Name: _____ Date: _____

Mirrors Make Patterns in a Kaleidoscope

Circle group

A kaleidoscope is a tube you look into. You see a bright pattern, like a flower made of colors. Turn the tube, and the pattern changes.

At the far end of the tube, there are bits of colored glass or beads. They tumble when you turn the tube.

Inside the tube are long mirrors. They are set at an angle. The mirrors copy the colored bits again and again. One bit of glass looks like six or more.

That is why the pattern is even. The same shape repeats around the middle, like a snowflake.

You need light to see the colors. Point the tube at a window or a lamp.

Questions

1. What is a kaleidoscope?

_____

_____

2. What is at the far end of the tube?

_____

_____

3. What happens when you turn the tube?

_____

_____

4. What do the mirrors do?

_____

_____

5. What do you point the tube at to see the colors?

_____

_____

6. Why is the pattern even all the way around?

_____

Words to know

kaleidoscope: a tube with mirrors and bits of color that make patterns
pattern: a design that repeats
tumble: to roll and fall over and over
angle: the slant where two things meet
repeats: happens or shows again

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: _____

Mirrors Make Patterns in a Kaleidoscope

Triangle group

A kaleidoscope is a tube you look into. Inside, you see a bright pattern, like a flower made of colors. Turn the tube, and the pattern changes. It never looks quite the same twice.

At the far end of the tube, there is a small space with bits of colored glass or beads. They tumble around when you turn the tube.

Inside the tube are also a few long mirrors. They are set at an angle to each other. When you look through, the mirrors copy the colored bits again and again. One small bit of glass looks like six or more.

That is why the pattern is so even. The same shape repeats all around the middle, like a snowflake.

Light is needed to see the colors. Point the end of the tube toward a window or a lamp, and the colors will glow.

Questions

1. What is a kaleidoscope?

_____

_____

2. What is at the far end of the tube?

_____

_____

3. What happens to the pattern when you turn the tube?

_____

_____

4. What do the mirrors do?

_____

_____

5. What do you point the tube toward to see the colors glow?

_____

_____

6. Why does the pattern look even all the way around?

_____

_____

Words to know

kaleidoscope: a tube with mirrors and bits of color that make patterns
pattern: a design that repeats
tumble: to roll and fall over and over
angle: the slant where two things meet
repeats: happens or shows again

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: _____

Mirrors Make Patterns in a Kaleidoscope

Square group

A kaleidoscope is a tube that you hold up to your eye and look into. Inside, you see a bright pattern that resembles a flower made of colors. When you turn the tube, the pattern shifts, and it never looks exactly the same twice.

At the far end of the tube, there is a small space filled with bits of colored glass or beads. They tumble around whenever you turn the tube.

Inside the tube there are also a few long mirrors, which are set at an angle to one another. As you look through, the mirrors copy the colored bits over and over again, so a single piece of glass can look like six or more.

That is the reason the pattern is so even. The same shape repeats all around the middle, much like a snowflake.

Light is needed to see the colors. If you point the end of the tube toward a window or a lamp, the colors will glow.

Questions

1. What is a kaleidoscope?

_____

_____

2. What is found at the far end of the tube?

_____

_____

3. What happens to the pattern when you turn the tube?

_____

_____

4. What do the mirrors do?

_____

_____

5. What do you point the tube toward to make the colors glow?

_____

_____

6. Why does the pattern look even all the way around?

_____

_____

Words to know

kaleidoscope: a tube with mirrors and bits of color that make patterns
pattern: a design that repeats
tumble: to roll and fall over and over
angle: the slant where two things meet
repeats: happens or shows again

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: Mirrors Make Patterns in a Kaleidoscope

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

Circle: Mirrors Make Patterns in a Kaleidoscope

Easier · 111 words · Flesch-Kincaid grade 2.4

1. A tube you look into to see a colorful pattern.
2. Bits of colored glass or beads.
3. The pattern changes.
4. They copy the colored bits again and again.
5. A window or a lamp.
6. The mirrors repeat the same shape around the middle.

Triangle: Mirrors Make Patterns in a Kaleidoscope

This passage · 145 words · Flesch-Kincaid grade 3.1

1. A tube you look into to see a colorful pattern.
2. Bits of colored glass or beads.
3. It changes.
4. They copy the colored bits again and again.
5. A window or a lamp.
6. The mirrors repeat the same shape around the middle.

Square: Mirrors Make Patterns in a Kaleidoscope

Harder · 163 words · Flesch-Kincaid grade 5.2

1. A tube you look into to see a colorful pattern.
2. A small space filled with bits of colored glass or beads.
3. It shifts.
4. They copy the colored bits over and over again.
5. A window or a lamp.
6. The mirrors repeat the same shape around the middle.