

Ecological Levels of Organization

Word Bank:

- Relationship
- Mutualism
- Commensalism
- Parasitism
- Host
- Parasite
- Pollination
- Habitat
- Niche

Where an organism lives

An organism's job



Examples of



Both organisms benefit





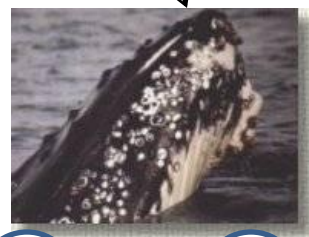
Symbiosis

A very close

Between 2 organisms

One organism benefits,
The other is neither harmed nor helped

Examples



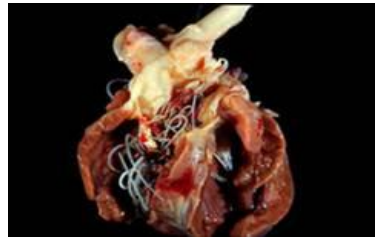
One organism Benefits,
The other is harmed

Examples

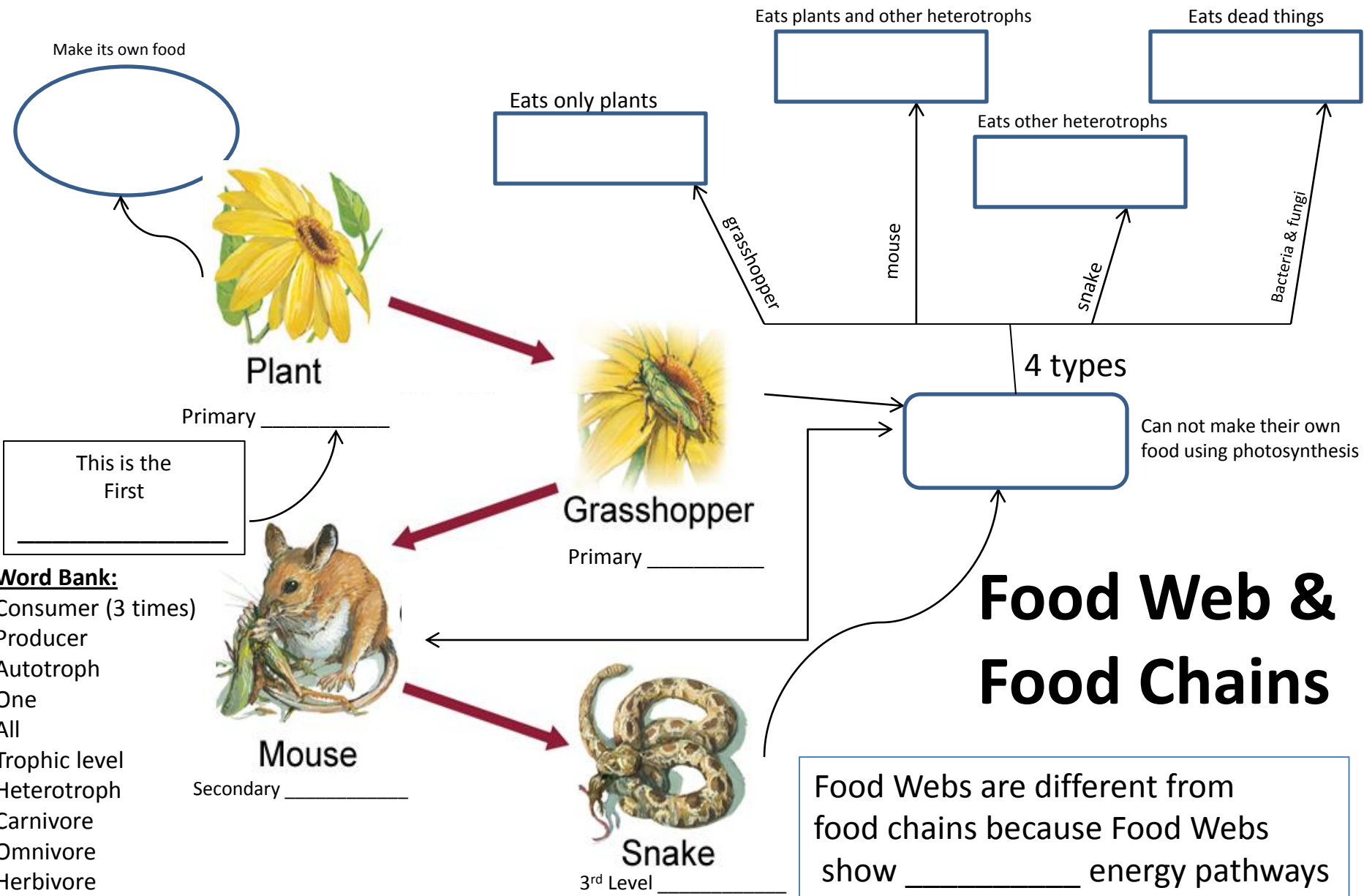
Helped



Harmed



Food Chains show only _____ energy pathway



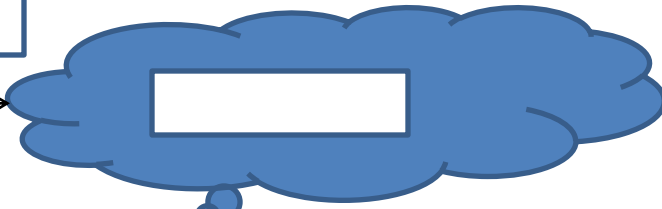
- Word Bank:**
- Consumer (3 times)
 - Producer
 - Autotroph
 - One
 - All
 - Trophic level
 - Heterotroph
 - Carnivore
 - Omnivore
 - Herbivore
 - Detritivore

Food Web & Food Chains

Food Webs are different from food chains because Food Webs show _____ energy pathways

Evaporation of water from leaves of plants

[]



[]

[]



Can also cause Soil erosion

Water Cycle

Nitrogen Cycle

Used to make []



Some Nitrogen Fixing Bacteria are

Symbiotic relationships With plants (legumes)

waste

waste

[]

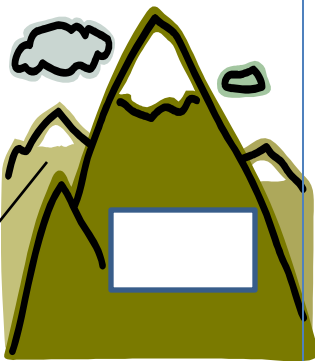
Matter Cycles

Phosphorus Cycle

Used to make []

[]

[]



Run off

Word Bank

- Transpiration
- Run-off
- Nitrogen fixation
- Precipitation
- Fossil fuels
- Evaporation
- Bacteria
- Mutualistic
- Greenhouse Effect
- Global Warming
- Cellular Respiration
- Photosynthesis
- Rock
- Mitochondria
- Hereditary Material
- Condensation
- Chloroplast
- DNA
- RNA
- Protein

Carbon Oxygen Cycle



Natural Layer of CO₂



[]

[]

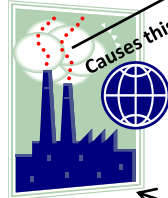
Causes this to increase greatly

Occurs here

[]

Oxygen

burning



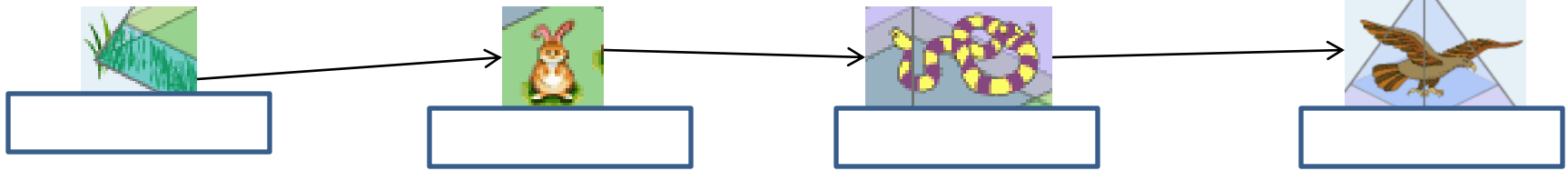
Carbon Dioxide



[]

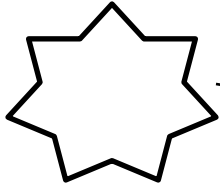
Occurs here

[]



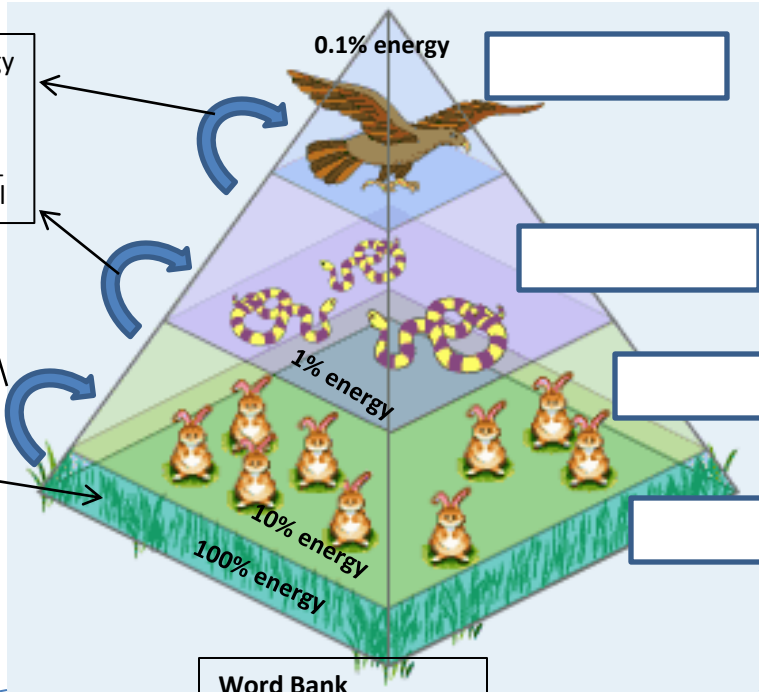
Energy Pyramid

Is Ruled by



Ultimate energy source for every ecosystem

90% of energy is lost as _____
At each level



Use food chain to answer

Problem:
If the primary producer makes 150,00 units of energy, how many units of energy are transferred to each level? (use boxes)

Problem: (use above units)
How many units of energy are lost as heat by the secondary consumer?

Show work for 2nd Problem:



Numbers Pyramid

- Word Bank**
- 10% Rule
 - Heat
 - Sun
 - More
 - Less
 - Fewer
 - Greater
 - Primary producer
 - Primary consumer
 - Secondary consumer
 - Tertiary consumer

Biomass Pyramid

There are _____ Than  Than 

There are _____ Than  Than 

The total mass of  Is _____ than 

The total mass of  Is _____ than 

Ecological Pyramids

Population Dynamics

Word Bank

- J-Curve
- S-Curve
- Logistic Growth Graph
- Exponential Growth Graph
- Exponential growth phase
- Lag phase (2 times)
- Carrying Capacity
- Limiting Factors
- Abiotic Factors
- Biotic Factors
- Density Dependent Factors
- Density Independent Factors
- Drought
- Disease
- Food availability
- Tsunami
- Realistic

Shape of the curve

This type of growth Curve is not

Examples

Which can be non-living

Determined By

Which can be living

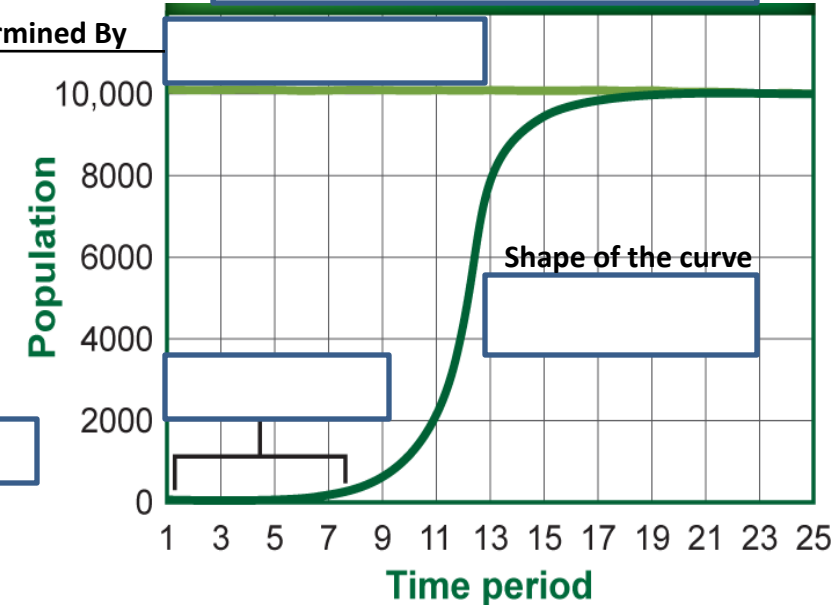
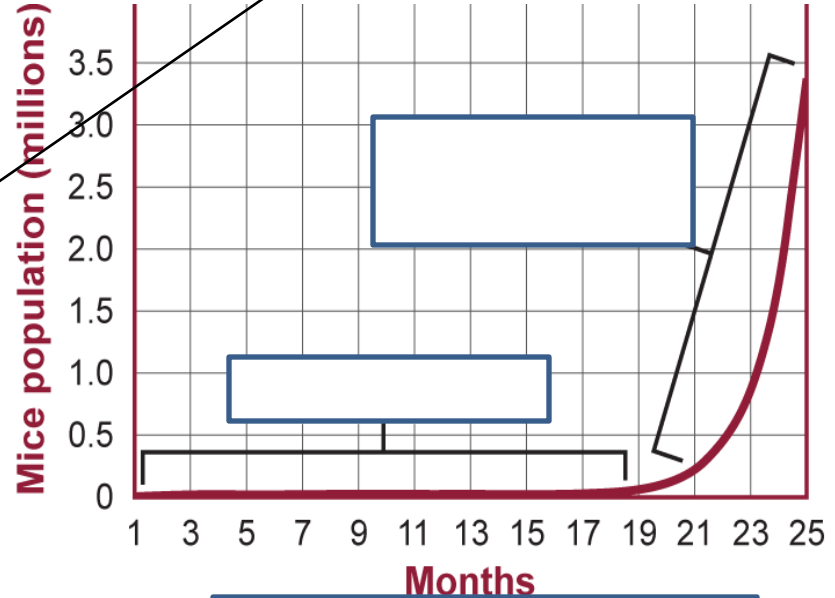
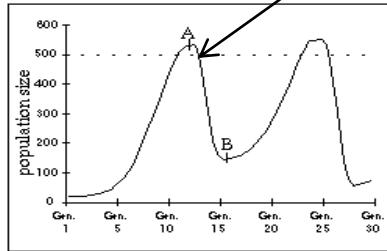
Examples

Population

Time period

Mice population (millions)

Months



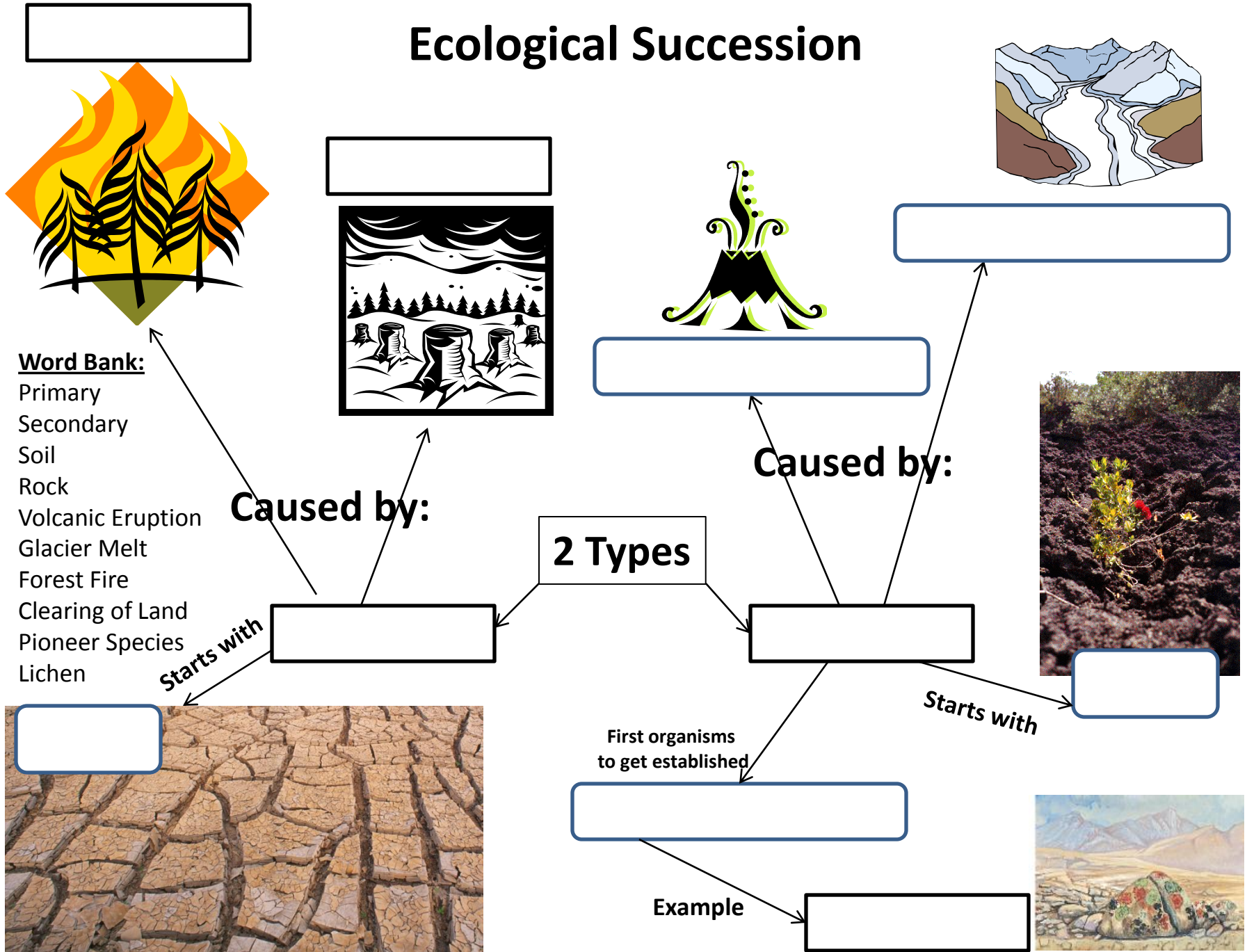
These are considered

Because they are not dependent
On the # of organisms in the area

These are considered

Because they are dependent
On the # of organisms in the area

Ecological Succession



Distribution of Bird Species

Variety of Species

Number of species



Variety of Life

Variety of Genes

Threats to Biodiversity

Excessive use due to high economic value



Non-native species introduced into a habitat

When an ecosystem is contaminated

Permanent loss of a species



Rain with a pH below 7

Run-off of chemicals, fertilizers, sewage into water

increasing concentration of toxic substances

Biodiversity & Conservation

a measure of human demand on the Earth's ecosystems

Word Bank:

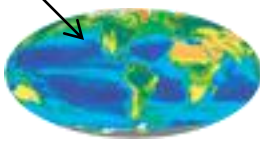
- Biodiversity
- Extinction
- Biosphere
- Genetic diversity
- Species diversity
- Overexploitation
- Pollution
- Biological Magnification
- Acid Precipitation
- Eutrophication
- Introduced Species
- Renewable
- Nonrenewable
- Drugs (medications)
- Ecological Footprint
- Transgenic Organisms

Disease resistant crops

Economy

Importance of Biodiversity

Extracts used to make



Healthy

Loss of Natural Resources

Can be replaced

Cannot be Replaced

Clean Air & Water

Fossil Fuels & Mineral Deposits

