

The Bones

Discipline: Science

Grade: 3rd-5th

Time: 3 blocks, 45 minutes each



Introduction

The skeletal system can be considered a foundation to the structural design of the body. It is what gives the body structure, lets you move in many ways, and protects your internal organs. The adult human body has 206 of them!

Anticipated Student Learning Outcomes

- Students will identify the various bone names in the skeletal system
- Students will investigate various bone functions
- Students will create an artistic representation to highlight their understanding of bone names and functions

CRISPA

Connections

Risk-Taking

Imagination

Sensory Experience

Perceptivity

Active Engagement

Overview

This overview lesson is created to enhance students' understanding and appreciation of the human bone structure. It looks at the part to whole relationship between individual bones and their place in the larger skeleton. Utilizing song, movement, and art, students investigate the human skeletal system

Materials

- Michael Stanwood's *Dreamin' 'Bout Bones* song on his CD *Living Together on Planet Earth* (track 2).
- Handout: *Bones and Their Jobs*
- Scissors
- Bone Template
- String or metal fasteners
- Paper and writing utensil

Evaluation

Students will be evaluated throughout the lesson in a variety of informal and formal ways. Student active engagement and participation in discussions provide an informal assessment of their understanding. The construction of the skeleton puppet and the artistic representation provides a more formal evaluation of student understanding of bones and bone function.

Suggested Procedures

Introduction

1. Explain to students that today, they are going to learn about the different bones in their body and the job of these bones. Begin a discussion with the students to activate and informally assess their prior knowledge about bones. Some discussion questions could include:
 - What are bones made of?
Bones contain calcium.
 - How many bones are there in our body?
An adult has 206 bones. Children are born with even more, about 300, but they fuse together as children grow.

Sometimes bones work together to perform a function. For example, a hand has 26 bones in it.
 - What do our bones do?
Bones provide support for our body as well as manufacture blood cells and store important minerals.
 - Name some bones.
The longest bone in our bodies is the femur (thigh bone). The smallest bone is the stirrup bone inside the ear.

You may wish to record students' prior knowledge on chart paper or on the blackboard to refer to throughout the lesson.

2. Have the students listen to Michael Stanwood's *Dreamin' 'Bout Bones* song on his CD *Living Together on Planet Earth* (track 2). Explain to students that bone names and their jobs are mentioned throughout the song.
3. Distribute handout *Bones and Their Jobs*. Explain to students that they are going to listen to the song again for the names of the bones and for context clues about the job of each bone.
 - Students may need an explanation of context clues
 - Context clues are words or phrases that provide insight to another word's meaning.
4. Play the song again for the students and have them record various bones and functions on the handout. If needed, stop the song at different intervals to provide time for students to record their notes.
5. At the end of the song, have students report their findings. You may want to compile individual findings into one class record and display on transparency, smart board or blackboard.

Activity:

1. Distribute *Bone Template* to students. Have students cut out each bone and assemble the cutouts to form a skeleton. You may encourage students to color or decorate their skeleton to make it uniquely their own. Have students use claps or ribbons to secure the bones to each other and in place. Attach a string from the cranium to hold or hang skeleton from.
2. After students have created their skeleton puppets, have them create an artistic representation (play, song, television commercial) about their skeleton puppet utilizing bone description words and functions.
 - You may want to set a goal as to how many vocabulary words and functions students should use.
 - You can refer back to Michael Stanwood's song as an example.
 - See suggested assignment, *Skeleton Artistic Representation*, in the resource section
3. Have students perform their artistic representation for each other

Possible Extensions

1. Instruct students to write a creative story about the skeletal system.
2. Have students create a three dimensional model of the skeletal system using clay, Model Magic, pipe cleaners, or recycled materials such as cans and bottle caps.
3. Create a persuasive bone poster. Have students select one bone and create a poster explaining why it is the most essential bone in the body.
4. Conduct a series of movements and explain what bones are involved in the movements and why.

Appendix

Bones and Their Jobs

Bone Template

Skeleton Artistic Representation Assignment Sheet

Additional Resources

<http://kidshealth.org/kid/htbw/bones.html>

http://www.kidsbiology.com/human_biology/index.php

<http://yucky.discovery.com/flash/body/pg000124.html>

<http://www.kidsdiscover.com/human-skeleton-for-kids>

Macaulay, David. *The Way We Work*. Houghton Mifflin/Walter Lorraine Books. 2008

Simon, Seymour. *Bones: Our Skeletal System*. Harper Collins. 2008

Bones and Their Jobs

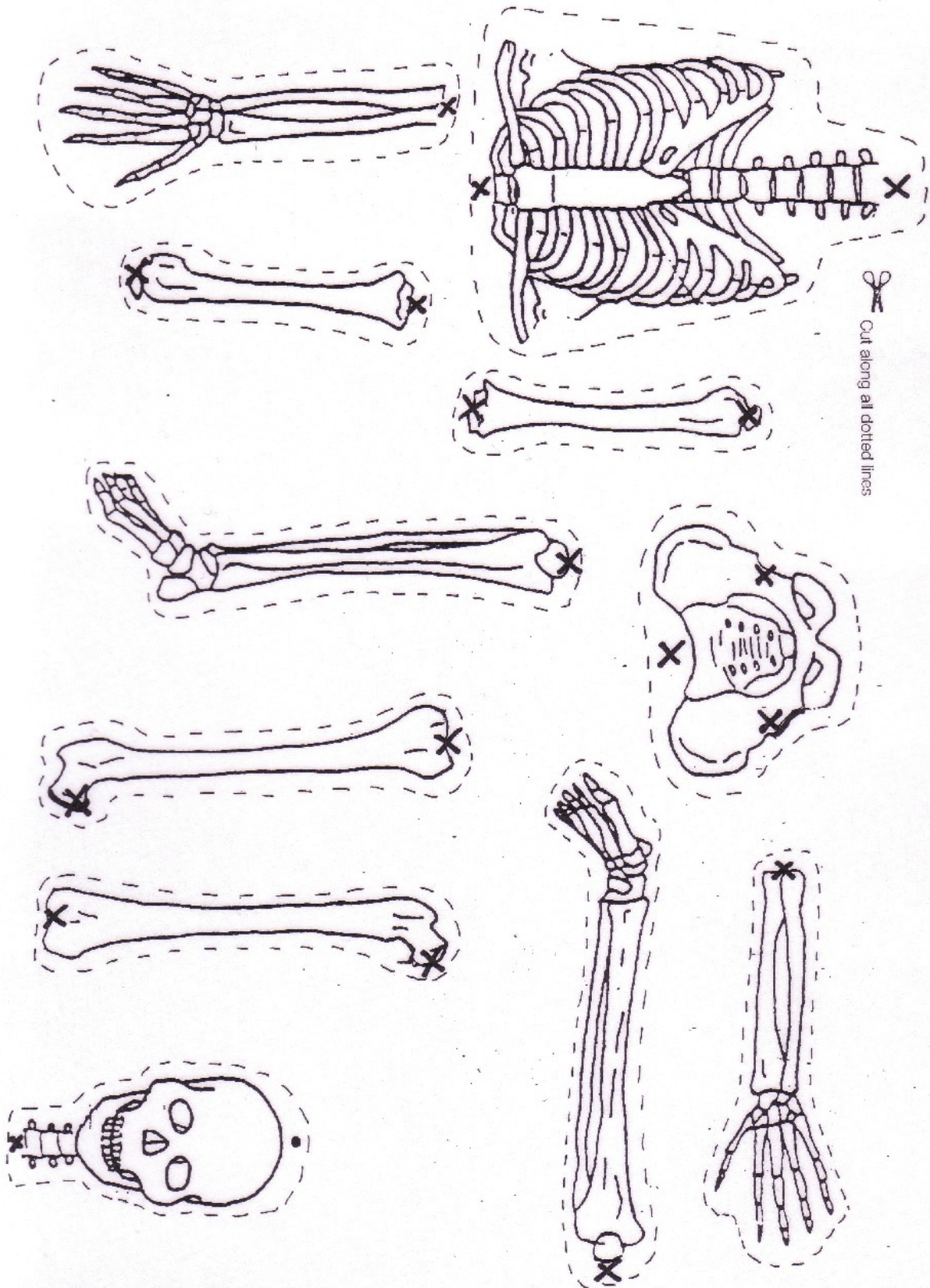
Name: _____

Date: _____

Listen to the song *Dreamin' 'Bout Bones* again. This time, as you listen, write down the names of the bones you hear mentioned in the song. Next to the name, write down what job or function you think that the bone performs using clues from the song.

Bone Name	Job or Function of Bone

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✂
Cut along all dotted lines

Skeleton Artistic Representation Assignment

Using the skeleton you have just created, you are going to share the information you have learned about bones and their functions. You may choose how you would like to share your information ;however, it must include at least seven different bones and explain, or use context clues, about its function in the human body. You should be creative and informative in this assignment. You may work in a small group or individually to complete this assignment. You will present your skeleton artistic representation with the class. Some ideas for an artistic representation are:

- 🍏 Produce a play
- 🍏 Write and perform a song- you can use any musical instruments you have access to in the class
- 🍏 Design a television commercial
- 🍏 Create a collage, painting, or drawing
- 🍏 Write a poem
- 🍏 Have a unique idea of your own? Present it to your teacher for approval.