

**Curriculum Unit Title**

Stronger. Better. Faster. Smarter

**Author**

Terri Eros

**KEY LEARNING, ENDURING UNDERSTANDING, ETC.**

All living things are made up of cells. In organisms, cells work together to form tissues and organs that are specialized for particular body functions. Each sense receptor responds to different inputs, transmitting them as signals that travel along nerve cells to the brain. The signals are then processed in the brain, resulting in an immediate behavior or memories.

**ESSENTIAL QUESTION(S) for the UNIT**

How do structures work together to fulfill the function(s) of a system?  
How does a structure's form and composition determine its function?  
How have people used other materials to replace/repair organic structures in the human body?

**CONCEPT A**

The muscular-skeletal system, with input from the brain, is responsible for movement.

**CONCEPT B**

Different types of joints provide for different movements.

**CONCEPT C**

Prosthetics can replace damaged/missing body parts.

**ESSENTIAL QUESTIONS A**

How do structures work together to fulfill the function(s) of a system?

**ESSENTIAL QUESTIONS B**

How does a structure's form and composition determine its function?

**ESSENTIAL QUESTIONS C**

How have people used other materials to replace/repair organic structures in the human body?

**VOCABULARY A**

Bones, cartilage, bursae, joints, tendons, ligaments, muscles, nerves, receptor arc, axial, appendicular

**VOCABULARY A**

Fibrous, cartilaginous, synovial, gliding, hinge, pivot or swivel, condylar, saddle, and ball and socket

**VOCABULARY A**

Arthroplasty, prosthetic, friction, osteoporosis

**ADDITIONAL INFORMATION/MATERIAL/TEXT/FILM/RESOURCES**

"Engineering Bones - Lesson." Www.teachengineering.org. Accessed July 30, 2017. [https://www.teachengineering.org/lessons/view/cub\\_biomed\\_lesson01](https://www.teachengineering.org/lessons/view/cub_biomed_lesson01). Very complete set of lesson plans that explore biomedical engineering. The first focuses on bones. It includes a pre and post assessment, written background information for the teacher and separated vocabulary lists. It offers extensions to both upper and lower grade levels. In addition to the skeleton, it also looks at other parts of the body-eyes, ears, circulatory, and even digestive.