Name: _____ Date: _____

Lichen: A Rock Crust Made by Two Partners

Circle group

Gray-green crusts. Orange patches. Tufts like tiny antlers. These are lichens. You can find them on rocks, fences and tree bark. A lichen looks like one plant. But it is two kinds of living things that live together.

One partner is a fungus. The other is an alga. Sometimes it is a kind of bacteria that can use sunlight. The fungus makes the body of the lichen. It is a tough mat that holds water. The alga lives inside the mat. It makes sugar from sunlight, like a green leaf. The fungus gets some of the sugar. The alga gets a safe home that stays damp.

Because of this teamwork, lichens live where little else can. They grow on bare rock with no soil. Over a very long time, the acids they make slowly crumble the rock. This helps start the soil that later plants will use.

Lichens grow slowly. Some grow only a few millimeters a year. Many soak up what is in the air and rain. So scientists watch which lichens grow in a place to learn about the air. A tree with healthy lichens usually has fairly clean air.

Questions

1. What two kinds of living things make up most lichens?

_____

_____

2. What does the alga make?

_____

_____

3. What does the fungus give the alga?

_____

_____

4. How do lichens help start soil on bare rock?

_____

_____

5. Why does the writer say a lichen only looks like one plant?

_____

_____

6. Why might scientists study lichens to learn about the air?

_____

_____

Words to know

lichen: a living partnership of a fungus and an alga
alga: a simple living thing that makes food from sunlight, often found in water
crumble: to break into small pieces
tufts: small bunches of threads or hairs growing 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: _____

Lichen: A Rock Crust Made by Two Partners

Triangle group

Gray-green crusts, orange patches and tufts that look like tiny antlers: these are lichens, and you can find them on rocks, fences, gravestones and tree bark. A lichen looks like a single plant, but it is actually a partnership between two kinds of living things.

One partner is a fungus. The other is an alga, or sometimes a type of bacteria that can use sunlight. The fungus forms the body of the lichen, a tough mat that holds water and shelters the partner inside. The alga lives within that mat and makes sugar from sunlight, the same way a green leaf does. The fungus gets a share of the sugar. In return, it gives the alga a safe home that stays damp.

Because of this teamwork, lichens can live in places where little else can. They grow on bare rock, where there is no soil at all. Over very long stretches of time, the acids they make slowly crumble the surface, which helps start the soil that later plants will use.

Lichens are also slow. Some grow less than a few millimeters a year. Many of them soak up whatever is in the air and rain, so scientists often watch which lichens are present to learn about air quality. A tree covered in healthy lichens usually stands in fairly clean air.

Questions

1. What two kinds of living things make up most lichens?

_____

_____

2. What does the alga make for the partnership?

_____

_____

3. What does the fungus give the alga in return?

_____

_____

4. How do lichens help start soil on bare rock?

_____

_____

5. Why does the writer say a lichen only looks like a single plant?

_____

_____

6. Why might scientists study lichens to learn about air quality?

_____

_____

Words to know

lichen: a living partnership of a fungus and an alga
alga: a simple living thing that makes food from sunlight, often found in water
partnership: a relationship where two sides work together
crumble: to break into small pieces
tufts: small bunches of threads or hairs growing 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: _____

Lichen: A Rock Crust Made by Two Partners

Square group

Gray-green crusts, orange patches and tufts resembling miniature antlers: these are lichens, and they can be discovered on rocks, fences, gravestones and tree bark. A lichen appears to be a single plant, yet it is in fact a partnership between two different kinds of living things.

One partner is a fungus. The other is an alga, or occasionally a type of bacteria that is able to use sunlight. The fungus forms the body of the lichen, a tough mat that retains water and shelters the partner within. The alga lives inside that mat and manufactures sugar from sunlight, just as a green leaf does. The fungus receives a share of the sugar. In exchange, it provides the alga with a safe home that remains damp.

Thanks to this teamwork, lichens can survive in places where very little else can. They grow on bare rock, where there is no soil whatsoever. Over extremely long stretches of time, the acids they produce gradually crumble the surface, which helps to begin the soil that later plants will depend upon.

Lichens are also remarkably slow. Some grow less than a few millimeters in a year. Many absorb whatever is present in the air and rain, so scientists often observe which lichens are growing in order to learn about air quality. A tree blanketed in healthy lichens generally stands in fairly clean air.

Questions

1. What two kinds of living things make up most lichens?

_____

_____

2. What does the alga manufacture for the partnership?

_____

_____

3. What does the fungus provide for the alga in exchange?

_____

_____

4. How do lichens help begin soil on bare rock?

_____

_____

5. Why does the writer say a lichen merely appears to be a single plant?

_____

_____

6. Why might scientists observe lichens to learn about air quality?

_____

_____

Words to know

lichen: a living partnership of a fungus and an alga
alga: a simple living thing that makes food from sunlight, often found in water
partnership: a relationship where two sides work together
crumble: to break into small pieces
tufts: small bunches of threads or hairs growing 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: Lichen: A Rock Crust Made by Two Partners

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

Circle: Lichen: A Rock Crust Made by Two Partners

Easier · 193 words · Flesch-Kincaid grade 2.7

1. A fungus and an alga.
2. Sugar, made from sunlight.
3. A safe home that stays damp.
4. The acids they make slowly crumble the rock.
5. It is really two partners living together.
6. Lichens take in what is in the air, so which ones grow shows how clean it is.

Triangle: Lichen: A Rock Crust Made by Two Partners

This passage · 222 words · Flesch-Kincaid grade 6.1

1. A fungus and an alga.
2. Sugar, made from sunlight.
3. A safe home that stays damp.
4. The acids they make slowly crumble the rock surface.
5. It is really two partners living together, not one plant.
6. Lichens take in what is in the air, so which ones grow shows how clean it is.

Square: Lichen: A Rock Crust Made by Two Partners

Harder · 229 words · Flesch-Kincaid grade 8

1. A fungus and an alga.
2. Sugar, made from sunlight.
3. A safe home that remains damp.
4. The acids they produce gradually crumble the rock surface.
5. It is really a partnership of two different living things, not one plant.
6. Lichens absorb what is in the air, so the ones that grow reveal how clean it is.