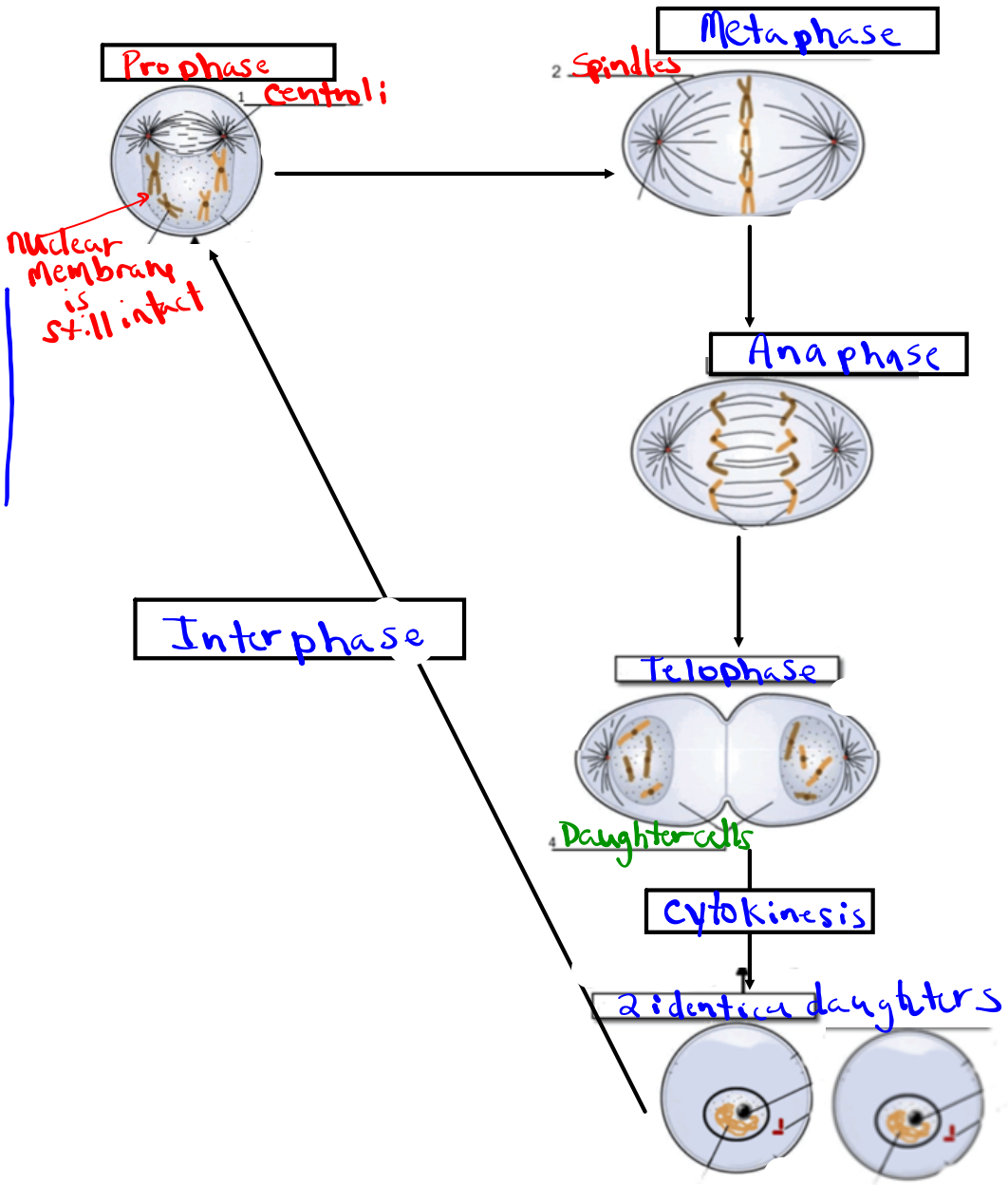
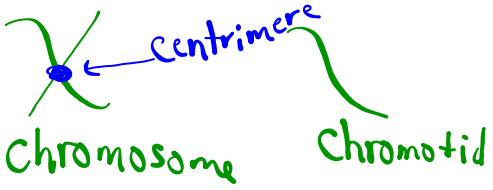
Review of Mitosis

Phases goes in boxes
Parts of cell in blanks



11. What moves the chromatids during mitosis? Centrioles spindles fibres
12. What anchors the spindle? Centrioles
13. What are the four phases of mitosis? P-Mat Prophase, metaphase, anaphase, telophase
14. How many daughter cells are created from mitosis and cytokinesis? 2
15. During what phase does cytokinesis begin? Telophase
16. If a human cell has 46 chromosomes, how many chromosomes will be in each daughter cell? 46
17. If a dog cell has 72 chromosomes, how many daughter cells will be created during a single cell cycle? 2
.....Each of these daughter cells will have how many chromosomes? 72
18. The nuclear membrane dissolves during what phase? prophase
19. In the cell pictured above, how many chromosomes are present during prophase? 4
20. What structure holds the individual chromatids together? _____



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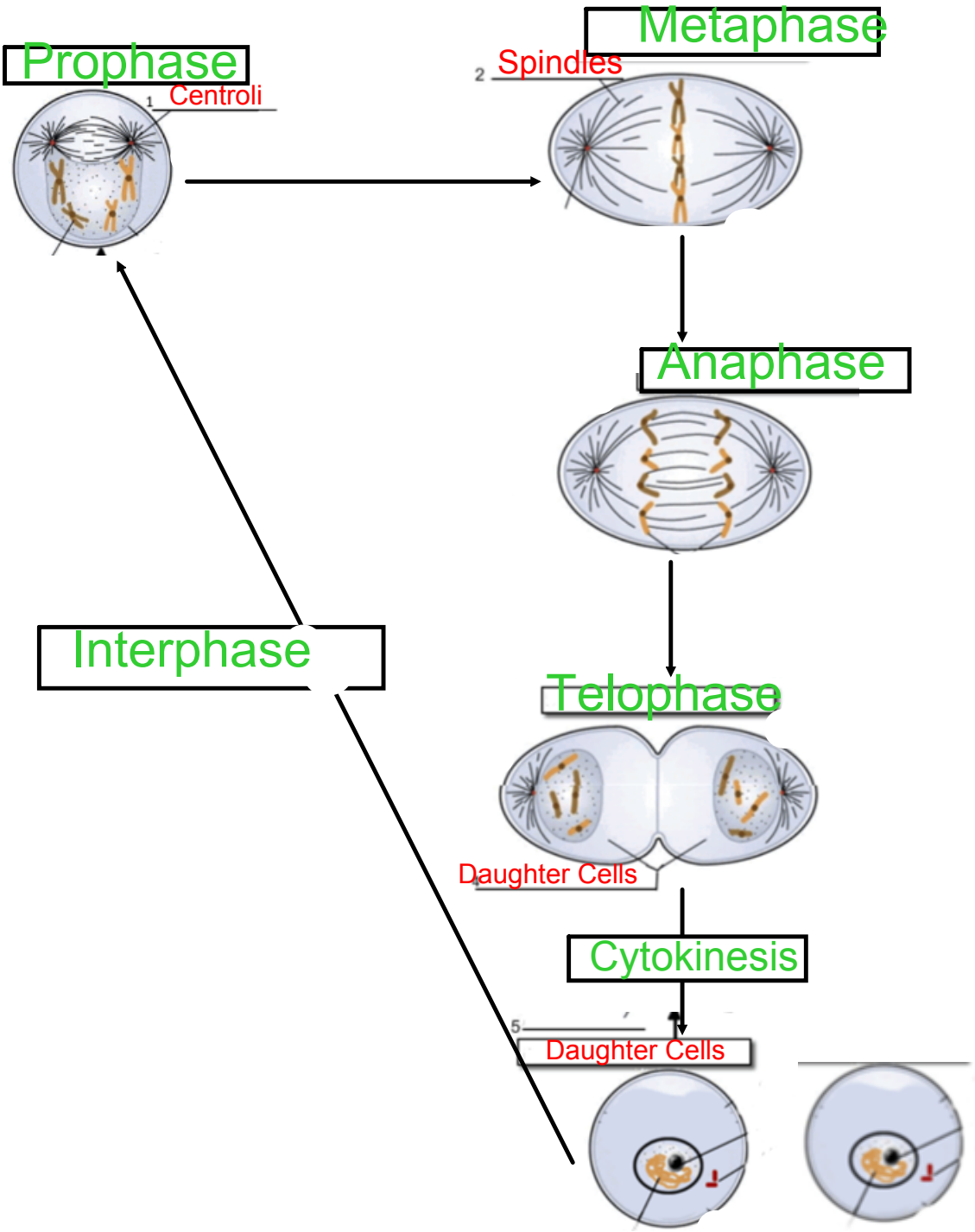

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Quiz Tomorrow on

Part 1) Matching Cell parts to definitions

Part 2)Mitosis

Cell division, the process by which cells come from preexisting cells, is the process that allows species to continue. Just as cells reproduce as part of the cell cycle, living organisms reproduce as part of their life cycle.

Organism of all species reproduce . They may reproduce sexually or asexually.

Asexual Reproduction

- one parent (One cell)
- one cell divides into two identical cells.

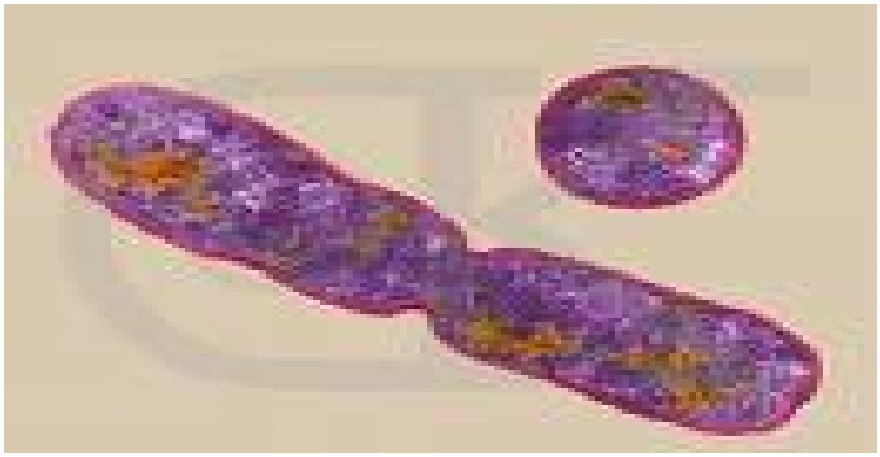
Sexual Reproduction

- two parents (Two different cells)
- two cells fuse to form a unique cell.

Asexual reproduction

Binary fission - the organism splits into two equal-size offspring.

ex . intestinal bacteria.



- **<u>Budding</u>** - the offspring begin as an outgrowth of the parent. Eventually buds break off from the parent.

ex: hydra, yeast, tapeworm

There are different types of tapeworms and their infections in the human body.

Some tapeworms are only a few inches long while others measure from 10 to 30 feet or more in length. Here are a few popular tapeworms:

The pork tapeworm – this tapeworm measures between 6 to 10 feet in length. When the pork meat is not cooked properly and it's consumed; the consumer becomes infected.

- The beef tapeworm – when the beef tapeworm is fully grown, it measures between 15 to 20 feet in length. Cattles contact the tapeworm worms by grazing on a grass contaminated by human waste and thus picking the eggs into their system. When humans in turn eat incompletely cooked beef, they also contract the tapeworm disease and the chain actions continues.

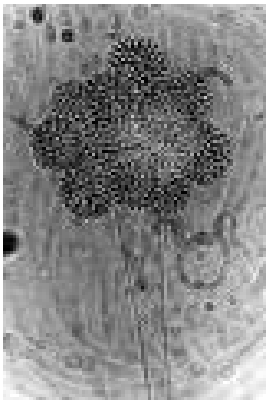
- The fish tapeworm – the longest fish tapeworm could measure up to 30 feet in length. It takes 5 to 6 weeks for the tapeworms to be fully matured. When human wastes of tapeworm infected people are discharged into fresh water, the tapeworm eggs hatches and are eaten by the water fleas. The fresh water fish now eats the infected water fleas, and the fish tapeworm parasite finally lodges in the muscles of the fish. When humans eat incompletely cooked fish, the parasites are released in the human intestine and the process continues. There are other kinds of tapeworms that are not much popular probably because humans do not consume the hosts' meat. There are the rat tapeworm, the dwarf tapeworm, and the dog tapeworm etc.

Fragmentation- a part of the organism breaks off from the parent and forms a new organism.

ex. starfish, algae

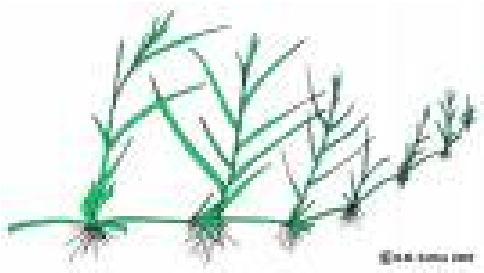
http://en.wikipedia.org/wiki/Starfish#Reproduction

<u>Spore formation</u> - the organism undergoes cell division to produce a duplicate cell. The spore is usually housed within the parent cell.

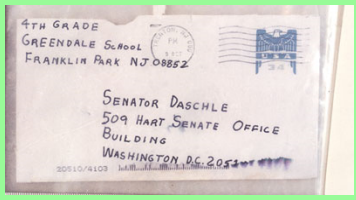


ex. penicillium mould

<u>Vegetative Reproduction:</u> a section of plant is used to grow a new plant. The section does not need to be removed from the original plant.



ex. quaking aspen, spider plant



The 2001 anthrax attacks in the United States, also known as Amerithrax from its Federal Bureau of Investigation (FBI) case name, occurred over the course of several weeks beginning on Tuesday, September 18, 2001, one week after the September 11 attacks.

Letters containing anthrax spores were mailed to several news media offices and two Democratic U.S. Senators, killing five people and infecting 17 others. According to the FBI, the ensuing investigation became "one of the largest and most complex in the history of law enforcement."[1]

In sexual reproduction, genetic information from two cells is combined to produce a new organism. Usually, sexual reproduction occurs when two specialized sex cells unite to form a fertilized egg called a zygote.


Lets read page 159

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Page 161
Questions 3, 5, 6

3) How is the zygote, produce by sexual reproduction, different from daughter cells, produced by asexual reproduction?

ans: The zygote has a combination of genes from both parenets, while the cell that undegoes mitosis is identical to the parent.

5) Identify the type of asexual reproduction in each of the following situations:

(a) A multicellular algae is struck by a wave. The algae breaks up and each new piece grows into a new organism.

Ans: Fragmentation

(b) A new tree begins to grow from the root of a nearby tree

Ans: Vegetative reproduction

(c) A small cell begins to grow on the outside of another cell. Eventually, it breaks away from the larger cell and continues to grow.

Ans: Budding

6.

Asexual Reproduction

Advantages	Disadvantages
Does not require a mate/partner	No genetic variability (disease kills all)
Good traits always passed on	Bad traits always passed on
rapid	rapid