

-BIOTIC

-ABIOTIC

-TROPISM

-LIMITING

FACTORS

VO CAB PREVIEW

Biotic Abiotic Biomes Limiting Factors

Ecosystem Niche Predator Prey

Parasite Host Tropism Phototropism

Geotropism Thermotropism

Hydrotropism Thigmotropism

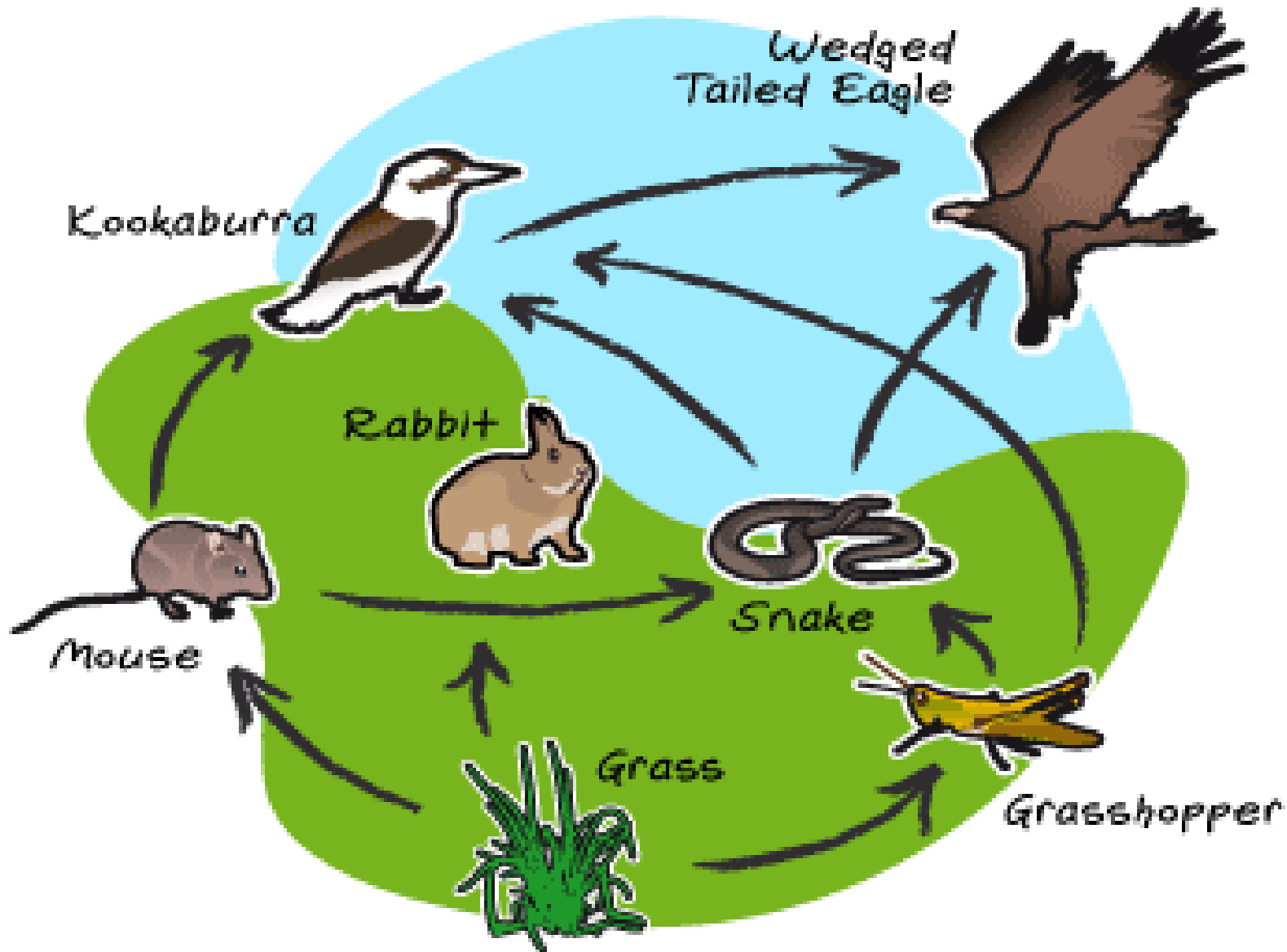
Have you heard or seen any of these words? Can you figure out what some might mean from their prefixes or suffixes? Take a minute and talk to you neighbor.

BIOTIC FACTORS

- The living parts of an ecosystem
- Lived before, can be dead, can be part of a living thing
- Example: plants, animals, fur, etc

BIOTIC FACTORS

(COPY THE EXAMPLES OF BIOTIC FACTORS)



ABIOTIC FACTORS

- Non-living parts of an ecosystem
- Have never lived, are not dead, are not part of a living thing
- Example: rainfall, soil, temperature, sunlight, etc

ABIOTIC FACTORS

COPY THE EXAMPLES

Abiotic factors

Air

wind



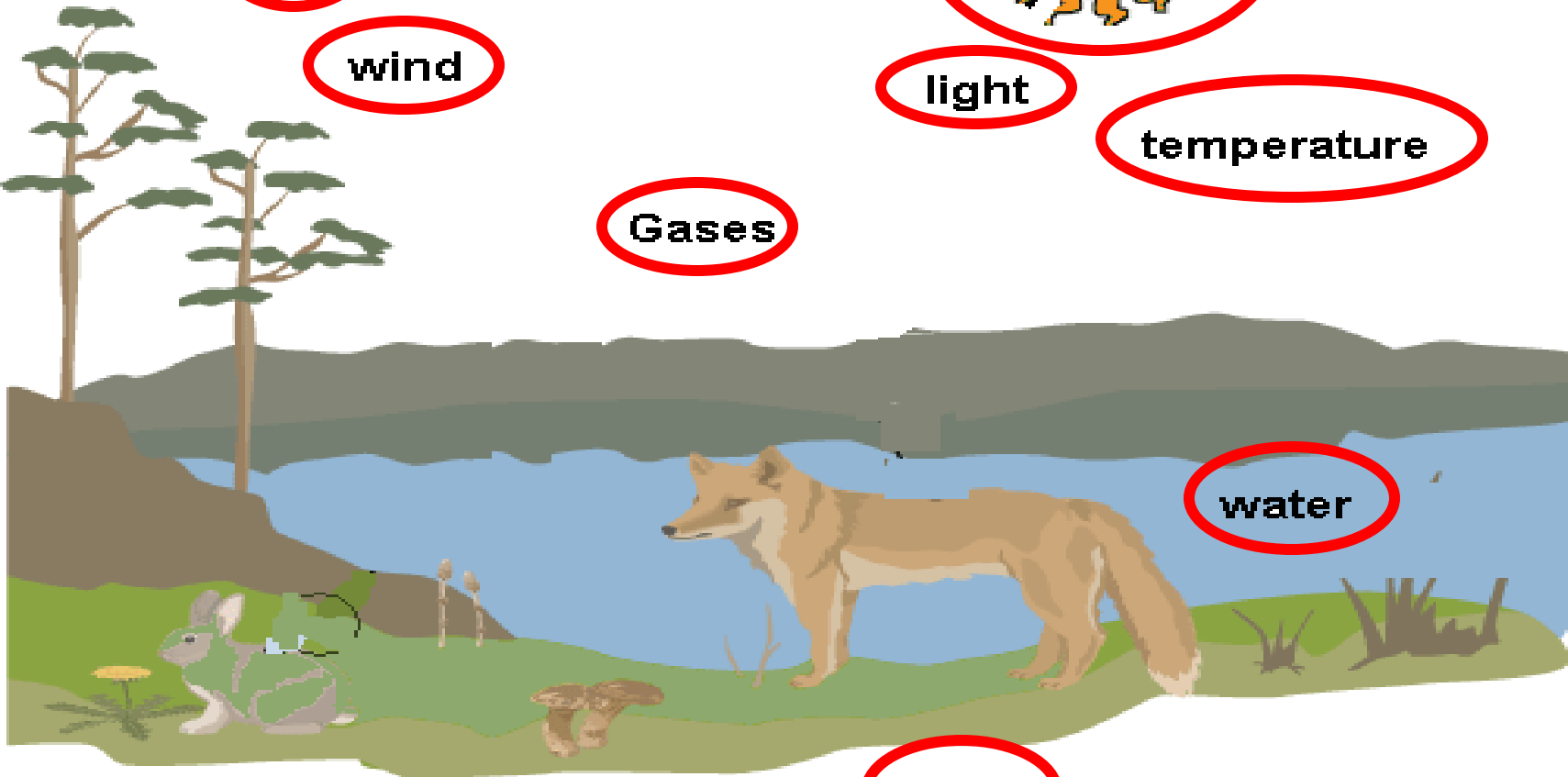
light

temperature

Gases

water

soil



- ◎ The abiotic factors of an ecosystem often determine what living things can live there.
- ◎ Abiotic factors provide most of the basic needs for plants and animals.
- ◎ (Do not copy) For example: animals that can survive in the Arctic are adapted to cold climates while animals that can survive in deserts are adapted to dry climates.

NIETHER ABIOTIC OR BIOTIC

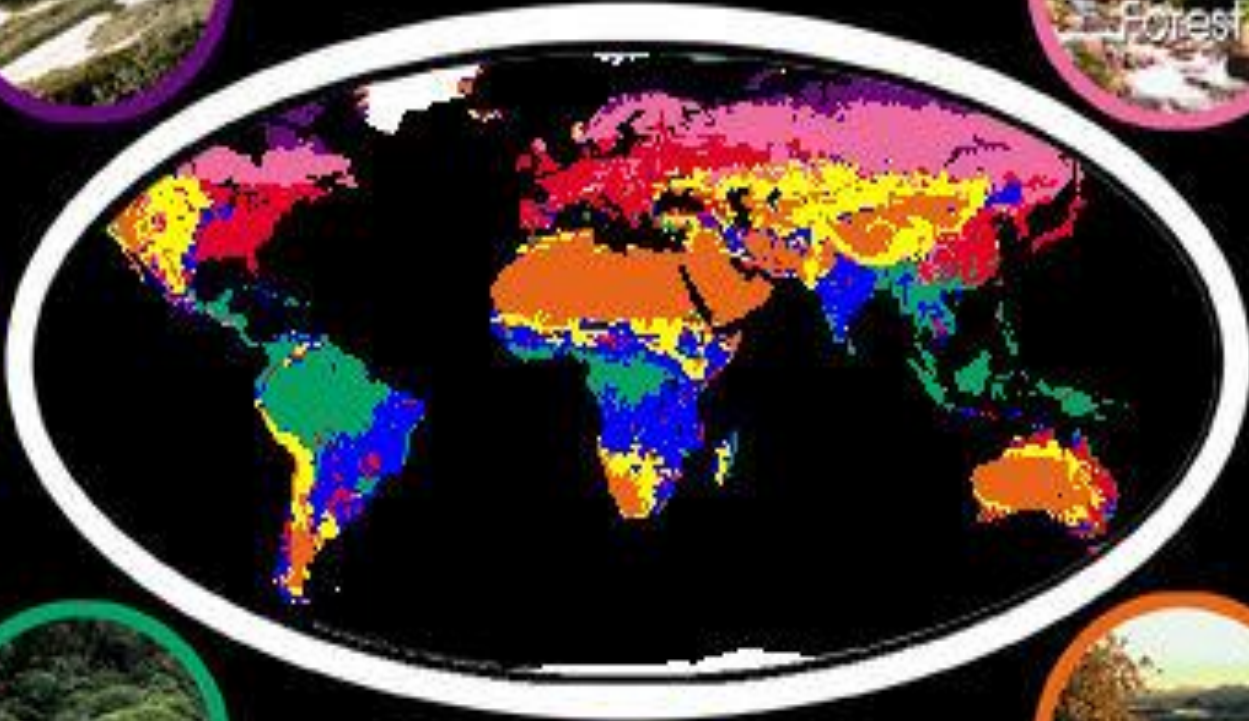
- Man made items because they are not found in natural ecosystems
- Abiotic and biotic factors have to be made by nature
- Examples: batteries and video games

BIOMES

- Any type of environment on Earth with a climate and a group of organisms
- Examples: Desert, Tundra, Grassland, Savanna, Tropical Rainforest, Marine, Arctic
- In any particular environment, the growth and survival of organisms depend on the physical conditions.

Do not copy

MISSION: BIOMES



LIMITING FACTOR

- Resources that limit a population's growth.
Resources that organisms need to live
- Examples: food availability, temperature, water, soil

EXAMPLE (DO NOT COPY)

- ◉ For a plant population, abiotic limiting factors might be the availability of light or water because plants need these things for photosynthesis. It is possible that too much of something present in the environment is also a limiting factor.
- ◉ For example, all plants need water in order to survive, but land plants generally cannot live in standing water. The availability of too much water (or nutrients, or intense sunlight) could kill some of the plants in a population, and therefore limit the population size.

- ◉ **Ecosystem**- made up of a biotic community and the abiotic factors that affect it
- ◉ **Niche**-describes an organism's lifestyle. Their habitat, climate, and types of food they eat and when they eat.
- ◉ **Predator**-an organism that eats all or part of another organism
- ◉ **Prey**-an organism that is killed and eaten by another organism
- ◉ **Parasite**- an organism that lives in or on a host
- ◉ **Host**- living organism that a parasite feeds off

- **A-** not or without
- **Bio-** life
- **Eco-** environment
- **Geo-** land or earth
- **Photo-** light
- **Thermo-** heat
- **Trop-** Turn or rotation
- **Thigmo-** touch

TROPISM

- ⦿ A plant's turning or bending movement toward or away from an external stimulus such as light, heat or gravity
- ⦿ This enhances the survival rate for that plant in a given environment

- ◉ Phototropism-the growth or bending of a plant toward its light source
- ◉ Geotropism- the growth response of a plant to the force of gravity
- ◉ Thermotropism- the ability to respond to the temperature of the environment
- ◉ Hydrotropism- the growth pattern of a plant in response to water
- ◉ Thigmotropism- the way a plant grows or bends in response to touch

PHOTOTROPISM (DO NOT COPY)

THESE SEEDLINGS HAVE BENT
TOWARD A LIGHT SOURCE IN JUST A
FEW HOURS



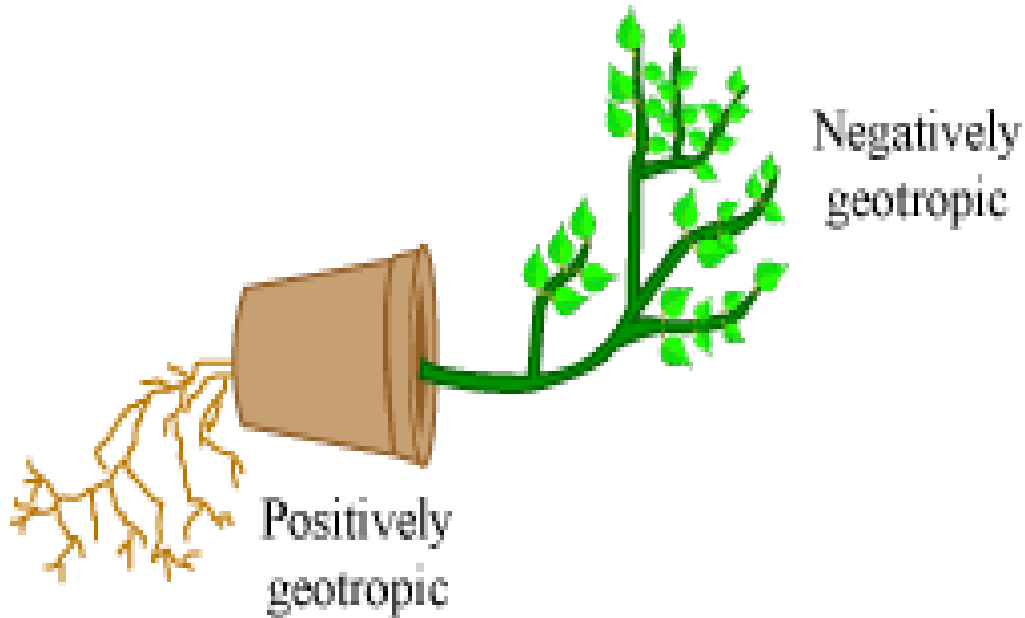
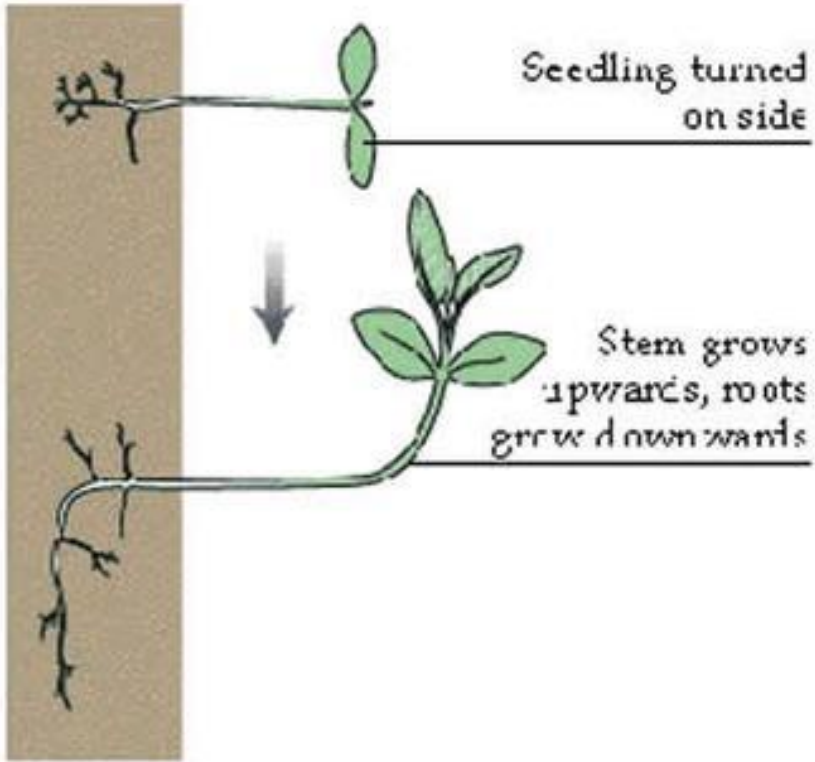




GEOTROPISM (DO NOT COPY)

PLANT ROOTS GROW DOWNWARD INTO THE SOIL, WHILE TRUNKS AND STEMS GROW UPWARD.





THERMOTROPISM (DO NOT COPY)

THE LEAVES OF THIS PLANT ON THE LEFT
ARE CURLED AND FOLDED DOWN IN
RESPONSE TO COLD TEMPERATURES



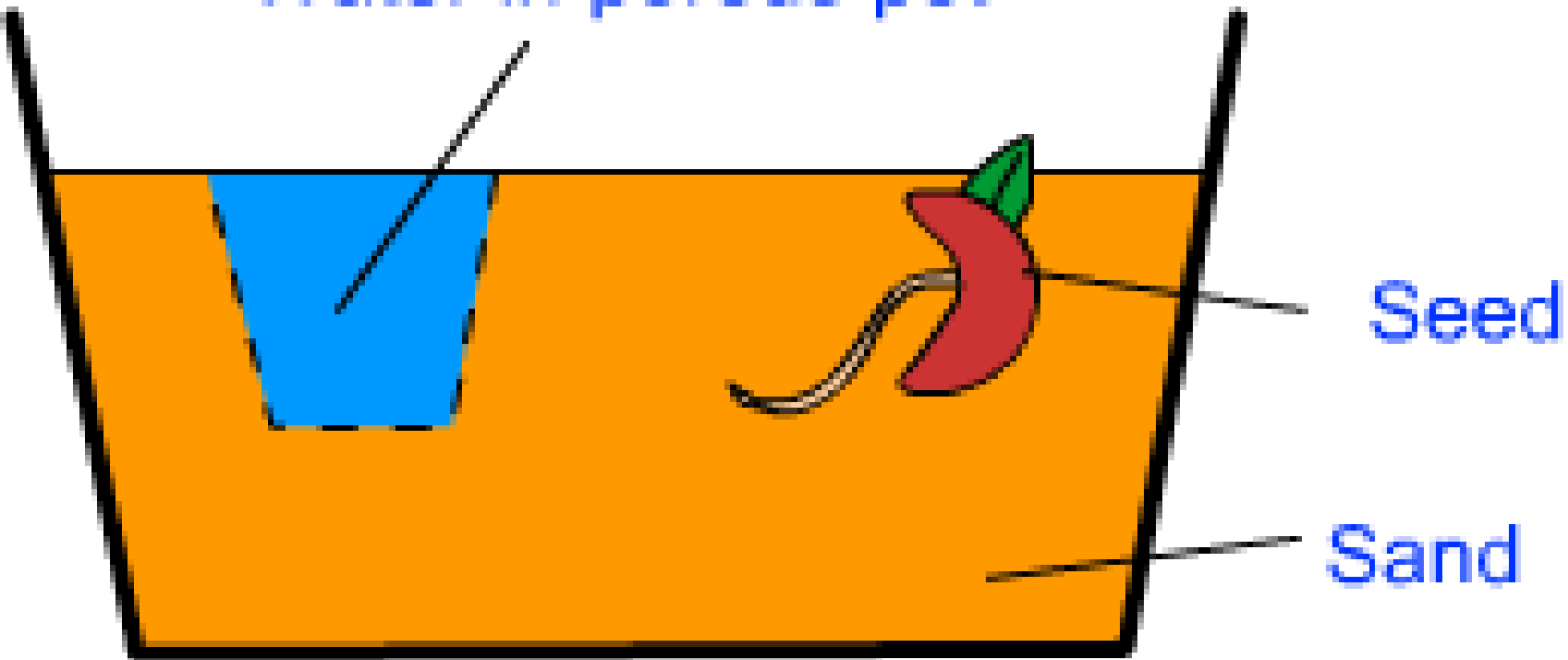
(Do not copy) In the winter, it's large leaves droop down and curl backward so the soft permeable underside is protected, while the outer, waxy side is exposed to the elements.



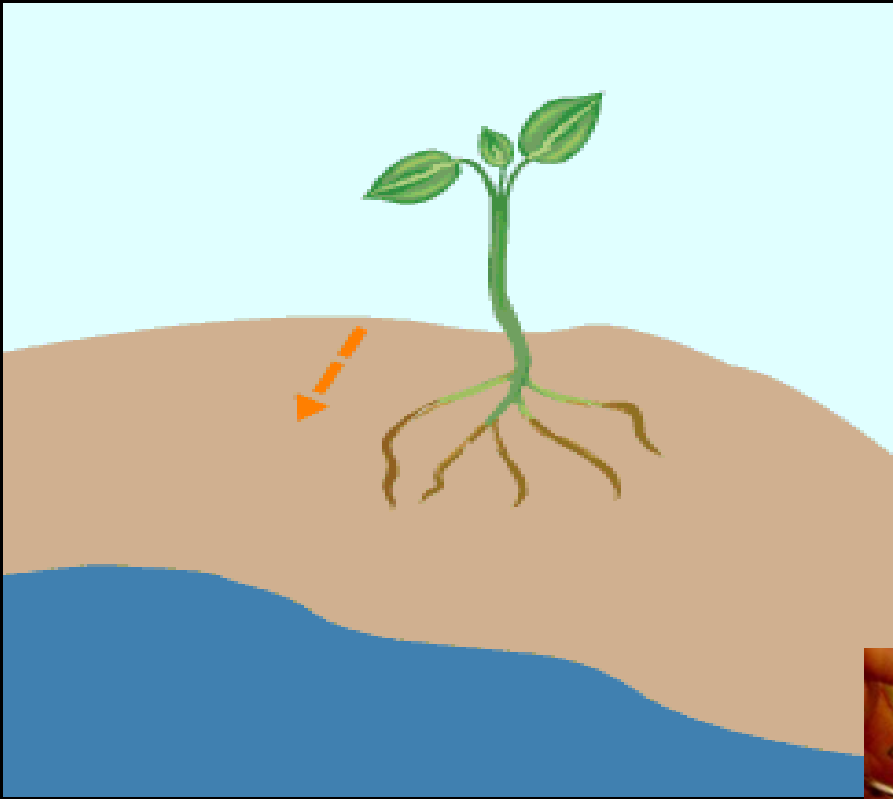
HYDROTROPISM (DO NOT COPY)

THE ROOT OF THE PEA SEEDLING
WILL CURVE IN SEARCH OF WATER

Water in porous pot



Set up showing hydrotropism



After a few days, the radicle (young root) of the seedling changed its growing direction from vertically down to the upward side, because the hydrotropic effect is stronger than that of the geotropic effect

THIGMOTROPISM (DO NOT COPY)

THIGMOTROPISM IS A MOVEMENT OR GROWTH OF PLANT IN RESPONSE TO TOUCH OR CONTACT STIMULI. IT IS EASILY VISIBLE IN PLANT TOUCH ME NOT (MIMOSA PUDICA) AS SHOWN IN THE DIAGRAM.

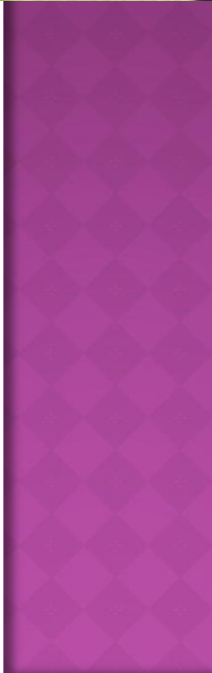




(a) Unstimulated state



(b) Stimulated state



- ◉ Study Jams: Ecosystem

<http://studyjams.scholastic.com/studyjams/jams/science/ecosystems/ecosystems.htm>

- ◉ Study Jams: Biomes

<http://studyjams.scholastic.com/studyjams/jams/science/ecosystems/biomes.htm>

- ◉ Study Jams: Population Growth

<http://studyjams.scholastic.com/studyjams/jams/science/ecosystems/population-growth.htm>

- ◉ Biomes

<http://www.youtube.com/watch?v=0A5eeE93uEA>



Biotic Factors



ECOSYSTEM

Abiotic Factors

