

UNIT 3 - CELLS, HISTOLOGY, INTEGUMENTARY SYSTEM

ACTIVITY - Cells Are Us

Objectives: The main objectives is to show that the cell is the basic unit of life; that cells divide slowly to become mass of cells (mitosis); and that there is a gradual loss of cells throughout life.

Materials Needed:

Cell Observation(s)

paper
pencils
microscope
slides
slide covers
iodine
eye dropper
cotton swabs
water
long balloons
string
marbles

Cell Loss Observation(s)

pencils
paper
shopping bag
various items to be used for observation

index cards
envelopes
markers
"Hocus Focus" picture

Strategy:

Cell Observation

Ask students to draw a dot on paper. Tell class: "This was you -- billions of cells ago."

Microscope Observation:

Have students:

- a. Gently scrape inside of cheek with cotton swab;
- b. Stir end of cotton swab in drop of water on a slide;
- c. Add a drop of iodine solution to color cells;
- d. Look at slide under microscope to observe skin cells.

Balloon Experiment:

Give each student two long balloons and string. Have students blow up one balloon and twist the ends in opposite directions to give an idea of what the first egg cell division looks like. They can also tie a string in the opposite direction (if the balloon doesn't burst) to show a model of the second division. Explain that the cells go on dividing.

Demonstration:

Demonstrate how cells keep getting smaller and smaller, and become crowded for room. Show how they begin to arrange themselves into a ball, or sphere, with an open space in the middle because of their rounded shape.

- a. Take some marbles and push them together.
- b. Demonstrate how the marbles pack tightly if you use just a few.
- c. Add more marbles and you will find that they tend to arrange themselves around an opening left in the center.
- d. Explain how this process goes on and on and on.

Cell Loss Observation (memory)

1. Show a picture with a lot of items within it to the class. Have students write down at least six different things that they see.
2. Put 18-20 various items into shopping bag. Have the students observe as you name the items as you remove it from the bag. Have volunteers orally recall as many of the items as they can. The volunteer with the most correct responses may select one of the items as a prize.
3. Draw/write duplicates of various pictures and symbols on index cards. Place in two separate envelopes. Have students observe cards for one minute then write down the names of the items in the envelope.
4. Have students with color-coded cards work in pairs. Mix up and turn over the cards in both envelopes. Have students try to find and match like pairs.

Performance Assessment:

At the conclusion of the activity the students will be able to answer the following questions:

1. What are cells?
2. Can you explain mitosis?
3. Why is cell division important?
4. What effect does aging have on mitosis?

Conclusions:

Students will understand that a cell is a tiny unit of life; the smallest "building blocks", from which all living things are made and that cell production slows as we age.