drivers safely within their lane.

Crews must work with considerable care. The truck has to follow a perfectly straight path, so a worker frequently guides it using marks laid out on the road beforehand. Cones and warning signs shield the crew from passing traffic. The weather matters as well, since paint requires dry pavement in order to bond properly.

Over the months, tires gradually grind away the paint and the beads, so the lines slowly fade. That explains why crews return periodically to paint them fresh.

Questions

1. What causes road lines to glow at night?

_____

_____

2. When are the beads scattered onto the stripe?

_____

_____

3. What happens to a car's headlights when they strike the beads?

_____

_____

4. Why do crews put out cones and warning signs?

_____

_____

5. Why does paint require dry pavement?

_____

_____

6. Why must crews return periodically to repaint the lines?

_____

_____

Words to know

nozzle: a small opening at the end of a pipe that sprays liquid
pavement: the hard surface of a road
reflection: light that bounces off a surface
dome: a rounded shape like half a ball
crew: a group of people who work together

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: Glass Beads in the Paint on the Road

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

Circle: Glass Beads in the Paint on the Road

Easier · 211 words · Flesch-Kincaid grade 1.5

1. Tiny glass beads in the paint.
2. Right after the paint is sprayed, while it is wet.
3. They catch the light and bend it back to the car.
4. To keep the crew safe from cars.
5. Paint sticks well only to dry pavement.
6. Tires wear away the paint and beads, so the lines fade.

Triangle: Glass Beads in the Paint on the Road

This passage · 232 words · Flesch-Kincaid grade 5

1. Tiny glass beads in the paint.
2. Right after the paint is sprayed, while it is still wet.
3. They catch the light and bend it back toward the car.
4. To protect the crew from passing cars.
5. Paint sticks well only to dry pavement.
6. Tires wear away the paint and the beads, so the lines fade over time.

Square: Glass Beads in the Paint on the Road

Harder · 240 words · Flesch-Kincaid grade 6.9

1. Thousands of tiny glass beads in the paint.
2. Immediately after the paint is applied, while it is still wet.
3. Each bead captures the light, bends it, and sends it back toward the car.
4. To shield the crew from passing traffic.
5. Paint bonds properly only to dry pavement.
6. Tires grind away the paint and beads, so the lines fade over time.