Lesson plan example: 6th grade science, cell organelles

Example 3 of 6 · 42 minutes · from draftmylesson.com/blog/lesson-plan-example

Standard reference	NGSS MS-LS1-2. Develop and use a model to describe the function of a cell as a whole and ways its parts contribute to that function. Use this reference only where NGSS applies.
Objective	Students will label five organelles (nucleus, mitochondria, ribosomes, cell membrane, cytoplasm) on a diagram and write a one-sentence function for each.
Materials	• One cell diagram handout per student (unlabeled) • A "cell as a factory" anchor chart • Sticky notes • Short organelle reference sheet (1 page)

Step	Time	What happens
Hook	5 min	Project a picture of a busy factory floor. Ask: "What jobs do you see happening here?" List them on the board. Tell students the cell works the same way.
Direct instruction	12 min	Walk through the factory analogy. Nucleus is the boss's office (instructions). Mitochondria is the power plant (energy). Ribosomes are the assembly line (proteins). Cell membrane is the fence (what gets in and out). Cytoplasm is the floor. Show each on a cell diagram as you describe it.
Guided practice	10 min	Students get the unlabeled diagram. Working in pairs, they place a sticky note on each organelle with its name and "factory job." Walk and check, especially mitochondria, which is the most-confused label.
Independent practice	10 min	Students copy the diagram into their notebook with labels and write one full sentence per organelle stating its function. Sentence starter on the board: "The ___ is responsible for ___ in the cell."
Exit ticket	5 min	Three short questions. (1) Which organelle controls the cell? (2) Which organelle produces energy? (3) Name one organelle the analogy did not cover that you remember from the diagram.

Why this works

The factory analogy is the load-bearing piece. Middle schoolers can memorize five words but cannot retain five abstract functions without a concrete schema. Exit ticket question 3 surfaces partial knowledge, which is more informative than fill-in-the-blank. The NGSS performance expectation is at nextgenscience.org.

Sources: https://www.nextgenscience.org/topic-arrangement/msstructure-function-and-information-processing · https://www.nextgenscience.org/pe/ms-ls1-2-structure-and-function
Check the standard adopted by your state, district or school before teaching. Adapt timing and materials to your students.