

Function	Mitosis	Meiosis
• all DNA replication	Yes	Yes
• all nuclear divisions	Yes	Yes
• synthesis of histone proteins	Yes	Yes, during S-phase I, then again
• crossing-over occurs	No	Yes, while nuclei are present in Prophase I. This increases genetic variability
• all daughter cells	Yes	Yes
• chromosome count in parent cell	2n (diploid)	2n (diploid)
• chromosome count in daughter cells	2n (diploid)	2n (diploid)
• sex cells	• somatic, somatogonic, asexual reproduction	• produce haploid gametes for sexual reproduction; somatic chromosome number in each generation