SUPERNOVA
at Dalhousie University

Title

Why do we have bones?

Workshop Overview

Description: Campers will learn about the body and the importance of bones by creating their own skeleton with straws and tape

Topic Area(s): Health Science/Biology

Grade Level: K-6 **Duration:** 30 minutes

Learning Outcomes:

- Learn about the main components of our body (bones, muscles, organs)
- Learn the functions of bones and how they are connected

Hook

How are humans able to do so many cool things? Because of our amazing skeleton!

Background Information

There are three main parts of the body that will be discussed:

1. Bones: living, growing tissue that are mostly made of collagen and calcium phosphate. They are strong and a little flexible (to withstand injury)
2. Muscles: Bands of fibrous tissue that have the ability to contract, which produces movement in parts of our body
3. Organs: a self-contained part of an organism that plays a specific role such as the heart or liver

The focus of this lesson is bones. These strong, but flexible tissues are so important to what humans can do! Adults have approximately 206 bones; they provide support, protection, enable movement, blood cell production, and regulate calcium.

Without bones we would basically be shapeless blobs. So having rigid bones allows us to have shape and to stand up-right. Bones also protect some of our most vital organs. For example, the skull protects the brain, the backbone protects the spinal cord, and the rib cage protects the heart and lungs. To create movement, we need bones AND muscles- except in the digestive tract and heart

where there are just muscles, not bones. Everywhere else, muscles are attached to bones via tendons and contracting to create movement. Blood cell production is a less-obvious function of bones, but a very important one. Inside bones, there is bone marrow, and bone marrow is where red blood cells are made. Lastly, bones regulate calcium by absorbing Ca and releasing it (through breakdown) when necessary to keep Ca levels consistent to ensure proper nerve and muscle functioning.

Materials

Straws (5-6 per student)
Tape
Poster/picture of a skeleton
Play-dough or clay (optional)

Safety Considerations

Be careful using scissors!

Procedure

1. Teach kids about bones (5-10 mins)
2. Give each child 5-6 straws and 1 m of tape
3. Kids will use straws and tape to make a little skeleton (15-20 mins)
4. Optional: Give kids playdough to cover the skeleton in muscles,/tissues/skin

Wrap-Up/Debrief

- Why is it important that we have bones?
- What other kinds of animals have bones? What other ones do not?

Additional Resources

My Bones