

5th Grade Science Cell Builder Kit Task Cards

Instructions: Print cards out, cut, then assign to groups accordingly.

<p><u>Task Card 1: Build an Animal Cell</u> – Beginning</p> <p>Challenge: Use the magnetic organelle pieces to build an animal cell on the board. Include: Nucleus, Cell membrane, Cytoplasm, Mitochondria</p> <p>Questions:</p> <ol style="list-style-type: none">1. Which organelle controls the cell?2. Which organelle gives the cell energy?	<p><u>Task Card 6: Cell Job Sort</u> - Developing</p> <p>Challenge: Sort the organelles into groups based on their jobs. Groups: Protection, Energy, Storage, Control</p> <p>Questions:</p> <ol style="list-style-type: none">1. Why did you place each organelle in that group?2. Which organelles work together?
<p><u>Task Card 2: Plant Cell Parts</u> – Beginning</p> <p>Challenge: Build a plant cell using the magnetic pieces. Include: Nucleus, Cell wall, Chloroplasts, Vacuole, Cell membrane, Mitochondria, Cytoplasm</p> <p>Questions:</p> <ol style="list-style-type: none">1. Which organelle helps plants make food?2. Which organelle gives the plant cell support?	<p><u>Task Card 7: Plant vs. Animal Cell Investigation</u></p> <p>Challenge: Use the board to compare plant and animal cells. - Developing</p> <p>Task: Complete a Venn Diagram.</p> <p>Questions:</p> <ol style="list-style-type: none">1. What do all cells have in common?2. Why do plant cells need chloroplasts?
<p><u>Task Card 3: Organelle Match-Up</u> – Beginning</p> <p>Challenge: Match each organelle to its job magnet.</p> <p>Nucleus = Cell membrane = Chloroplast = Vacuole =</p>	<p><u>Task Card 8: Build a Healthy Cell</u> - Developing</p> <p>Scenario: Your cell needs to survive and stay healthy. Challenge: Build a complete healthy cell.</p> <p>Questions:</p> <ol style="list-style-type: none">1. Which organelle helps make energy?2. What would happen if the cell membrane stopped working?
<p><u>Task Card 4: Find the Differences</u> – Beginning</p> <p>Challenge: Build both a plant cell and an animal cell.</p> <p>Questions:</p> <ol style="list-style-type: none">1. Which parts do both cells have?2. Which parts are only found in plant cells?	<p><u>Task Card 9: Storage Experts</u> - Developing</p> <p>Challenge: Place the vacuole magnets in both plant and animal cells.</p> <p>Questions:</p> <ol style="list-style-type: none">1. Which cell usually has the larger vacuole?2. Why is water storage important for plants?

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Task Card 5: Label the Cell - Beginning

Challenge: Correctly place and label all organelle magnets on the board.

Questions:

1. Which organelle protects the cell?
2. Which organelle stores materials?

Task Card 10: Cell Survival - Developing

Scenario: A cell loses one organelle.

Challenge: Remove one organelle and explain what happens.

Questions:

1. Which organelle was removed?
2. How would the cell be affected?

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<p><u>Task Card 11: Cell Teamwork</u> - Proficient</p> <p>Challenge: Build a cell and explain how THREE organelles work together.</p> <p>Questions:</p> <ol style="list-style-type: none">1. How do these organelles help each other?2. Why is teamwork important inside cells?	<p><u>Task Card 16: Design a Super Cell</u> - Distinguished</p> <p>Challenge: Create a “super cell” that could survive almost anywhere.</p> <p>Questions:</p> <ol style="list-style-type: none">1. Which organelles are most necessary for survival?2. How do they help maintain balance inside the cell?
<p><u>Task Card 12: Fix the Broken Cell</u> - Proficient</p> <p>Challenge: Your teacher intentionally builds the cell incorrectly.</p> <p>Task: Find and fix the mistakes.</p> <p>Questions:</p> <ol style="list-style-type: none">1. What mistakes did you find?2. Why were they incorrect?	<p><u>Task Card 17: Cell Disaster Investigation</u></p> <p>Scenario: The mitochondria stop working.</p> <p>Challenge: Use the board to model what happens to the cell. - Distinguished</p> <p>Questions:</p> <ol style="list-style-type: none">1. How would the cell change?2. Which other organelles would be affected?
<p><u>Task Card 13: Build a Strong Plant Cell</u> - Proficient</p> <p>Scenario: A plant is drooping and unhealthy.</p> <p>Challenge: Build a strong plant cell that could help the plant survive.</p> <p>Questions:</p> <ol style="list-style-type: none">1. Which organelles are most important?2. How do they help the plant?	<p><u>Task Card 18: Build a Cell for a Special Job</u></p> <p>Challenge: Design a plant or animal cell specialized for a certain job. - Distinguished</p> <p>Examples:</p> <ul style="list-style-type: none">- Leaf cell- Muscle cell- Root cell <p>Questions:</p> <ol style="list-style-type: none">1. Which organelles would this cell need more of?2. Why?

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<p><u>Task Card 14: Cell City</u> - Proficient</p> <p>Challenge: Compare the cell to a city.</p> <p>Examples: Nucleus = mayor Cell membrane = security gate Mitochondria = power plant</p> <p>Questions: 1. Why did you choose those comparisons? 2. Which "city worker" is most important?</p>	<p><u>Task Card 19: Surviving Environmental Changes</u></p> <p>Scenario: A plant is not getting enough sunlight.</p> <p>Challenge: Use the board to explain how this affects the cell. - Distinguished</p> <p>Questions: 1. Which organelle is most affected? 2. How would the plant struggle to survive?</p>
<p><u>Task Card 15 — Which Cell Is It?</u> - Proficient</p> <p>Challenge: Your teacher gives clues about a mystery cell.</p> <p>Example Clues: - Has chloroplasts - Has a cell wall - Makes its own food</p> <p>Task: Build the correct type of cell.</p> <p>Questions: 1. Is it a plant or animal cell? 2. Which clues helped you decide?</p>	<p><u>Task Card 20 — Defend Your Cell Model</u></p> <p>Challenge: Create the best possible plant or animal cell model using the magnetic pieces. - Distinguished</p> <p>Presentation Requirements: - Explain all organelles - Explain organelle functions - Explain how the cell survives</p> <p>Final Reflection: "How do all cell parts work together to help living things survive?"</p>