

Feb 12, 2020

Continue with Cellular Division
Mitosis explained

Warm-up:

The process of mitosis in humans
takes ~ _____ hour(s).

Test on Chp 5 before March Break

pg 149 #1,2,4,5

1. Cell division is important because it heals and repairs tissue, allows for growth and creates new organisms.

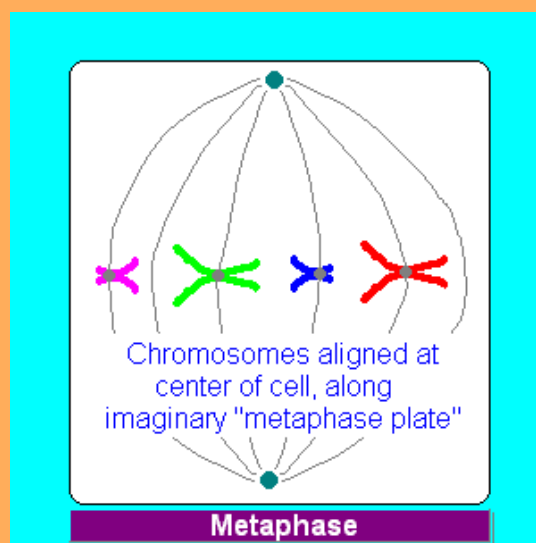
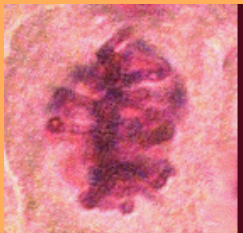
2. Skin and blood cells divide more rapidly and at different rates than brain cells which rarely divide.

4. No elderly people do not actually have older blood. Blood is a cell in your body that divides and gets replaced over time.

5. If scientists are able to get mature nerve cells to divide, they will be able to have new nerve cells created when mature nerve cells are damaged.

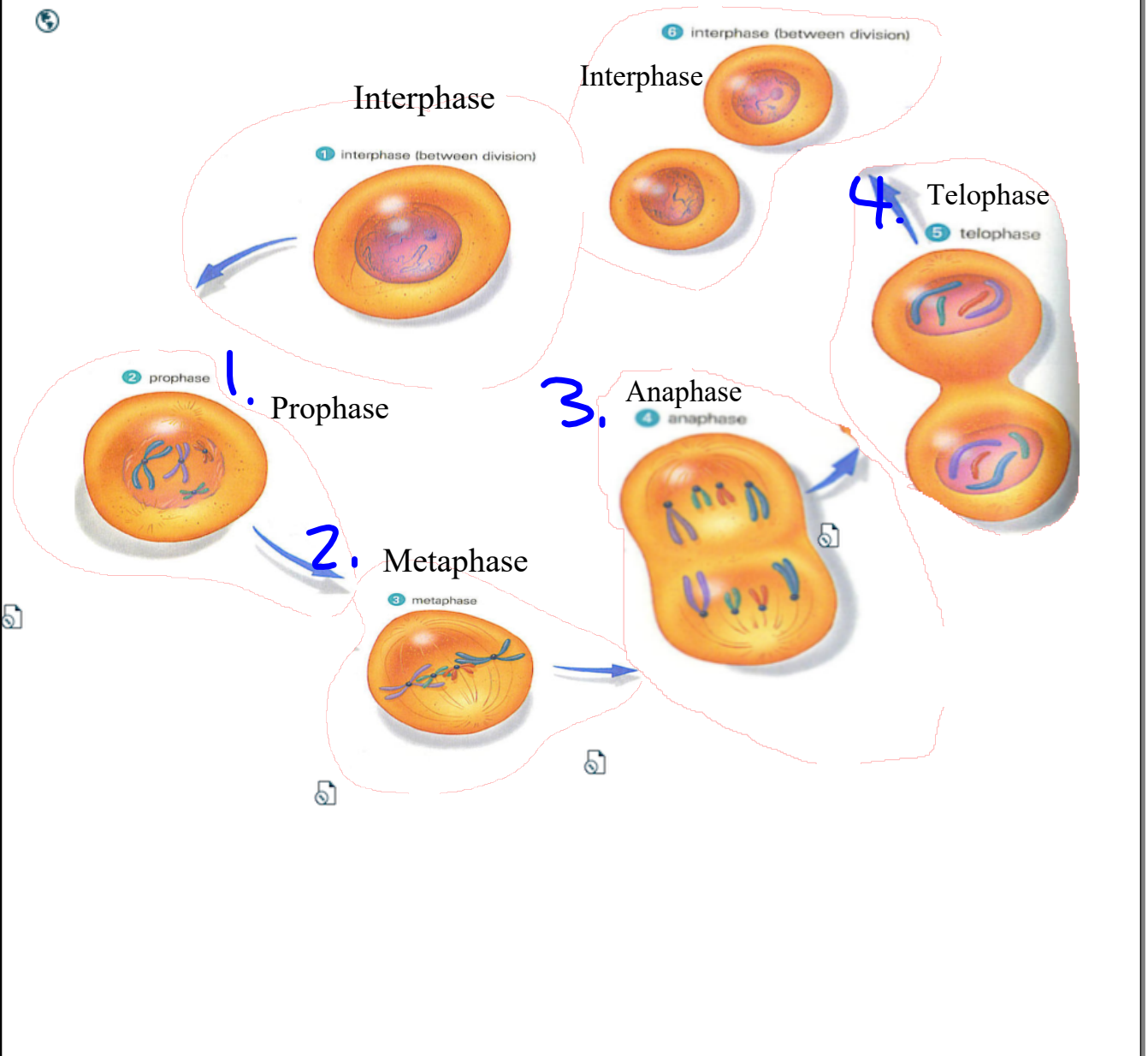
Mitosis

- Before we investigate all the details, let's look at what it all looks like first.



Now that we have a sense of what is involved in mitosis, let's look at it in more detail.

Steps of Mitosis (PMAT) pg 152



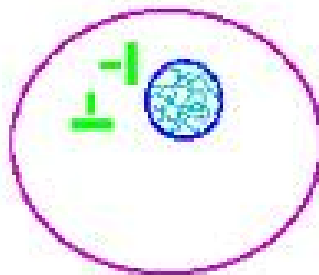
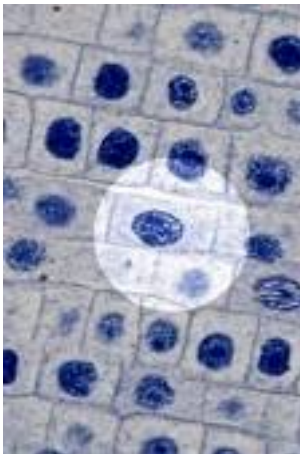
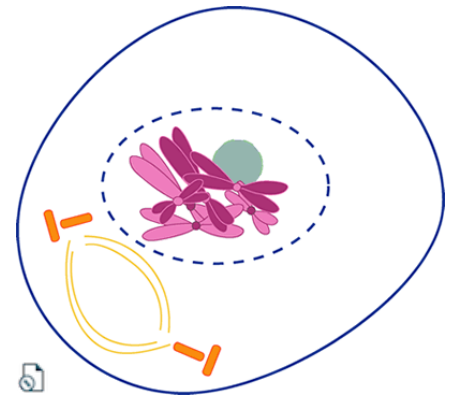
IPMATI

Interphase occurs between the stages of cell division

- the cell grows
- duplicates its chromosomes
- prepares to divide

Stage 1: IPMATI

Prophase- chromosomes shorten and thicken, nuclear membrane dissolves

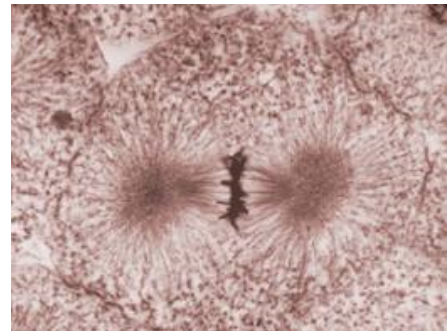
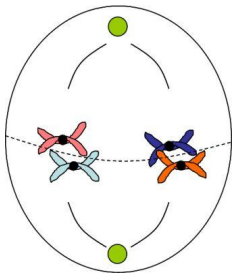


Early Prophase
Chromosomes become visible.

Stage 2: IP MATI

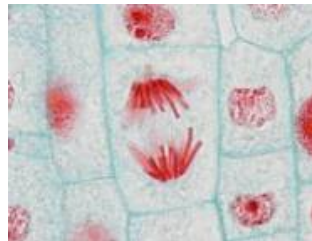
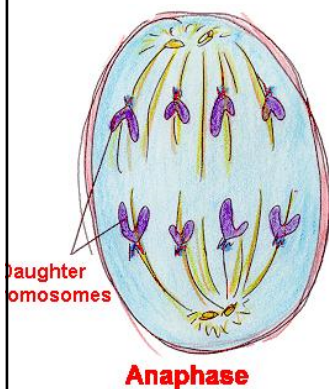


Metaphase- chromosomes line up in the middle of the cell



Stage 3: IPMATI

Anaphase - Chromosomes split apart and move to the poles, daughter cells have complete set of genetic information. The Centrioles help to split the chromosomes.

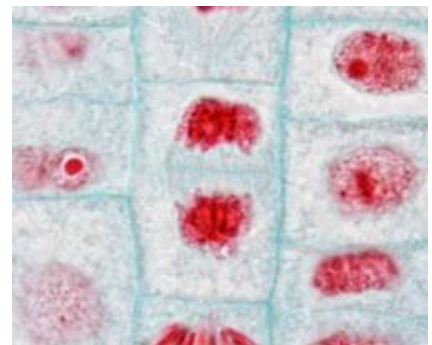
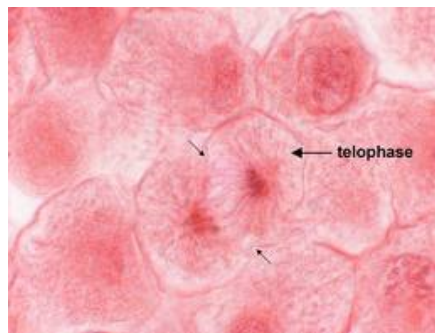


Stage 4: IPMATI

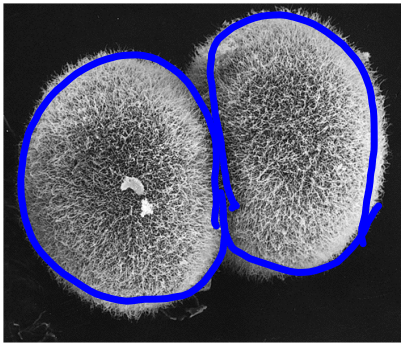


Telophase- chromosomes reach opposite poles, nuclear membrane reforms, cytokinesis begins,

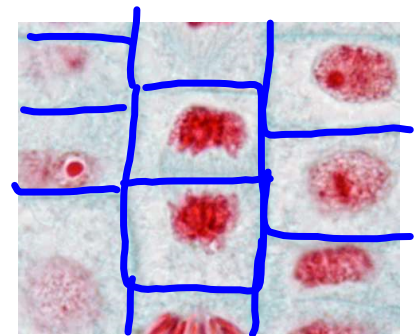
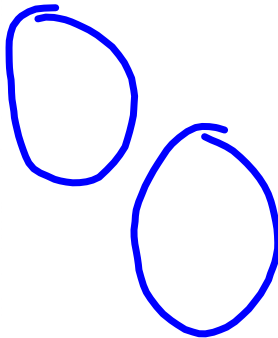
cytoplasm/organelles split into equal parts.



Cell division continues with the separation of the cytoplasm into two equal parts. This is called **cytokinesis**.



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animal cells the cell membrane pinches in the middle separating the cytoplasm and all the organelles in two

plant cells create a new cell wall