

Unit 6: CELL DIVISION

Cell Division

- Must copy genetic information before division
 - i.e. DNA replication
- Prokaryotes – separate cell into two parts
- Eukaryotes – more complicated (2 stages)
 1. Mitosis – division of cell nucleus
 2. Cytokinesis – division of cytoplasm

Mitosis and Cytokinesis = Asexual Reproduction

- Many organisms reproduce by these methods
 - Unicellular organisms
- Cells produced are genetically identical to parent
- Mitosis is also the source for new cells in multi-cellular organisms

2 Main Stages of the Cell Cycle:

1. Interphase
2. Mitosis

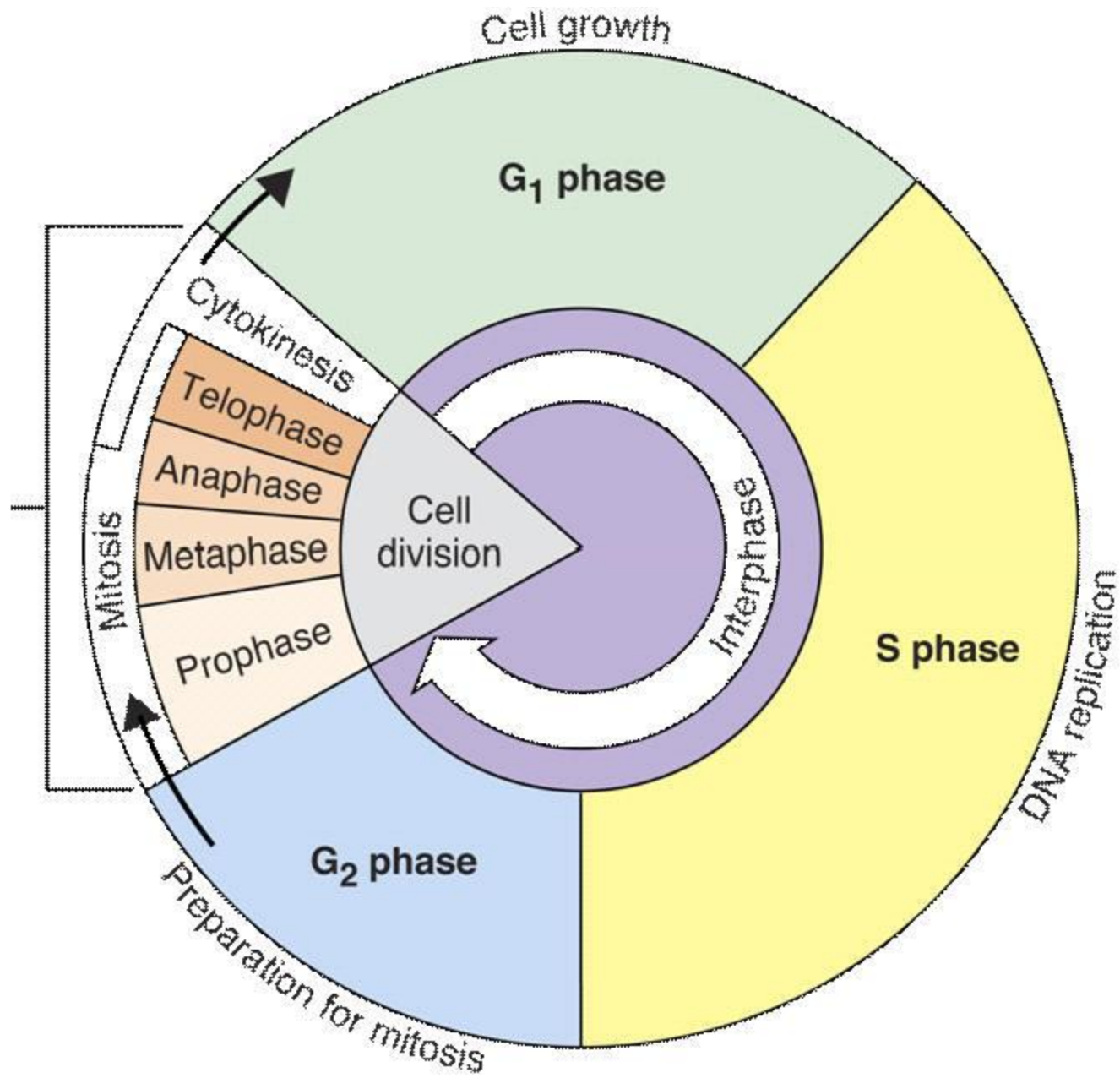
Interphase

- Time in between cell divisions
- The cell grows and replicates its DNA
 - G_1 , S, G_2 phases
- *Protein synthesis and DNA replication occur
- *DNA is loosely wrapped around proteins forming chromatin

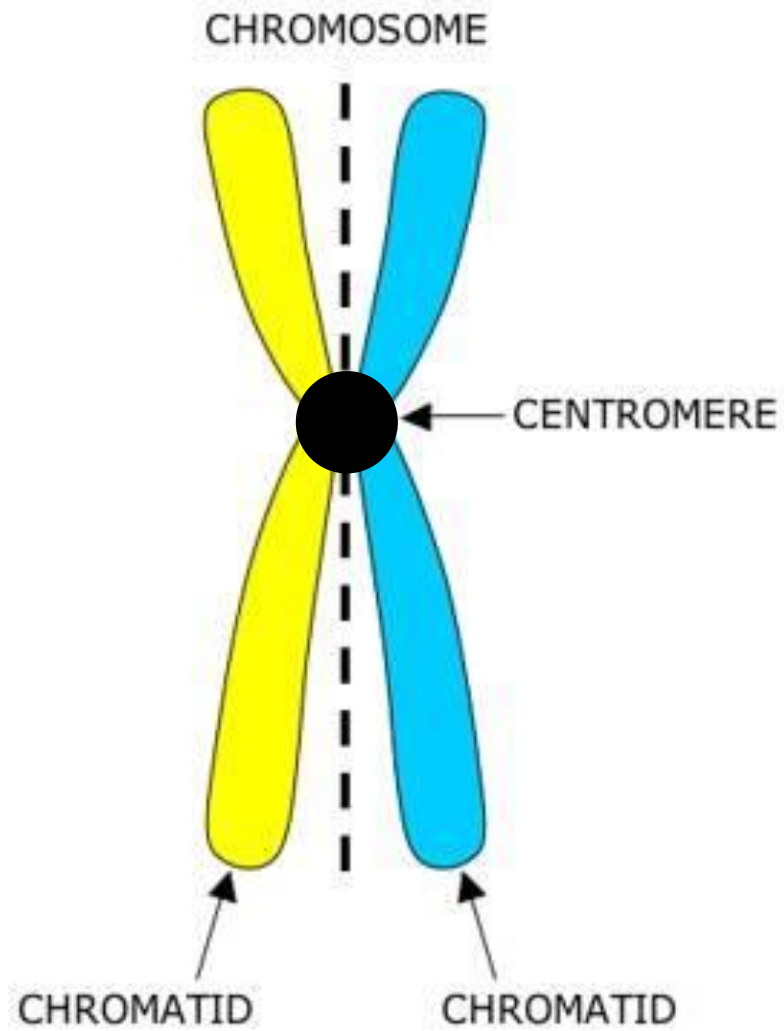
Cell Cycle- Lifecycle of a Cell

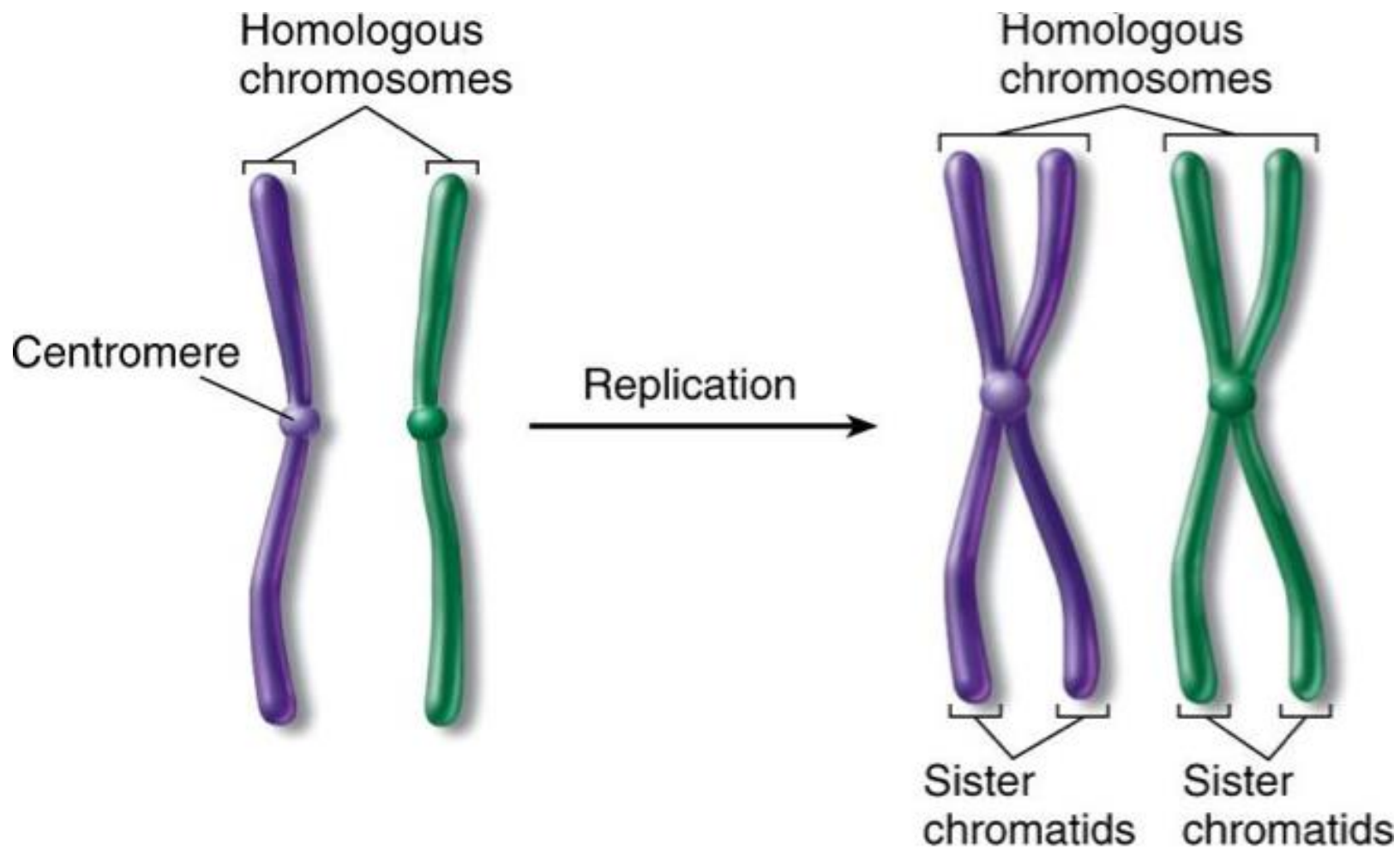
- 4 Phases of the Cell Cycle:
 1. G_1 Phase – cell grows
 2. S (synthesis)Phase – DNA Replication
 3. G_2 Phase – Preparation for Mitosis (Cell division)
 4. M Phase – Mitosis and Cytokinesis

Cell Division



Vocab





Somatic Cells

- Any cell except sperm and egg cells
 - E.g. Nerve, Muscle, Skin cells
- Diploid – contains two complete sets of chromosomes
- Mitosis occurs in Somatic Cells