ODM EDUCATIONAL GROUP
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TISSUES

SUBJECT- BIOLOGY

CHAPTER NO- 6

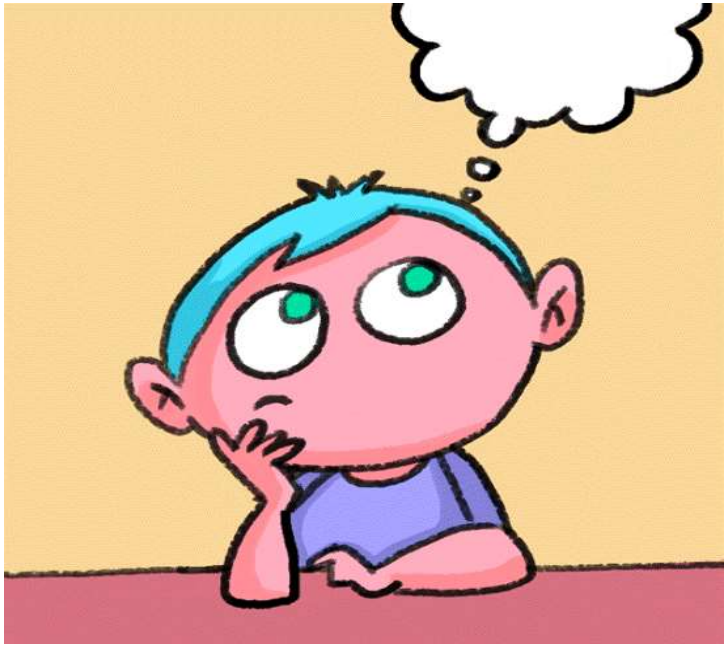
Introduction: Definition, Importance of tissues

PERIOD-1

Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: **1800 120 2316**
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

- Student will be able to define tissues and state its function.
- Student will be familiarized with the importance of tissues in a complex organism
-



WARM UP QUESTIONS

- Teacher should initiate the discussion on following topics by
- Asking them to share their previous knowledge about cellular organization of living organisms.
- Show them the picture of cellular organization of living organisms and discuss that the complexity and size increases as we move from atoms to organisms

WHAT DO YOU MEAN BY TISSUES?

A group of cells that are similar in structure and/or work together to achieve a particular function forms a tissue.

- What is the utility of tissues in multi-cellular organisms?
- This cluster of cells, called a tissue, is arranged and designed so as to give the highest possible efficiency of function. Blood, phloem and muscle are all examples of tissues. The Human body works with the principle of division of labor.

Level of Organization	Explanation	Example
 Atomic Level	Atoms are defined as the smallest unit of an element that still maintains the property of that element.	Carbon, Hydrogen, Oxygen
 Molecular Level	Atoms combine to form molecules which can have entirely different properties than the atoms they contain.	Water, DNA, Carbohydrates
 Cellular Level	Cells are the smallest unit of life. Cells are enclosed by a membrane or cell wall and in multicellular organisms often perform specific functions.	Muscle cell, Skin cell, Neuron
 Tissue Level	Tissues are groups of cells with similar functions	Muscle, Epithelial, Connective
 Organ Level	Organs are two or more types of tissues that work together to complete a specific task.	Heart, Liver, Stomach
 Organ System Level	An organ system is group of organs that carries out more generalized set of functions.	Digestive System, Circulatory System
 Organismal Level	An organism has several organ systems that function together.	Human

IMPORTANCE OF TISSUES

1. It protects the organs from injury or shocks.
2. It also connects many body parts such as ligament connects **bones** to another **bones**.
3. It also provides nutrition to our body such as blood also transport **nutrients** to many parts of the body.
4. It fights against many infectious pathogens.

HOME ASSIGNMENT

Following questions to be worked out

- Q. write the importance of tissues in a living organism
- Q. explain the cellular organization in a multicellular organism

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TISSUES

SUBJECT- BIOLOGY

CHAPTER NO- 6

Comparison of plant and animal tissue

PERIOD-1

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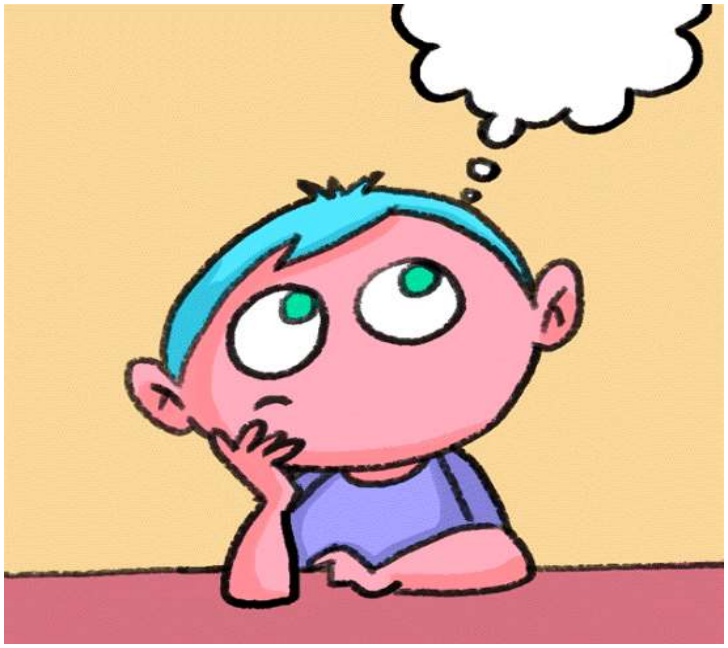
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

- Student will be familiarized with the differences between a plant and an animal tissue
- Student will be able to categorised plants and animal tissues based on their different structure and function
- They will be able to analyze the difference and can be able to answer questions based on the subtopic



WARM UP QUESTIONS

- Recapitulate the previous topic by asking the following questions
- What are tissues?
- Explain the cellular organization in multicellular organisms.

CLASS ACTIVITY

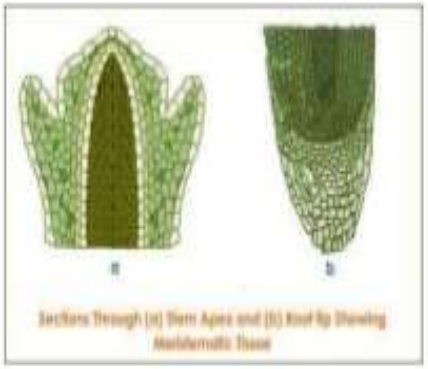
1. share information cards with students containing difference between plant and animal tissues

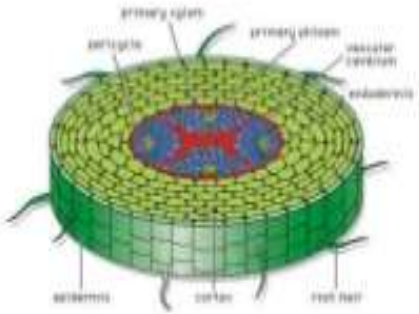
- Draw 2 columns on board and name them as A and B.
- Show students the information card one by one and ask them to classify them under column A and B.
- With the student response write the information in two columns
- Any missing point can be added at last.

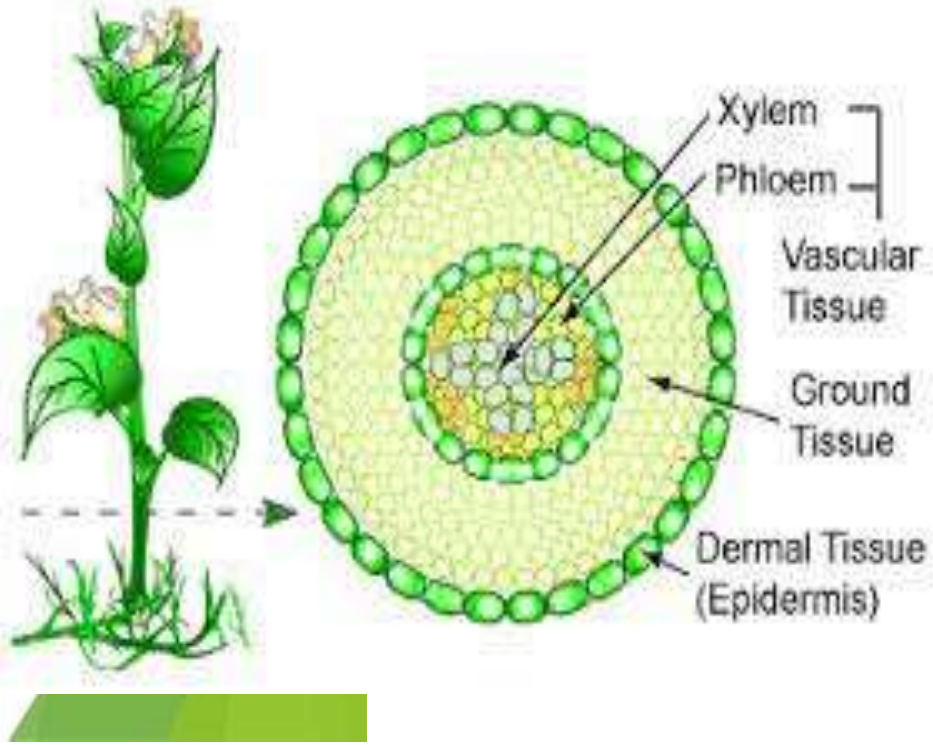
S. No.	Plant Tissue	Animal Tissue
1.	Tissue organisation is targeted towards Stationery habit of plants.	Tissue organisation is targeted towards mobility of animals.
2.	Organisation is simple.	Organisation is complex.
3.	Many of the tissues are dead. For example, Cork	Most of the tissues are living.
4.	Growth is confined to certain areas.	Growth is not limited to areas
5.	less maintenance energy required	More maintenance energy required
6.	Plants grow continuously throughout life.	After reaching maturity stage animals do not show further growth.

PLANT TISSUE

- Tissues in plants that divide throughout their life.
- Plant tissues can be classified as:
- Growing or Meristematic tissue
- Permanent tissue







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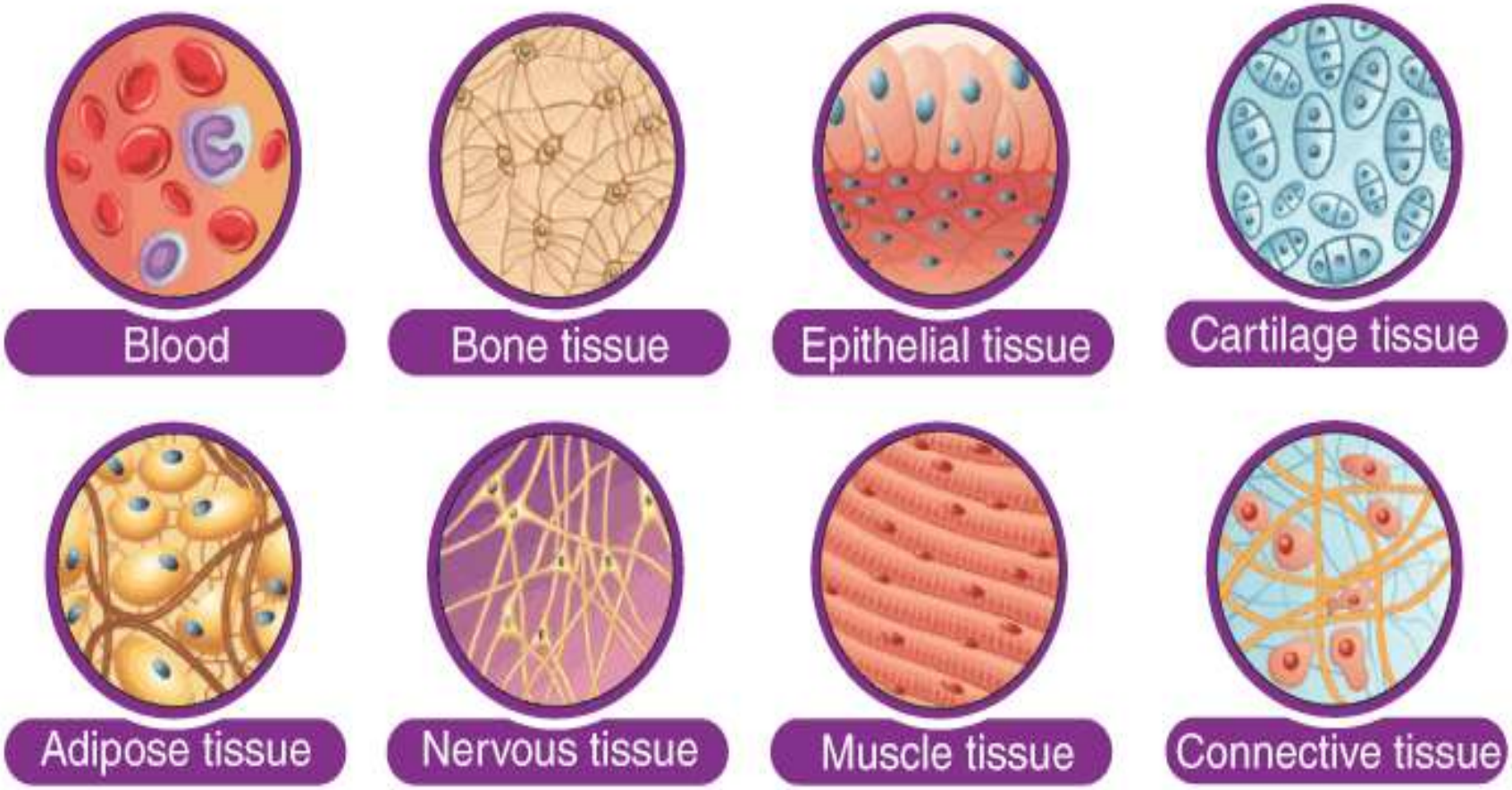
ANIMAL TISSUE



HOME ASSIGNMENT

Following questions to be worked out

- Q. Give an elaborate Comparison between plant and animal tissues

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TISSUES

SUBJECT- BIOLOGY

CHAPTER NO- 6

Plant Tissues-Classification , Meristematic Tissues
PERIOD-3

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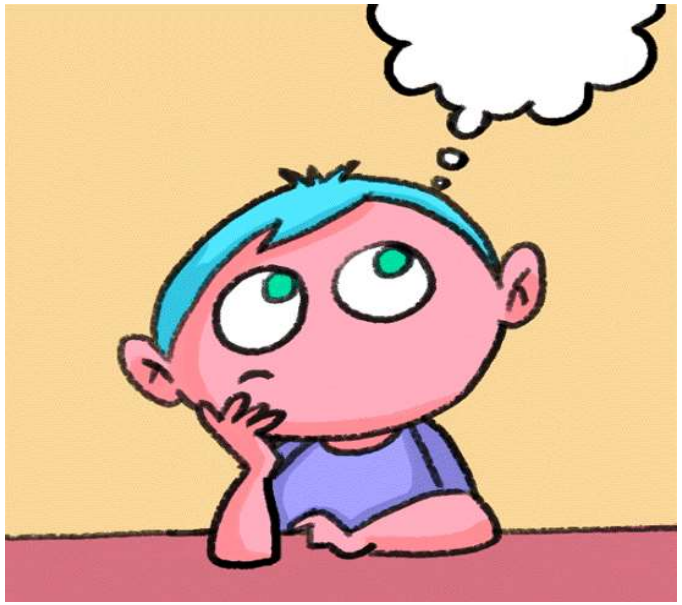
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

- Student will be familiarized with the classification of plant tissues
- Student will understand the structure, function and types of meristematic tissue
- Student will be able to locate the different types of meristematic tissues in plants

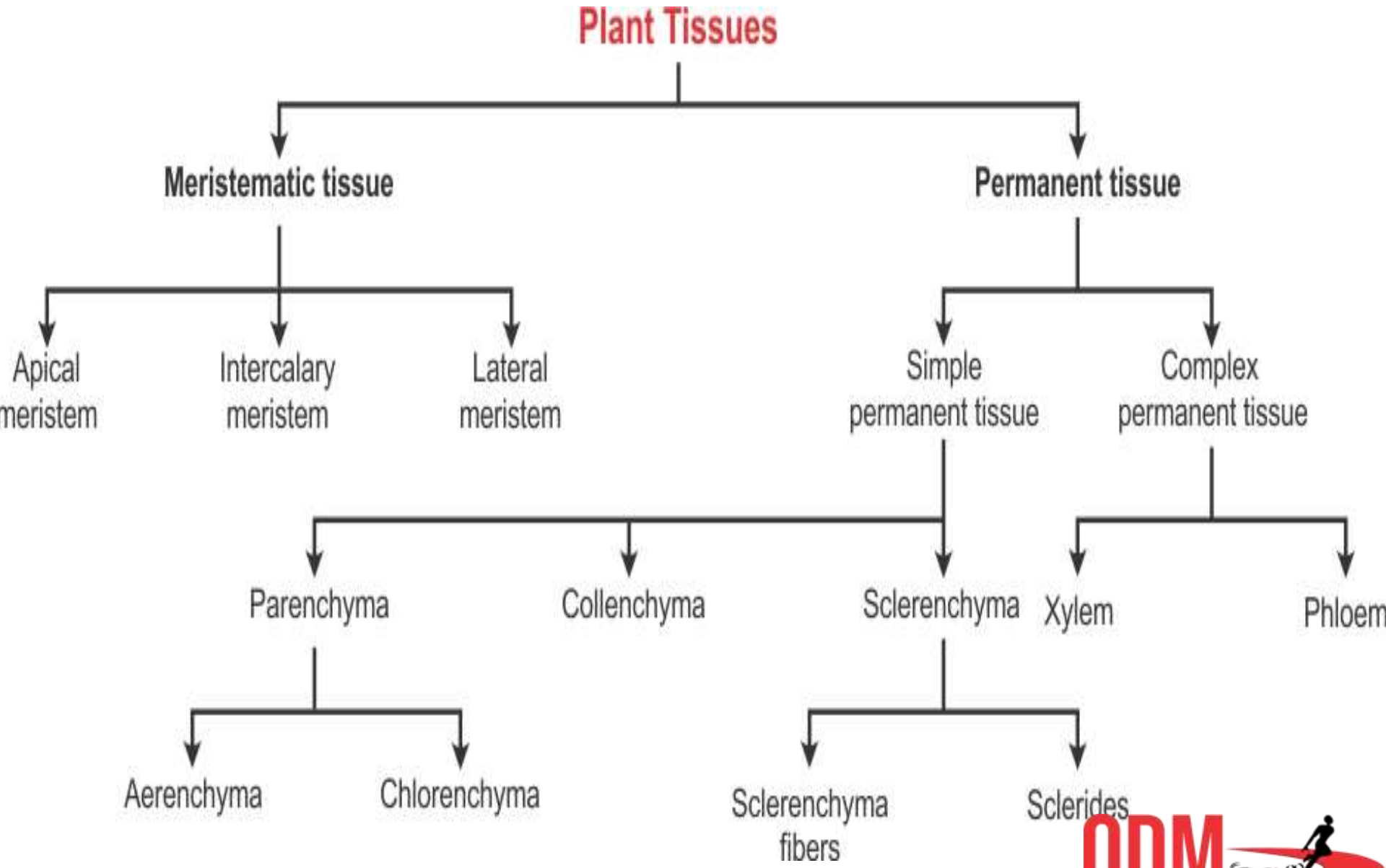


WARM UP QUESTIONS

Recapitulation of the following before initiating the topic

- Describe the cellular organization in a living organism.
- Differentiate between plant and animal tissue

CLASSIFICATION OF PLANT TISSUES



ACTIVITY

- Activity to show growth in onion root tip apical meristem
- https://www.youtube.com/watch?v=wAGJGCFtuvM

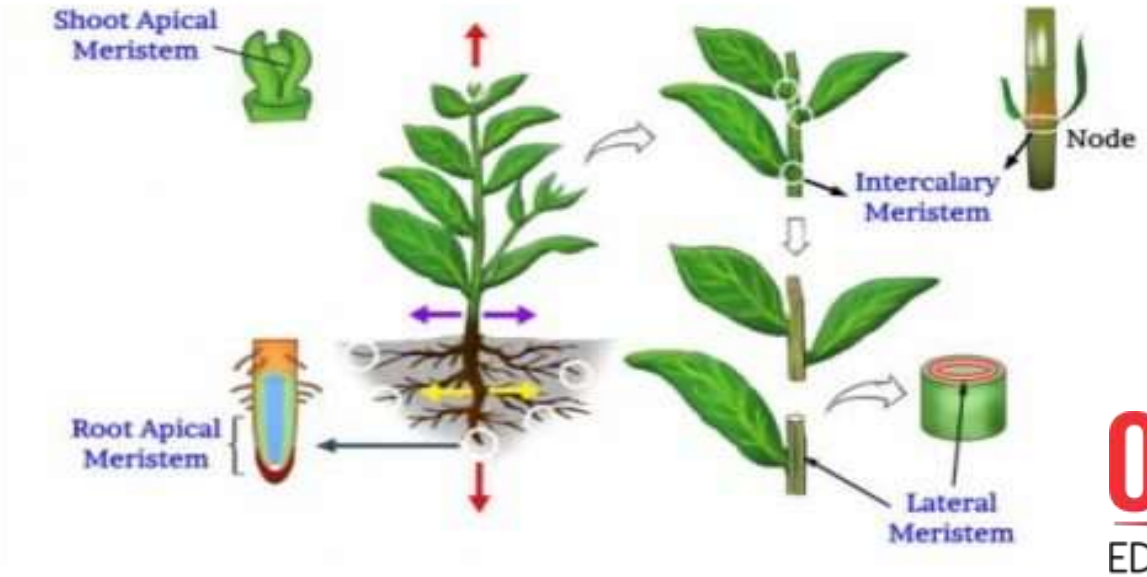
WHAT ARE MERISTEMATIC TISSUES?

- The cells of these tissues are commonly called meristems.
- The meristematic tissue has the quality of self-renewal. Every time the cell divides, one cell remains identical to the parent cell, and the others form specialized structures.
- They have very small and few vacuoles.
- The meristematic tissue is living and thin-walled.
- The protoplasm of the cells is very dense.
- The meristematic tissues heal the wounds of an injured plant.
- The cells of the meristematic tissue are young and immature.
- They do not store food.
- They exhibit a very high metabolic activity.
- They possess a single, large and prominent nucleus.

TYPES OF MERISTEMATIC TISSUES- LOCATION AND FUNCTIONS

Meristematic tissue

- **Apical Meristem**
  - Present on root and shoot tips
  - Responsible for growth of root and shoot
- **Intercalary Meristem**
  - Present on leaf base and node
  - Responsible for growth of plant from leaf and nodes
- **Lateral Meristem**
  - Present on side of stem and root
  - Responsible for increase in diameter of stem and root



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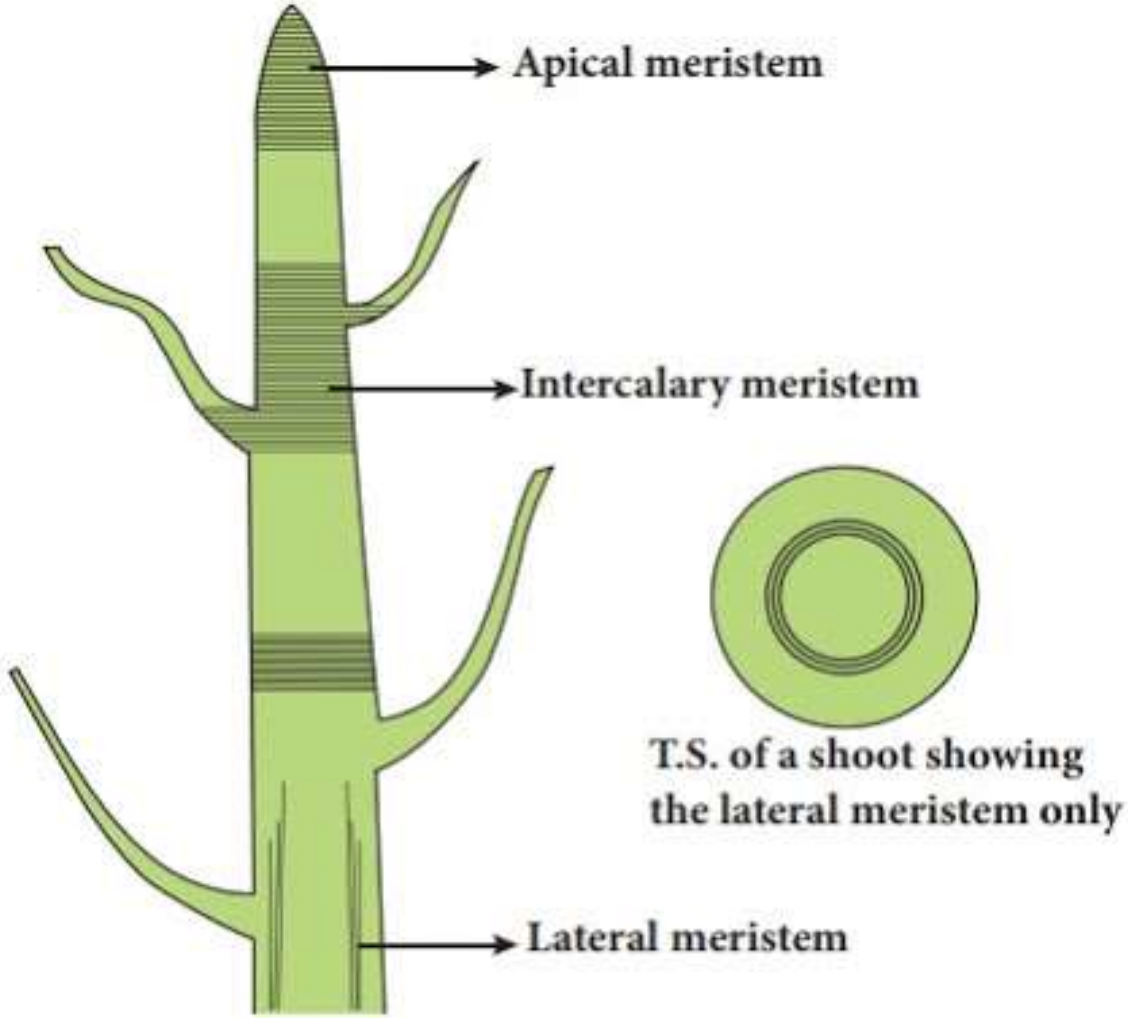

Figure 7.1 Longitudinal section of shoot apex showing location of meristems and young leaves.

HOME ASSIGNMENT

Q. Classify plant tissue.

Q. Explain the structure and location of all types of meristematic tissues in plants

Q. Which type of meristematic tissue helps in increasing the girth of the plant?

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TISSUES

SUBJECT- BIOLOGY

CHAPTER NO- 6

Plant Tissues-Simple Permanent Tissues

PERIOD-4

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Email: info@odmps.org
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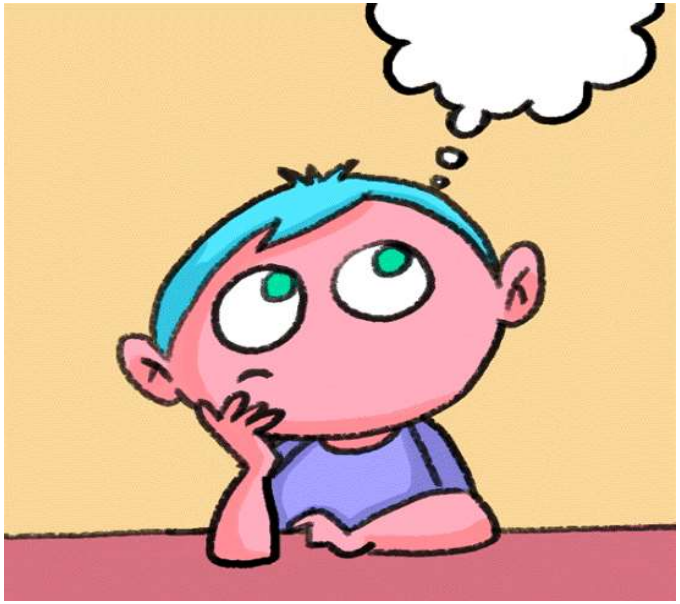
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

- Student will be able to define simple permanent tissues
- Student will understand the structure, function and types of simple permanent tissue
- Student will be able to locate the different types of simple permanent tissues in plants.

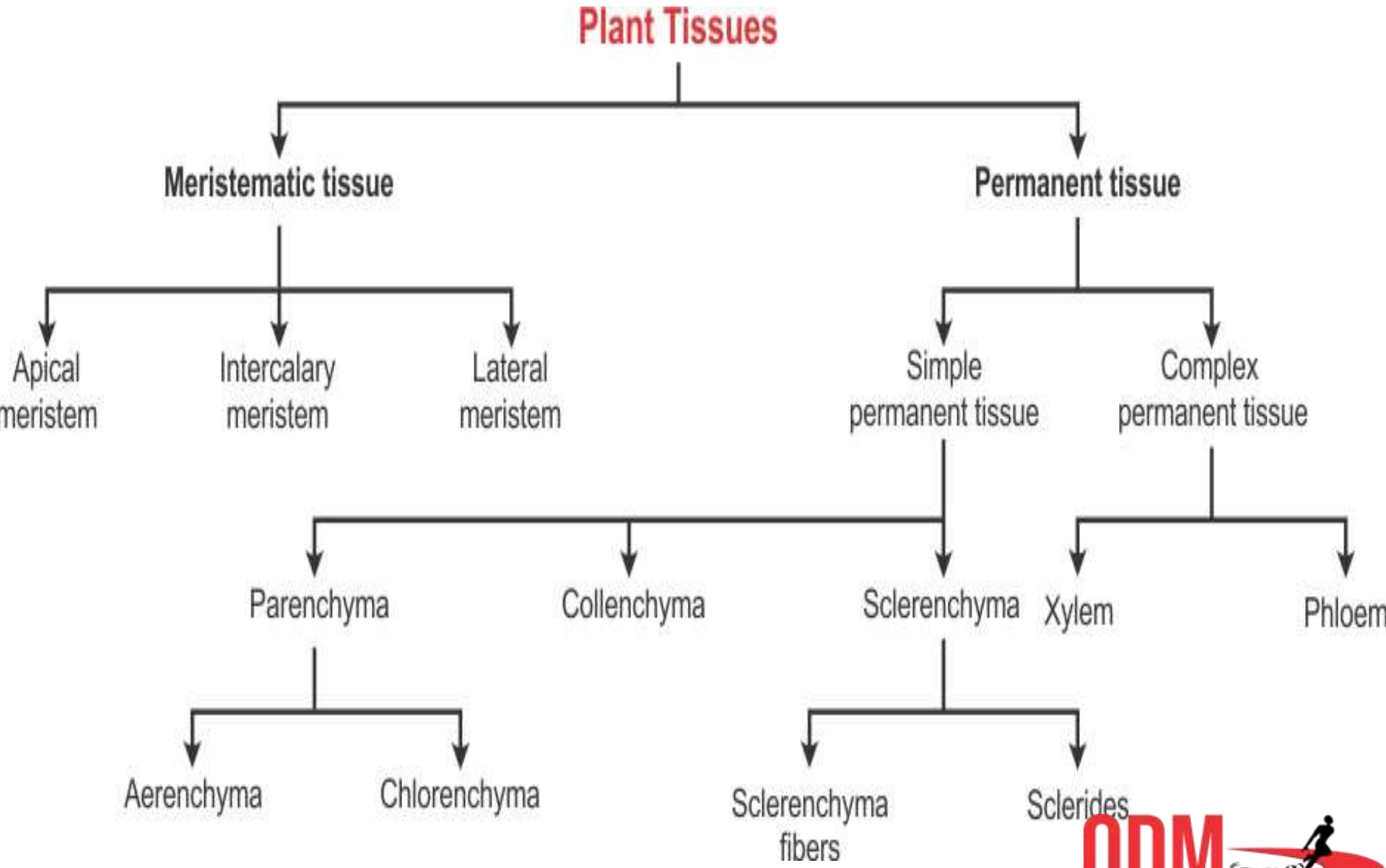


WARM UP QUESTIONS

Recapitulation of the following before initiating the topic

- Classification of plant tissues
- What are meristematic tissues and what are their types and functions.
- Difference between meristematic and permanent tissues.

CLASSIFICATION OF PLANT TISSUES



PERMANENT TISSUES

The tissues that are completely grown and have lost the ability of division are known as **permanent** tissues.

The meristematic tissues divide and differentiate to form the **permanent** tissues.

TYPES OF PERMANENT TISSUE

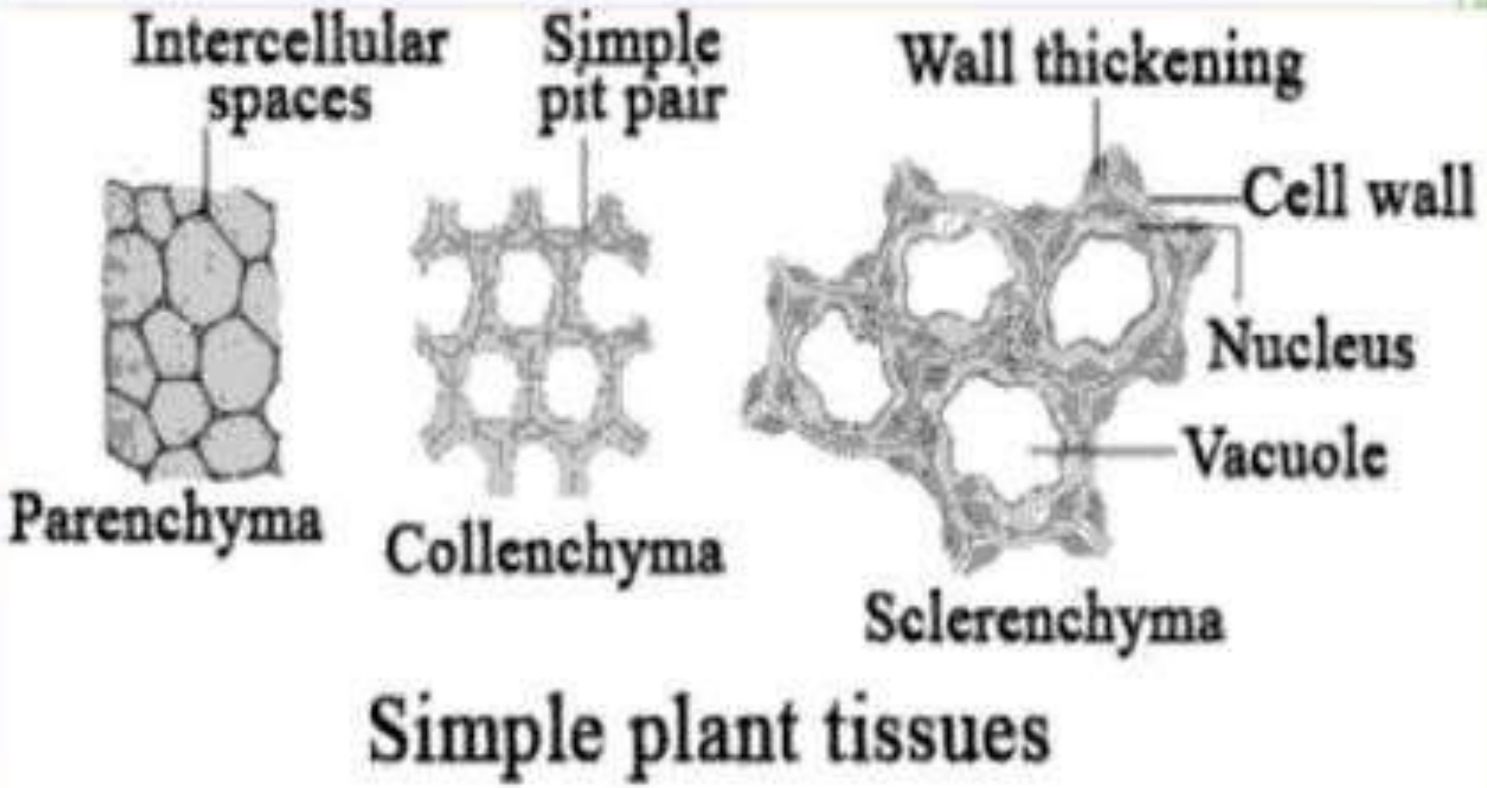
1. SIMPLE PERMANENT TISSUE

2. COMPLEX PERMANENT TISSUE

SIMPLE PERMANENT TISSUE

1. These tissues are simple.
2. They are made up of only one type of cell.
3. Here, all the cells that make up the tissue are similar and have the same structure, with the same type parts.
4. Simple permanent tissues are again classified into three main types. They are parenchyma, collenchyma, and sclerenchyma .These are called as supportive permanent tissue

THE THREE SIMPLE PERMANENT TISSUES



Simple plant tissues

Simple permanent tissues

- Made of only one type of cells

Parenchyma

- Isodiametric cells
- Can have varied shapes
- Thin walls, made of cellulose
- Either closely packed or have intercellular space
- Perform photosynthesis, storage and secretion

Collenchyma

- Occur in the layer below epidermis
- Perform photosynthesis when chloroplasts are present
- Homogenous or in patches
- Corners thickened with cellulose, hemicelluloses or pectin
- No intercellular spaces
- Provide mechanical support

Sclerenchyma

- Long, narrow cells
- Walls lignified with pits (lumen)
- Usually dead or without protoplast

Fibres

- Thick-walled, elongated
- Occur in groups

Sclereids

- Spherical or oval
- Thickened dead cells

- When the parenchyma cell contains chlorophyll in some situations, it performs photosynthesis. Such type of parenchyma tissue is called as chlorenchyma.
- In aquatic plants large air cavities are present in parenchyma cells in order to give buoyancy to the plants which help them to float. Such type of parenchyma tissue is called as aerenchyma.

PROTECTIVE TISSUE

The Protective tissue is meant to provide protection to the plants from undue loss of water . This tissue is categorised into

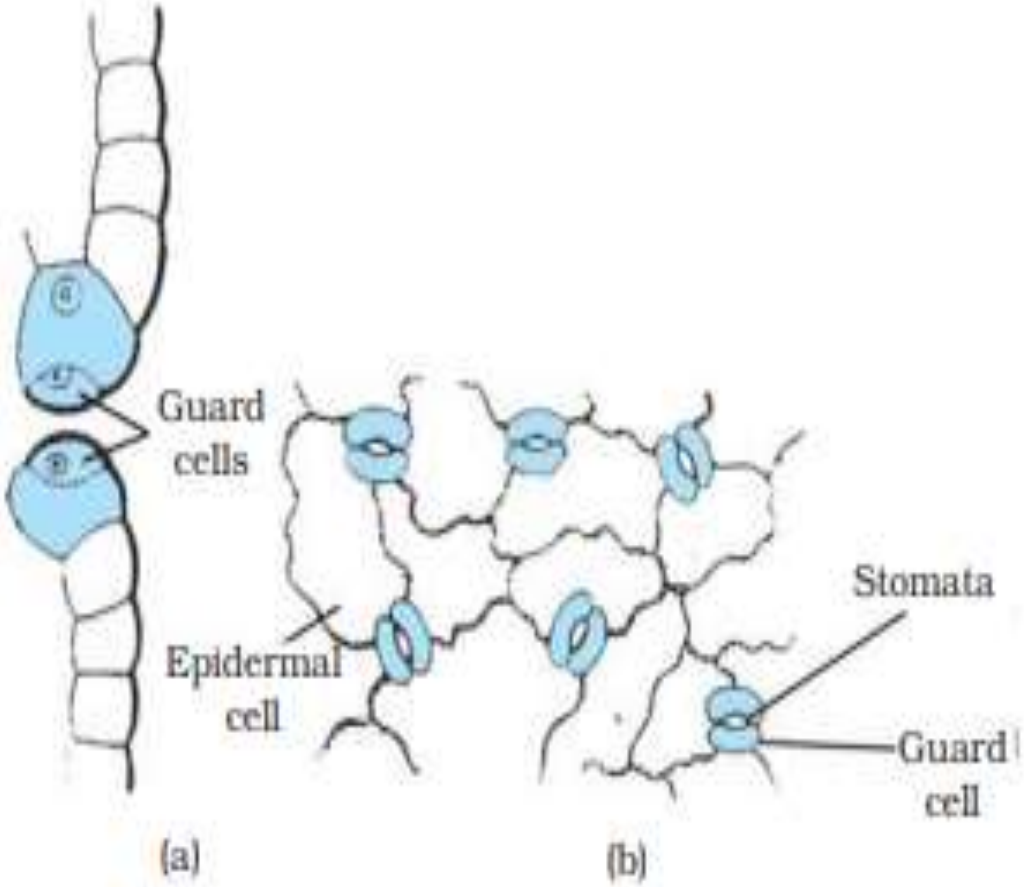
a)epidermis (with special reference to leaf stomata) b)cork.

a) Epidermis-

- The outermost layer in plants is made of single layer of cells is known as epidermis.
- Location-Forms covers of leaves, flowers, stem and fruits.

Characteristics of epidermis tissues of plants

- Cells of epidermis forms continuous layer.
- They have no intercellular spaces as its protective in nature.
- Mostly cells are flat.
- Outer walls are thicker than inner walls



ig. 6.5: *Guard cells and epidermal cells: (a) lateral view, (b) surface view*

- Epidermis of leaves contain **stomata.**

Functions of stomata

- Help in gaseous exchange
- Helps in transpiration

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SOME OTHER FUNCTIONS OF EPIDERMIS

The epidermis of root cells- epidermal cells of the roots bear long hair like outgrowths called root hairs.

- These help in increase in absorption of water and nutrients.
- The epidermis of aerial parts in xerophytes covered with a waxy layer known as cuticle which is made up of chemical substance **cutin.**

CORK

Cork is a secondary meristem which replaces the epidermis of older stems.

Characteristics-

- Dead cells
- Compactly arranged without inter cellular spaces
- Located in barks of the tree made up of several layers.
- Cork cells are made up of a chemical named suberin . This chemical is impervious to gases and water.

FUNCTIONS OF CORK CELLS

- Cork cells are hard and impervious to gas and water due to suberin.
- Protect the plant from mechanical injury.
- Prevent loss of water by evaporation and transpiration.
- Responsible for secondary growth in stems.

HOME ASSIGNMENT

Q. . Classify permanent tissue.

Q. On what basis permanent tissues are classified into simple and complex.

Q. Explain protective tissues in plants.

Q. Elaborate the types of simple permanent tissues. Also explain their structure and functions.

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TISSUES

SUBJECT- BIOLOGY

CHAPTER NO- 6

Study of structure and functions of parenchyma, Sclerenchyma , permanent slides.

PERIOD-5

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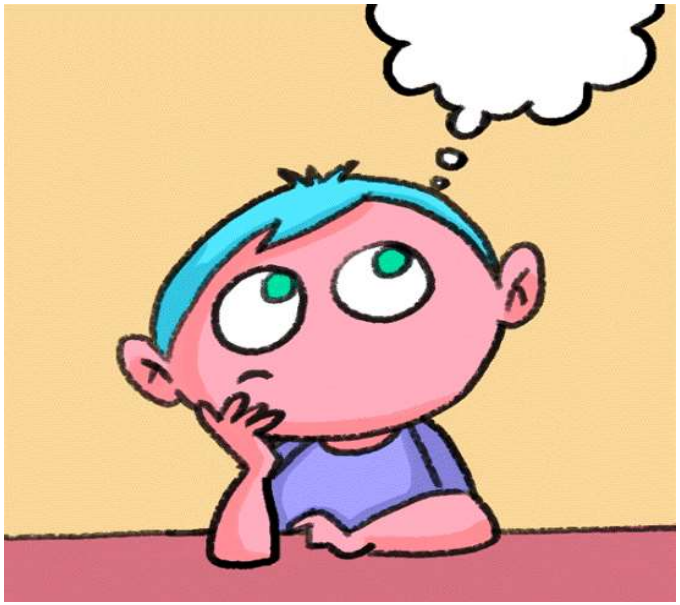
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

- Student will be able to know the structure of parenchyma, collenchymas and sclerenchyma
- Student will be familiarized with the function of all these three types of simple permanent tissues
- They will be able to analyze and identify the different types of simple permanent tissues.



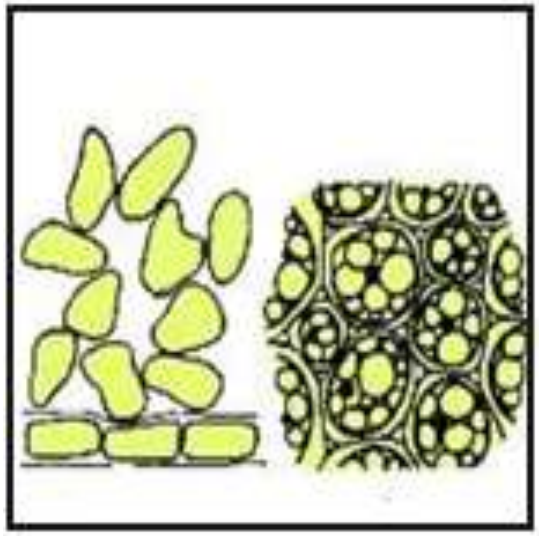
WARM UP QUESTIONS

- Recapitulation of the previous topic
- What do you mean by Permanent tissue?
- List the types of permanent tissues
- Can you name the simple permanent tissue?
- What are the main functions of simple permanent tissues?

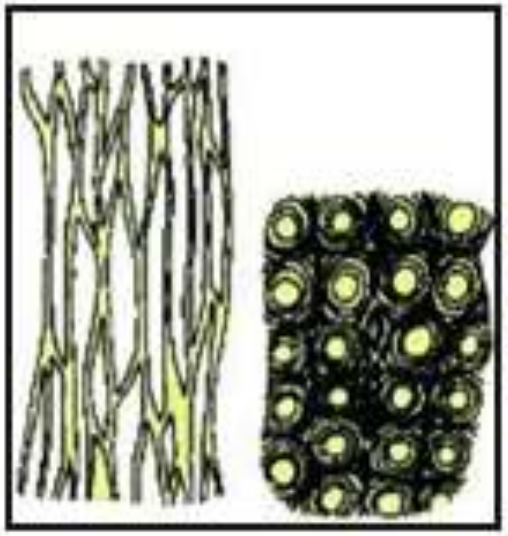
- Initiate children to see the permanent slide of simple permanent tissues.
- https://youtu.be/7t5pn4bDlPQ

- Ask them to record their observation

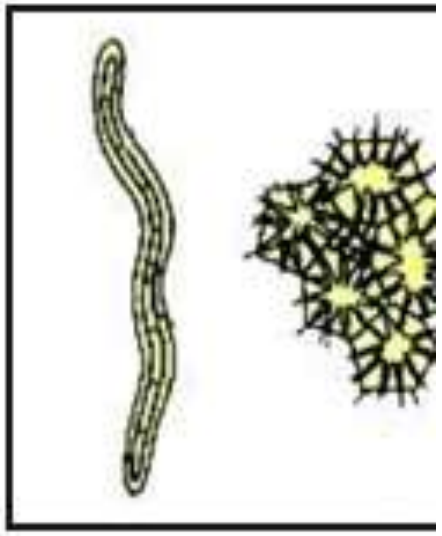
Types of Plant Tissue



Parenchyma Tissue



Collenchyma Tissue



Sclenchyma Tissue

Simple permanent tissues

- Made of only one type of cells

Parenchyma

- Isodiametric cells
- Can have varied shapes
- Thin walls, made of cellulose
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Collenchyma

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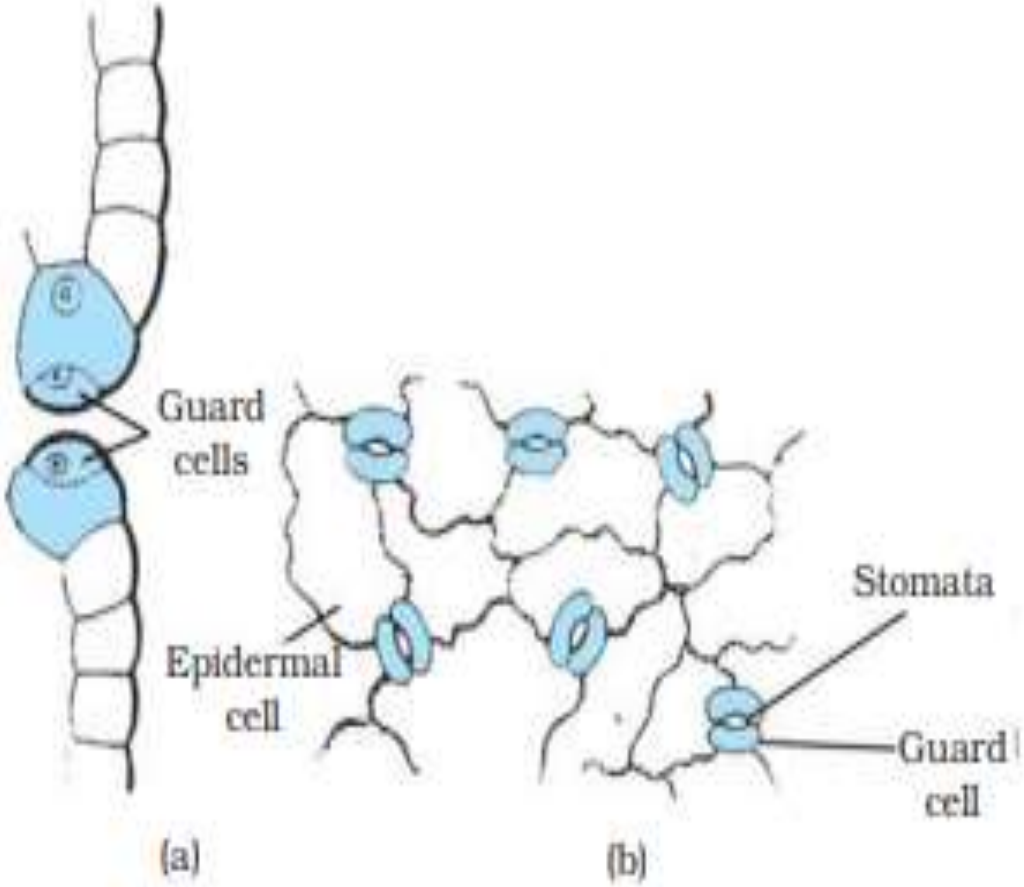

ig. 6.5: *Guard cells and epidermal cells: (a) lateral view, (b) surface view*

- Epidermis of leaves contain **stomata.**

Functions of stomata

- Help in gaseous exchange
- Helps in transpiration

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HOME ASSIGNMENT

Q. Why cork and epidermis are called as protective tissues in plants

Q. Explain the structure and functions of parenchyma, collenchymas and sclerenchyma

Q. Mention the types of parenchyma and their functions.

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TISSUES

SUBJECT- BIOLOGY

CHAPTER NO- 6

Plant Tissues-Complex permanent Tissues(xylem and phloem)

PERIOD-6

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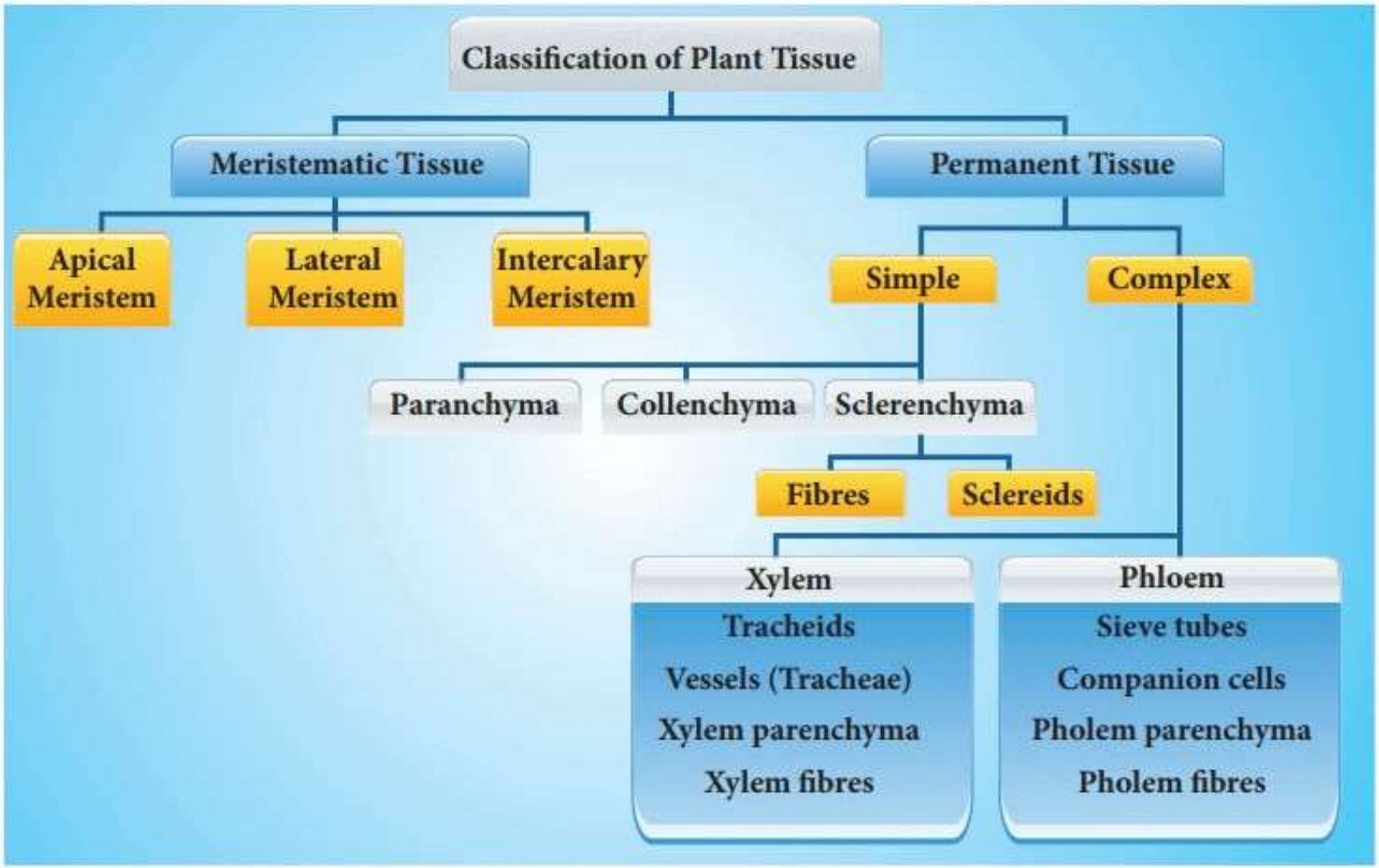
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

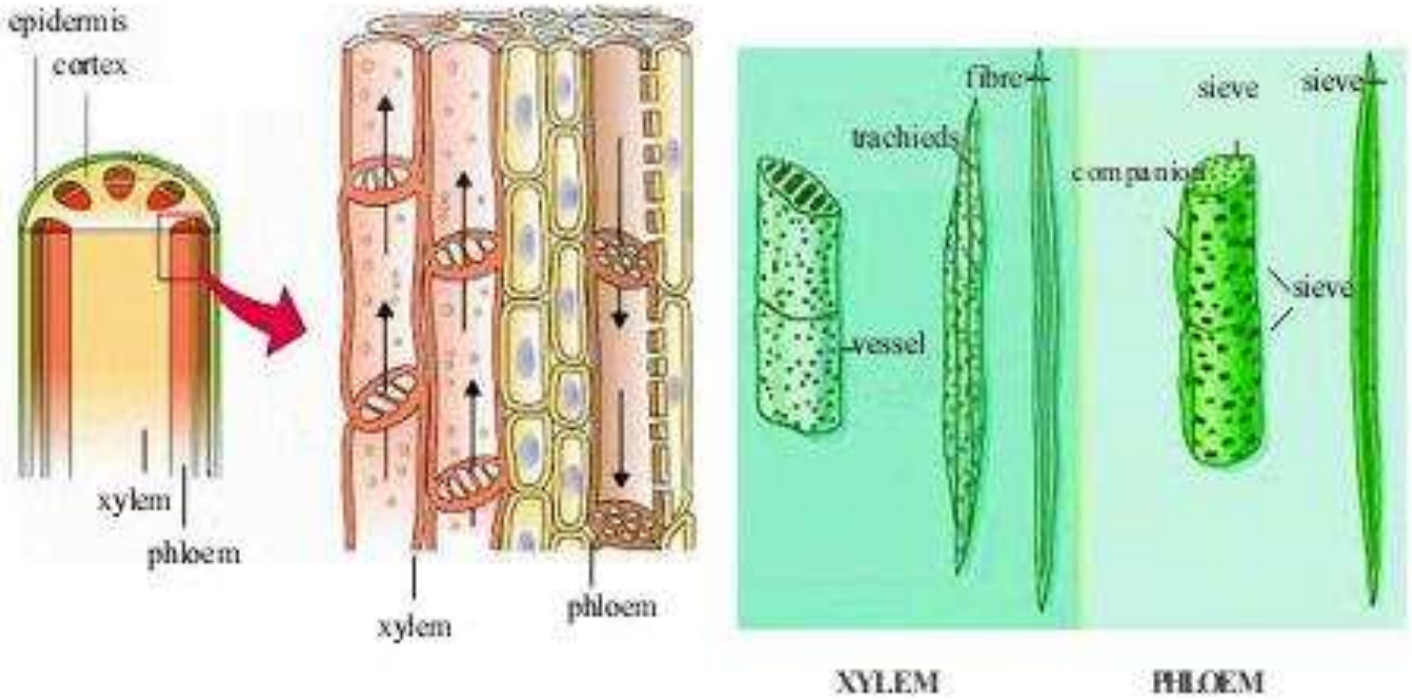
LEARNING OBJECTIVE

- Student will be able to apprise the importance of complex tissues in plants.
- Student will be able to analyze the detailed structure of xylem and phloem
- They will be able to analyze various functions of xylem and phloem
- Learners will be sensitized about different living and non living components which makes up the xylem and phloem.
- Students can identify different permanent tissues.

WARM UP QUESTIONS

- Teacher should initiate the discussion by asking some questions based on previous knowledge
- What are the types of permanent tissues
- How simple permanent tissue differs from complex permanent tissue
- How plants take up water and minerals from soil
- Why complex permanent tissue is named so?





Different cells of xylem and phloem

Complex Tissues

Xylem

a) Tracheids

b) Vessels

c) Xylem fibres

d) Xylem parenchyma

Phloem

a) Sieve elements

b) Companion cells

c) Phloem parenchyma

d) Phloem fibres

- Xylem

a vascular and mechanical tissue.

- Xylem is composed of cells of four different types:
- 1. Tracheids 2. Vessels 3. Xylem Parenchyma 4. Xylem sclerenchyma (or fibers).
- Except xylem parenchyma, all other elements are dead and bounded by thick lignified wall.
- Tracheids and vessels are tubular structures.
- **Functions of Xylem:**

- The main function of xylem is to carry water and mineral salts upward from the root to different parts of shoots, hence also called water conducting tissue.
- Since walls of tracheids, vessels and sclerenchyma of xylem are lignified, they give mechanical strength to the plant body.
- The parenchyma stores food and helps in the sideway conduction of water.

- **Phloem:**

- Phloem (bast) is a living conducting tissue. It also contains tubes just like xylem but does not perform mechanical function.
- Phloem is composed of following four elements or cells:
- 1. Sieve tubes 2. Companion cells 3. Phloem parenchyma 4. Phloem fibers.
- Sieve tubes are slender, tube like structures with perforated walls.
- Companion cells are living parenchymatous cells lying on the sides of the sieve tubes.
- Sieve tube and companion cells have close cytoplasmic connection with each other through fine pits.
- Phloem fibres are thick walled fibres with simple pits.
- Phloem parenchyma is thin walled, living cell of parenchyma of phloem.
- **Function of Phloem:**

- Phloem transports (conducts) photosynthetically prepared food materials from the leaves to the storage organs and later from storage organs to the growing regions of the plant body.

- Show a video of elements present in xylem and phloem along with their functions for better understanding.
- https://youtu.be/9NCvTNcS2lU

HOME ASSIGNMENT

Q. Which component in xylem is living?

Q. which component in phloem is dead?

Q. xylem and phloem forms which type of tissues?

Q. why xylem and phloem are regarded as complex permanent tissues?

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TISSUES

SUBJECT- BIOLOGY

CHAPTER NO- 6

Animal Tissues- Classification of Animal Tissues

PERIOD-7

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Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

Student will be familiarized all the types of animal tissues

- They will be able to classify different animal tissues based on their structure and function
- Learners will be sensitized about the divisions and subdivisions of animal tissues and can recall the location where these tissues are located in our body.

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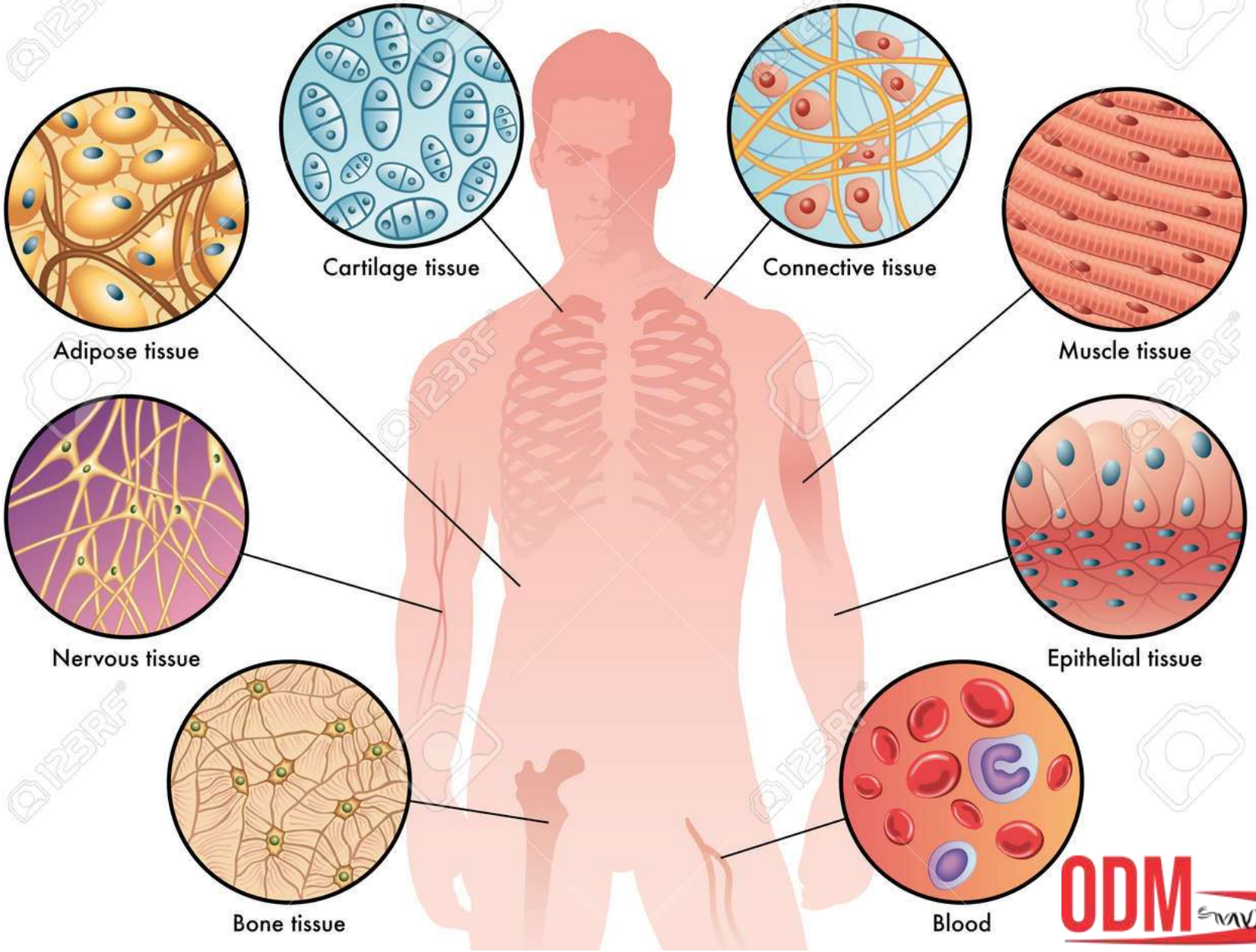
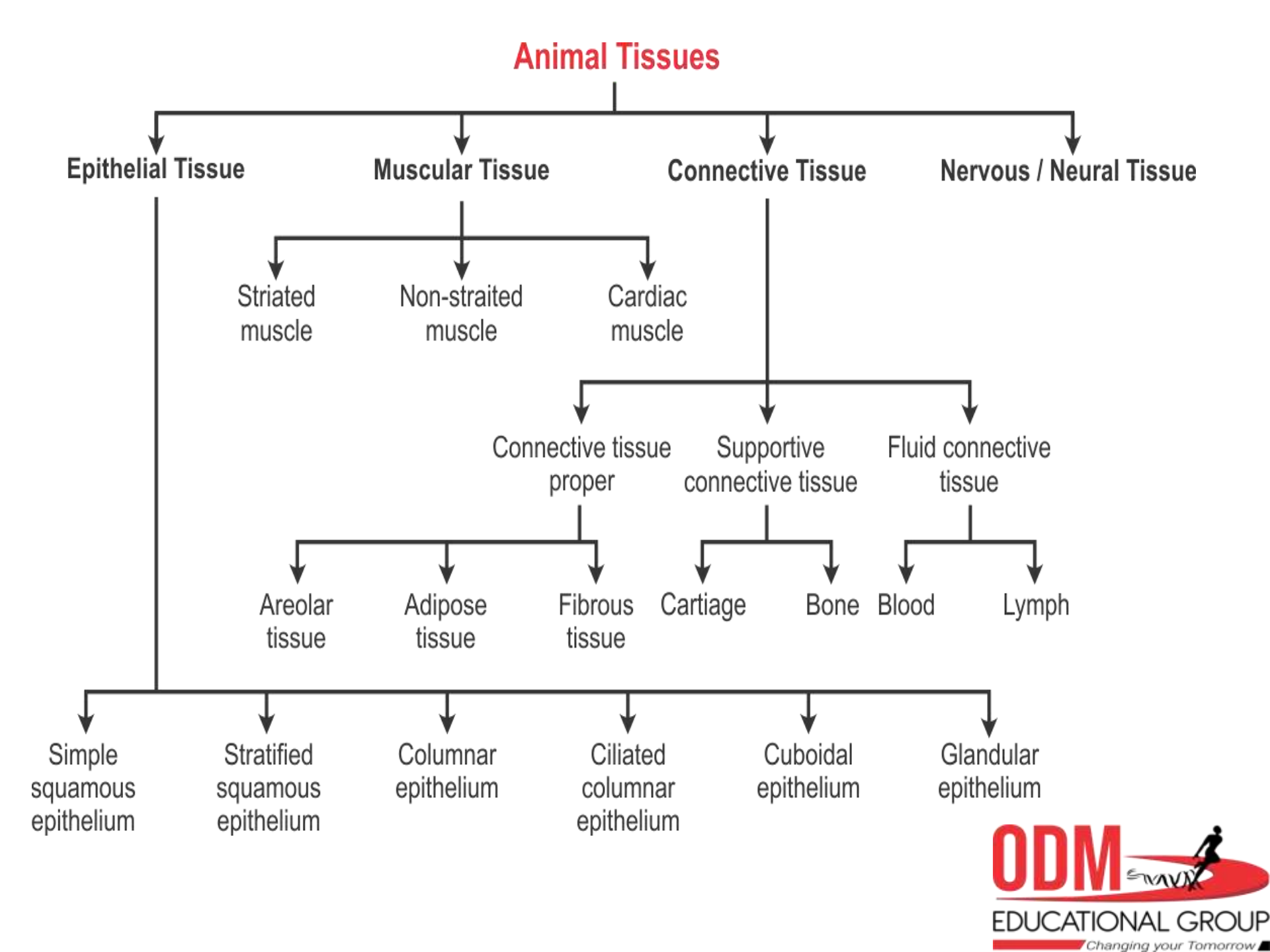
WARM UP QUESTIONS

- Recapitulation of the following before initiating the topic
- Differentiate between plant and animal tissue
- Describe the cellular organization in a living organism

Animal Tissue





- A video explaining the classification of animal tissue to be shown for better understanding.
- https://youtu.be/UlINGF9MnNA

HOME ASSIGNMENT

Q . Draw a flowchart to classify animal tissue

Q. On what basis classification of animal tissue is done?

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TISSUES

SUBJECT- BIOLOGY

CHAPTER NO- 6

Epithelial Tissue- structure, types and functions

PERIOD-8

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Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

- Students will be able to explain epithelial tissue based on their structure and function.
- Student will be able to identify different types of epithelial tissues
- Student will be familiarized with the location of different types of epithelial tissues in different part of our body
- Learners will be sensitized about some of the examples of epithelial tissues

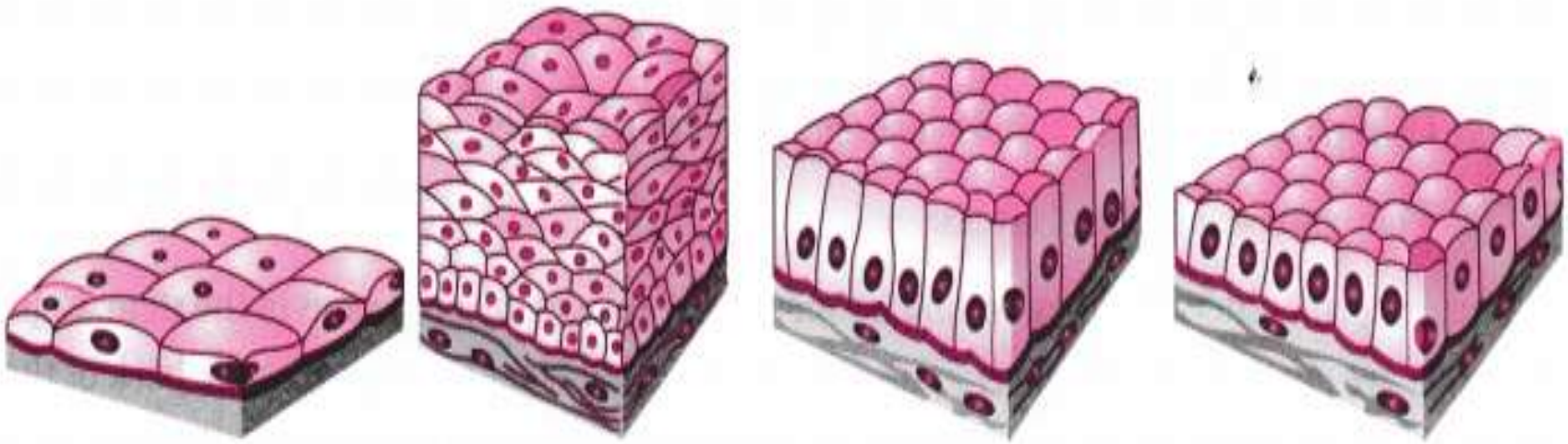
WARM UP QUESTIONS

- Teacher should initiate the discussion on following topics, which will revolve around the core topic of the chapter like,
- What do you mean by epithelial tissues?
- Why it is named so?

MEANING OF EPITHELIAL TISSUES

- The **word epithelium** uses the Greek **roots** ἐπί (epi), "on" or "upon", and θηλή (thēlē), "nipple".
- **Epithelium** is so called because the name was originally used to describe the translucent covering of small "nipples" of tissue on the lip.

TYPES OF EPITHELIAL TISSUES



Different types of epithelial tissues

Simple Squamous epithelium:

- Simple squamous epithelial cells are extremely thin and flat and form a delicate lining.
- Location-
- The oesophagus and the lining of the mouth
- The skin, which protects the body, is also made of squamous epithelium
- in cells lining blood vessels or lung alveoli, where transportation of substances occurs through a selectively permeable surface, there is a simple flat kind of epithelium.

Stratified squamous epithelium

- Skin epithelial cells are arranged in many layers to prevent wear and tear. Since they are arranged in a pattern of layers, the epithelium is called stratified squamous epithelium.
- Stratified meaning- formed, deposited, or arranged in stable layers

Columnar cilliated

- This columnar (meaning ‘pillar-like’) epithelium facilitates movement across the epithelial barrier.
  Location-In the respiratory tract,
- the fallopian tubes,
- the uterus,
- the columnar epithelial tissue also cilia, which are hair-like projections on the outer surfaces of epithelial cells.

Cuboidal epithelium

- Cuboidal epithelium (with cube-shaped cells) have large, spherical and central nuclei.
- Location –
- lining of kidney tubules
- ducts of salivary glands
- pancreas

Functions- **secretion** and **absorption**.

Glandular epithelium

- A portion of the epithelial tissue folds inward, and a multicellular gland is formed known as glandular epithelium.
- **Location-**
- can be found as a secretory sheet of cells lining the inside of an entire organ, such as the stomach.
- can also be found within endocrine glands, which are the ductless glands that secrete hormones into the blood.

Functions of Epithelial Tissue:

- Epithelial cells protect the underlying cells from mechanical and chemical injuries and bacterial or viral infection.
- It covers most organs and cavities within the body. It also forms a barrier to keep different body system separate.
- Epithelial tissues help in absorption of water and nutrients
- Epithelial tissues help in elimination of waste products.
- Some epithelial tissues secrete secretion, such as sweat, saliva etc.

HOME ASSIGNMENT

Q . Draw a flowchart to classify animal tissue

Q. On what basis classification of animal tissue is done?

THANKING YOU

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TISSUES

SUBJECT- BIOLOGY

CHAPTER NO- 6

Connective Tissue- structure, types and functions

PERIOD-9

Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

- Students will be able to explain the classification of connective tissue based on their structure and function.
- Student will be able to identify different types of connective tissues
- Student will be familiarized with the location of different types of connective tissues in different part of our body
- Learners will be sensitized about some of the examples of connective tissues
- Student will be able to differentiate between
- bone and cartilage
- blood and lymph

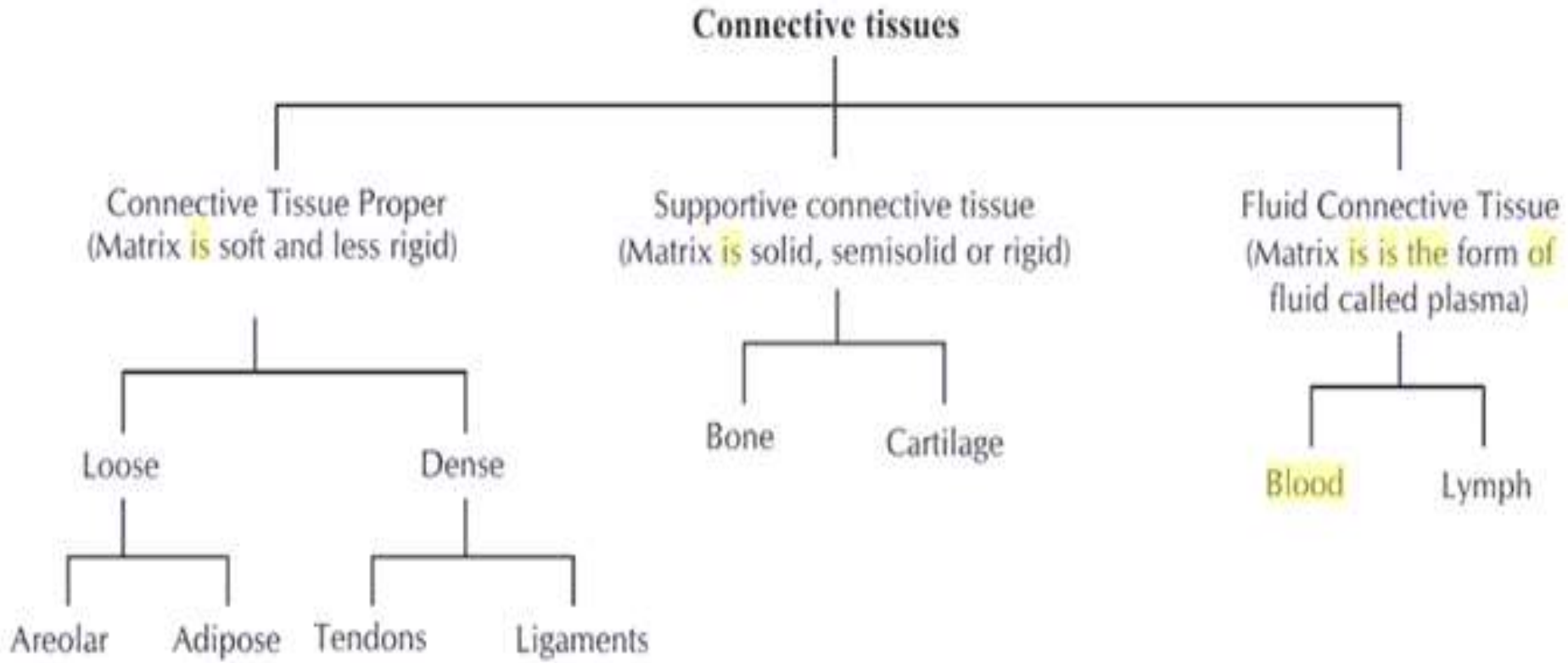
WARM UP QUESTIONS

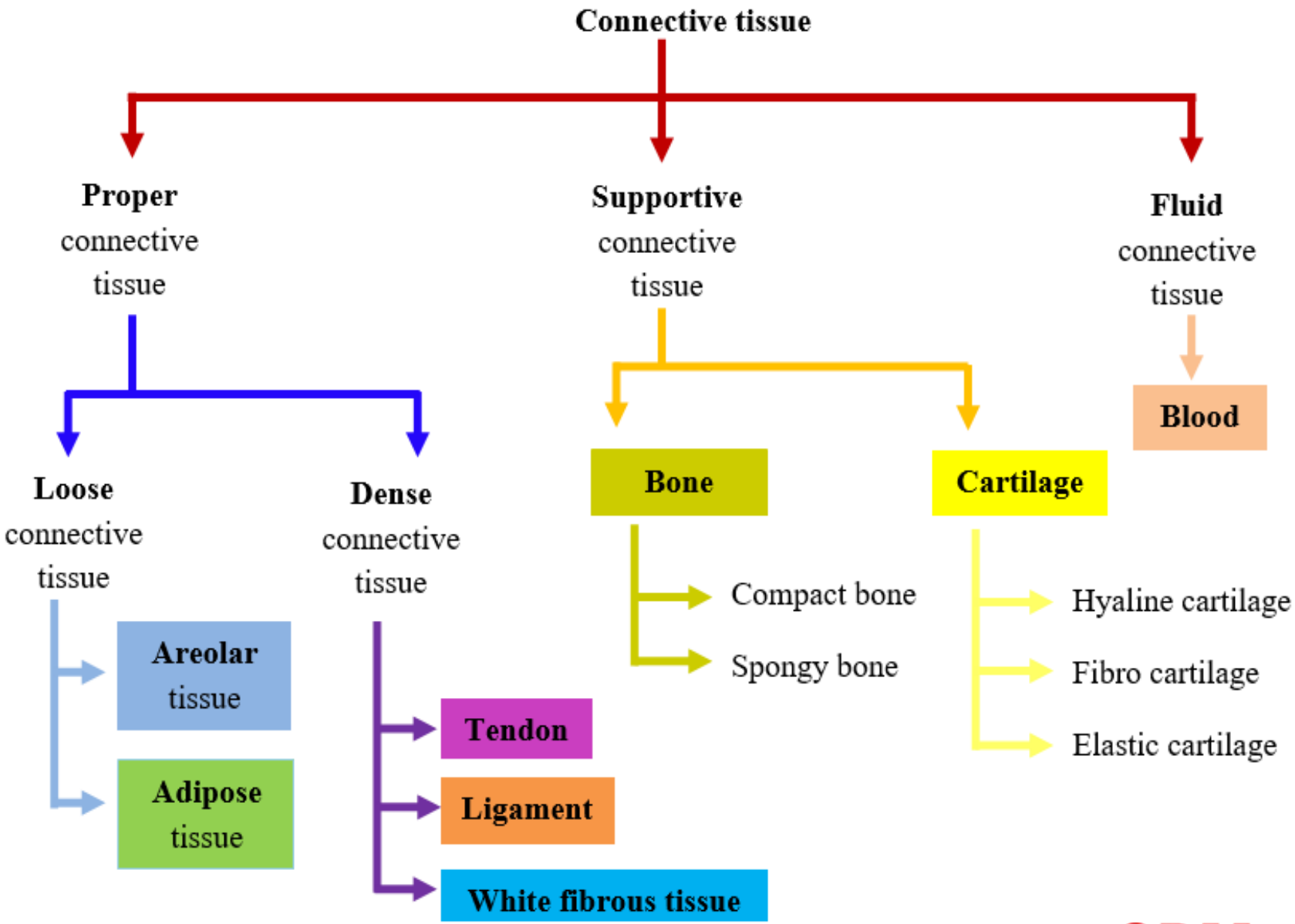
- What do you mean by connective tissues?
- Why it is named so?
- Is blood a tissue? If yes then which type of tissue?

MEANING OF CONNECTIVE TISSUE

- Connective tissue is the tissue that connects, separates and supports all other types of tissues in the body.
- Like all tissue types, it consists of cells surrounded by a compartment of fluid called the extracellular matrix (ECM)
  Specialized connective tissue; reticular, blood, bone, cartilage and adipose tissues

TYPES OF CONNECTIVE TISSUES

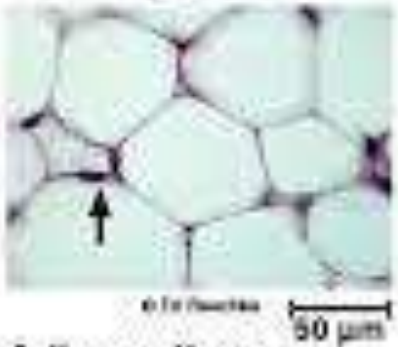




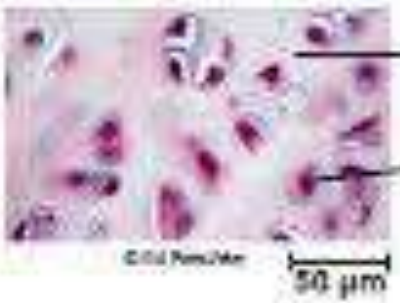
- A video on epithelial tissues types, structure and functions for better understanding.
- https://youtu.be/qxzk3DjtgAA

Connective tissue examples

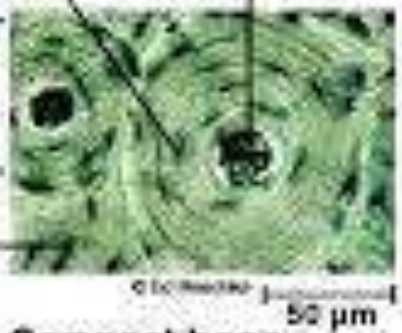
Loose fibrous connective tissue



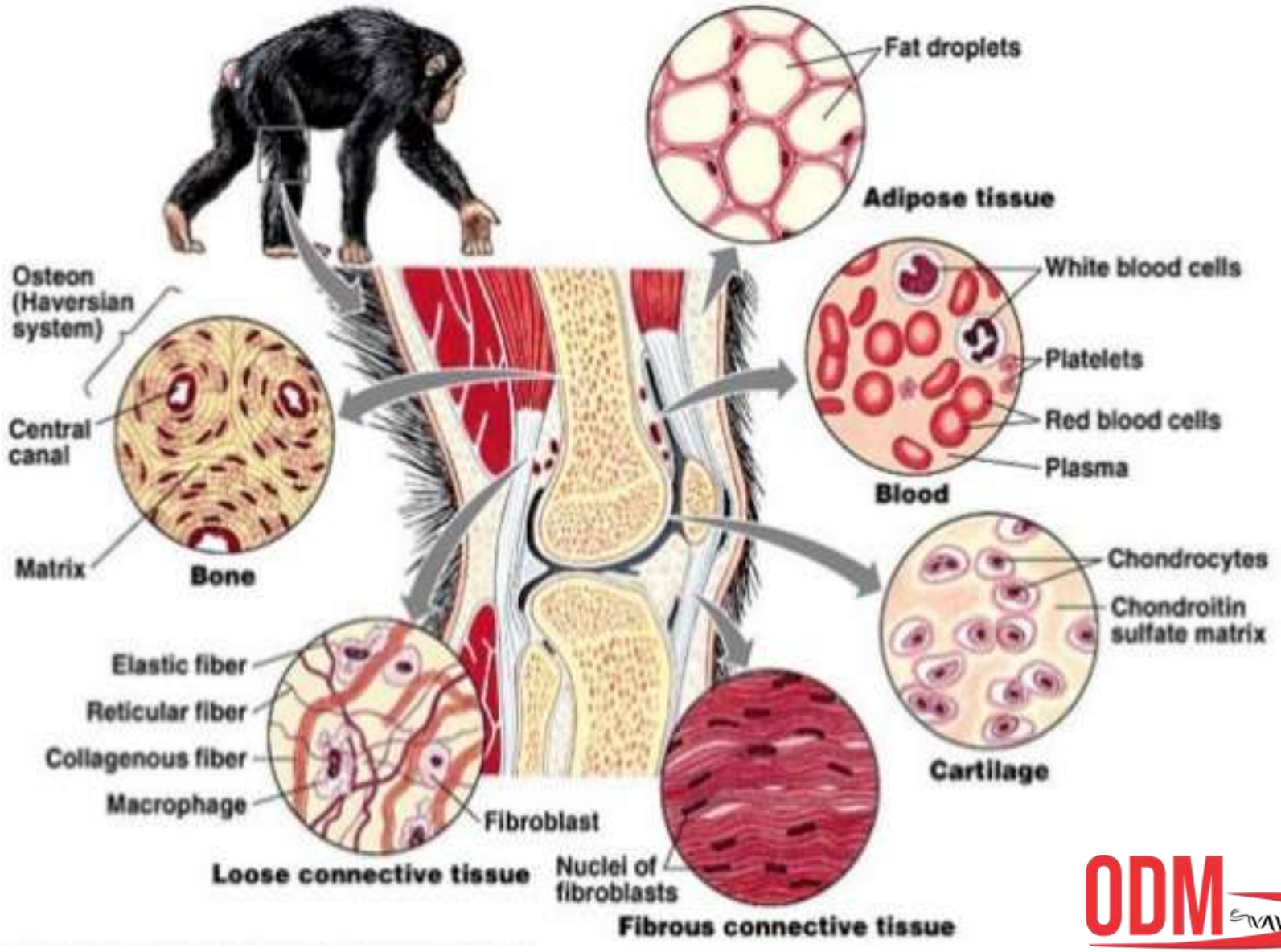
Adipose tissue



Hyaline cartilage



Compact bone



BONE AND CARTILAGE

Bone	Cartilage
1. Matrix is composed of a tough, inflexible material, the ossein.	1. Matrix is composed of a firm, but flexible material, the chondrin.
2. Matrix is always impregnated with calcium salts.	2. Matrix may be free or impregenated with calcium salts.
3. Bone cells lie in lucunae singly.	3. Cartilage cells lie in lacunae singly or in groups of two or four.
4. Osteocytes are irregular and give off branching processes in the developing bone.	4. Chondroblasts are oval and devoid of processes.
5. Lacunae give off canaliculi.	5. Lacunae lack canaliculi.
6. There are outer and inner layers of special bone forming cells, the osteoblasts, that produce new osteocytes, which secrete new lamellae of matrix.	6. There are no special cartilage-forming cells. Cartilage grows by division of all chondroblasts.
7. Matrix occurs largely in concentric lamellae.	7. Matrix occurs in a homogenous mass.
8. Bone is highly vascular.	8. Cartilage in nonvascular.
9. Bone may have bone marrow at the centre.	9. No such tissue is present.

Blood and lymph

Differences between Blood and Lymph			
1.	It is red in colour due to the presence of haemoglobin in red cells.	1.	It is colourless as red blood cells are absent.
2.	It moves away from the heart and towards the heart.	2.	It moves in one direction i.e. , from tissues to sub-clavians.
3.	It consists of plasma, RBC, WBC, and plastelets.	3.	It consists of plasma and WBC (maximum lymphocytes)
4.	Its plasma has more proteins, calcium and phosphorus.	4.	Its plasma has less protein, calcium and phosphorus.
5.	Glucose concentration is low.	5.	Glucose concentration is higher in lymph.
6.	Flow of blood is fast.	6.	Lymph flows very slowly.

HOME ASSIGNMENT

Q . why blood is called as fluid connective tissue?

Q. classify connective tissues

Q. on what basis connective tissue is classified

Q. differentiate between blood and lymph

Q. differentiate between bone and cartilage.

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TISSUES

SUBJECT- BIOLOGY

CHAPTER NO- 6

Muscular Tissue- structure, types and function

PERIOD-10

Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

- Students will be able to explain muscular tissue based on their structure and function.
- Student will be able to identify different types of muscular tissues
- Student will be familiarized with the location of different types of muscular tissues in different part of our body
- Learners will be sensitized about some of the examples of muscular tissues

WARM UP QUESTIONS

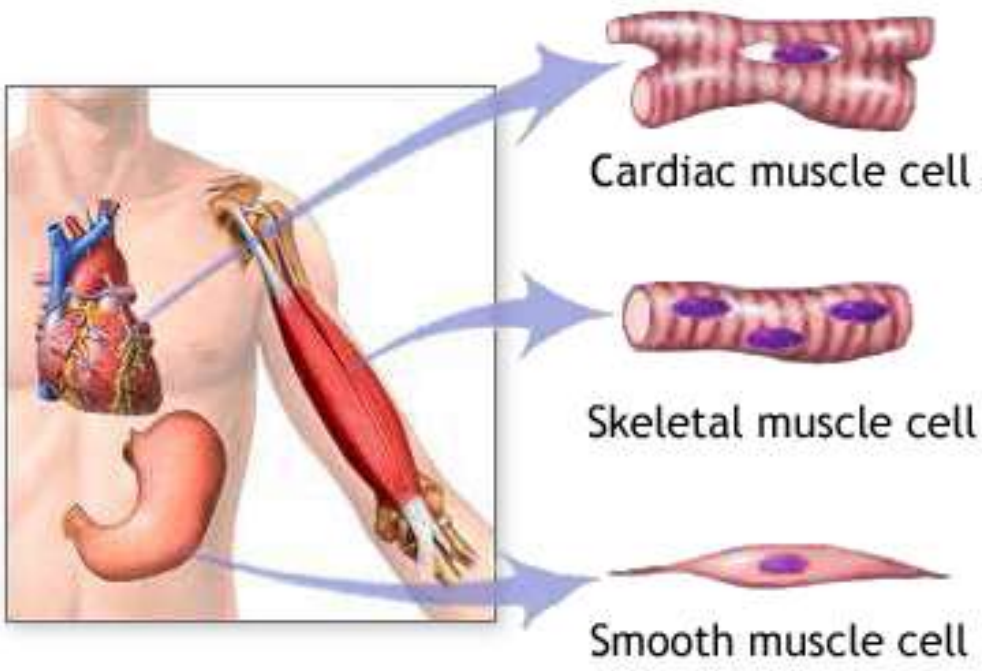
- Recapitulation of previous topic by showing a picture of connective tissues and ask them to identify all the types of connective tissues.
- Accept answers from students and appreciate the correct answers.

MUSCULAR TISSUE

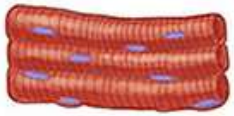
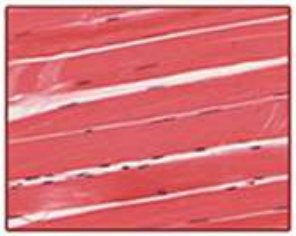
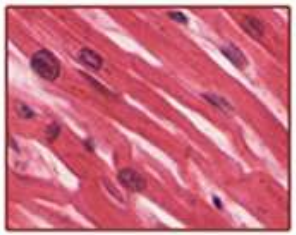
- Muscular tissue constitutes all the muscles of the body of an animal.
- Muscle cells are elongated and large sized, so they are called muscle fibres.
- Muscle cells are typically arranged in parallel arrangement allowing them to work together effectively.
- This tissue is responsible for movement in our body. Muscles contain special proteins called contractile proteins, which contract and relax to cause movement.

TYPES OF MUSCULAR TISSUES

- On the basis of their location, structure and function, there are following three types of muscle fibers:
- **Striated muscles (stripped, skeletal or voluntary muscles)**
- **Smooth muscles (unstriated, visceral or involuntary muscles)**
- **Cardiac muscles**



- video on muscular tissues types, structure and functions for better understanding.
- https://youtu.be/sfNBe9jCsT4

	Main features	Location	Type of cells	Histology
Skeletal muscle	- Fibers : striated, tubular and multi nucleated - Voluntary - Usually attached to skeleton			
Smooth muscle	- Fibers : non-striated, spindle-shaped, and uninucleated. - Involuntary - Usually covering wall of internal organs.			
Cardiac muscle	- Fibers : striated, branched and uninucleated. - Involuntary - Only covering walls of the heart.			

HOME ASSIGNMENT

Q . classify muscular tissue

Q. based on what muscular tissue are classified

Q. give examples for each type of muscular tissue and elaborate their location and functions.

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TISSUES

SUBJECT- BIOLOGY

CHAPTER NO- 6

Nervous Tissue- structure and function

PERIOD-11

Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

LEARNING OBJECTIVE

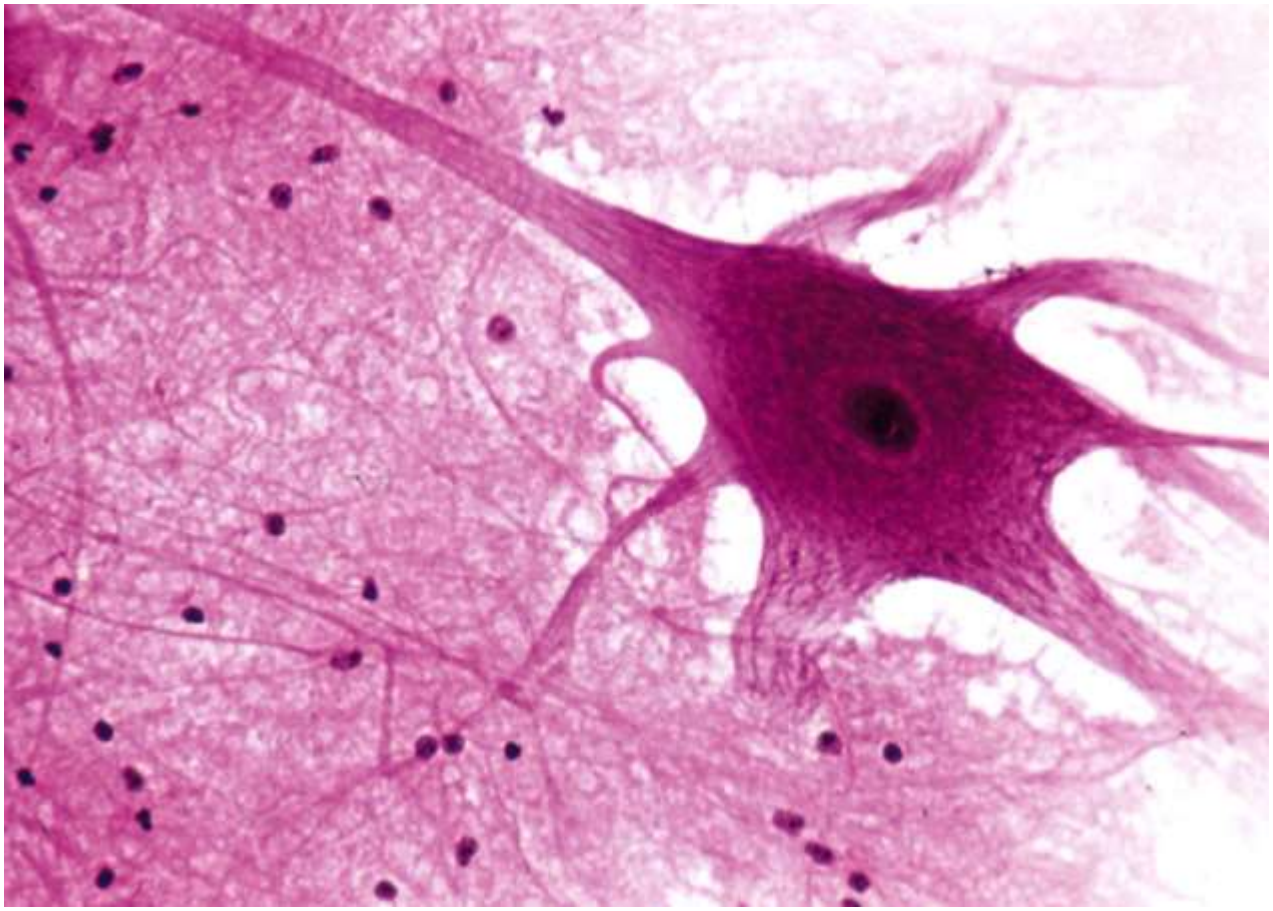
- Students will be able to explain nervous tissue based on their structure and function.
- Student will be able to identify different types of nervous tissues
- Student will be familiarized with the location of different types of nervous tissues in different part of our body
- Learners will be sensitized about some of the examples of nervous tissues

WARM UP QUESTIONS

- Recapitulation of previous topic by asking questions
- list the types of muscular tissues
- On what basis muscular tissues are classified

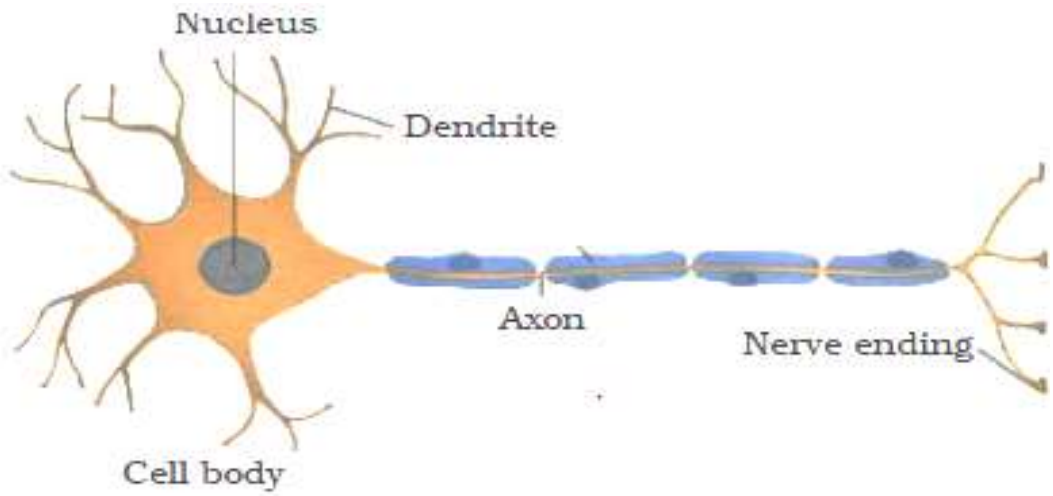
NERVOUS TISSUE

A tissue which is specialized to transmit messages in our body is nervous tissue. Brain, spinal cord and nerves are all composed of nervous tissue. Nervous tissue contains highly specialized unit cells called nerve cells or neurons.

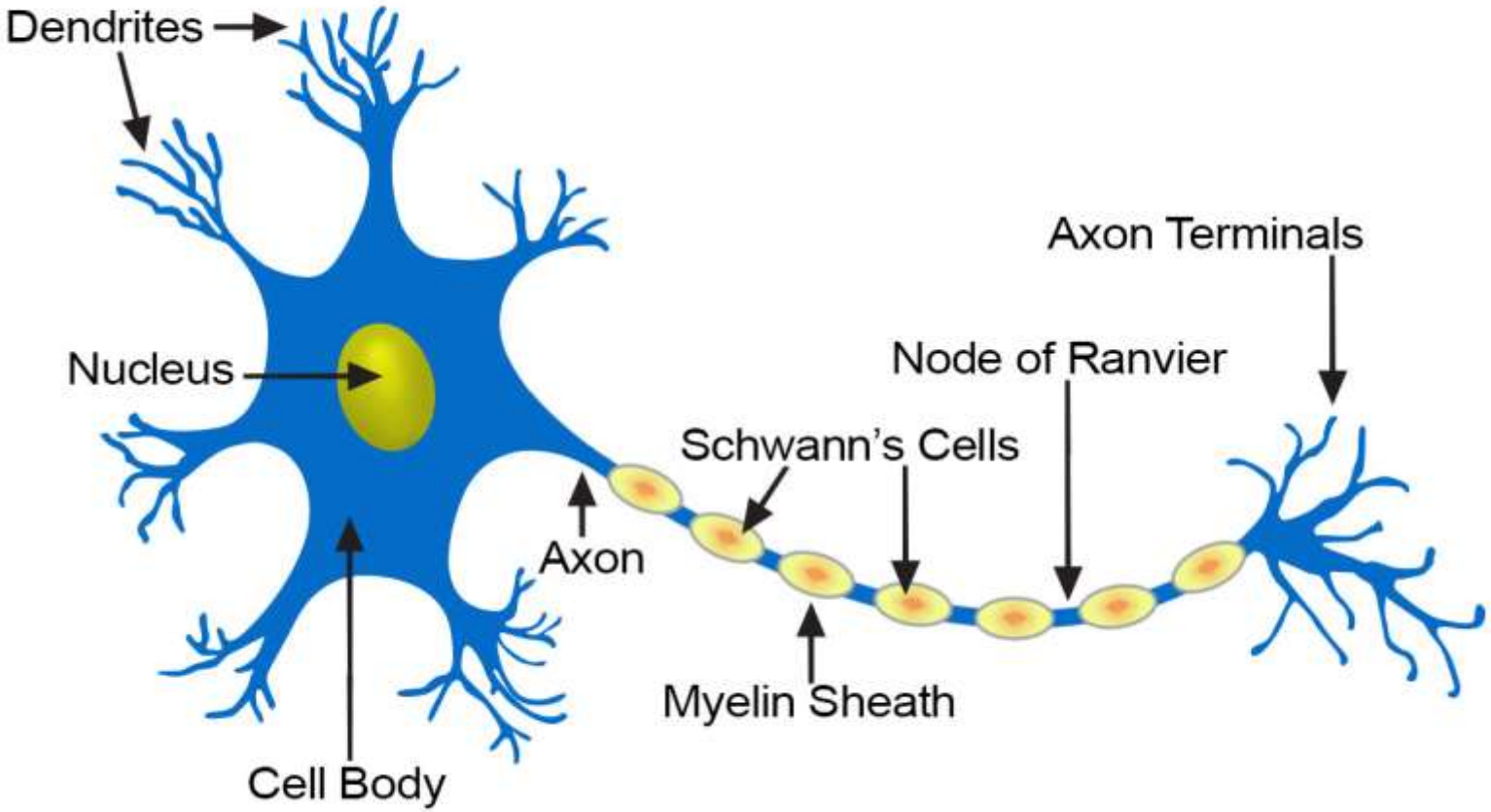


STRUCTURE

- These cells are specialized for the conduction of impulse over great distance at great speed.
- A neuron consists of a cell body (cyton or soma) with a nucleus and cytoplasm, from which long thin hair- like parts arise called dendrons.
- Dendrons further branched out to form dendrites. From the distal part of cyton arises a very long process called axon.



Structure of a Typical Neuron



- A video on NEURON , structure and functions for better understanding.
- https://youtu.be/cUGuWh2UeMk

HOME ASSIGNMENT

Q. Draw labelled diagram of nervous tissue

Q. explain the function of nervous tissue

THANKING YOU

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