**A Bone to Pick**

**Subject area/course:** Science, Human Anatomy & Physiology

**Grade level/band**: 11–12

**STUDENT PROMPT SECTION**

1. **Task context**:

The human body is comprised of multiple body systems that display interdependence necessary to maintain homeostasis. The skeletal system is but one of these essential systems. It is comprised of over 200 bones and has multiple functions beyond providing a supportive framework and protecting soft tissue. The skeletal system both affects and is affected by other body systems. For example, the skeletal and muscular systems work together to allow for a vast range of different movements. Both of these systems depend on the cardiovascular system to supply oxygen, nutrients, and minerals. Therefore, disorders of the skeletal system can cause adverse effects on other body systems. There are many factors that influence the health of the skeletal system including age, physical stress, hormone levels, diet and genetics.

Human Anatomy is a course that is often taken by students interested in Physical Education, Kinesiology, Nursing, Pre-Med, or other fields related to medicine. Based on this ideology, imagine yourself a first-year medical student, specializing in orthopedic medicine. In this field, it is essential that you develop a comprehension of the anatomy and physiology of the skeletal system. You will also be required to research disorders of the skeletal system and understand the impact of such disorders on the individual system as well as the impact to an individual’s homeostasis.

Choose a common disorder of the skeletal system. Research your chosen disorder to determine the cause of the disorder, what the major risk factors are, and what type of individuals are most susceptible. Identify the effects on the skeletal system and how other body systems may be impacted. You should also research how the disorder is diagnosed and treated. Make an effort to discover how treatments actually work to counteract the disorder. For example, if a prescribed drug is called for, then make sure you explore the mechanism of action of the drug. If there is no curative treatment available, investigate what it would be like for an individual to live with the disorder.

1. **The task**:

After reading informational texts from multiple authoritative print and digital sources, write a 3- to 4-page paper that explains the skeletal system disorder of your choice. Be sure to include all of the pertinent information from your research. What conclusions or implications can you draw about the interdependent nature of human body systems?

Your paper should:

* Support your conclusions using evidence from each source.
* Address the credibility and origin of sources in view of your research topic.
* Identify any gaps or unanswered questions.
* Use content-specific vocabulary and attend to precision.

1. **Materials/resources**:

Use informational texts, such as an Anatomy and Physiology textbook, as well as scientific journals. You may also explore Internet materials, such as WebMD or Medscape, but do not rely solely on them for your information. You should include a Works Cited page using the CSE (Council of Science Editors) style or another style that your instructor selects.

1. **Time requirements**:

You will have approximately two weeks to complete your paper.