Name: _____ Date: _____

How a Cracked Bone Builds Itself Back

Circle group

Bones are hard, but they can crack. The good news is that bones are alive. They can fix themselves.

First, blood gathers around the crack. It makes a clot, like a plug. Then special cells build a soft bridge across the gap.

Next, the bridge gets hard. New bone grows for many weeks. The two sides join up. Then the body shapes the bone until it looks like before.

A doctor takes an X-ray, which is a picture of the break. The doctor may put a cast on your arm or leg. A cast is a hard shell. It holds the bone still. If the bone moves, it cannot join well.

Healing takes patience. You rest, and the bone does its slow work.

Questions

1. What forms around the crack first?

_____

_____

2. What do special cells build across the gap?

_____

_____

3. How long does new bone take to grow?

_____

_____

4. What is an X-ray?

_____

_____

5. What does a cast do?

_____

_____

6. Why must a broken bone stay still?

_____

_____

Words to know

clot: a lump of blood that thickens to stop a leak
cast: a hard shell that keeps a hurt arm or leg from moving
gap: an empty space between two things
patience: being able to wait calmly for something

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: _____

How a Cracked Bone Builds Itself Back

Triangle group

Bones are hard, but they can crack or break. The good news is that bones are alive, and they can repair themselves. Here is how it works.

First, blood gathers around the crack and forms a clot. The clot works like a plug. Soon, special cells arrive and start building a soft bridge across the gap.

Next, the bridge turns hard. New bone grows over many weeks until the two sides join together. Finally, the body trims the lump and shapes the bone until it looks much like it did before.

A doctor takes a picture called an X-ray to see the break. Often the doctor puts a cast on the arm or leg. The cast is a hard shell that holds the bone still. If the bone moves around, it cannot knit together well.

Healing takes patience. While you wait, you rest the bone and let it do its slow, clever work.

Questions

1. What forms around the crack first?

_____

_____

2. What do special cells build across the gap?

_____

_____

3. How long does the new bone take to grow?

_____

_____

4. What is an X-ray?

_____

_____

5. What does a cast do?

_____

_____

6. Why must a broken bone stay still while it heals?

_____

_____

Words to know

clot: a lump of blood that thickens to stop a leak
cast: a hard shell that keeps a hurt arm or leg from moving
gap: an empty space between two things
repair: to fix something that is broken
patience: being able to wait calmly for something

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: _____

How a Cracked Bone Builds Itself Back

Square group

Bones are remarkably hard, but even they can crack or break. Fortunately, bones are living parts of the body, and they are able to repair themselves. Here is how that amazing process unfolds.

At first, blood gathers around the crack and forms a clot that works like a plug. Soon afterward, special cells arrive and begin constructing a soft bridge across the gap between the broken pieces.

Gradually, the bridge hardens. Over many weeks, new bone grows until the two sides are firmly joined together. Finally, the body trims away the extra lump and reshapes the bone until it looks much like it did before the injury.

A doctor takes a picture called an X-ray so that the break can be seen clearly. Often the doctor also places a cast around the arm or leg. The cast is a hard shell that holds the bone still, because a bone that keeps moving cannot knit together properly.

Healing demands patience. While you wait, you rest the bone and let it do its slow, clever work.

Questions

1. What forms around the crack at first?

_____

_____

2. What do special cells construct across the gap?

_____

_____

3. How long does it take for the new bone to grow?

_____

_____

4. Why does a doctor take an X-ray?

_____

_____

5. What is the job of a cast?

_____

_____

6. Why must a broken bone stay still while it heals?

_____

_____

Words to know

clot: a lump of blood that thickens to stop a leak
cast: a hard shell that keeps a hurt arm or leg from moving
gap: an empty space between two things
repair: to fix something that is broken
patience: being able to wait calmly for something

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: How a Cracked Bone Builds Itself Back

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

Circle: How a Cracked Bone Builds Itself Back

Easier · 124 words · Flesch-Kincaid grade 0.7

1. A blood clot.
2. A soft bridge.
3. Many weeks.
4. A picture of the break.
5. It is a hard shell that holds the bone still.
6. If it moves, the two sides cannot join well.

Triangle: How a Cracked Bone Builds Itself Back

This passage · 154 words · Flesch-Kincaid grade 2.7

1. A blood clot.
2. A soft bridge.
3. Many weeks.
4. A picture that lets a doctor see the break.
5. It is a hard shell that holds the bone still.
6. If it moves around, the two sides cannot join together well.

Square: How a Cracked Bone Builds Itself Back

Harder · 175 words · Flesch-Kincaid grade 6.3

1. A blood clot.
2. A soft bridge.
3. Many weeks.
4. So the break can be seen clearly.
5. It is a hard shell that holds the bone still.
6. A bone that keeps moving cannot join together properly.