Teacher Edition

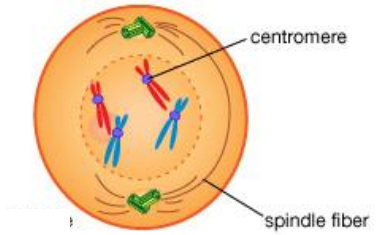
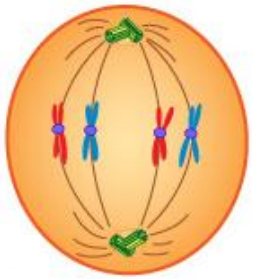
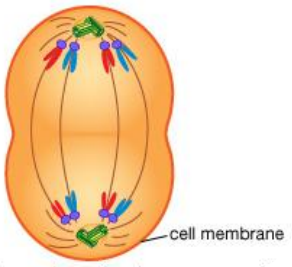
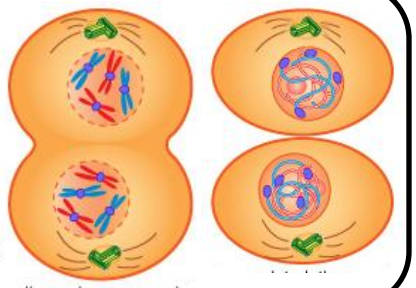
The FRAME Routine

Key Topic

Mitosis

is about…

The cellular division of a cell producing two identical daughter cells through a process of four stages prophase, metaphase, anaphase, and telophase, which are discussed below. Prior to mitosis the cell goes through a interphase composed of three stages G1, S, and G2.

	Main idea	Main idea	Main idea	Main idea
	Prophase	**Metaphase**	**Anaphase**	**Telophase**
Steps	**Essential details**	**Essential details**	**Essential details**	**Essential details**
	1. Chromatin in the nucleus begins to condense and coil into visible chromosomes 2. Nucleus disappears 3. Centrioles begin moving to opposite ends of the cell 4. Spindle fibers begins to form between the centrioles	1. The chromosomes are pulled by the spindle fibers and line up in the middle of the cell. *Each sister chromatid attached to its own spindle.	1. Centromeres split apart 2. The spindle fibers begin to shorten pulling apart the chromatids at opposite ends of poles	1. Chromosomes at opposite end poles unwind and spindle breaks down 2. Nucleus reappears and nuclear envelope forms 3. New membrane forms between two nuclei creating two distinct daughter cells
Illustration				

So What? (What's important to understand about this?)

Mitosis is one process of cellular division. It is important because it is the process in which cells grow and repair. For example, when your skin is cut, you want more skin cells to come in and repair the cut. So, the nearby skin cells undergo mitosis and other processes to repair the cut. Furthermore, for growth to occur, cells need to undergo cellular division.

Student Edition

The FRAME Routine

Key Topic: Mitosis

is about…

Main idea: Prophase	Main idea: Metaphase	Main idea: Anaphase	Main idea: Telophase
Steps — Essential details	Essential details	Essential details	Essential details
Illustration			

So What? (What's important to understand about this?)

Mitosis Vocabulary	
Chromosoes	
Spindle Fiber	
Chromatid	
Centriole	
Chromatin	
Centromere	
Kinetochore	