

4 SIDED PUZZLE CELL cycle

This four-sided puzzle includes information about the following vocabulary terms and concepts associated with the **cell cycle** and **mitosis**:

Anaphase	G1
Aster	G2
Cancer	Interphase
Cell Cycle	M Phase
Cell Division	Metaphase
Centromere	Prophase
Chromatids	Replication
Cleavage Furrow	S phase
Cytokinesis	Spindle Fiber
Daughter Cell	Telophase



Teacher Instructions

Step 1:

Print one copy of the puzzle and instruction card for every two students in your class and one copy to use as an answer key.

- 4 Sided puzzles work best in groups of two, but can be used for larger groups as well. Print as many or as few as you need to satisfy the numbers in your class
- Hint: In order to keep sets easily separated from each other, print each copy on a different color of paper.

Step 2:

Laminate all copies of the puzzle and instruction cards

- If you want to use the puzzle for many years, I suggest using heavy weight laminate film like 5 mil.

Step 3:

Trim the edges and cut along all grid lines to create each puzzle set. Place each set of puzzle cards and an instruction card in a separate zip lock baggie to store until use.

Step 4:

Pass out one baggie of puzzle cards to each student group and let the challenge commence!

Options:

- Give students a hint by showing them 2 of the four outside borders if they are struggling
- Make it more challenging by using a timer
- Make it competitive by awarding a prize to the first group to finish
- Encourage peer to peer learning by allowing those who finish first to give hints to other groups

Instructions

Objective: Correctly match concepts, diagrams, and vocabulary on all sides of each card. Finished puzzle should be a 3X3 square.

Step 1: Empty cards from sack and spread all the cards out on your desk.

Step 2: Locate the center card (Hint: look for the 4 sided logo)

Step 3: Match the words, diagrams and phrases on all sides of the cards

Expectations for this activity:

- Work **quietly** with your group members
- Use honor and keep your eyes on your own puzzle
- Raise you hands when your group is finished

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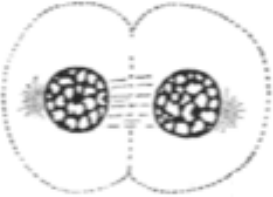



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<p>Spindle fiber</p> <p>Chromatids</p> <p>Replication of DNA</p>	<p>Anaphase</p> <p>Stage of mitosis where spindle fibers separate chromatids</p>  <p>aster</p>	<p>© RDW '12</p> <p>First and longest phase in the cell cycle</p> <p>M phase</p> <p>centromere</p>
<p>S phase</p> <p>Replication</p> <p>Series of events that occur in the life of a eukaryotic cell that include growth, DNA replication, and mitosis</p>	<p>Cytokinesis</p>  <p>Interphase</p> <p>Division of cytoplasm</p>	<p>Point in cell cycle where mitosis occurs</p>  <p>G2</p> <p>Cancer</p>
<p>Prophase</p> <p>Cell cycle</p> <p>Daughter cell</p>	<p>Metaphase</p> <p>Growth of cell</p> <p>Cells spend most of their life in this phase</p> <p>Nuclear division that produces 2 daughter nuclei</p>	<p>A disease cause by uncontrolled cell division</p>  <p>Cancer</p> <p>Cleavage furrow</p>