3-D Cell Model Project

Objective: Create a 3-Dimensional model of a cell as part of your understanding of the basic unit of life, and building block of living things. Demonstrate understanding of the parts of a cell and how they support the functions of life.

Your model should:

- Be 3-Dimensional (an actual object you have created)
- Contain all of the important organelles and structures of a cell.
- Contain labels or a separate page that identifies and discusses what each of the organelles does for the cell.
- Represent a larger scale version of a single cell. For example, the nucleus should be larger than the mitochondria.
- Be labelled as the type of cell it is (animal or plant) and should be the appropriate shape (rectangular for plant, roundish for animal.)

Grading Rubric

HP	Cell is highly detailed 3-D model. Includes all organelles. Labels or written description includes in depth discussion of organelle functions and how they work with other organelles to support the cell. High quality, color, assembled very well
PR	Cell is a 3-D model. Includes many organelles. Organelles are labelled and functions are discussed. Represents a complete model of the student's best ability to work.
CP	Cell model is complete. Contains some, but not all important organelles. Some labels missing, or not fully described. Includes wrong information or wrong organelles. Not a complete model.
DP	Model does not accurately represent a cell, or is not completed. Organelle descriptions and labels not included.

Organelles to include

<u>All cells should include:</u> Cell membrane, cytoplasm, ribosomes, nucleus, DNA, Golgi complex, vacuole, mitochondria, endoplasmic reticulum

<u>Plant cells should include:</u> cell wall, chloroplast

<u>Animal cells should include:</u> lysosome

Possible Materials

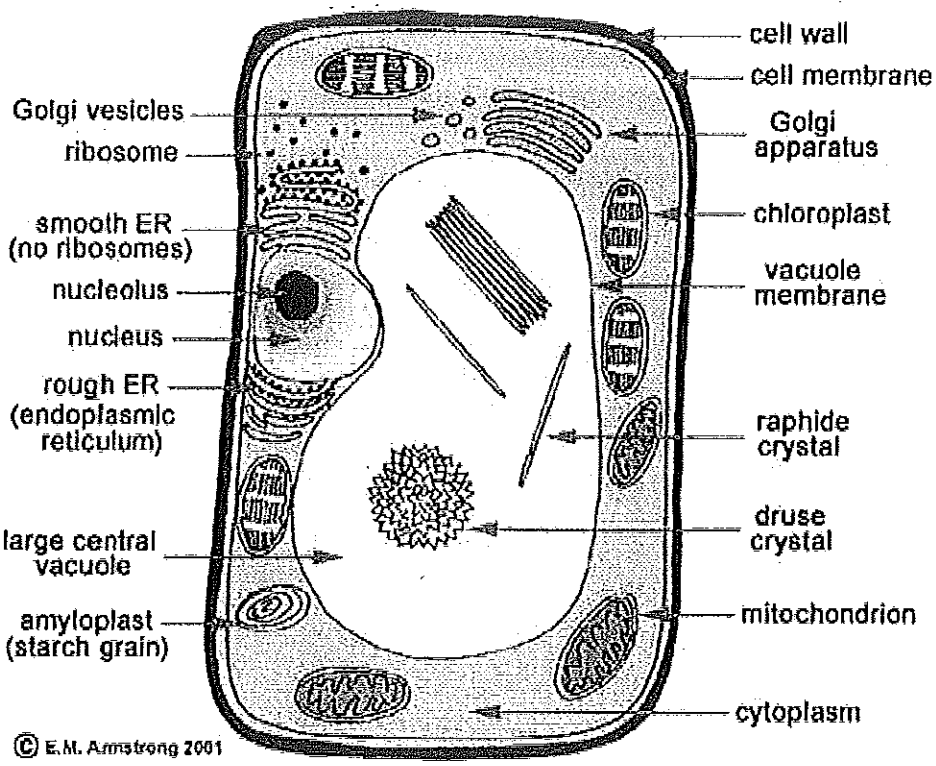
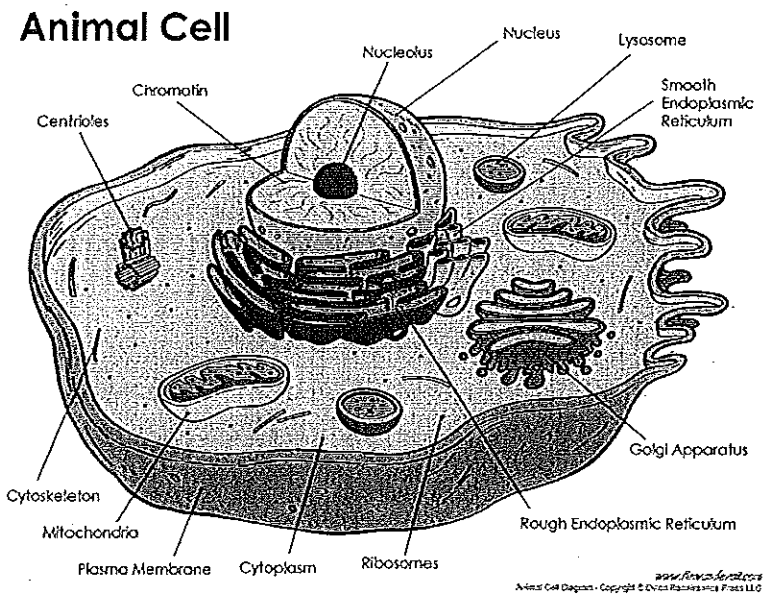
Styrofoam balls Craft foam Beads Yarn Pipe cleaners Felt Pom pom balls food candy
Crayola modeling clay or foam Play doh Recycling materials Wood scraps cloth scraps
packing peanuts cardboard straws glue markers marbles buttons legos
or you could even bake a cake!

For ideas go to google images and search for "cell model project middle school"

The project is due Tuesday, April 4. We will have a gallery walk that day to examine each other's work.

Organelle Name	Description/Function
Cell membrane	
Cytoplasm	
Ribosomes	
Nucleus	
DNA (not an organelle)	
Golgi complex	
Vacuole	
Mitochondria	
Endoplasmic reticulum - smooth	
Endoplasmic reticulum - rough	
Cell wall	
Cholorplast	
Lysosome	

Plant Cell Diagram



Animal Cell Diagram