

Plant Cell “Penny Pitch” game

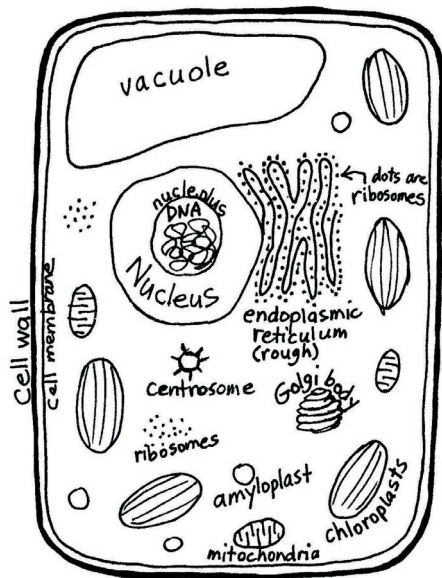
This game can be played indoors or out. You can adapt the size and scale of all the game parts to suit your playing area. For small areas, make the model a few feet in diameter, and pitch pennies. For large areas, make the model very large and pitch bean bags. (For parking lots, you could draw the model on the asphalt with chalk.)

You will need:

- A large floor area (can be an area in a room, or as large as a parking lot outdoors)
- A long rope (to represent the cell wall)
- Small objects like pennies or raisins (to represent ribosomes) If you are using pennies for ribosomes, you will need to choose something else to pitch.
- Yarn (three colors- one for the cell membrane, one for the endoplasmic reticulum, one for the vacuole)
- Green fabric, felt or paper than can be cut into chloroplasts
- Other colors of fabric (or paper) scraps with which to make other organelles
- Objects to pitch—such as pennies or bean bags, depending upon the size of your playing area. Beanbags are obviously better for very large areas, pennies for smaller areas.
- Scissors

Set up:

Use the ingredients listed above to make a flat model of a plant cell on the ground, using the diagram as a guide. The organelles can be in any position. You may give the students freedom to arrange the cell however they want to. For simplicity, you can omit the centrosome, nucleolus and the smooth ER. (The DNA would just be shown inside the nucleus.)



Quick review of cell parts:

CELL WALL: Provides protection and support for cell.

CELL MEMBRANE: Membrane surrounding all cells, both plant and animal. Controls flow of water and chemicals in and out of cell.

NUCLEUS: Contains nucleolus and DNA

NUCLEOLUS: Contains DNA

VACUOLE: Empty “bubble” helps to maintain shape of cell

CHLOROPLAST: Where photosynthesis occurs (makes sugar from light, carbon dioxide and water)

MITOCHONDRIA: The energy producers of the cell

CENTROSOME: Assists cell in mitosis (reproducing by splitting in half)

AMYLOPLAST: Stores sugar and starch molecules made by the cell

ENDOPLASMIC RETICULUM: The “roads” connecting various cell parts. Rough ER has ribosomes surrounding it.

RIBOSOMES: The “factories” that produce proteins the cell needs

GOLGI BODIES: “Processes and packages” proteins and fats made by the cell (It looks sort of like a stack of pancakes.)

How to play:

If you have a lot of players, divide them up into teams. Make sure all players are standing at the same distance from the cell. Call out the name of a team and then the name of an organelle. The members of that team all pitch their objects, trying to land on the organelle just called out. The team receives a point for every “hit.” Have the players reclaim their objects. Then call out another team and another organelle. Make sure all teams get a chance to aim for each organelle at some point in the game.

