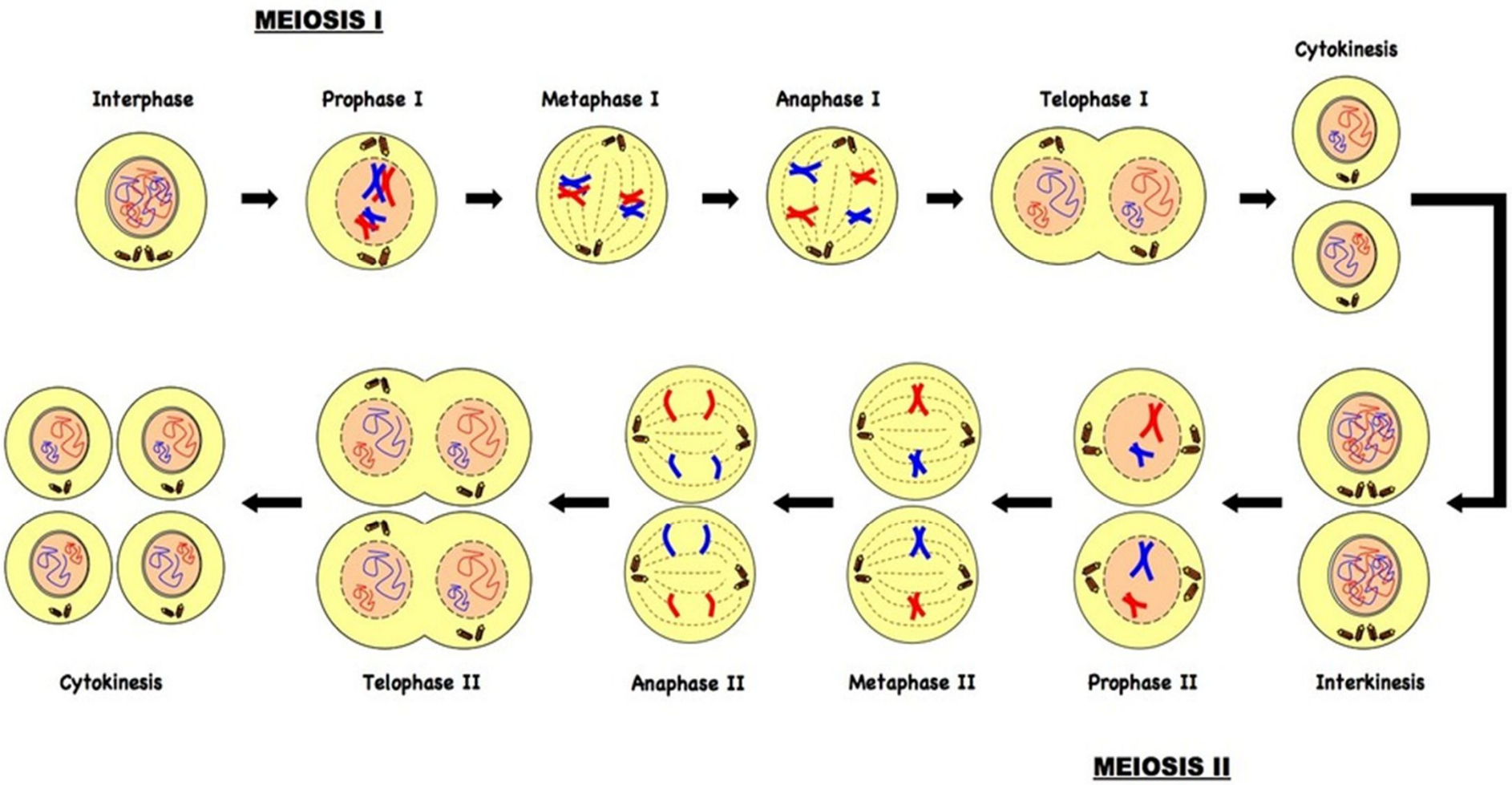
Meiosis II

- **Meiosis is only HALFWAY done at the end of telophase I**
- Prophase II
  - Spindle apparatus forms
  - Chromosomes condense
- Metaphase II
  - Chromosomes are lined up at the middle
  - The chromosomes are haploid, not diploid
    - Mitosis – they are diploid
- Anaphase II
  - Sister chromatids are pulled apart
  - Sister chromatids move towards the poles
- Telophase II
  - Chromosomes reach the poles
  - Nuclear membrane reforms
- Cytokinesis
  - Produces end result – FOUR HAPLOID CELLS
  - Each cell has HALF the number they started with

Meiosis II


MEIOSIS I
Interphase
Prophase I
Metaphase I
Anaphase I
Telophase I
Cytokinesis
Interkinesis
Prophase II
Metaphase II
Anaphase II
Telophase II
Cytokinesis
MEIOSIS II

Importance of Meiosis

Mitosis

- One division occurs
- DNA replication occurs during interphase
- Synapsis of homologous chromosomes DOES NOT occur
- **Two** identical cells are formed
- Daughter cells are genetically identical
- Occurs only in **body cells**
- Involved in **growth and repair**

Meiosis

- Two sets of divisions occur
- DNA replication occurs once before meiosis I
- Synapsis of homologous chromosomes occurs during prophase I
- **Four** haploid cells are formed
- Daughter cells are NOT identical due to crossing over
- Occurs in **reproductive cells**
- Involved in production of **gametes and genetic variation**