

The Human Skeletal System

Florida Benchmark: Identify the organs in the human body and describe their functions, including the skin, brain, heart, lungs, stomach, liver, intestines, pancreas, muscles and skeleton, reproductive organs, kidneys, bladder, and sensory organs. (Adapted from NGSS)

NGSS Standard: Identify the organs in the human body and describe their functions, including the skin, brain, heart, lungs, stomach, liver, intestines, pancreas, muscles and skeleton, reproductive organs, kidneys, bladder, and sensory organs.

A. GRADE LEVEL: 5th Grade

B. SUBJECT: STEM/Science

C. DATE: [Insert Date]

D. DURATION: 45–60 minutes

E. LESSON FOCUS: Understanding the structure, function, and importance of the human skeletal system.

F. MATERIALS:

- Model of the human skeleton (poster or 3D model)
- Playdough or clay
- Pipe cleaners
- Straws
- Science journal or worksheet
- Video on the skeletal system

G. LESSON OBJECTIVES:

1. Identify major bones in the human body and describe their functions.
2. Explain how the skeletal system provides support, protection, and movement.
3. Conduct a hands-on activity to model the skeletal system.

H. PROCEDURES:

1. INTRODUCTION:

- Begin with a short video or interactive presentation on the skeletal system.
- Ask students guiding questions: *Why do we need bones? What would happen if we had no skeleton?*
- Display a skeleton model and discuss key bones and their functions.

2. EXPERIMENT:

- **Activity:** *Building a Model Skeleton*

- Students will use pipe cleaners as a flexible base and attach straws (bones) to represent different parts of the skeleton.
- Playdough can be used to connect parts and act as joints.
- Compare this model to the human skeletal system.

3. OBSERVATION:

- Students will write observations in their science journal.
- Discuss questions: *How does the skeleton support our body? What role do joints play?*
- Have students move different body parts to understand bone movement.

4. GENERALIZATION:

- Summarize key points about the skeletal system's functions: support, movement, and protection.
- Relate to real-life applications (e.g., sports injuries, X-rays).
- Ask students to reflect: *Why is it important to keep our bones healthy?*

5. ASSESSMENT:

- Labeling activity: Students label a skeleton diagram.
- Exit ticket: Write one function of the skeletal system and an example of how it helps us.
- Group discussion: Name one bone and describe its function.

Note 1: Safety Considerations

Students should handle materials carefully, especially scissors if used to cut straws. Encourage students to be mindful of their classmates while working in groups. If handling a real skeleton model, remind them to treat it with respect. Ensure a clean workspace to prevent accidents.

Note 2: Accommodations for ELL, ESE, and Other Learners

- **ELL Students:** Use visuals, labeled diagrams, and interactive videos. Provide sentence frames for discussion.
- **ESE Students:** Offer hands-on support, break tasks into smaller steps, and use tactile materials.
- **Advanced Learners:** Challenge them to research additional bone functions or how broken bones heal.
- **Kinesthetic Learners:** Provide movement-based activities, like acting out bone functions.