

LESSON PLAN – Muscular System

Subject/Topic/Unit: Science/Muscular System/Healthy Living

Grade Level: Third Grade

I. Main Ideas/Conceptual Understanding/Goals

To understand the different types of muscles within the muscular system and their functions as well as exercises to strengthen muscles

II. Specific Objectives

Given a series of statements regarding muscles, the student will match each statement with the appropriate muscle type (smooth, cardiac, or skeletal) with no more than two errors.

Within a group setting, the student will design and demonstrate a series of exercises to maintain healthy bodies and strengthen muscles.

Life Science Curriculum Framework

3. Describe the characteristics, structures, life cycles, and environments of organisms.
- b. Identify and describe the purpose of the digestive, nervous, skeletal, and muscular systems of the body. (DOK 1)

III. Procedures

A. Introduction/Motivation

Tell students that for the next two days we will be learning about the muscular system. Show students the youtube video “How muscles work” (https://www.youtube.com/watch?v=f_F5UwtdPOc) Have students discuss what they learned from the video regarding the muscular system.

Tell students that by the end of the lesson today they will match statements regarding the three different types of muscles and design and demonstrate a series of exercises to strengthen muscles.

B. Study/Learning

Tell the students that muscles in our bodies are what helps us to move around.

- Many of our muscles are connected to bones and joints.
- Our bodies have over 600 muscles and they all have a special job.

Explain to the students that there are 2 types of muscles: voluntary and involuntary.

- A voluntary muscle is a muscle we can control when we want to such as moving our arm or leg. These muscles are what help us move.

- Involuntary muscles are muscles that move on their own. Some examples of involuntary muscles are the heart and digestive system.

Explain to students that there are three types of muscle tissue: Visceral, cardiac, and skeletal. Show chart and give students a handout with information regarding the three types of muscles (Muscular 3 – Attachment 1).

- *Smooth Muscle.* Smooth muscle is found inside of organs like the stomach, intestines, and blood vessels. Because visceral muscle is controlled by the unconscious part of the brain, it is known as involuntary muscle—it cannot be directly controlled by the conscious mind.
- *Cardiac Muscle.* Cardiac muscle is found only in the heart. Cardiac muscle tissue cannot be controlled consciously, so it is an involuntary muscle.
- *Skeletal Muscle.* Skeletal muscle is the only voluntary muscle tissue in the human body—it is controlled consciously. Every physical action that a person consciously performs (e.g. speaking, walking, or writing) requires skeletal muscle. Most skeletal muscles are attached to two bones across a joint, so the muscle serves to move parts of those bones closer to each other.

Discuss in detail with students information from the chart.

Tell the students it is important that we exercise to take good care of our muscles. The more we use our muscles the stronger they get. Ask the students if they know what we should do with our muscles before we exercise to protect our muscles. Students should respond that we should always stretch our muscles.

Explain to the students that we also need to have a balanced diet for strong muscles. Ask the students what foods they think are good for us to eat for our muscles and discuss their responses. Tell students that foods that are high in protein help us to build muscle. Those foods can include milk, eggs, meat, and beans.

Guided Practice

Ask all students to stand up. Tell the students we are going to feel our muscles by doing a few simple exercise activities. These activities can help keep our muscles active and strong. Tell the students to jump up and down, twist from side to side, and run in place. Ask the students if they feel their muscles moving and working. Tell the students to place their hand over their heart. Ask the students if they feel this involuntary muscle working even though they are not controlling it.

Have students to stand up. Call out a series of statements regarding muscles and have students grab their stomachs if the statement relates to smooth muscles, put their hand over their heart if it relates to cardiac muscle and jump up and down if it relates to skeletal muscle.

Independent Practice

Break students into five groups and give each group a card with smooth muscles, cardiac muscles, skeletal muscles, exercises for strengthening muscles, or healthy diet on it. Give students time to plan together and have access to class materials and be prepared to “teach” the rest of the class about the topic on their card through drawings, skits, movements, etc.

C. Culmination

Have students stand up by their desks and prepare to Move to Learn. Show video (<http://www.movetolearnms.org/how-do-i-do-it/fitness-videos/lets-move/>) and have students follow along and do the movement exercises with the video. After the video, remind students of the importance of movements such as these to keep their bodies healthy and work on strengthening their muscles.

Let students use computers or iPads to play the Muscular System hangman game (<http://www.proprofs.com/games/word-games/hangman/muscular-system-hangman/>) to review muscular system vocabulary.

D. Follow-up

Give students a series of statements regarding muscles, and have them match each statement with the appropriate muscle type (Statements may be taken from the chart/handout referenced in study/learning).

After the matching exercise, put students in groups of four and have the groups design a series of exercises to maintain healthy bodies and strengthen muscles. Then have the groups lead the other students in completing the exercises.