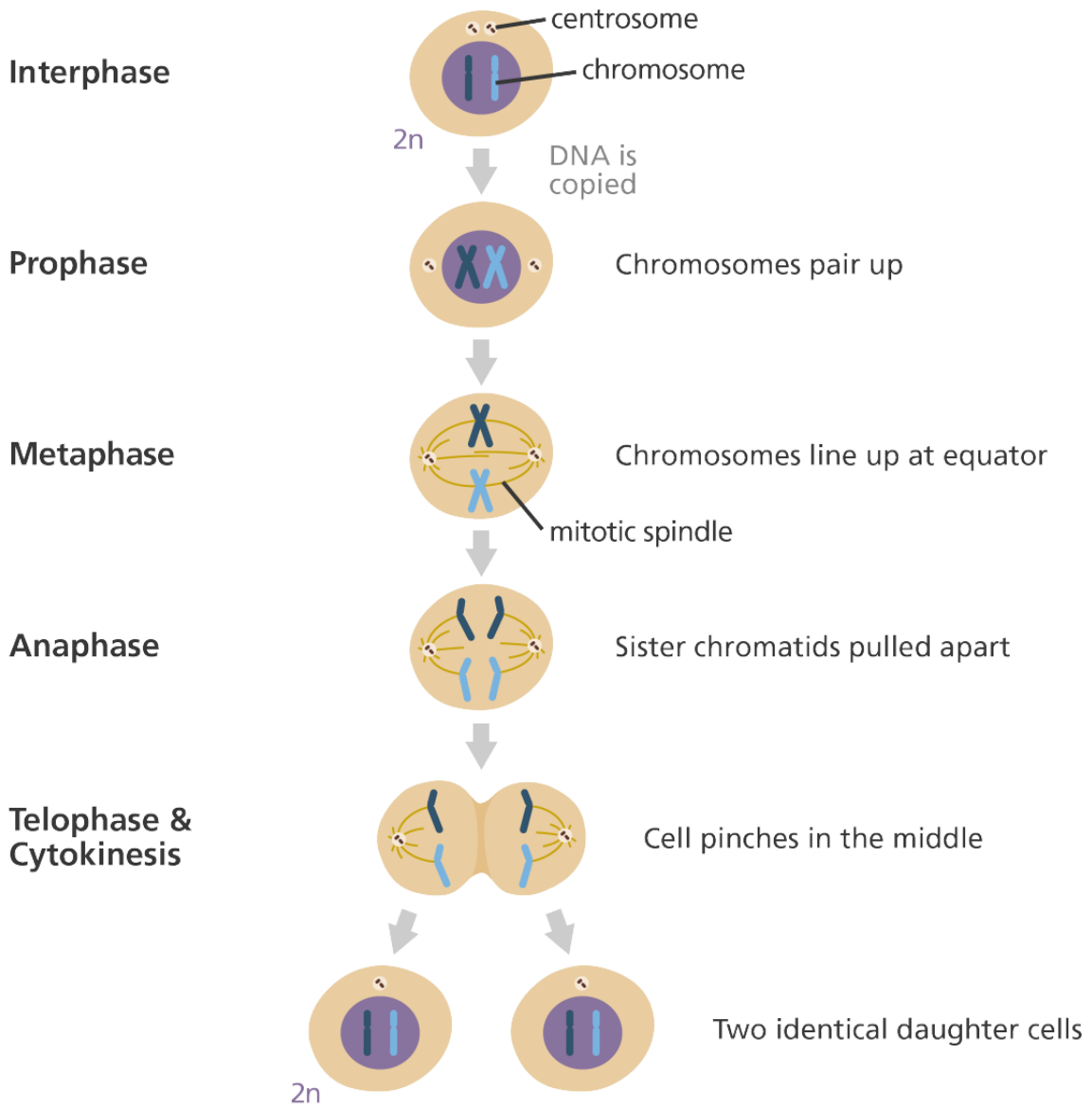


The 5 Stages of Mitosis



$2n$ - diploid

During the first stage of mitosis, interphase, the cells duplicate creating two copies of the chromosomes. There is no division of DNA during this stage, only preparing for the division. The other thing that happens is, the cells undergo a process of growth. The second stage is called Prophase. This is where the cells begin to change their structure and create other divisions of chromosomes. Each chromosome pairs up with another one, and the nucleus starts to break down. Once the nucleus is almost all the way broken down, the microtubules start to reach for the chromosomes. The third stage is called Metaphase. This phase is when all the chromosomes line up at the equator of the cell and the central nucleus breaks completely. The microtubules attach themselves to each side of the chromosome as each pair separates half of themselves and attach to the other half of the other chromosome. The fourth stage is called Anaphase. This is when the chromosomes get “pulled apart” into two sister chromatids. Each chromatid is pulled apart and move towards the poles (ends) of the cell by the microtubules that get shorter in preparation for cell separation. The last stage is called the Cytokinesis. It is when the cells completely separate from each other. Each separation is different between animal and plant cells. Each one just before the separation equally distributes the fluid called the cytoplasm into each cell and them become two independent daughter cells.