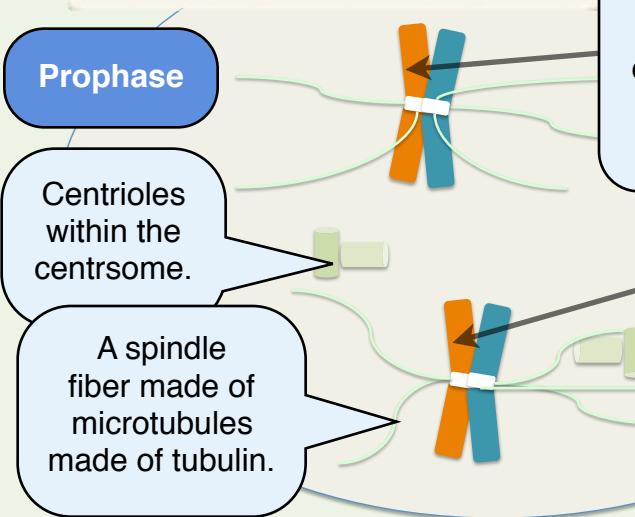
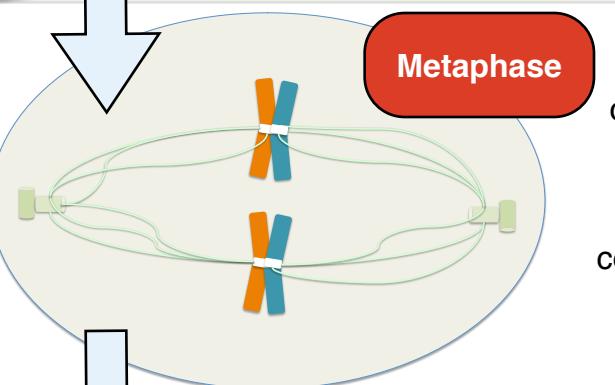
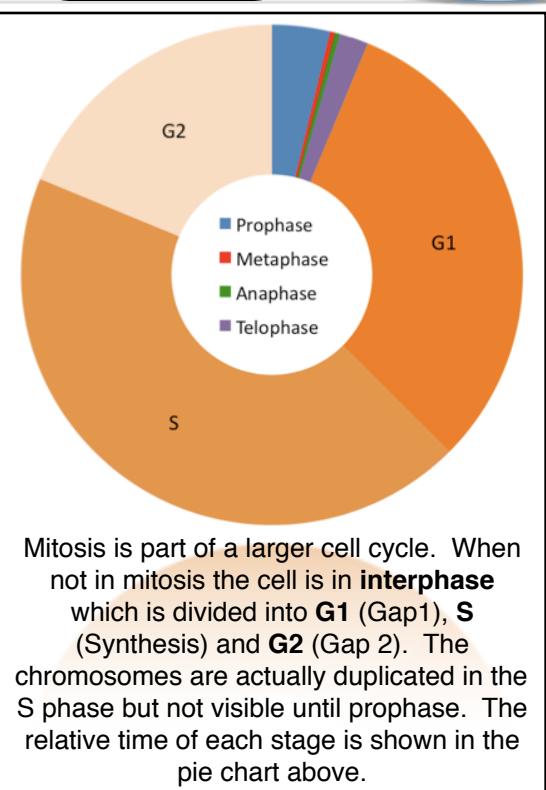


# Mitosis

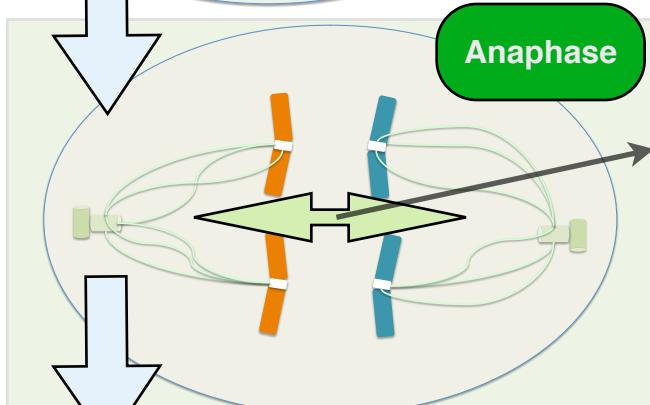


A cell with 2 chromosomes is shown to the right in interphase. Each of these chromosomes duplicates to produce copies (sister chromatids) shown in blue to the left (all the chromosomes are not condensed and visible until prophase).

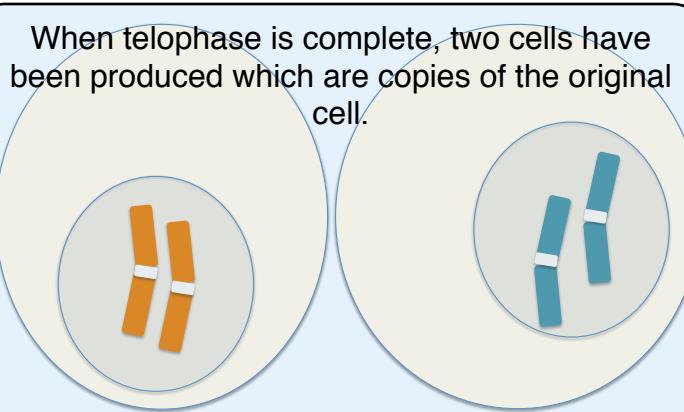
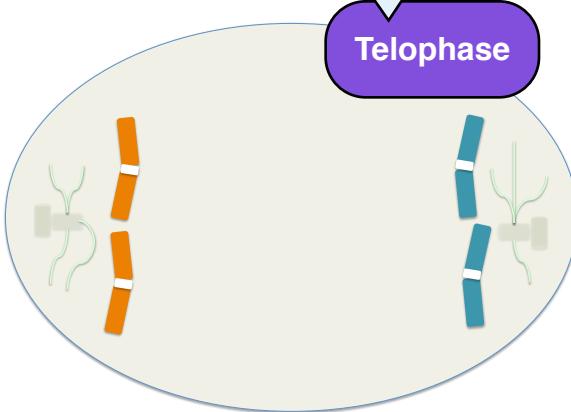
In prophase, the spindle fibers begin to form and attach to the **centromeres** (shown in white) of each pair of **sister chromatids**. The **nuclear envelope** dissolves and the **centrioles** move towards opposite poles of the cell. A protein structure called the **kinetochore** connects the spindle fibers to the centromeres.



The spindle fibers pull the chromosomes to the center of the cell (the **metaphase plate**). We call this stage metaphase, once all the centromeres are aligned in the center of the cell.



Anaphase is the stage of mitosis when the sister chromatids are pulled apart (they **disjoin**) and each copy is pulled to an opposite pole of the cell.



In telophase the cell divides in half (**cytokinesis**), spindle fibers disappear and the nuclear envelope forms around each set of chromosomes.