1. What are some examples of multicellular organisms?

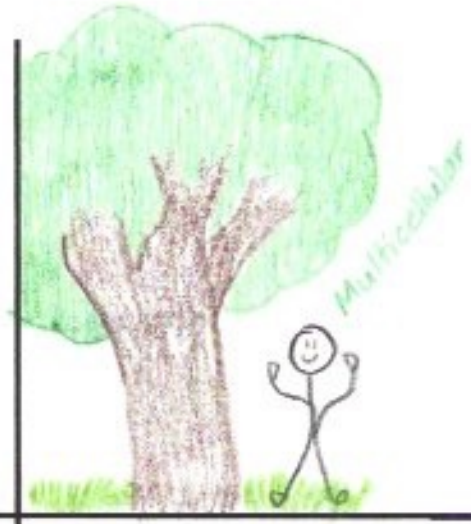
trees, grasses

hamsters, you

What are some examples of unicellular organisms?

bacteria

protists - algae, protozoa

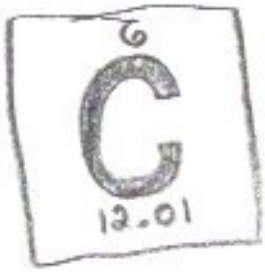


2. What does "form fits function" mean? Organisms can perform their jobs because of the way they are built.

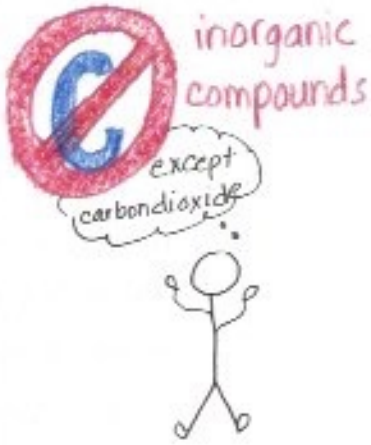
3. What is the difference between an organic and an inorganic compound?

organic compounds contain carbon

inorganic compounds do not contain carbon (except CO_2)



organic compounds

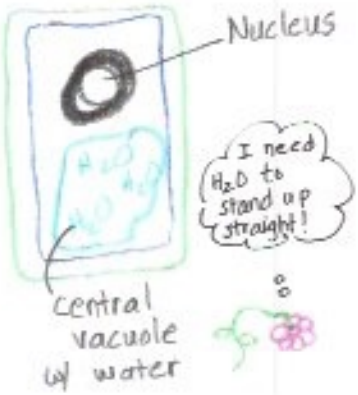


4. What are 3 reasons water is important to our cells?

1 - H_2O takes part in many chemical reactions in cells

2 - H_2O helps cells keep their size & shape

3 - H_2O helps keep the temperature of a cell from changing quickly



1. What is homeostasis?

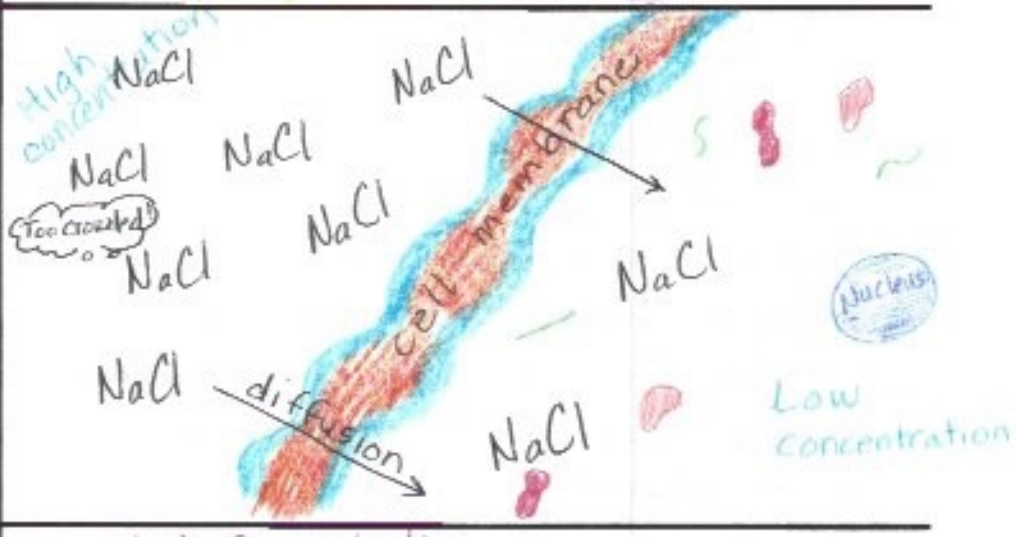
the self-regulating process of cells- making adjustments to the environment in & around cells to make living conditions stable & "just right" for life

2. What does it mean that the cell membrane is selectively permeable?

it allows substances to enter & leave the cell

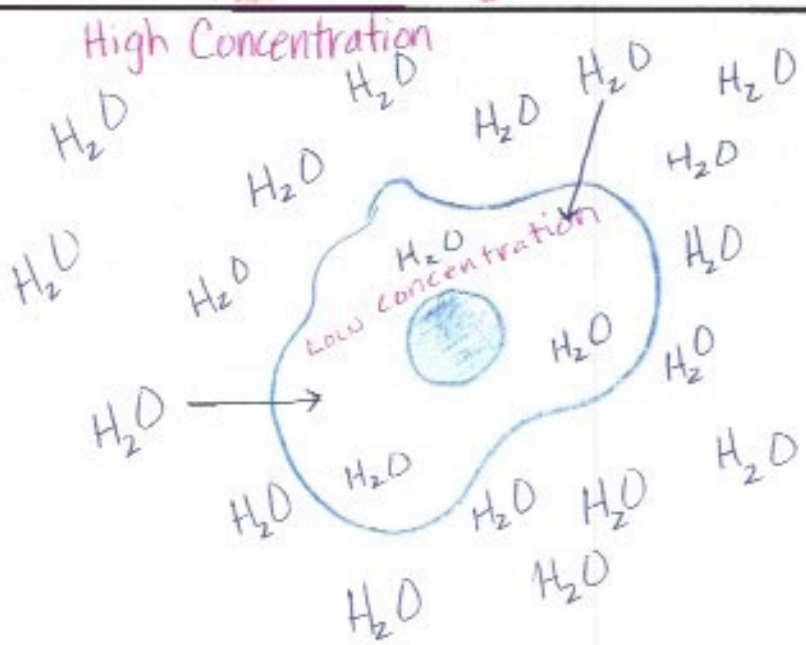
3. What is diffusion?

diffusion is a form of passive transport where molecules move from an area of high concentration to an area of lower concentration without the use of the cell's energy



4. What is osmosis?

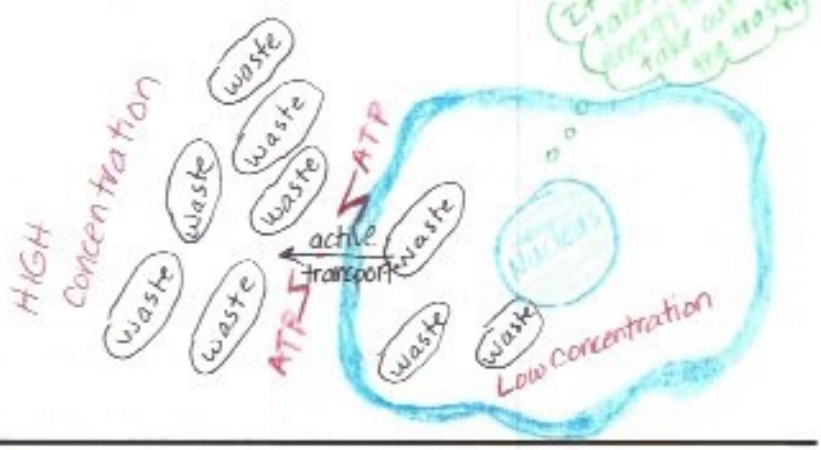
osmosis is the diffusion of water molecules



C

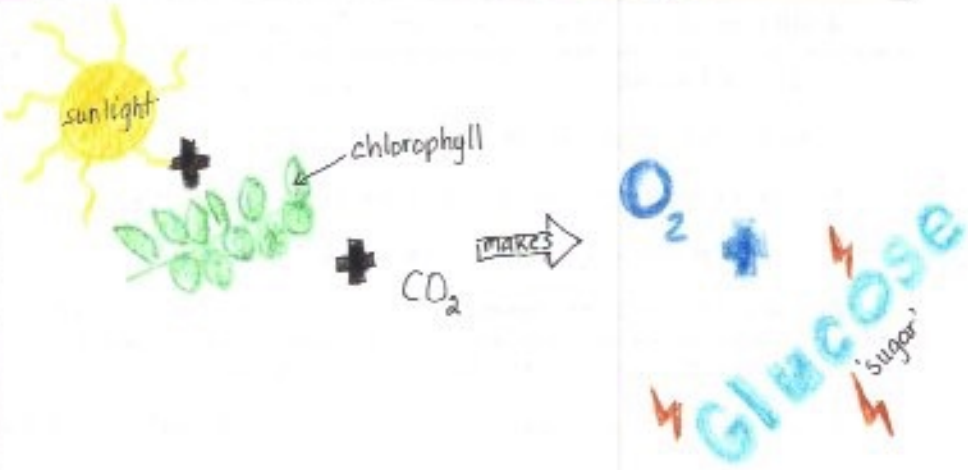
1. What is active transport?

transport of molecules across the cell membrane from low concentration to high concentration; uses ATP energy to accomplish this



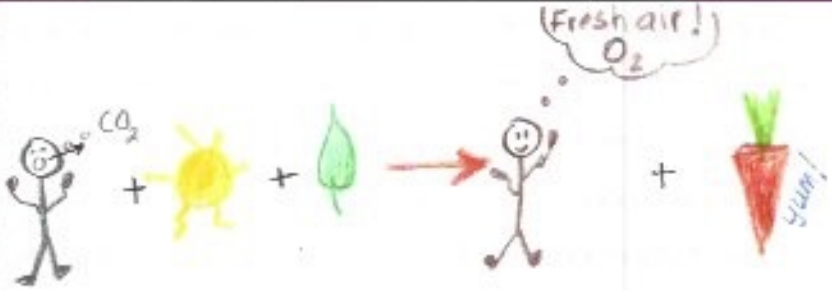
2. What is photosynthesis?

the process whereby plants convert light energy into chemical energy



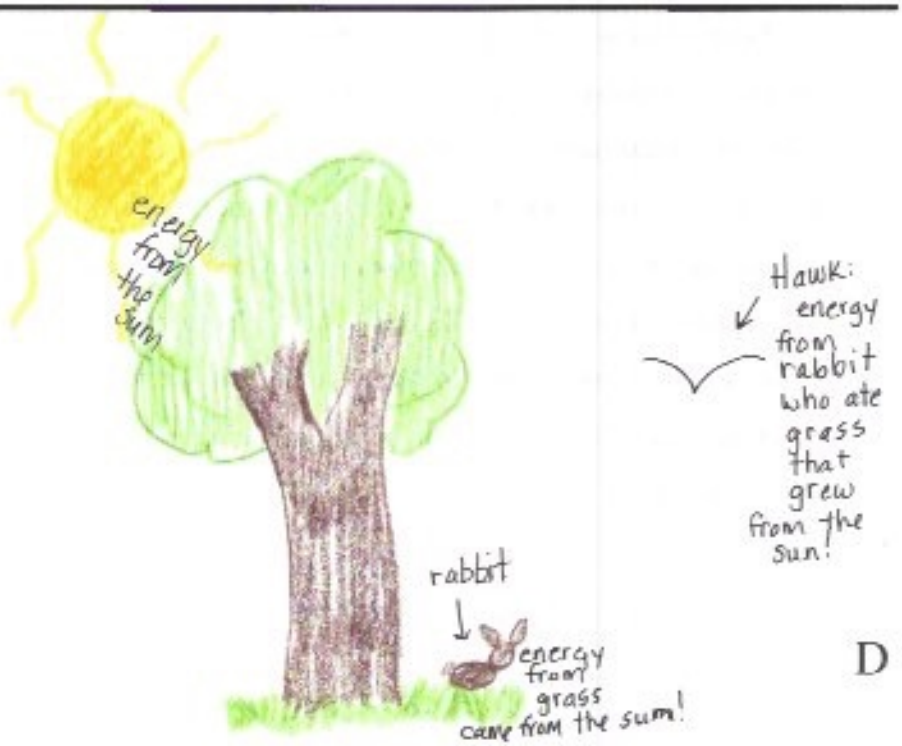
3. What is the chemical formula for photosynthesis?

$6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$



4. Where does all energy come from on Earth? How does this happen?

All energy comes from the sun: plants convert sunlight to glucose. Glucose is the food energy that other organisms use to power life.

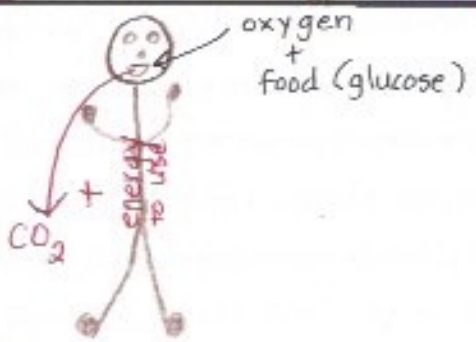


D

1. What is transpiration?

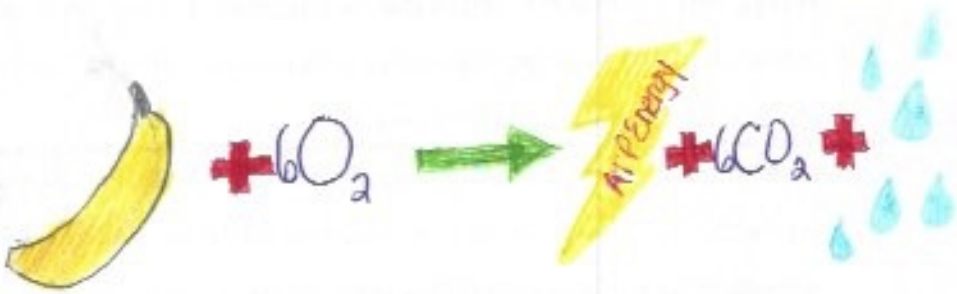
Water leaves the plant through its leaves & stems - tree sweat

2. What is respiration? gas exchange that uses glucose & oxygen to release energy. CO_2 is one of its waste products



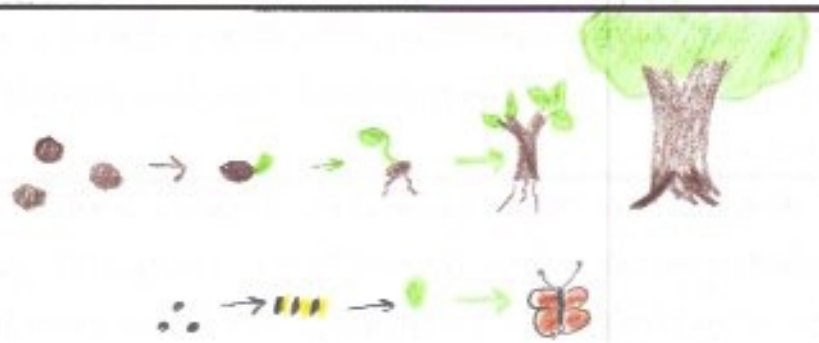
3. What is the chemical formula for respiration?

$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O +$ ATP energy



4. What do plants and animals use energy for?

basic life functions:
- growing/developing
- repairing/replacing cells



When a plant or animal has reached maturity, what does it use the energy for?

- repairing/replacing dead or worn out cells
- maintaining homeostasis

1. Explain an example of stimulus response in plants.

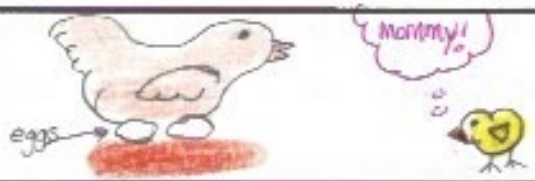
phototropism – plants grow towards the light

response to gravity – stems grow up while roots grow down

2. How do animals respond to their environment?

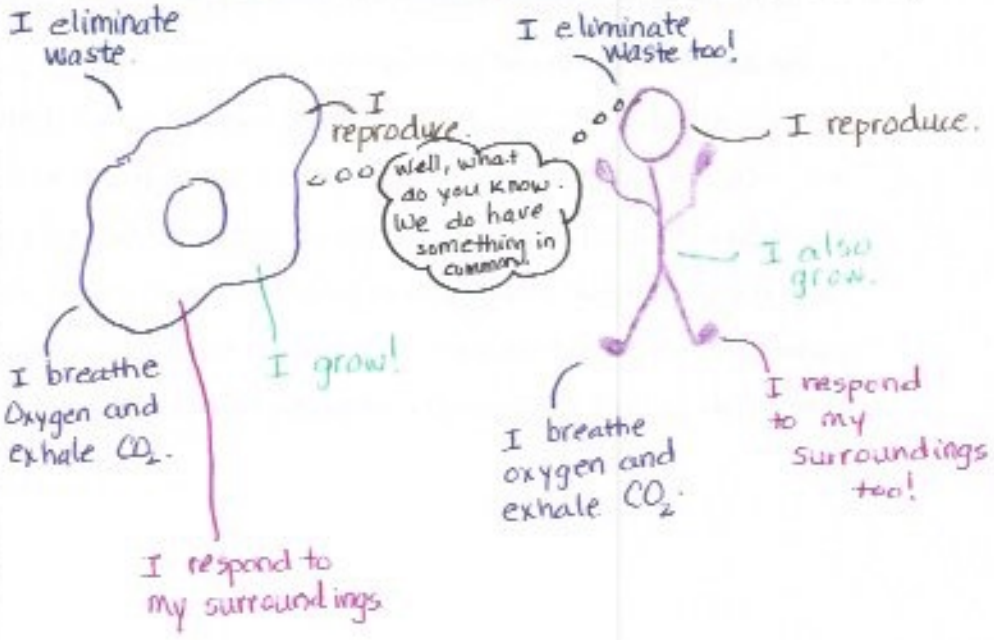
their senses work w/ the nervous system to respond to changes in the environment

3. What is reproduction? organisms producing organisms like themselves



4. How are unicellular and multicellular organisms similar?

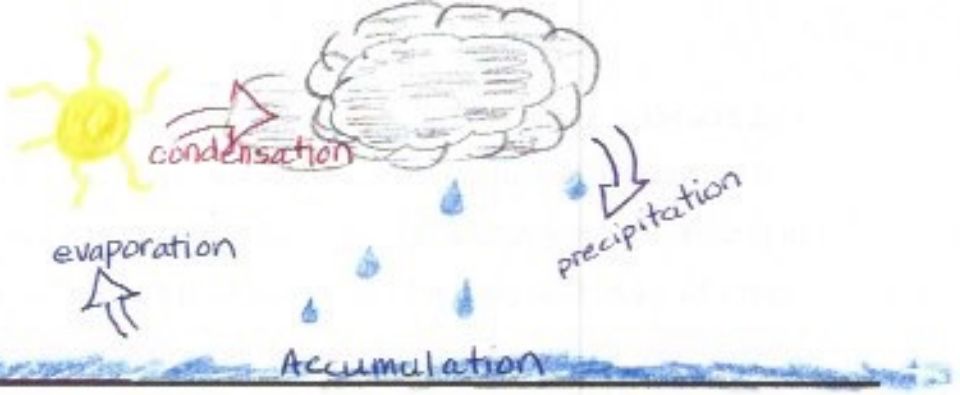
– they carry out the same basic life functions (respiration, waste removal, growth, reproduction, & stimulus response)



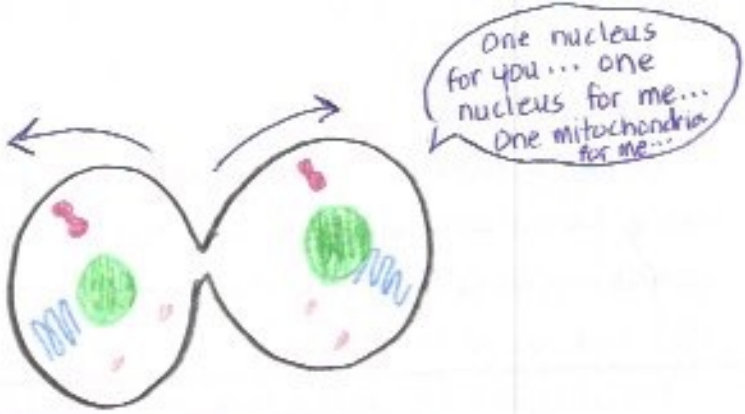
F

1. List several cycles that occur in nature.

water cycle
seasons
moon phases
butterfly life cycle
cell cycle

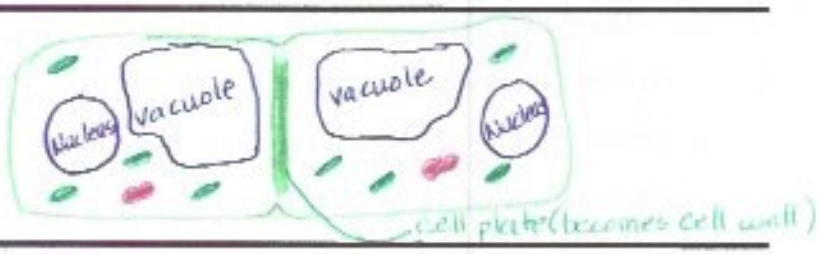


1. What is cytokinesis? third stage of cell cycle when the cytoplasm divides, distributing organelles into each of the 2 new cells



2. What happens during interphase? the cell rests, grows, & produces all the structures needed to carry out its functions

3. How is cytokinesis different in plant cells than in animal cells? A cell plate forms across the middle of the cell (which develops into the cell wall)



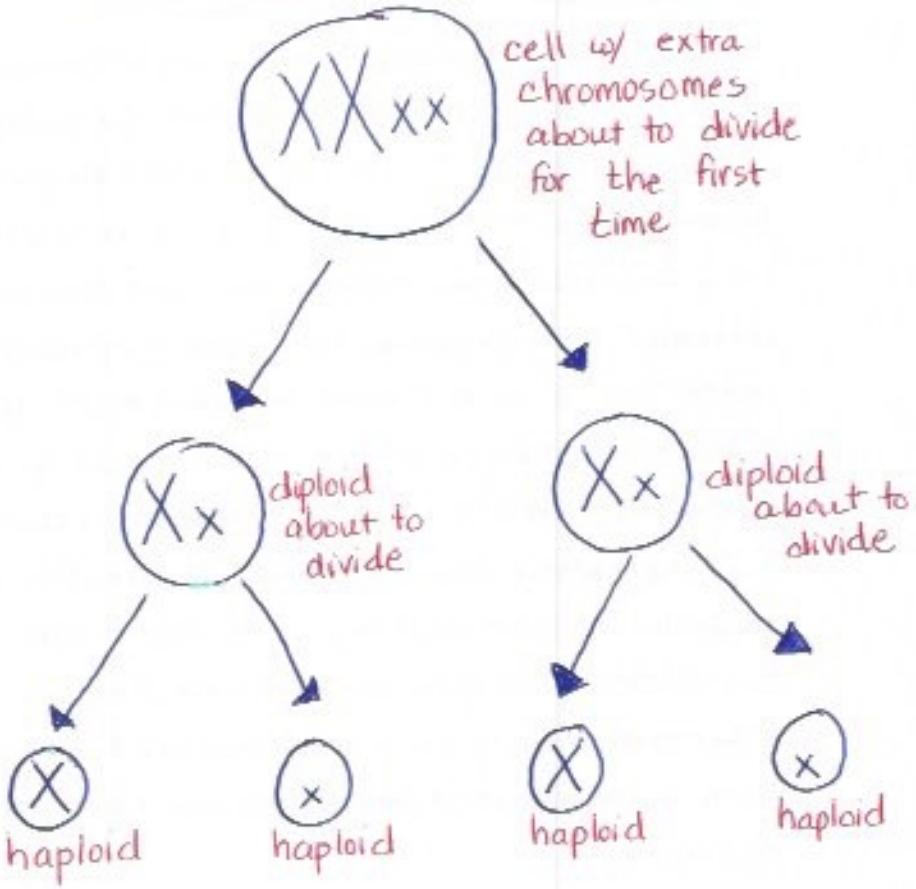
4. What is meiosis? How is it different from mitosis? Meiosis is cellular division that only occurs in reproductive tissues.

Cells divide twice, resulting in the formation of 4 haploid reproductive cells.

What is the difference between a haploid and a diploid cell?

diploid cells contain the correct number of chromosomes to continue regular cell growth.

haploid cells contain 1/2 the number of chromosomes need; they must merge with another haploid cell to create a diploid cell



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