

Name:

Date:

Period:

Biology: Cell / Virus Model Project

Your task is to construct a three-dimensional model of a cell or virus. The container you choose will represent the cell membrane or wall of your model. Inside the container (a shoe box works great), use items of your choice and creation to illustrate the cytoskeleton and organelles of the cell or virus.

Circle the Cell type/ virus that you have been assigned:

Plant Cell

Human Cheek Cell

Human Neuron

Paramecium

Amoeba

Retro Virus

Bacteriophage

Eubacteria

Directions

THE MODEL

1. Record your assigned cell/ virus and your group members on the rubric.
2. Determine which organelles and structures are present in your cell type or virus.
3. Devise a strategy for completing the project. Decide who will work on what aspect of the project.
4. Complete a commitment contract and turn in if directed to do so.
5. Collect materials to construct your model and bring to class.
6. Cover or decorate the container so that it resembles a cell wall, membrane or protein coat.
7. Choose your materials carefully- you will be evaluated on authenticity and creativity.
8. Although you can't build your model to exact scale, you will be expected to keep the sizes relative (for example, a ribosome should not be larger than a nucleus).

LEGEND

1. A written legend or key must be attached to the back or side of the model.
2. The legend/ key should indicate cell or virus type and list the group members.
3. The legend/ key must represent each cell organelle or virus structure.
4. Next to each entry must be an explanation of that structure's function.
5. EUBACTERIA: Include a description of how eubacteria impact human lives.
6. VIRUS: Include common viruses that fall in your category and diagram the virus life cycle.

PRESENTATION

1. All groups will give a presentation of their cell model to the rest of the class.
2. Each group member must play a part in the presentation.
3. Your presentation must be less than 5 minutes.
4. During the presentation, point out anything exceptional about the model, explain why it represents your assigned cell/ virus, and be prepared to discuss the function of the structures.

ORGANELLES/ STRUCTURES TO INCLUDE

(Note: not all structures will be present in every model, and you may include some not on this list)

Centrioles

Nucleus

Protein Coat

Mitochondria

Microtubles

RNA/ DNA

Golgi apparatus

Peroxisomes

Lipid Bilayer

Endoplasmic reticulum (rough and smooth)

Lysosomes

Plasmid

Cell membrane

Vacuoles

flagellum

Cell wall

Nucleoid

Head

Chloroplasts

Tail

Sheath

Ribosomes

Neck

Glycoproteins