

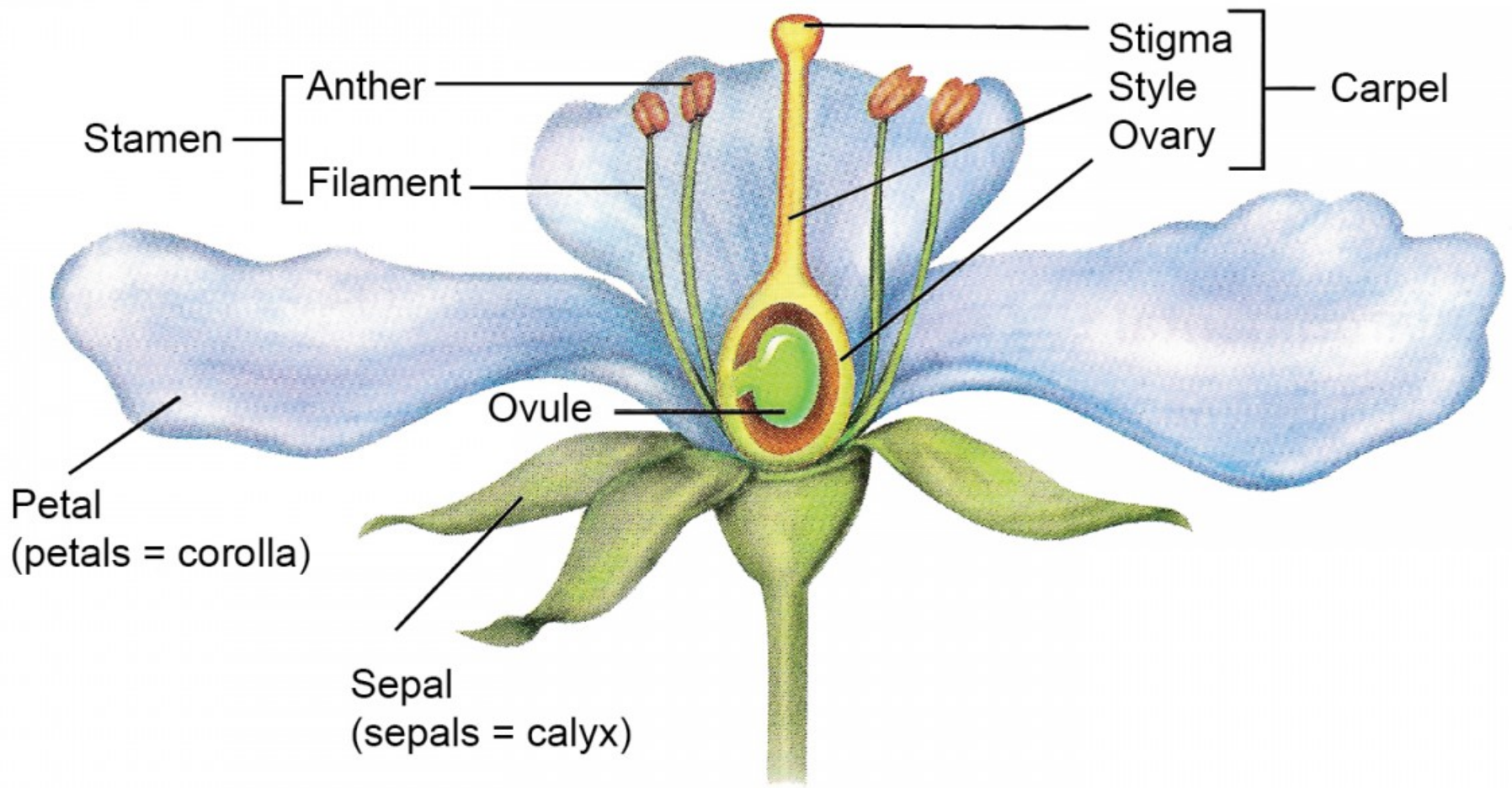
Bell Work

A person uses a bottle opener to remove a cap from a bottle.



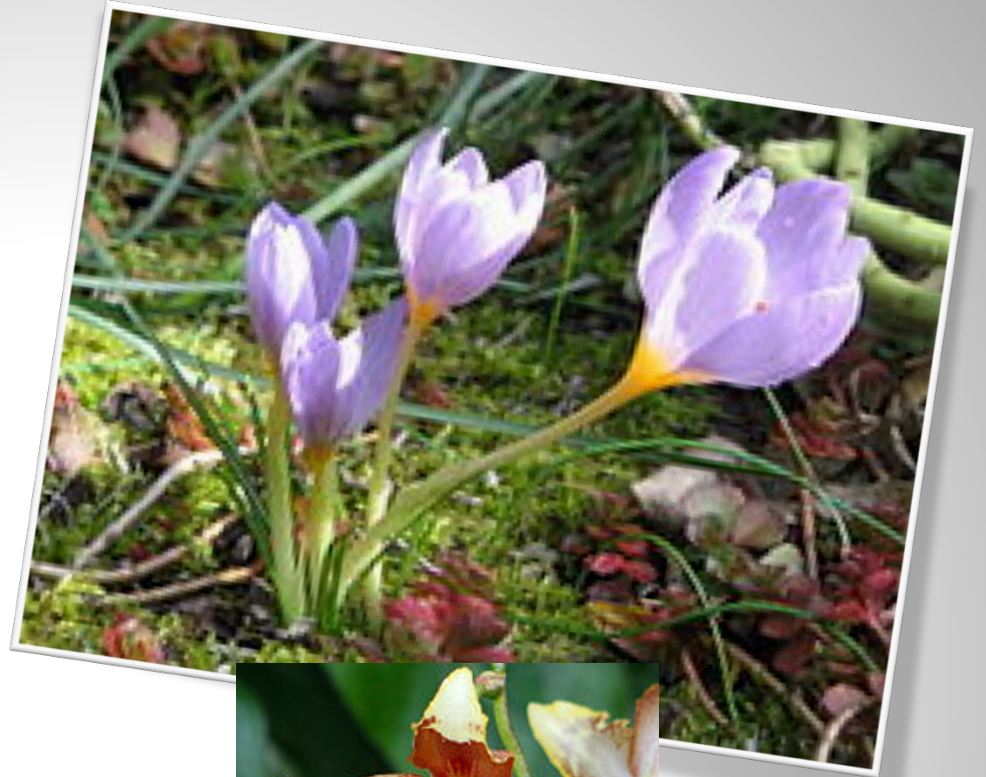
What type of simple machine is the bottle opener?

- A lever
- B pulley
- C wheel and axle
- D inclined plane



- Demonstrate an understanding of sexual reproduction in flowering plants.
- Classify organisms according to whether they reproduce sexually or asexually.

<https://www.youtube.com/watch?v=JumEfAbjBjk#t=15>



What You'll Learn

- Distinguish between the two types of plant reproduction.
- Describe the two stages in a plant's life cycle.



Hydrangeas root easily from stem cuttings.

Why it's Important

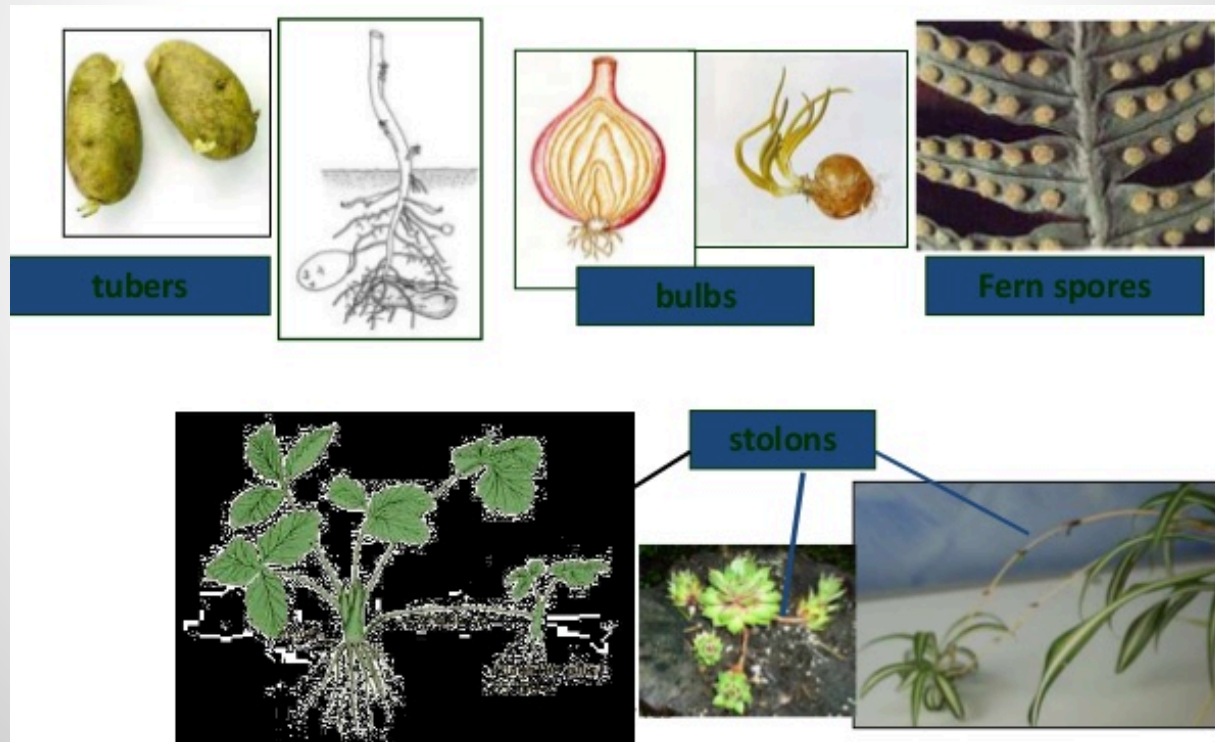
You can grow new plants without using seeds.

Types of Reproduction

- Like humans, plants can can _____ and make similar copies of themselves.
- While humans only have ____ type of reproduction, most plants reproduce in _____ different ways.
- <http://www.brainpop.com/science/cellularlifeandgenetics/plantgrowth/>

Asexual Reproduction

- All offspring are genetically identical to the parent.
- Stolons and Runners (grasses), Tubers (potatoes), Spores (ferns and mosses), Bulbs (onions)



Sexual Reproduction



- An important event in sexual reproduction is _____.
- Fertilization occurs when a _____ and _____ combine to produce the first cell of the new organism, the zygote.
- How do sperm and egg get together?
 - In some plants, water and wind help.
 - For others, insects help bring the sperm and egg together.

Reproductive Organs

- A plant's _____ reproductive organs produce eggs.
- A plant's _____ reproductive organs produce sperm.
- Depending on the species, these organs can be on the same plant or _____ plants.
- If a plant has both organs, it usually can reproduce by itself. Some plants, however, that have both sex organs still must exchange sex cells with other plants of the same type to reproduce.

Flower Parts

- Male reproductive organ: stamen
- Female reproductive organ: pistil



Example

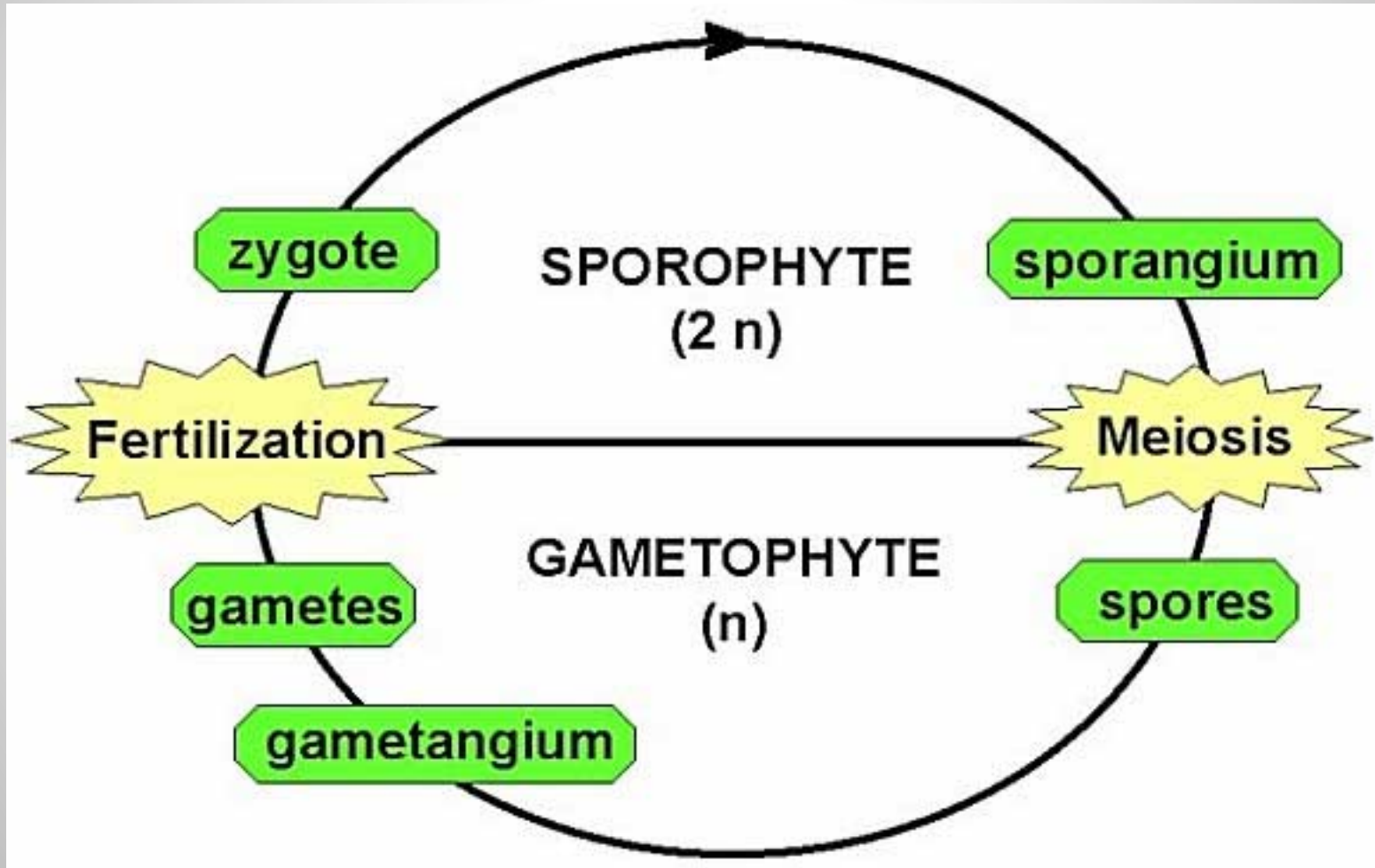
- Holly plants are either male or female.
- A male-flowering holly bush is necessary in order for female hollies to bear fruit.
- You can tell the difference between males and females because only the females produce berries. Also, though both sexes produce clusters of white flowers, the male's flowers have more prominent stamens.
- Only one male holly is needed to pollinate three or four females.



Plant Life Cycles

- All organisms have life cycles.
- Your life cycle started when a sperm and an egg came together to produce the _____ that would grow and develop into the person you are today.
- A plant also has a life cycle.
 - It can start when an egg and a sperm come together, eventually producing a mature plant.

Plant Life Cycle



Two Stages

Gametophyte Stage

- When reproductive organs undergo meiosis and produce haploid cells called spores, the gametophyte stage begins.
- Spores divide by mitosis and cell division and form plant structures or an entire new plant made of haploid cells.
- Some of these cells undergo mitosis and cell division and form haploid sex cells.

Sporophyte Stage

- Fertilization begins in the sporophyte stage.
- Cells formed in this stage have the diploid number of chromosomes.
- Meiosis in some of these cells forms spores, and the cycle repeats.