

Cell Skit Outline

Notes:

- Some students can perform multiple jobs if class numbers are small (ex: a student could be food vesicle and transport vesicle).
- To help with class sizes, you can set up two, three, or four DNA/RNA/Ribosome/ER groups.
- Another size adjustment can be in the number of students who are mitochondria. That number can range from 2-4. Lysosomes can be 1 or 2 students as well.

Preparation:

Hand out an organelle card to each student. Have them familiarize themselves with the job. Announce that anything with “energy!” on its card requires a piece of candy to do its job. Place students at various points in the room and provide them with the materials they need.

Skit instructions:

1. The chloroplast (usually one student) is struck by light (seat them near the window) and produces sugars (candy – provide each student with some) which they open up and pour into the mitochondria’s petri dish - after consuming ATP. Typically there are 2-4 mitochondria.
2. Mitochondria then consume an ATP molecule in preparation to move about as they supply other organelles with energy. Mitochondria must periodically eat a piece of candy to keep their energy levels up. When they run out, they must return to the chloroplast for more.
3. Food – apples, oranges, and grapes – (supplied by the teacher) is received whole at the door by the plasma membrane (one student). After consuming ATP energy from the mitochondria, they open the door, take the food in, and fuse with a food vesicle and hand over the food.

4. The food vesicle, upon consumption of ATP, fuses with a lysosome (usually two students), near the small table with cutting materials. The lysosome people, after consuming ATP, cut the food into small chunks.
5. RNA (usually 3-4 students) partners with a DNA (3-4 students). DNA, after consuming energy) chooses a letter from their pile of notecards – an “A,” “O,” or “G” – and displays it to the RNA molecule. RNA views the first letter that represents the type of fruit in the fruit-kabob-protein. After consuming energy, they write it down on their own notecard with the supplied marker and head over to the ER. Both DNA and RNA actions require ATP.
6. The RNA shows the ribosomes (3-4 students) what chunk of fruit is needed, the ribosomes run to the small table, with ATP energy, select the fruit and bring it back to the ER. The ER (3-4 students), with ATP, place the fruit piece on their kabob stick.
7. Repeat steps 5 and 6 until DNA has used all its cards – typically 7-8 fruit pieces.
8. Transport Vesicle, with ATP, takes the kabobs to Golgi Apparatus. Golgi Apparatus wraps kabobs in plastic wrap, with ATP. Transport Vesicle then takes wrapped kabobs, with ATP, to plasma membrane, fuses, and plasma membrane secretes fruit kabobs out into the hallway, with ATP.