



STEPPING STONE
SCHOOL (HIGH)

CLASS :7

Subject: BIOLOGY

Date:1/06 /2020

Topic: Animal Tissue

Time Limit: 40 MINS

Worksheet No.:7

Instruction:- Please go through the video link given below to understand Muscular tissue and Nervous tissue.

<https://youtu.be/0isYk6SSGz0>

Children I hope you have gone through the notes properly in worksheet 6 in which we discussed about the Skeletal Tissue consisting of **bone** and **cartilage** and Fluid connective tissue which includes **blood** and **lymph**.

So today our learning objectives will be

- *Muscular Tissue and,*
- *Nervous Tissue*

Muscular Tissue:- The muscular tissues form the muscles of the body. They are present in every part of the body. The contraction and relaxation of muscles help the body to carry out different types of movements.

Based on the structure and function performed muscular tissues are of three types-

- *Voluntary or Striated muscles*
- *Involuntary or Smooth muscles*
- *Cardiac muscles*

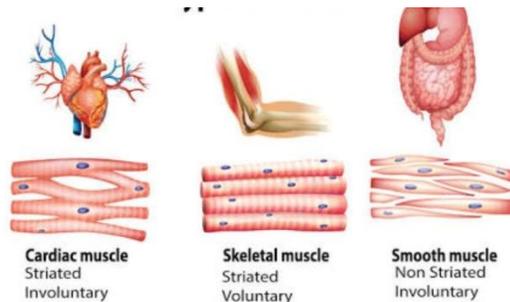
Voluntary or Striated muscles:- These muscles are under the control of our will , hence they are known as **Voluntary** muscles. The cells of these muscles have striations of light and dark

bands with many nuclei. Hence they are also called **Striated** muscles. Since these muscles are attached to bones they are also known as **Skeletal** muscles. They are mainly present in hands and legs.

Involuntary or Unstriated muscles:- These muscles are not under the control of our will. Therefore, they are known as **Involuntary** muscles. These muscles are spindle shaped and have only one centrally located nucleus. These have smooth structures without any striations. Therefore, they are also known as **smooth** or **unstriated** muscles. These are present in the wall of internal organs like stomach and intestine.

Cardiac muscles:- These muscles are present in the wall of the heart. They have features of both voluntary and involuntary muscles. Like involuntary muscles they are *uninucleate* and not under the control of our will and like voluntary muscles they have striations. The cardiac muscles keep on contracting and relaxing throughout our life and never get tired. The rhythmic contraction and relaxations help in circulation of blood throughout the body.

Types of Muscles



ENRICHMENT

- Muscles are the bundles of long, cylindrical cells embedded in a special type of cytoplasm called **sarcoplasm**. The muscle cells are bounded by a membrane called **sarcolemma**.
- Cardiac muscles resemble voluntary muscles and are similar to involuntary muscles in their functions.

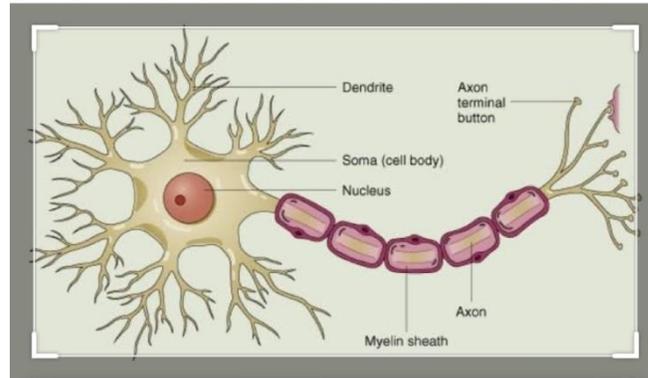
Nervous Tissue:- The nervous tissues constitute the nervous system which help in control and coordination of the body. It consists of **brain** , **spinal cord** and **nerves** .

A **neuron** is the basic structural unit of the nervous system. Neurons or the nerve cells carry forward the messages from the body to the brain and vice versa.

Each neuron consists of the following structures:-

- **Cyton** or the cell body which contains the nucleus.
- **Dendrons** – These are short hair like elongated extensions of the cell body.
- **Dendrites**- These are finer branches formed by further division of dendrons
- **Axon**- This is the long extension of cell body . Axons are protected by **Myelin sheath** which prevents mixing of nerve impulses between adjoining neurons.

Structure of Neuron



[Copy the questions and solve them on a sheet of paper datewise. Keep the worksheet ready in a file to be submitted on the opening day] Before you attempt to answer the questions please go through the note given above.

Q1) Name the cytoplasm of the muscle cells.

Q2) Name the membrane by which the muscle cells are bounded.

Q3) What are Skeletal muscles ? Why are they called so?

Q4) What are involuntary muscles?

Q5) Define cardiac muscles . What is so special about them?

Q6) How can you make your cardiac muscle work harder?

Q7) What are functions of muscular tissue? Name any two organs that are formed from Muscular tissues only.

Q8) What are neurons? Name its components.

Q9) Draw a neat labeled diagram of a neuron.

Some critical questions from this chapter

Q1) Why the nerve cells are so long?

Ans. Nerve cells are long because they need more surface area to transmit the impulse from one cell to another and thus by receiving and transferring impulses they help to control and coordinate the working of different parts of the body.

Q2) We can twist our nose and external ears very easily. Why?

Ans We can twist our nose and external ears because they are made up of cartilage. As cartilage is a soft, elastic tissue it provides flexibility to the parts where they are present.

Q3) What will happen if platelets are removed from the blood?

Ans. The function of platelets is to clot the blood and prevent it from bleeding. Therefore, if platelets are removed from blood, clotting of blood will not occur and the person will continue to bleed profusely.