

Biology

Class: S.1

Revision activity 1:

Cells are the tiny building blocks of life that make up living organisms. Most cells are too tiny to be seen by unaided eye. You can only observe cells using a microscope. A microscope is an instrument used to observe things that are too small to be seen by an unaided eye. It makes them appear much larger and clearer. The egg of a bird is actually a cell and can be seen without the use of a microscope.

Things you will need:

- i) Picture of an animal cell as seen under a microscope
- ii) Raw chicken egg in a clear plate/saucer
- iii) notebook
- iv) pen /pencil

Activity set-up

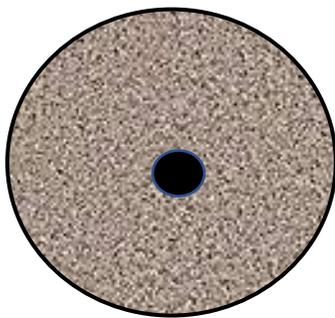
Get a raw chicken egg and carefully crack it from the side of the airspace, hold the egg at the edge of a flat clear plate/saucer and gently pour out the contents onto the plate.

Procedure:

Step 1: Observe the raw egg on the plate/saucer. Look at the different layers.

- i) How many layers are you able to see?
- ii) Describe the size (big or small or thin) and position (outer, central, inner) of the layers
- iii) Record the information from (i) and (ii) above in the table below. You will use it later in this activity.

Step 2: Study the picture of an animal cell as seen under a microscope



Step 3: Now compare the observation of the picture of an animal cell with that of the raw egg.

	Raw egg	Animal cell
Number of layers		
Size of layers		
Position of layers		

The central part of the animal cell is called the nucleus.

The fluid part surrounding the nucleus is called the cytoplasm.

The outer boundary surrounding the cytoplasm is the cell membrane.

Step 4: Draw and label the parts of the animal cell

Follow-up activity

1. Complete the following statements by filling in the blank spaces

_____ is a thin, outer layer surrounding the contents of the cell. It allows some substances to go in and some to come out of the cell.

_____ is a mucus-like liquid in the cell. This is where some of the life processes take place.

_____ is the “brain” of the cell. It controls all the chemical activities that take place in a cell. For example, _____, _____ and _____

2. The coronavirus is a microscopic organism, how different or similar is it to the animal cell?

Revision activity 2

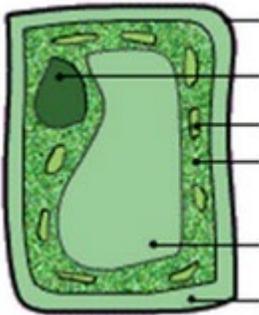
Introduction: The plant cell has parts that are the same as those found in an animal cell. It also has parts that are unique to it. The structure of the plant cell is also different from that of the animal cell.

Things you will need:

- i) Picture of a plant cell as seen under a microscope
- ii) notebook
- iii) pen /pencil

Procedure:

Step 1: Study the picture of a plant cell as seen under a microscope



The thick outer polygon-shaped layer is called the cell wall. The small green oval-shaped structures scattered in the cytoplasm are called chloroplasts. The vacuole is the large centrally located area of the cell found within the cytoplasm.

Step 2: Draw the plant cell and label its parts.

Follow-up activity - Complete the following statements by filling in the blank spaces

The cell wall is made up of a tough material called cellulose hence it provides _____ to the plant cell. The chloroplasts are numerous round structures that are green in colour because they contain chlorophyll which is used to trap _____ energy needed in the process of _____. The vacuole stores waste materials and useful substances such as _____, _____ and _____.

Revision activity 3

Cells are grouped together or organised at various levels in order to carry out specific functions and key life processes in the body. This ensures efficient functioning of the body for the survival of the organism. In this lesson, you will find out the different levels of cell organisation and what they do.

Things you will need:

- i) notebook
- ii) pen /pencil

Procedure:

People in a group can perform more complex tasks than one person alone. Consider what happens when there is a social gathering at your home and three families are supposed to prepare a meal for the function.

Step 1: List the categories of foods that form the meal going to be prepared.

Step 2: For each of the categories you have identified, sort them out according to the number of people that would be required to prepare that category of food i.e.

- 1 person
- 2 to 3 people
- 4 to 8 people (one family)
- more than 9 people (2 or more families)

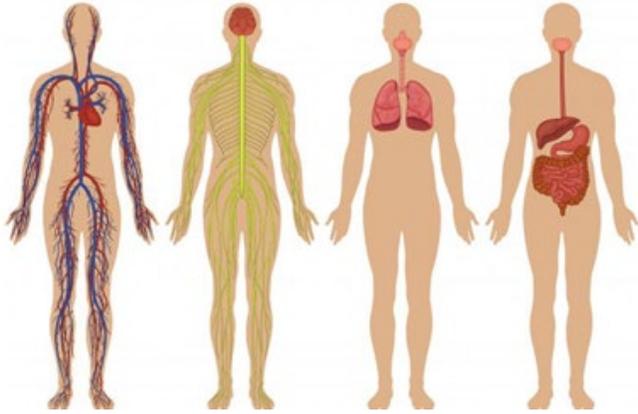
Write what you have done in a notebook

Step 3: Like people, similar cells in our bodies are organised into groups to make them work more effectively.

- *A group of **similar cells** performing a particular function is a **tissue** e.g. muscle tissue*
- *A group of **different tissues** form an **organ** to perform a particular function e.g. heart*
- *A group of **different organs** form an **organ system** to perform a particular function e.g. circulatory system*
- *A group of **different organ systems** form an **organism** e.g. a human*

Compare what you wrote down in step 2 with the information given in step 3. Write down what would be the equivalent of a cell, tissue, organ, organ system and organism.

Step 4: Study the figure below



Identify;

- i) The four systems shown in the figure
- ii) The organs that make up each of the systems shown

State the function of each of the systems you have identified.

Follow-up activity

The following is a list of some functions of systems in your body. Match the functions to the corresponding system.

Transports materials around the body	Lymphatic system
Breaks down food substances for absorption	Circulatory system
Exchanges gases between the body and the surrounding	Urinary system
Produces gametes	Digestive system
Filters waste from the blood	Respiratory system
Defends the body against disease	Reproductive system