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DepED
DEPARTMENT OF EDUCATION

Learning Activity Sheet for Science

Quarter 2
Lesson
1

Worksheet for Science 4
Quarter 2: Lesson 1 (Week 1)
S.Y. 2024-2025

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LEARNING ACTIVITY SHEET

Learning Area:	Science 4	**Quarter:**	2nd Quarter
Lesson No.:	1	**Date:**	
Lesson Title/ Topic:	**Muscular System**		
Name:		**Grade & Section:**	

(Day 1 and 2- Week 1)

I. Activity No. 1: Muscle Mania: Understanding the Muscular System (60 minutes)

II. Objective(s):

At the end of the activity, the learners are expected to:

- understand the primary functions of the muscular system;
- identify and label major muscles in the human body; and
- describe the role of muscles in daily activities in simple terms.

III. Materials Needed:

- Large poster or diagram of the human body with major muscles (can be a printed image or drawn on a whiteboard).
- Sticky notes or labels.
- Markers.
- Handout with simple descriptions of the muscular system functions.

IV. Instructions:

Introduction (5 minutes):

- In this activity, your teacher will give you activities to learn about muscles. You will also share your thoughts and experiences related to the functions of muscles in performing different physical activities.
- For a start, answer the given question below:

What do you know about muscles? (Write down at least three ideas.)

1. _____
2. _____
3. _____

Muscle Labeling Activity (15 minutes):

- Given the large poster or diagram of the human body showing the muscles, you or your group will label specific muscles on the poster (e.g., biceps, quadriceps, heart, diaphragm) using a set of sticky notes or labels and markers.
- Then, you will write a one-sentence description of the muscle's function in simple terms.
- You are to work collaboratively and discuss each other's ideas.

Presentation (15 minutes):

- You are to present the labeled poster with descriptions to the class. The teacher will discuss and clarify any misconceptions observed.
- The following are guide questions for you to answer:

1. What are some similar concepts that you and your classmates have identified about the muscular system?

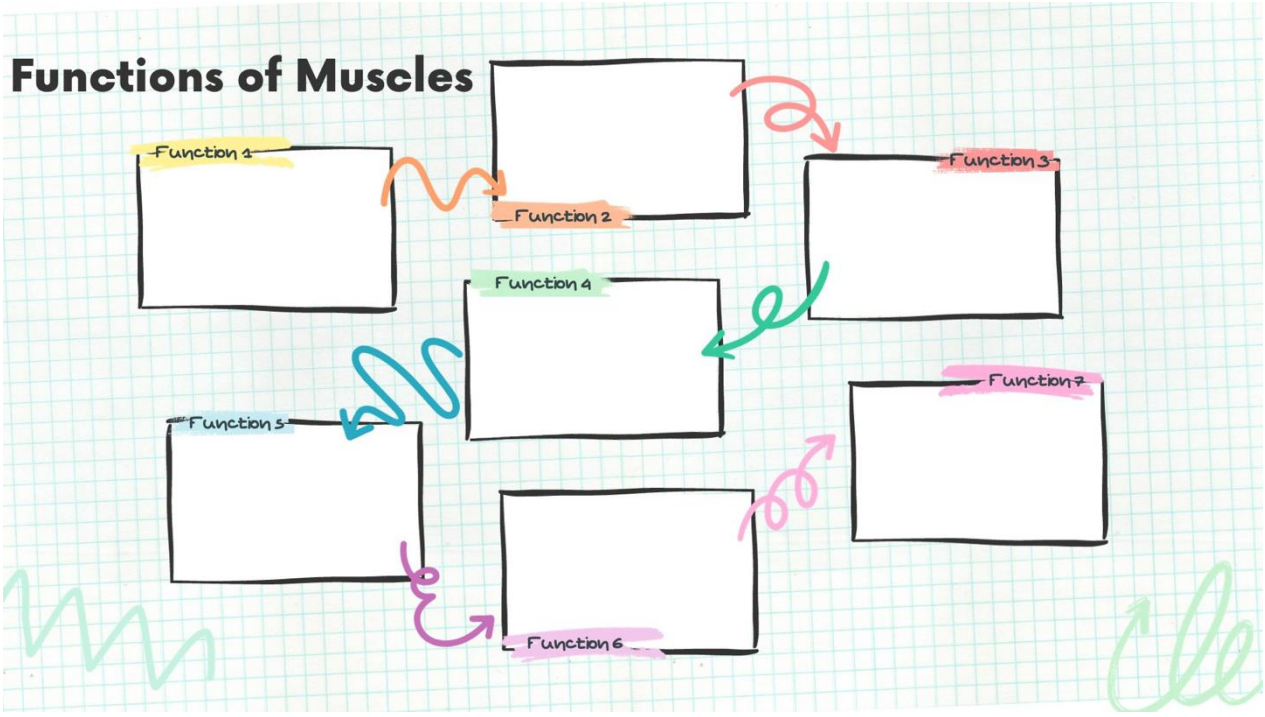
_____
_____
_____
_____
_____

2. What are the main functions of the muscular system in simple terms, such as helping us move (e.g., running, jumping), pumping blood (the heart is a muscle), breathing (the diaphragm muscle), and providing support and shape to our bodies?

_____
_____
_____
_____
_____

Concept Formation (15 minutes):

- You will listen to the class discussion lead by your teacher and will complete the diagram below on the main functions of the muscular system:



Hands-on Activity (10 minutes):

- The teacher will engage you in a brief physical activity to demonstrate the importance of muscles. For example, you do a simple exercise like push-ups, jumping jacks, or simple dance steps and discuss how muscles are used in these activities.

Why are muscles important?

_____
_____
_____
_____
_____

Rubric or Scoring Guide:

- Accurate labeling of muscles (3 points).
- Accurate description of the muscle's function in simple terms (3 points).
- Effective presentation to the class (4 points).

V. Synthesis/Extended Practice/Differentiation (if needed):

Synthesis:

Answer the question: *What are muscles and their functions*?

_____
_____
_____
_____
_____

Extended Practice:

- Your teacher will assign homework or in-class activities where you can do research and report on famous Philippine athletes or individuals who rely heavily on their muscular system in their professions or hobbies. You will describe how these individuals use their muscles in their specific activities.

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Learning Area:	Science 4	**Quarter:**	2nd Quarter
Lesson No.:	1	**Date:**	
Lesson Title/ Topic:	**Muscular System**		
Name:		**Grade & Section:**	

(Day 1 and 2 - Week 1)

I. Activity No. 2: Muscle Power: A Hands-On Exploration (60 minutes)

II. Objective(s):

At the end of the activity, the learners are expected to:

- construct a muscle model, and
- demonstrate muscle contraction and relaxation by using a simple model.

III. Materials Needed:

- Balloons (1 per student)
- Rubber bands (2 per student)
- Drinking straws (2 per student)
- Scissors
- Markers
- Chart paper or whiteboard
- Labels (optional)

IV. Instructions:

Part 1: Building a Model Muscle (20 minutes)

- You will be given a balloon, two rubber bands, two drinking straws and scissors.
- Cut one of the straws in half and attach one end of it to the neck of the balloon using a rubber band. This represents a “tendon”.
- Then, take the other straw, cut it into smaller segments, and attach these pieces to the other end of the tendon with rubber band. These segments represent the “bone”.
- How does your output look like? Make a sketch or draw your simple model of a “tendon” and “bone”. Label the parts if desired.

Part 2: Demonstrating Muscle Contraction (20 minutes)

- You will hold the "bone" part and gently pull on the “tendon” (straw) to simulate muscle contraction. Observe how the balloon (muscle) shortens.
- Release the tension to show muscle relaxation.
- Make a sketch or drawing of your set up and use arrows to show direction of the movement of the “muscle”. Label if possible.

What happens when muscles contract? What happens when muscles relax?

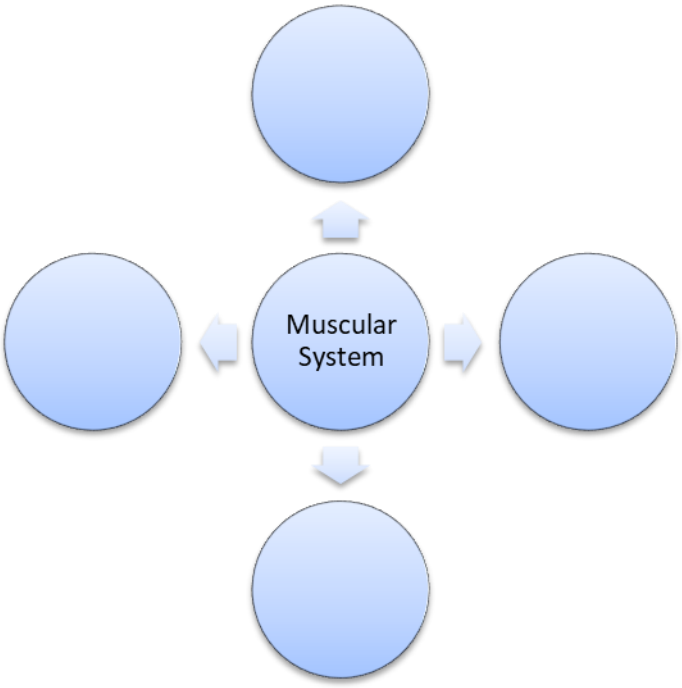
_____

_____

_____

Concept Formation (10 minutes)

- The teacher will lead a class discussion to explore the main functions of the muscular system. You are to complete the diagram below.



Hands-on Activity (10 minutes)

- Make a sketch or diagram illustrating the muscle, tendon, and bone, and describe how they relate with each other in movement.

Rubric or Scoring Guide:

- Model Construction (5 points)
- Demonstration of Muscle Contraction (5 points)
- Participation in Class Discussion (10 points)

V. Synthesis/Extended Practice/Differentiation (if needed):

Synthesis:

Answer the question: *What happens to muscles when they contract and relax? You may give examples*?

_____
_____
_____
_____
_____

Extended Practice:

- To extend the learning, the teacher may assign learners to do research and present on the types of muscles in the human body (i.e., skeletal, smooth and cardiac muscles), their functions, and how they work together. Learners could also research on importance of muscle contraction and relaxation in performing different activities. In addition, learners could research on benefits from exercise and a balanced diet in taking care of the muscles.

LEARNING ACTIVITY SHEET

Learning Area:	Science 4	**Quarter:**	2nd Quarter
Lesson No.:	2	**Date:**	
Lesson Title/ Topic:	**Skeletal System**		
Name:		**Grade & Section:**	

(Day 3 and 4- Week 1)

I. Activity No. 3: Skeletal System Spotlight (60 minutes)

II. Objective(s):

At the end of the activity, the learners are expected to:

- identify major bones in the human body;
- describe the primary function of the skeletal system; and
- describe how the skeletal system provides support to the body using simple terms.

II. Materials Needed:

- Large poster or diagram of the human skeleton (can be a printed image or drawn on a whiteboard).
- Sticky notes or labels.
- Markers.
- Handout with simple descriptions of the skeletal system's role.

III. Instructions:

Introduction (5 minutes):

- In this activity, your teacher will give you activities to learn about muscles. You will also share your thoughts and experiences related to the functions of muscles in performing different physical activities.
- For a start, answer the given questions below:

Are bones important to the body?

_____

Why do you say so?

_____

_____

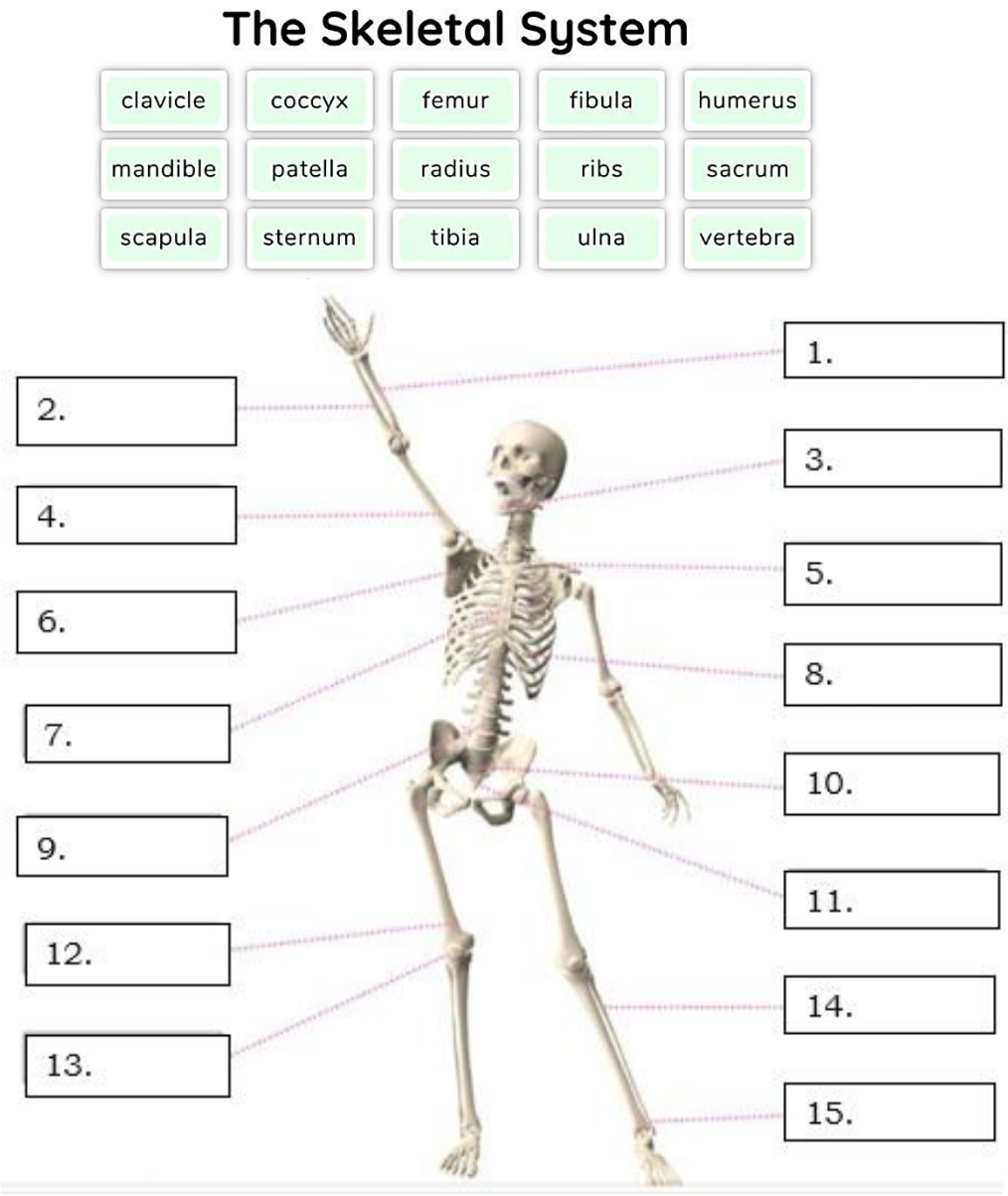
_____

What do you think are the functions of the bones? List down at least three.

1. _____
2. _____
3. _____

Bone Labeling Activity (15 minutes):

- Given the diagram of the human skeleton below, you are to label specific bones on the poster using a set of sticky notes or labels and markers. You may answer this activity digitally if you have access to a computer.
- You may use your textbook or other references online if you can access the internet.
- You are to write a one-sentence description of the bone's function in simple terms.
- You will work collaboratively and discuss your ideas.



Source: https://hunterswoodsph.com/skeletal-system-worksheets/

Presentation (15 minutes):

- By group or individually, you will present the labeled skeleton with descriptions to the class. Your description will include the location of the bone, its shape and/or its function.
- The teacher will discuss and clarify any misconceptions observed.

Guide Questions:

1. What are some similar concepts that you and your classmates have identified about the skeletal system?

   _____
   _____
   _____

2. What concepts or ideas that you have which are different from your classmates? Which idea do you think is correct? Why?

   _____
   _____
   _____

Concept Formation (10 minutes):

- The teacher will explain the primary role of the skeletal system in supporting the body's structure in simple terms. For example:
  - Providing a framework that holds the body together.
  - Providing support for the body
  - Protecting vital organs (e.g., the ribcage protects the heart and lungs).
  - Assisting in movement by providing attachment points for muscles.

Hands-on Activity (15 minutes):

- The teacher will engage you in a hands-on activity to demonstrate the importance of the skeletal system's support role. You can use props like bendy straws to represent bones, and create structures with these straws to understand how bones provide support and structure to the body.

Rubric or Scoring Guide:

- Accurate labeling of bones (3 points).
- Accurate description of the bone's role in simple terms (3 points).
- Effective presentation to the class (4 points).

IV. Synthesis/Extended Practice/Differentiation (if needed):

Synthesis:

- The teacher will summarize the key functions of the skeletal system as a class and emphasize its critical role in supporting the body's structure. The teacher will discuss any questions or insights that arose during the activity.

Extended Practice:

- For extended practice, the teacher may assign homework or in-class activities where learners do research and report on real-life scenarios or injuries that involve the skeletal system. Learners can describe how the skeletal system is affected and how it impacts a person's ability to move or protect vital organs.

Suggested Modification:

- To make the activity more accessible or engaging, the teacher will consider using anatomical models or interactive apps to explore the human skeletal system. The teacher can also adapt the complexity of the descriptions to suit the grade level or the prior knowledge of the learners. For younger students, the teacher will focus only on the most basic functions and provide more visual aids. For older students, the teacher could let them explore more complex functions and anatomical details of the skeletal system.

LEARNING ACTIVITY SHEET

Learning Area:	Science 4	**Quarter:**	2nd Quarter
Lesson No.:	2	**Date:**	
Lesson Title/ Topic:	**Skeletal System**		
Name:		**Grade & Section:**	

(Day 3 and 4- Week 1)

I. Activity No. 4: Bend It, Break It: Discovering the Role of the Skeletal System (60 minutes)

II. Objective(s):

At the end of the activity, the learners are expected to:

- construct a simple model of skeletal system; and
- develop an appreciation for the role of bones in human movement and support by suggesting ways on how to take care of the skeletal system.

III. Materials Needed:

- A human skeleton model or images of the human skeleton.
- Plastic drinking straws.
- Modeling clay or playdough.
- Colored markers.
- Chart paper or a whiteboard.
- Safety scissors.

IV. Instructions:

Introduction (5 minutes):

- In this activity, you will learn about the importance of the human skeletal system in simple terms. You are to explain that our bones are like the framework of a building, providing support for our bodies.

Part 1: Building a Skeleton (30 minutes):

- You will be given plastic straws and modeling clay/playdough.
- You will use the straws as bones and clay/playdough to represent joints in creating a simple model of a human skeleton.
- You will label the major bones (e.g., skull, spine, ribs, arms, legs) using markers.

Part 2: Demonstrating Support (25 minutes):

- After creating your skeletal system model, let it "stand" upright and observe how it supports its own weight.
- Make a sketch or drawing of your model and label the parts.

Concept Formation (15 minutes)

- The teacher will engage the class in a discussion about the skeletal system. You will complete the word puzzle below on the basic functions of the skeletal system.

	U	P	P			T

M		V		M			T

space	P	R		T		C				N

B	L			D	space	P	R				C				N

S		O	R		G	

- Why is it important for our bones to be strong?" What should we do to take care of our skeletal system?

_____
_____
_____
_____

Rubric or Scoring Guide:

The rubric can include points for accuracy in labeling the bones, creativity in the skeletal model, and participation in the discussion. Assign scores for each category, such as:

- Labeling: 5 points
- Creativity: 5 points
- Participation: 5 points

V. Synthesis/Extended Practice/Differentiation (if needed):

Synthesis:

- The teacher will summarize what learners have learned about the skeletal system.

  Answer:
  In your own words, compose a short paragraph on the functions of the skeletal system.
  _____
  _____
  _____
  _____

Extended Practice:

- The teacher may assign students to do research and present on common bone-related issues or conditions, such as osteoporosis or fractures, to deepen their understanding.