Name: _____ Date: _____

Why Red Roses Look Gray at Dusk

Circle group

On a summer evening, a garden slowly changes. In the bright afternoon, the roses looked deep red. The leaves looked bright green. As the sun sets, the colors seem to fade until all looks gray. Is the garden really changing? No. Your eyes are.

At the back of each eye is a layer of cells that catch light. There are two main kinds. Cones help you see color. They work best in bright light. Rods work well in dim light. But rods only see shades of gray.

By day, your cones do most of the work. You see a colorful world. At dusk there is not enough light for the cones. So your rods take over. That is why colors fade.

Rods are mostly toward the edges of the back of your eye. So you can sometimes see a faint star better by looking a little to the side of it.

Your eyes also need time. If you walk from a bright room into a dark one, you may see almost nothing at first. After a few minutes, your eyes adjust. Then shapes appear.

Questions

1. Which cells help you see color?

_____

_____

2. Which cells work well in dim light?

_____

_____

3. What shades do rods see?

_____

_____

4. Why do colors fade at dusk?

_____

_____

5. How can you see a faint star better?

_____

6. What happens a few minutes after you enter a dark room?

Words to know

dusk: the time in the evening when the light is fading
cones: eye cells that help you see color in bright light
rods: eye cells that help you see in dim light
adjust: to change a little so you fit a new place or situation

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 Red Roses Look Gray at Dusk

Triangle group

On a summer evening, a garden slowly changes. In the bright afternoon, the red roses looked deep red and the leaves looked bright green. As the sun sets, the colors seem to wash out until everything looks gray. Is the garden really changing? No. Your eyes are.

At the back of each eye is a layer of cells that catch light. There are two main kinds. Cones help you see color, and they work best in bright light. Rods work well in dim light, but they only see in shades of gray.

During the day, your cones do most of the work, and you see a colorful world. At dusk there is not enough light for the cones, so your rods take over. That is why colors fade.

Rods are spread more toward the edges of the back of your eye. Because of this, you can sometimes see a faint star better by looking a little to the side of it, not straight at it.

Your eyes also need time to change. When you walk from a bright room into a dark one, you may see almost nothing at first. After a few minutes, your eyes adjust and shapes appear.

Questions

1. Which cells help you see color?

_____

_____

2. Which cells work well in dim light?

_____

_____

3. In what shades do rods see?

_____

_____

4. Why do colors fade at dusk?

_____

_____

5. How might you see a faint star better?

_____

_____

6. What happens to your eyes a few minutes after you enter a dark room?

_____

_____

Words to know

dusk: the time in the evening when the light is fading
cones: eye cells that help you see color in bright light
rods: eye cells that help you see in dim light
adjust: to change a little so you fit a new place or situation

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 Red Roses Look Gray at Dusk

Square group

On a summer evening, a garden gradually transforms. In the bright afternoon, the red roses appeared deep crimson and the leaves looked vivid green. As the sun sets, the colors seem to wash out until everything looks gray. Is the garden really changing? Not at all. Your eyes are.

At the back of each eye lies a layer of cells that catch light. There are two main kinds. Cones allow you to see color, and they work best in bright light. Rods function well in dim light, but they can only see in shades of gray.

During the day, your cones do most of the work, and you see a colorful world. At dusk there is not enough light for the cones, so your rods take over. That is why colors fade.

Rods are spread more heavily toward the edges of the back of your eye. Because of this, you can sometimes see a faint star more clearly by looking slightly to the side of it instead of straight at it.

Your eyes also need time to change. When you walk from a bright room into a dark one, you may see almost nothing at first. After a few minutes, your eyes adjust and shapes begin to appear.

Questions

1. Which cells allow you to see color?

_____

_____

2. Which cells function well in dim light?

_____

_____

3. In which shades can rods see?

_____

_____

4. Why do colors fade at dusk?

_____

_____

5. How might you see a faint star more clearly?

_____

_____

6. What happens a few minutes after you walk into a dark room?

_____

_____

Words to know

dusk: the time in the evening when the light is fading
cones: eye cells that help you see color in bright light
rods: eye cells that help you see in dim light
adjust: to change a little so you fit a new place or situation

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 Red Roses Look Gray at Dusk

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

Circle: Why Red Roses Look Gray at Dusk

Easier · 184 words · Flesch-Kincaid grade 1.7

1. Cones.
2. Rods.
3. Shades of gray.
4. There is not enough light for the cones, so the rods take over.
5. Look a little to the side of it.
6. Your eyes adjust and shapes appear.

Triangle: Why Red Roses Look Gray at Dusk

This passage · 200 words · Flesch-Kincaid grade 3.2

1. Cones.
2. Rods.
3. Shades of gray.
4. There is not enough light for the cones, so the rods take over.
5. By looking a little to the side of it.
6. They adjust and you can see shapes.

Square: Why Red Roses Look Gray at Dusk

Harder · 208 words · Flesch-Kincaid grade 3.7

1. Cones.
2. Rods.
3. Only shades of gray.
4. There is not enough light for the cones, so the rods take over.
5. By looking slightly to the side of it.
6. Your eyes adjust and shapes begin to appear.