

ELEMENTARY STEM

STANDARD(S):

The student understands the basic structures and functions of the human body and how they relate to personal health throughout the lifespan. The student is expected to:

(C) identify the major systems of the body.

CONCEPTS (NOUNS)

Basic structures of the human body

Basic function of the human body

- Personal health

Major systems of the body

SKILLS (VERBS)

Understands (basic structures and functions)

Identify (major systems of body)

LEARNING PROGRESSION

1. Name each of the major systems of the body (nervous, circulatory, skeletal, digestive, muscular, respiratory)
2. Know and understand the function of each system.
3. Explain the main components of each system
4. Identify ligaments and tendons
5. Explain the jobs of tendons and ligaments
6. Explain how tendons and ligaments support the skeletal system

LEARNING INTENTIONS

1. I am learning about ligaments and tendons.
2. I am learning about the skeletal system

SUCCESS CRITERIA

- 1a. I can define ligament and tendon.
- 1b. I can explain the role of ligaments and tendons.
- 1c. I can identify parts of the body that have ligaments and tendons.
- 1d. (language expectation)
Tendons connect _____.

Ligaments connect _____.

They are important because _____.
- 2a. I can explain the purpose of the skeletal system.
- 2b. I can describe the ways that ligaments and tendons support my skeletal system.
- 2c. (Language success criteria)
I can use the words tendons, ligaments, diagram, bones, pull, connect, and move.

RELEVANCE TALKING POINTS

- 1a. When moving my body I can recognize how my tendons and ligaments are supporting me.
- 1b. I will know how to take care of my tendons and ligaments during daily activity.
- 2a. I can identify the different parts of my body that allow me to play and move.

ASSESSMENT OPPORTUNITIES (LISC1)

- Look to see that students can identify ligaments on a diagram
- Look to see that students can identify tendons on a diagram
- When given a blank diagram, students can identify tendons and ligaments without support.
- Listen for the words “tendons,” “diagrams,” “bones,” “connect,” and “move” in student conversations.
- Students are able to write 3–4 sentences about the importance of their ligaments and tendons, using academic vocabulary in the appropriate context.

CREATING MEANINGFUL LEARNING EXPERIENCES

Focused Instruction (modeling):

Tendons are like power ropes in your body. They connect muscles to bones, and they're super strong and stretchy, just like the cables that superheroes might use to swing from building to building. Imagine doing a high-five with a friend. Your muscles contract, and the tendons in your arm pull on your bones, making your hand move up for the high-five. Now, **ligaments** are like the sturdy bands or straps that hold your bones together at the joints. Point to your elbow or knee joint. Ligaments are there, making sure your bones stay connected when you bend or twist. They're the joint protectors, preventing your bones from going in directions they shouldn't.

GUIDED PRACTICE

Using a diagram, have students locate elbow tendons and ligaments on the board. Ask, "How do you know this is a tendon?" and "How do you know this is a ligament?" "Where else might you find ligaments/tendons? How do you know?"

COLLABORATIVE LEARNING

Then students will engage in partner conversation, explaining to one another the importance of our tendons and ligaments. Students will be given the following questions:

1. What is the role of our ligaments? What would happen if we didn't have ligaments?
2. What is the role of our tendons? What would happen if we didn't have tendons?
3. How can we take care of our ligaments and tendons?

INDEPENDENT PRACTICE

Students are given a blank diagram and must identify knee tendons and ligaments. They must draw a line and label the tendons, ligaments, bones and muscles. Then students must summarize the ways that tendons and ligaments support the skeletal system, as well as at least one way to keep them healthy and strong. They will do this in 3–4 sentences, with limited support.