

Cell Division.

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1. Interphase: It is the stage between cell division. It's the longest stage (vi) as it occupies 90% of the cell division. Chromosomes can't be seen as they are very thin and long.

The 3 stages of interphase:

→ G₁: It's where tRNA and mRNA are formed. Translation, transcription, transportation and protein synthesis take place.

→ S: It's called the ~~complementary~~ semi-conservative replication.

→ G₂: It's where organelles like the mitochondria divide ~~hence ATP~~! molecules build up to provide cell with energy for cell division. DNA is checked for errors and repaired, any errors in repairing cause mutation.

2. Mitotic stage [4]

i) prophase: Centrioles replicate just before the prophase. During the prophase, centrioles move to opposite pole of the cell. Chromosomes coil up to become short and thick and intensely stained that they'll look like sister chromatids. The nuclear envelope breaks down into vesicles then disappear along with the nucleolus. Centrioles start organising spindle fibers.

ii) Metaphase: It acts as a microtubule organizing center organizing microtubules to form spindle fibers. Which then extend to the centromere of the chromosomes aligning it at the equator.

iii) Anaphase: Centromeres divide. Causing the spindle fibers to shorten pulling the sister chromatids centromeres along with the chromatids at the end of the cell.