

# Bones

By: Rebekah Murray

## Please Do Not Miss...

If you only have a limited amount of time, please don't skip...

- Constructing A Skeleton
- The Bones Song

## Overview

Have you ever broken a bone? What happened? The human skeleton is made up of many bones. These bones give your body its shape and protect the rest of your body's organs from getting damaged. As soon as a bone breaks, your body immediately starts making tissue that will eventually harden into bone, helping to heal the break. This does take some time. That is why doctors might put a cast on your broken bone until it has time to completely heal.

## Background Information

Adults have 206 bones. Children are born with 300 bones, but some of them fuse together as we grow. All together, these bones are called our **skeleton**. The smallest bone in the human body is called the **stirrup**. It is located in your ear. The largest bone in our bodies are the **femurs** in our thighs. Our **skulls** are actually made up of 29 different bones that protect our brains. Our **rib cages** are made up of many different bones that protect our lungs and heart.

Bones are connected together by **joints**. Like the rest of our bodies, bones grow and change. They need nutrients like calcium and vitamin D to keep them strong and growing properly.

## Main Ideas

- Bones give your body its shape and protect the rest of your body's organs from getting damaged.
- Adults have 206 bones.
- The smallest bone in the human body is called the stirrup in the ear. The largest bone in our bodies are the femurs in our thighs.
- Bones are connected together by joints.
- Calcium helps to make strong bones. Kids should regularly eat foods rich in calcium like milk, cheese, yogurt and spinach.

## Materials Needed

- *You Can't See Your Bones with Binoculars* by Harriet Ziefert
- Glue
- Q-Tips
- Construction Paper
- Bones Bookmarks Printable

## Preparation

1. Read "Background Information" to become more familiar with the properties of our skeletal systems.
2. Read through *You Can't See Your Bones with Binoculars* by Harriet Ziefert. Prepare questions that you can ask along the way.
3. Make sure that you have all the supplies that you will need for each day's experiment or craft.

## Opening

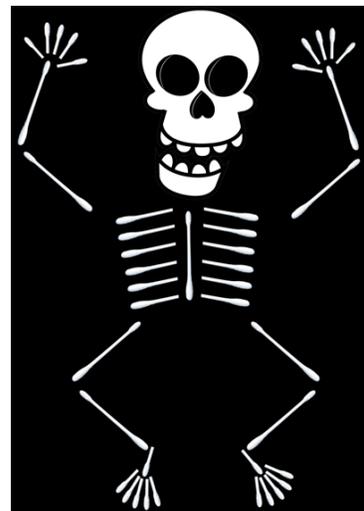
Read through *You Can't See Your Bones with Binoculars* by Harriet Ziefert.

### Constructing the Human Skeleton

Have students use the different sized Q-Tips to create a skeleton, gluing it onto construction paper. Use 6 whole q-tips for ribs, 1 as the backbone, and 2 for each arm and leg. Then, students can use half q-tips for 10 fingers and 2 feet. (You can do 10 toes too if you like.)

Have students label the major bones.

Materials: paper, marker, glue, different sized q-tips



### The Bones Skit

Scene One: A boy in one car, one girl in another car and a police officer waiting at the curb. Also have a director that stands behind the audience to help out the actors if they get stuck.

Rules: you cannot do anything before the narrator reads the story.

Audience participating: They buzz whenever the bee is mentioned and they do the siren sound every time the police officer is mentioned.

Story: One day \_\_\_\_\_(boy) was driving with his metacarpals on the steering wheel when a bee entered his window and he begins to swat the air with his phalanges. The bee swooped down and stung him on the cartilage part of his ear.

As this was going on a \_\_\_\_\_(girl) drove up next to him and began waving her metatarsals out the window throwing her tibia and fibula in the air.

Immediately the boy shrugged his clavicle and smiled brightly and showed off his humerus. The girl responded by shaking her cranium from side to side indicating that she was not interested in the boy but also had a bee in her car that she had been swatting at with her metatarsals trying to stomp it out on the floor.

Both boy and girl were being attacked by bees in their car with their clavicle shrugging and rib cage rising and pelvis wriggling in the seat in hopes of not being stung.

Due to their erratic driving, a police officer pulls them both over and says, "Put your metacarpals on your cranium". Step out of the car by bending your pelvis and patellas and getting out of the vehicle. Now, please bend your vertebrae over the front of the car. Now just to make sure no one was under the influence of alcohol and/or drugs, we will conduct a simple test. Please squat down using your femur 3 times. Next, touch your cartilage on your nose with the tip of your metacarpal, switching hands for 4 times. Both people tried to lift their radius and ulna and complained that the handcuffs were too tight.

Suddenly the two bees attacked the police officer. He went right to his patellas and the bees began buzzing around his femur. He started jumping up and down kicking his tibia and fibula trying to scare the bees away. Just then, the bees decided to both land on the police officers sternum. The boy and girl stared at the bee and started to tip toe on their phalanges silently trying to get close to the bees. As the girl raised her left metacarpal in the air and prepared to strike, the bee flew off and stung her on the cartilage of her nose. THE END.

Have students write their own skits using at least 8 different names of bones.

## Further Exploration

**Bones Song** - Sung to the tune of "If You Are Happy and You Know It, Clap Your Hands"

"I'm Full of Bones"

From my fingers to my toes, I´m full of bones.  
From my fingers to my toes, I´m full of bones.  
If you count them all as one, they make a skeleton.  
From my fingers to my toes, I´m full of bones.

My smallest bone is found inside my ear.  
My smallest bone is found inside my ear.  
The stirrup helps me hear many sounds both far and near.  
My smallest bone is found inside my ear.

My longest bone is found inside my leg.  
My longest bone is found inside my leg.  
My femur´s really great ´cause it helps me stand up straight.  
My longest bone is found inside my leg.

My joints help my bones to move around.  
My joints help my bones to move around.  
My hips, elbows, and knees: Oh, it´s all so plain to see  
that my joints help my bones to move around.

—Original song lyrics by Jennifer Prescott

### **Skeleton Bookmarks**

Make copies for students and allow them to fold and cut out their skeleton bookmarks. Have students work in partner pairs, quizzing each other on their different bones. One partner can call out the name of the bone and the other can point to where the bone is located. As they get better at this, they can switch. One partner can call out the definition (hip bone) and the other can name the bone (pelvis). For another variation, one student can call out the name of a bone and the other can try to spell it.

### **Bone Health**

Take some time to discuss bone health with your students. We can protect our bones by wearing helmets, knee pads and elbow pads when we roller blade or ride bikes and scooters. In sports, we often use protective padding to keep our bones safe. Calcium helps to make strong bones. Kids should regularly eat foods rich in calcium like milk, cheese, yogurt and spinach. Exercising regularly is very important in keeping our bones healthy. If we

take steps now to keep healthy bones, these choices can protect us from developing diseases later in life.

## **Wrap Up**

- Have students write their own skits using at least 8 different names of bones.
- Have students use their bookmarks to quiz each other on the names functions and spellings of different bones.
- See if students can name some of the different organs in the human body.

## **Signs of Success**

The student will...

- Demonstrate engagement and curiosity in creating their own skeletal system.
- Students will use proper names of bones in their everyday conversations.
- Students will make healthy choices.

## **Other Books to Explore**

Carle, E. 1997. *From head to toe*. New York: HarperCollins.

Cole, J. 1998. *Your insides*.(Rev. ed.) New York: Morrow.

Mayer, G. 1998. *This is my body*. New York: Golden.

Perols, S. 1996. *The human body: A first discovery book*. NY: Cartwheel.

Thomas, P. 2002. *My amazing body: A first look at health and fitness*. New York: Barron's.

## **Pennsylvania Educational Standards**

### **Art Education**

**Reading** 1.2.3 A, C, E  
1.6.3 A, B  
1.8.3 A, B

### **NRC National Science Educational Standards**

Content Standard A: Science as Inquiry

Content Standard B: Biology

### **AAAS Benchmarks for Science Literacy**

12A Values and Attitudes & 12D Communication Skills

**Sources**

[www.scholastic.com/teachers/lesson-plan/super-skeletons](http://www.scholastic.com/teachers/lesson-plan/super-skeletons)

[www.educators.brainpop.com](http://www.educators.brainpop.com)

## **Sample Schedule For Making It A Week Long Unit**

### **Day 1:**

Introduce the concept of the human skeletal system.

Read *You Can't See Your Bones with Binoculars* by Harriet Ziefert.

Have students create their own skeletons with q-tips.

### **Day 2:**

As a class, perform the bones skit.

Have students create their own skits using at least 8 names of bones.

### **Day 3:**

Sing the bones song.

Let students perform their own skits.

### **Day 4:**

Sing the bones song.

Let students make their own bones bookmarks.

### **Day 5:**

Review what you learned about the skeletal system.

Sing the bones song. Let students work in partners, quizzing each other using their bones bookmarks.