



1 Interphase
 The cell grows to its mature size, makes a copy of its DNA, and prepares to divide into two cells. Two cylindrical structures called centrioles are also copied.

2A Mitosis: Prophase
 Chromatin in the nucleus condenses to form chromosomes. The pairs of centrioles move to opposite sides of the nucleus. Spindle fibers form a bridge between the ends of the cell. The nuclear envelope breaks down.

2B Mitosis: Metaphase
 The chromosomes line up across the center of the cell. Each chromosome attaches to a spindle fiber at its centromere.

2C Mitosis: Anaphase
 The centromeres split. The two chromatids separate. One chromatid is drawn by its spindle fiber to one end of the cell. The other chromatid moves to the opposite end. The cell stretches out as the opposite ends are pushed apart.

2D Mitosis: Telophase
 The chromosomes begin to stretch out and lose their rodlike appearance. A new nuclear envelope forms around each region of chromosomes.

3 Cytokinesis
 The cell membrane pinches in around the middle of the cell. The cell splits in two. Each daughter cell ends up with an identical set of chromosomes and about half the organelles.