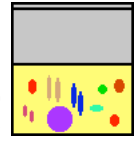


# Jello 3-D Animal Cell Craft



This project lets students make an edible, 3-D model of an animal cell. The jello represents the cytoplasm and various fruits and candies represent the organelles. When you've finished making your cell and writing about it, you can eat it!

## Supplies

- Gelatin, light-colored Jell-o (like lemon)
- Water
- Spoon (to stir the gelatin)
- Microwave or stove (used to heat the water)
- A small sturdy plastic bag to pour the gelatin in (we used 1-quart Ziploc bags)
- Various fruits and candies used to represent the parts of the cell: raisins, gummy worms (plain and sour), gumdrops, gum ball, jelly beans, grapes, mandarin orange sections, sprinkles, M&M's, jaw breakers, cherries, dried fruit, and/or hard candy. **Note: marshmallows will float on top of the gelatin, and chocolate tends to melt.**
- Refrigerator (used to set the gelatin)

## INSTRUCTIONS

1. HEAT THE WATER TO BOILING (TO MAKE THE GELATIN A LITTLE STIFFER USE THREE-QUARTERS OF WHAT IS IN THE INSTRUCTIONS). DISSOLVE THE GELATIN IN THE HOT WATER AND STIR. CAREFULLY ADD THE SAME AMOUNT OF COLD WATER.
2. PLACE AN OPEN 1 QT. PLASTIC ZIPLOC BAG INSIDE A STURDY CONTAINER (LIKE AN EMPTY COFFEE CAN OR PAN) - THIS MAKES POURING THE JELL-O EASIER. SLOWLY POUR THE COOLED GELATIN INTO THE BAG - LEAVE ENOUGH ROOM IN THE BAG FOR ALL THE CELL COMPONENTS THAT WILL BE ADDED LATER. SEAL THE BAG AND PUT IT IN THE REFRIGERATOR.
3. WHEN THE GELATIN IS ALMOST SET (THIS TAKES ABOUT A HALF-HOUR DEPENDING ON THE TEMPERATURE OF YOUR REFRIGERATOR) OPEN THE BAG AND START ADDING THE COMPONENTS OF THE CELL.
4. RE-SEAL THE PLASTIC BAG AND REFRIGERATE THE GELATIN UNTIL IT IS FULLY SET. WHEN THE GELATIN IS SET, YOU CAN EXAMINE YOUR 3-D GELATIN CELL AND THEN EAT IT.

# Organelles

Included are examples used for the cell model, but you can choose whatever edible parts you like.

**cell membrane** - the thin layer of protein and fat that surrounds the cell. It is represented by the plastic bag.

**cytoplasm** - the jellylike material outside the cell nucleus in which the organelles are located. It is represented by the gelatin.

**Golgi body** - a flattened, layered, sac-like organelle that looks like a stack of pancakes and is located near the nucleus. It produces the membranes that surround the lysosomes. The Golgi body packages proteins and carbohydrates into membrane-bound vesicles for "export" from the cell. It is represented by folded ribbons of hard candy.

**lysosome** - (also called cell vesicles) round organelles surrounded by a membrane and containing digestive enzymes. This is where the digestion of cell nutrients takes place. They are represented by Skittles.

**mitochondrion** - The mitochondrion converts the energy stored in glucose into ATP (adenosine triphosphate) for the cell. They are represented by raisins.

**nucleus** - The nucleus controls many of the functions of the cell (by controlling protein synthesis) and contains DNA (in chromosomes). It is represented by a cherry.

**ribosome** - small organelles composed of RNA-rich cytoplasmic granules that are sites of protein synthesis. They are represented by candy sprinkles.

**rough endoplasmic reticulum** - Rough ER transports materials through the cell and produces proteins in sacks called cisternae. It is represented by sour gummy worms.

**smooth endoplasmic reticulum** - Smooth ER transports materials through the cell. It contains enzymes and produces and digests lipids (fats) and membrane proteins. It is represented by gummy worms.

**vacuole** - The vacuole fills with food being digested and waste material that is on its way out of the cell. They are represented by jawbreakers.