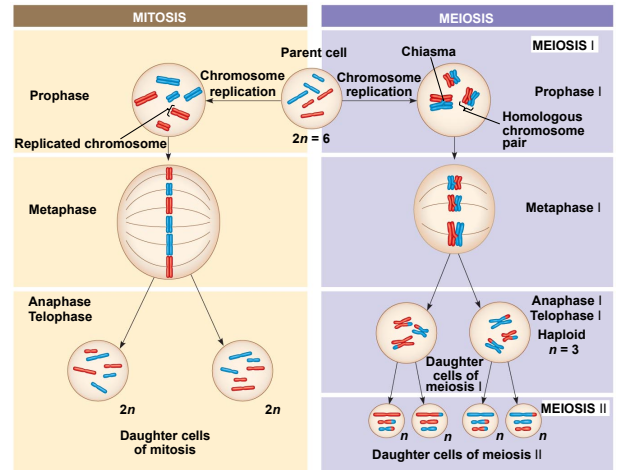


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7



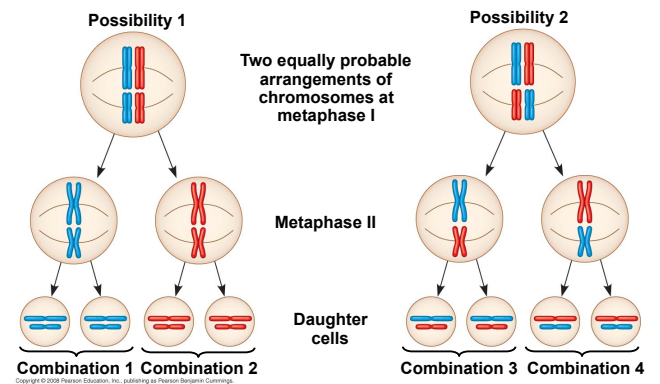
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8

| SUMMARY  |   |  |
|--|---|--|
| Property   | Mitosis   | Meiosis  |
| DNA replication                                  | Occurs during interphase before mitosis begins  | Occurs during interphase before meiosis I begins   |
| Number of divisions                              | One, including prophase, metaphase, anaphase, and telophase   | Two, each including prophase, metaphase, anaphase, and telophase   |
| Synapsis of homologous chromosomes               | Does not occur  | Occurs during prophase I along with crossing over between nonsister chromatids; resulting chiasmata hold pairs together due to sister chromatid cohesion |
| Number of daughter cells and genetic composition | Two, each diploid (2n) and genetically identical to the parent cell   | Four, each haploid (n), containing half as many chromosomes as the parent cell; genetically different from the parent cell and from each other           |
| Role in the animal body                          | Enables multicellular adult to arise from zygote; produces cells for growth, repair, and, in some species, asexual reproduction | Produces gametes; reduces number of chromosomes by half and introduces genetic variability among the gametes   |

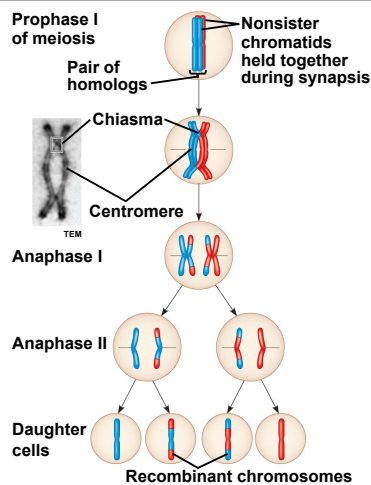
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10



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11