

Anatomy and Physiology

FOR ENGLISH LANGUAGE LEARNERS

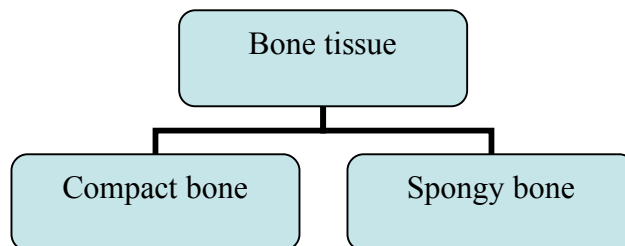
Chapter 3: Skeletal System

Throughout the chapter, refer back to the building blocks of the body by asking students questions such as *What's a molecule? What's a cell? What's an organ? What's a tissue?*

Bone organization

You can bring in beef bones or chicken bones to show students the structure of bones. Be sure that bringing in animal bones won't offend any students.

Draw the following graphic organizer on the board to illustrate the organization of bone. Have students copy it into their notebooks.



You can soak chicken bones overnight in acetic acid (vinegar) to show students how vinegar makes the bones soft and pliable. Tell them that this happens due to vinegar taking the calcium and other minerals out of the bone. Tell them that the part of the bone tissue which remains is the collagen.

Homeostasis of calcium

Have students write cause and effect sentences to describe what happens where there is too much or too little calcium in the blood. For example, *If there is too much calcium in the blood, the thyroid gland is stimulated. This causes the thyroid to release the hormone calcitonin into the blood stream. Calcitonin in the bloodstream signals the extra calcium to be stored in the bone.*

Major bones in the body

Are you going to be using real human skeletons when teaching this unit? If so, be aware that different cultures place different amounts of emphasis on the bones once the individual has died. Some of your students may have an aversion to touching real bones.

Have students work on learning one group of bones at a time: skull, axial skeleton (bones of the trunk and back), appendicular skeleton (bones of the arms and legs). For example, one group of bones would be just the bones of the arms.

Give students a piece of paper divided into three equal parts: the skull, the axial skeleton and the appendicular skeleton. Give them a list of bones and see if they can put them into the correct categories.



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For all parts of the skeleton have students touch their bodies and name the bone. Also students can quiz each other by one person naming a bone and the other students touching the bone of their body. Students can also do additional work with diagrams and models.



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