

UNIT 3 - CELLS, HISTOLOGY, INTEGUMENTARY SYSTEM

ACTIVITY - Cell Structure and Function (Make a Cell Model)

This may be used as a homework assignment.

Objectives:

Learn vocabulary pertaining to cells.

Draw and color a cell in all the phases of division.

Materials Needed:

This is a list of materials for each student in the class:

- lemon gelatin dessert mix;
- 1 pint (125-ml) re-sealable plastic bag;
- quart bowl;
- large grape.

Strategies:

Draw the cell in all the stages of cell division. Using the textbook locate pictures of cell division. Label the parts and the stages.

Each student will make a Cell Model.

- a. Mix the ingredients for the gelatin dessert according to the instructions on the box.
- b. Allow the gelatin to cool to room temperature.
- c. Pour the gelatin into the re-sealable bag, seal the bag, and place it in the bowl.
- d. Set the bowl and bag in the refrigerator and chill until the gelatin is firm (about 3 to 4 hours).
- e. Remove the gelatin from the refrigerator and open the bag.
- f. Using your finger, insert the grape into the center of the gelatin
- g. Reseal the bag.
- h. Place the bag of gelatin on a flat surface such as the kitchen counter.
Observe its shape.
- i. Hold the bag over the bowl as you gently squeeze it (the bowl is used in the event that you squeeze too hard and the bag opens). Observe the shape of the bag as you squeeze

Performance Assessment:

2. Students will take a multiple choice quiz on the hierarchy of the organizational levels. Below is an example of testing students on knowing the difference between cell, tissue, organ, system and body. You may rewrite it leaving cell off each item.

Directions: On the quiz below one list would be in a correct order if you were to write organ in the blank. Which list is that?

- a. cell, tissue, system, body, _____
- b. cell, tissue, _____, system, body
- c. _____, cell, tissue, system, body
- d. cell, _____, tissue, body, system

Discuss the nature of movements of cells in the human body: microvilli, cilia, flagella

A simple model of a cell with 3 parts will be made. (organelles optional)

- a. Each student will understand that the plastic bag represents the membrane of the model cell.
- b. Each student will properly name the pale color of the gelatin dessert as the grayish jellylike material cytoplasm, that fills the cell.
- c. Floating in the gelatin is a grape the represents the nucleus.
- *d. Students will use there creativity to add items to demonstrate the organelles.