Name: _____ Date: _____

Why Some Mountain Lakes Glow Turquoise

Circle group

Pictures of some mountain lakes look as if someone painted the water. The lake is a bright, milky turquoise, a color between blue and green. But nothing was added to it. The color comes from rock.

High in the mountains, a glacier is a huge, slow river of ice. As it creeps downhill, it drags rocks along the ground. The rocks grind against the ground under the ice. The grinding crushes stone into a fine powder, called rock flour. It is as soft as flour from a kitchen.

When the ice melts, the meltwater carries the rock flour into streams. The streams run into a lake. The grains are so tiny that they float in the water for a long time. They make the lake look cloudy, like a drop of milk in a glass.

Sunlight is a mix of many colors. When it hits the floating grains, they scatter it. The grains send blue and green light back to your eyes more than the other colors. That is why the lake looks turquoise.

The color changes with the seasons. In summer, more ice melts, and more rock flour pours in. The lake is usually brightest. In winter, the melting slows, and the water often turns clearer and darker.

Questions

1. What is rock flour?

_____

_____

2. How does rock flour get into a lake?

_____

_____

3. Why do the grains float for a long time?

_____

_____

4. Which colors of light do the grains send back most?

_____

_____

5. Why is the lake usually brightest in summer?

_____

_____

6. What shows that nothing was added to the water to color it?

_____

_____

Words to know

glacier: a huge, slow-moving mass of ice on land
turquoise: a bright color between blue and green
meltwater: water that comes from melting ice or snow
scatter: to send in many different directions
powder: a very fine dust of tiny grains

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 Some Mountain Lakes Glow Turquoise

Triangle group

Photographs of some mountain lakes look as if someone has colored the water with paint. The lake is a bright, milky turquoise, a shade somewhere between blue and green. Yet nothing has been added to it. The color comes from rock.

High in the mountains, a glacier is a huge, slow river of ice. As it creeps downhill, it drags rocks along its bed and grinds them against the ground beneath. The grinding crushes the stone into a fine powder, called rock flour, that is as soft as flour from a kitchen.

When the glacier's ice melts, the meltwater carries the rock flour into streams, and the streams run into a lake. The grains are so tiny that they stay floating in the water for a long time instead of sinking quickly. They make the lake look cloudy, much like a drop of milk in a glass.

Sunlight is a mixture of many colors. When it strikes the floating grains, they scatter it. The grains reflect blue and green light back toward your eyes more than the other colors, and that is why the lake looks turquoise.

The color changes with the seasons. In summer, more ice melts and more rock flour pours in, so the lake is usually its brightest. In winter, when the melting slows, the water often turns clearer and darker.

Questions

1. What is rock flour?

_____

_____

2. How does rock flour get into a lake?

_____

_____

3. Why do the grains stay floating instead of sinking quickly?

_____

_____

4. Which colors of light do the grains reflect most?

_____

_____

5. Why is the lake usually brightest in summer?

_____

_____

6. What clue shows that nothing was added to the water to color it?

_____

_____

Words to know

glacier: a huge, slow-moving mass of ice on land
turquoise: a bright color between blue and green
meltwater: water that comes from melting ice or snow
scatter: to send in many different directions
powder: a very fine dust of tiny grains

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 Some Mountain Lakes Glow Turquoise

Square group

Photographs of certain mountain lakes look as though someone has tinted the water with paint. The lake glows a brilliant, milky turquoise, a shade somewhere between blue and green. Yet nothing has been added to it whatsoever. The color comes entirely from rock.

High in the mountains, a glacier is a vast, slow river of ice. As it creeps downhill, it drags boulders and stones along its bed and grinds them against the ground beneath. This relentless grinding crushes the stone into an extremely fine powder, called rock flour, that is nearly as soft as the flour in a kitchen cupboard.

When the glacier's ice melts, the meltwater sweeps the rock flour into streams, and those streams empty into a lake. The grains are so minuscule that they remain suspended in the water for a long time rather than sinking quickly. They give the lake a cloudy appearance, much like a drop of milk stirred into a glass of water.

Sunlight is a mixture of many colors. When it strikes the suspended grains, they scatter it in every direction. The grains reflect blue and green light back toward your eyes more strongly than the other colors, and that is the reason the lake appears turquoise.

The color shifts with the seasons. In summer, more ice melts and more rock flour pours in, so the lake is generally at its brightest. In winter, when the melting slows, the water often becomes clearer and darker.

Questions

1. What is rock flour?

_____

_____

2. How does rock flour reach a lake?

_____

_____

3. Why do the grains remain suspended instead of sinking quickly?

_____

_____

4. Which colors of light do the grains reflect most strongly?

_____

_____

5. Why is the lake generally at its brightest in summer?

_____

_____

6. What evidence shows that nothing was added to the water to color it?

_____

_____

Words to know

glacier: a huge, slow-moving mass of ice on land
turquoise: a bright color between blue and green
meltwater: water that comes from melting ice or snow
scatter: to send in many different directions
powder: a very fine dust of tiny grains

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 Some Mountain Lakes Glow Turquoise

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

Circle: Why Some Mountain Lakes Glow Turquoise

Easier · 209 words · Flesch-Kincaid grade 3.3

1. A fine powder made when a glacier grinds rock.
2. Meltwater carries it into streams that run into the lake.
3. They are so tiny.
4. Blue and green.
5. More ice melts, so more rock flour flows in.
6. The color comes from rock powder that the glacier ground up.

Triangle: Why Some Mountain Lakes Glow Turquoise

This passage · 224 words · Flesch-Kincaid grade 5.2

1. A fine powder made when a glacier grinds rock.
2. Meltwater from the glacier carries it into streams that flow into the lake.
3. They are so tiny.
4. Blue and green.
5. More ice melts, so more rock flour flows into the water.
6. The color comes from the rock powder that the glacier ground up.

Square: Why Some Mountain Lakes Glow Turquoise

Harder · 243 words · Flesch-Kincaid grade 6.9

1. An extremely fine powder made when a glacier grinds stone.
2. Meltwater sweeps it into streams that empty into the lake.
3. They are so minuscule.
4. Blue and green.
5. More ice melts, so more rock flour pours into the water.
6. The color comes entirely from rock powder that the glacier ground up.