



# Human Body Systems

## Virtual Learning

# 9-12th PLTW<sup>®</sup> HBS

PLTW<sup>®</sup> 5.2.3 Bone Remodeling and Repair  
**Part I: Types of Bone Cells**

May 13, 2020



# Human Body Systems

9-12th PLTW<sup>®</sup> HBS  
Lesson: May 13, 2020

## Objective/Learning Target:

Students will be able to distinguish between the following types of bone cells: osteoblasts, osteoclasts, osteocytes and osteogenic cells. (*Reference: PLTW<sup>®</sup> 5.2.3 Bone Remodeling and Repair*)



# Let's Get Started/Warm Up Activities:

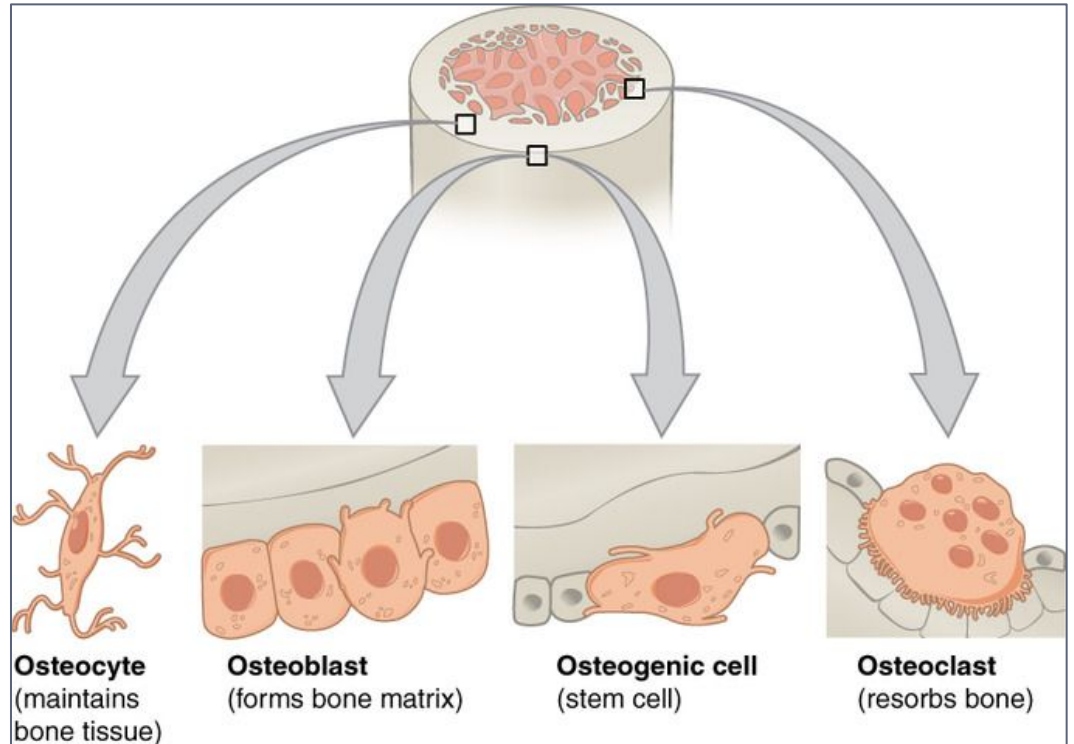
Before we start our lesson today, watch the videos below:

- [Introduction to Bone Biology](#)
- [Osteoblasts and Osteoclasts](#)

# Lesson/Activity:

**Activity #1:** On a piece of paper or in your notebook, draw the diagram illustrating different types of bone cells. 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.





# Lesson/Activity continued:

Watch the video:

## [How Space Exploration Affects Astronauts' Bones](#)

**Activity #3:** After bone mass has peaked at age 35, new bone formation cannot keep up with the destruction of bone. For this reason, bone mass begins to decrease. In space, this decrease occurs at a much faster rate. Watch the video above, and write a 3-5 sentence summary on your piece of paper or in your notebook about this phenomenon.



# Lesson/Activity Answer(s):

## Activity #1 Answer(s):

Click [HERE](#) to view answers.

## Activity #2 Answer(s):

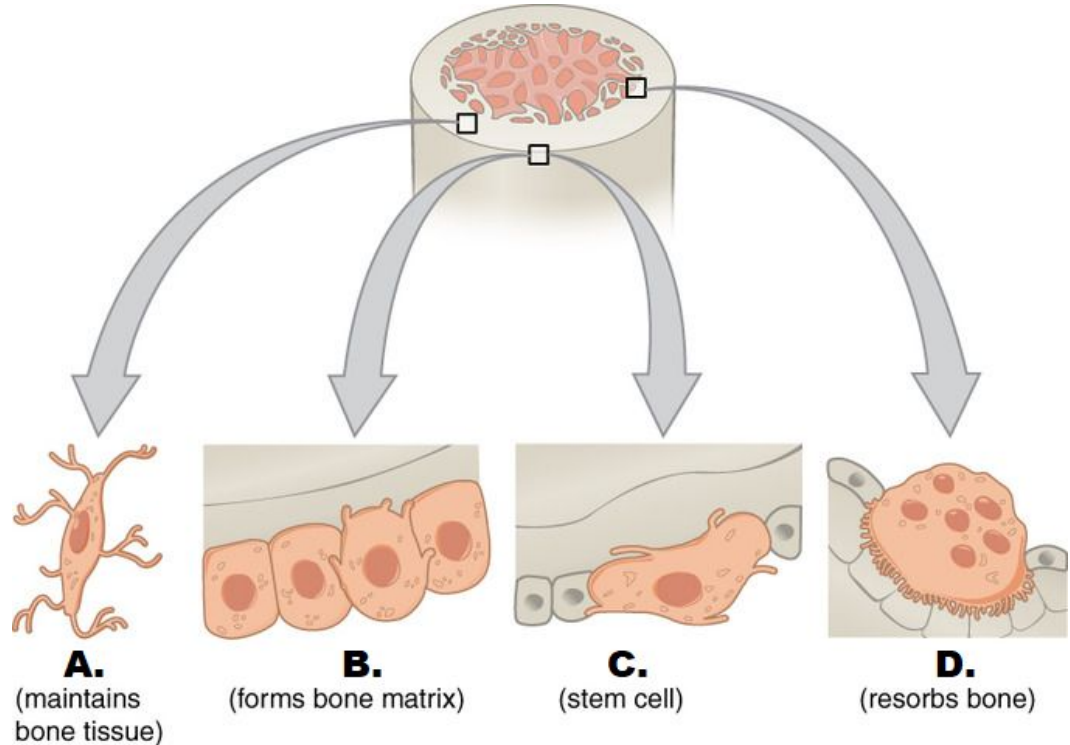
Click [HERE](#) to view answers.

## Activity #3 Answer(s):

Click [HERE](#) to view answers.

# Practice:

Practice #1: 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.





# Practice Answer(s):

Practice #1 Answer(s):

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





# Additional Practice and/or Resources:

Learn More:

## [HBS Lesson 5.2.3 Flashcards](#)

Test your knowledge by clicking on the link above.

## [Osteoblasts vs. Osteoclasts vs. Osteocytes](#)

Learn more about bone cells by watching this video!

## [How are Bones Remodeled?](#)

Check out this video describing bone remodeling, including the roles of osteoblasts, osteoclasts.