Name: _____ Date: _____

Aspen Groves: Many Trunks, One Root System

Circle group

Walk into a grove of quaking aspens. You will see many pale trunks. The leaves shake in the smallest breeze. It looks like a crowd of trees. But it is often one big plant with many stems.

An aspen does not use only seeds. Its long roots lie just under the soil. They send up new shoots called suckers. Each sucker grows into a trunk. The new trunks come from the same roots, so they are copies of the parent. They have the same genes. Scientists call this group a clone.

This has some odd results. In autumn, all the trunks of one clone may turn gold on the same day. The clone next to it may stay green for a week more. A hillside can look like a quilt of colors. Each patch is its own living network.

Cloning helps after a fire or a cut. The roots stay alive underground, so new shoots grow fast. They fill the open space with young trees. One trunk may live only a few decades. The roots can live far longer.

Questions

1. What are suckers?

_____

_____

2. What do scientists call a group of trees that are copies of one parent?

_____

_____

3. What might happen to one clone in autumn?

_____

_____

4. How do aspens grow back fast after a fire or a cut?

_____

_____

5. Why do neighboring patches show different colors at the same time?

_____

_____

6. Why might the roots outlive any one trunk?

_____

_____

Words to know

suckers: new shoots that grow up from a plant's roots
clone: a living thing that is an exact genetic copy of its parent
genes: the tiny instructions inside cells that shape how a living thing grows
network: a set of parts that are joined 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: _____

Aspen Groves: Many Trunks, One Root System

Triangle group

Walk into a stand of quaking aspens and you will see hundreds of pale trunks and leaves that tremble in the slightest breeze. It looks like a crowd of separate trees. Often, though, it is closer to one big plant with many stems.

Aspens do not rely only on seeds. A mature aspen sends out long roots just under the soil, and those roots push up new shoots called suckers. Each sucker grows into a trunk. Because the new trunks come from the same roots, they are copies of the parent, with the same genes. Scientists call such a group a clone.

This habit has some surprising effects. In autumn, all the trunks of one clone may turn gold on the same day, while the clone next to it stays green for another week. In spring, the leaves of a single clone often open together. A whole hillside can look like a patchwork of colors, and each patch is a separate living network.

Cloning also helps aspens recover after a fire or a logging cut. The roots survive underground, so new shoots can rise quickly and fill the open space with young trees. A single trunk may live only a few decades, but the root system that feeds it can last far longer.

Questions

1. What are suckers?

_____

_____

2. What do scientists call a group of trees that are copies of one parent?

_____

_____

3. What might happen to one clone in autumn?

_____

_____

4. How do aspens recover quickly after a fire or a cut?

_____

_____

5. Why do neighboring patches on a hillside show different colors at the same time?

_____

_____

6. Why might a root system outlive any single trunk?

_____

_____

Words to know

stand: a group of trees growing close together
suckers: new shoots that grow up from a plant's roots
clone: a living thing that is an exact genetic copy of its parent
genes: the tiny instructions inside cells that shape how a living thing grows
network: a set of parts that are joined 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: _____

Aspen Groves: Many Trunks, One Root System

Square group

Venture into a stand of quaking aspens and you will find hundreds of pale trunks, with leaves that tremble in even the faintest breeze. The grove appears to be a crowd of separate trees, yet it is frequently much closer to a single enormous plant with countless stems.

Aspens do not depend solely on seeds for reproduction. A mature aspen extends long roots just beneath the surface of the soil, and those roots push up new shoots known as suckers. Every sucker develops into a trunk. Since the new trunks originate from the same roots, they are copies of the parent and carry identical genes. Scientists use the word clone for such a group.

This habit produces some surprising effects. In autumn, every trunk belonging to one clone may turn gold on the very same day, while the neighboring clone remains green for another week. In spring, the leaves of a single clone often unfurl together. An entire hillside can resemble a patchwork of colors, and each patch is a distinct living network.

Cloning also helps aspens recover after a fire or a logging cut. The roots survive underground, so fresh shoots can rise rapidly and fill the cleared space with young trees. An individual trunk may live for only a few decades, but the root system that nourishes it can endure for far longer.

Questions

1. What are suckers?

_____

_____

2. What word do scientists use for a group of trees that are copies of one parent?

_____

_____

3. What might happen to one clone in autumn?

_____

_____

4. How do aspens recover rapidly after a fire or a logging cut?

_____

_____

5. Why do neighboring patches on a hillside display different colors at the same time?

_____

_____

6. Why might a root system outlast any single trunk?

_____

_____

Words to know

stand: a group of trees growing close together
suckers: new shoots that grow up from a plant's roots
clone: a living thing that is an exact genetic copy of its parent
genes: the tiny instructions inside cells that shape how a living thing grows
network: a set of parts that are joined 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: Aspen Groves: Many Trunks, One Root System

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

Circle: Aspen Groves: Many Trunks, One Root System

Easier · 179 words · Flesch-Kincaid grade 1.6

1. New shoots that grow up from the roots and become trunks.
2. A clone.
3. All its trunks may turn gold on the same day.
4. The roots stay alive underground and send up new shoots.
5. Each patch is a different clone, and each changes on its own schedule.
6. The roots keep making new trunks to replace old ones.

Triangle: Aspen Groves: Many Trunks, One Root System

This passage · 213 words · Flesch-Kincaid grade 5.3

1. New shoots that grow up from an aspen's roots and become trunks.
2. A clone.
3. All its trunks may turn gold on the same day.
4. The roots survive underground and send up new shoots.
5. Each patch is a different clone, and every clone changes on its own schedule.
6. The roots keep making new trunks, so old ones can be replaced.

Square: Aspen Groves: Many Trunks, One Root System

Harder · 225 words · Flesch-Kincaid grade 7.9

1. New shoots that grow up from an aspen's roots and develop into trunks.
2. A clone.
3. All of its trunks may turn gold on the same day.
4. The roots survive underground and send up fresh shoots.
5. Each patch is a separate clone, and every clone changes on its own schedule.
6. The roots continually produce new trunks, so aging ones can be replaced.