Daily Lesson Plan Template

Lesson Title: Let's Make a Cell

Overview

In this activity we will be taking the concept of building a personal cell to a much larger scale. We are going to create a class cell with all of its components being built to scale. We will use class materials along with some materials students bring from their homes for construction.

Process Standards

Focus on the development of explanatory models based on their observations during laboratory investigations.

Develop explanations based on reproducible data and observations gathered during laboratory investigations.

Content Standards

Explain that most cells contain mitochondria (the key sites of cellular respiration), where stored chemical energy is converted into useable energy for the cell. Explain that some cells, including many plant cells, contain chloroplasts (the key sites of photosynthesis)

Explain that all cells contain ribosomes (the key sites for protein synthesis), where genetic material is decoded in order to form unique proteins.

Explain that cells use proteins to form structures (e.g., cilia, flagella), which allow them to carry out specific functions (e.g., movement, adhesion and absorption).

Essential Questions

What does the inside of a cell look like? What are the differences between a plant and an animal cell?

Objectives

The students will be able to…

Name the parts of the cell, for both plant and animal cells

Be able to distinguish the two types of cells when given an example

Co-Teaching Model

The teachers will split into two groups. One will take the plant and the other will take the animal cell.

Procedures

Describe your procedures for each of the following:	
Preparation needs (lab or presentation materials,	Materials for the cell have to be gathered the day before to ensure that all components can be adequately represented.

etc.)	Slides showing some of the relative sizes of the components should also be prepared before the lab.
ENGAGE/Introducing the lesson (Describe how you will engage students, assess prior knowledge, present the question /problem/challenge)	The lesson will start with a brainstorming session on what the different parts of the cell are for these two cell types.
Student instructions	Students will be told to break into groups and divide themselves to build their parts of the cell and then add them into the whole cell.
Activities or teacher presentations (Procedures/Plans)	The teachers will begin with a presentation on the sizes of the components to give the students some insight for the construction phase.
Productive Questions you anticipate using	What are the components that are present in one type and not the other? Why are these differences present?
How/when will you assess learning	The beginning with the brainstorming is an informal assessment and the review at the end of why we put certain components where we did will be another.
Closure: concept recap, preview, assignment	The review of the components listed above.

Resources/Materials

All the materials needed for the construction of the cell, including paper, tape, glue and a variety of other resources the students think of when they pick their components.

Assessment/Evaluation

Informal assessments will be utilized in this activity to gage student understanding. At the end of the lesson the following day students will be asked to recreate these two cell types on a paper to test retention.

References and Resources

None at this time.