



Human Body Systems

Virtual Learning

9-12th PLTW[®] HBS

PLTW[®] 5.2.1 Looking Inside Bones

May 11, 2020



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Lesson: May 11, 2020

Objective/Learning Target:

Students will be able to identify key structures that contribute to bone's unique architecture, and describe how the structure of bone gives it the ability to withstand stress. (*Reference: PLTW[®] 5.2.1 Looking Inside Bones*)



Let's Get Started/Warm Up Activities:

Before we start our lesson today, watch the videos below:

- [Types of Bones Anatomy: Long, Short, Flat, Irregular, Sesamoid, Sutural](#)
- [What are Bones Made Up Of?](#)

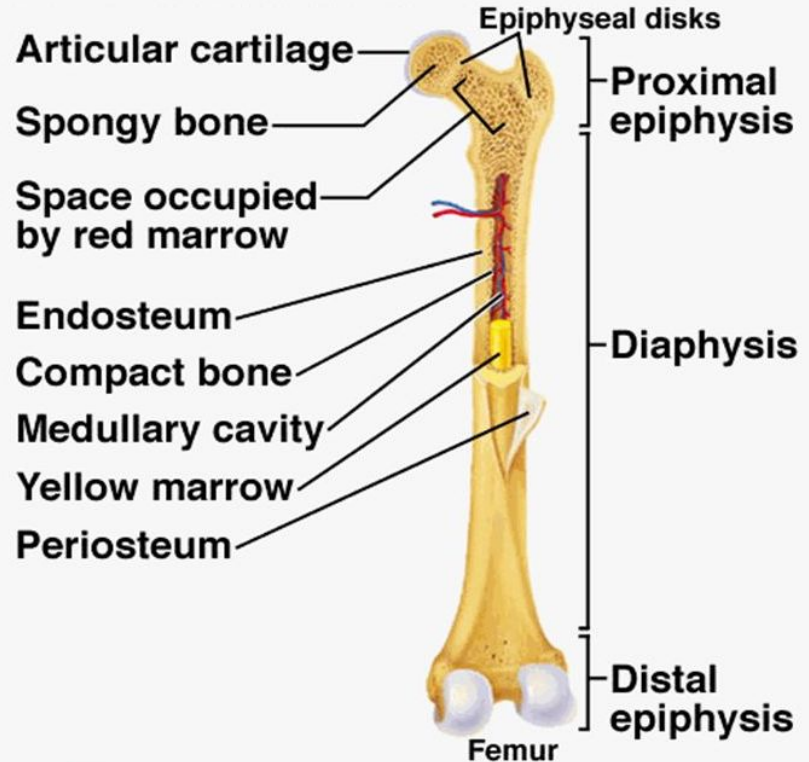
Lesson/Activity:

Activity #1: On a piece of paper or in your notebook, draw this diagram of the long bone. Feel free to use colored pencils, crayons or markers if available.

Activity #2: Using websites of your own choosing, write down the main function of each term on the diagram. Also, give a specific example of the following:

- Long bone
- Short bone
- Flat bone

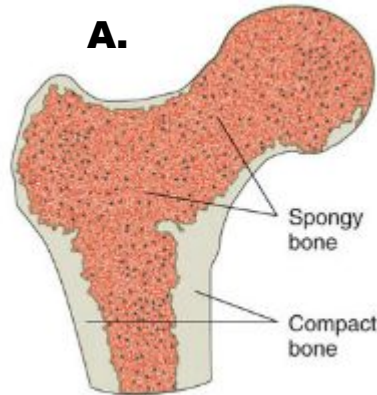
Long Bone



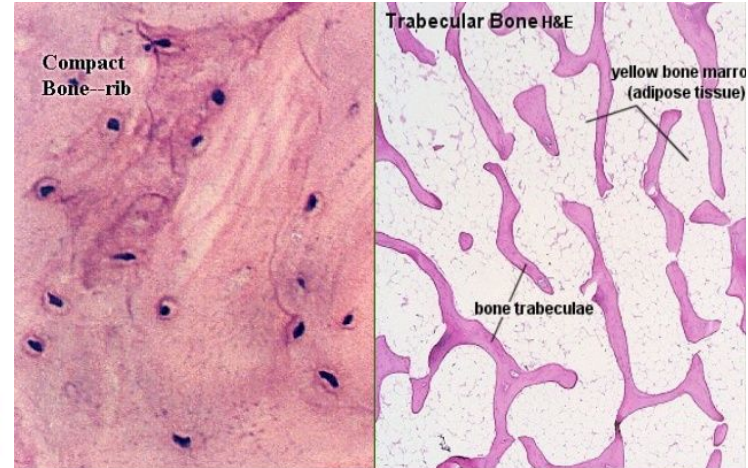
Lesson/Activity continued:

Activity #3: Compact bones are the present in the outer layer of long bones, while spongy bones are present in the middle of the long bones. The main difference between spongy and compact bones is their structure and function.

Diagram A on the right shows an example of where you can find spongy and compact tissue within the bone, and Diagram B is what each looks like under the microscope. Draw and label both diagrams on your paper or in your notebook.



B.



Compare compact and spongy bone as viewed with the light microscope

JG SAMBAD



Lesson/Activity Answer(s):

Activity #1 Answer(s):

Click [HERE](#) to view answers.

Activity #2 Answer(s):

Click [HERE](#) to view answers.

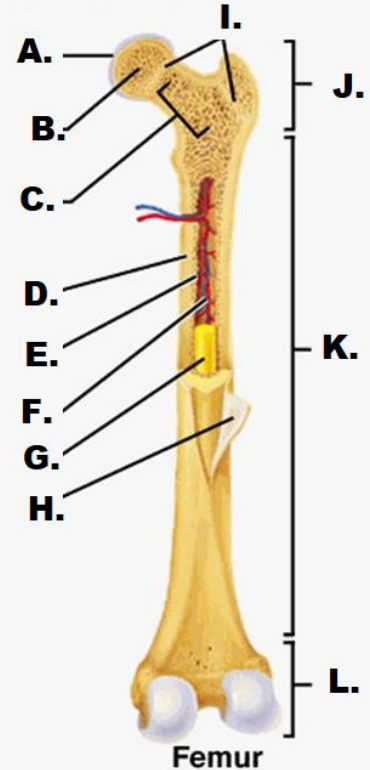
Activity #3 Answer(s):

Click [HERE](#) to view answers.

Practice:

Practice: On a separate sheet of paper, and WITHOUT using your diagram from Activity #1, try practicing by writing down all of the anatomy terms that you can remember. Practice several times so that you remember the anatomy.

Long Bone





Practice Answer(s):

Practice:

Question(s): On a separate sheet of paper, and WITHOUT using your diagram from Activity #1, try practicing by writing down all of the anatomy terms that you can remember.

Answer(s): Click [HERE](#) to view the answer(s).



Additional Practice and/or Resources:

Learn More:

[HBS Lesson 5.2.1 Flashcards](#)

Test your knowledge by clicking on the link above.

[Fun Facts About Bones and Joints](#)

Click on the website article above to read more about bones and joints.

[Osteoporosis: Causes, Symptoms & Treatments](#)

Osteoporosis, which literally means porous bone, is a disease in which the density and quality of bone are reduced. As bones become more porous and fragile, the risk of fracture is greatly increased especially in women as they grow older. Learn more by clicking on the link above.