Anatomy/Physiology Class High School 11th and 12th—Wendy Wiseman

This lesson is for an upper level Anatomy/Physiology Class

There aren’t any essential standards for this class, so our school tried to go by the college standards for the class (See SWBAT, below).

**Essential Questions:**
What are the components and functions of the axial skeleton?
What are the components and functions of the appendicular skeleton?

**SWBAT:**

**UNIT IV: The Skeletal System**

**Goal:** The students will demonstrate the ability to analyze the structures and functions of the skeletal system and discuss related biomedical conditions and their impacts on individuals and society.

**Objectives** - The student will be able to: a. List and describe five important functions of bones. b. Describe the gross anatomy of a typical long bone and flat bone. Indicate the locations and functions of red and yellow marrow, articular cartilage, periosteum, and endosteum. c. Distinguish between compact and spongy bone. d. Describe bone histology. e. Describe the process of bone formation and growth f. Describe bone injuries and disorders g. Describe the changes in bone during the aging process. h. Identify major bones in the skull i. Identify the bones of the axial and appendicular skeletons. j. Define and classify joints. k. Identify the most common joint injuries and disorders.

**Vocabulary:**

**Axial Skeleton:**
Cranium, frontal, squamous suture, zygomatic process, coronal suture, parietal, temporal, occipital, mastoid process, mandibular condyle,
coronoid process, mandible, sphenoid, nasal, zygomatic, foramen magnum, maxilla, jugular foramen, carotid canal, external acoustic meatus, optic canal, hypoglossal canal, lambdoid suture, cervical, thoracic, lumbar, sacral vertebrae, coccyx, axis, atlas, rib.

**Engage**—Have the X-ray of a broken jaw on the screen as students work on the bell ringer--hook

http://i3.getsurrey.co.uk/incoming/article4760753.ece/ALTERNATES/s615/C_67_article_2086646_body_articleblock_0_bodyimage.jpg

Bell Ringer—What does the term “axial” mean? What parts of the skeleton do you think are included in the axial skeleton?

**Explore—Lab Stations**

Station 1—Read and annotate the following article about The Body Farm. Staple into your science journal.

http://www.utne.com/science-and-technology/the-body-farm

Station 2--Make flash cards of the following from the website below:


When put together, they should fit like a puzzle piece. Have them different shapes on the end. Write info. Down in your science journal.

OR make your own flash cards with pictures of the facial bones and a description. Have a way for students to check themselves. Write down answers in science journals.
Station 3—Have individual bones out and labelled so students can touch and look at them.

Station 4—Have students move to the skeleton and help each other identify the bones. Write in your notebook and then check with the answer sheet turned over on the lab counter. As the teacher, walk around and make sure they are helping each other with this activity.

Elaborate—Students will then come back to their desk and we will talk about a discuss the physiology of the cranial bones. Complete the handout of the cranial bones, labelling together and answer some questions.

Students will whiteboard items that they have learned. We will discuss any misconceptions or clear up any confusion.

Evaluation—Students will complete the Alice World quiz on the major cranial bones. Go over with students.