

Trophic Level – the position an organism occupies on the food chain

Level 1 - decomposers

Level 2 – producers

Level 3 – consumers

Biome - A major ecological community of organisms adapted to a particular climatic or environmental condition on a large geographic area in which they occur.

A fundamental classification of biomes is:

1. Terrestrial (land) biomes
2. Freshwater biomes
3. Marine biomes

Ecology - the scientific study of the distributions, abundance and relations of organisms and their interactions with the environment.

Habitat - the natural environment in which an organism lives, or the physical environment that surrounds (influences and is utilized by) a species population.

Ecosystem - consists of all the organisms living in a particular area, as well as all the nonliving, physical components of the environment with which the organisms interact, such as air, soil, water, and sunlight

Abiotic – non-living chemical and physical factors in the environment

light/radiation, temperature, water, atmospheric gases, soil, climate pressure, sound waves

Biotic - means relating to, produced by, or caused by living organisms

Taxonomy - the practice and science of classification

Domain-Kingdom-Phylum-Class-Order-Family-Genus-Species

Mutualism – symbiotic relationship in which both partners benefit

Commensalism – ecological interaction in which one species benefits and the other is neither harmed nor helped

Predation – an ecological interaction in which one organism feeds on another

Invasive - "non-native", plants or animals that adversely affect the habitats and bioregions they invade economically, environmentally, and/or ecologically. They disrupt by dominating a region, wilderness areas, particular habitats, and/or wildland-urban interface land from loss of natural controls (i.e.: predators or herbivores).

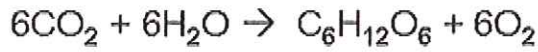
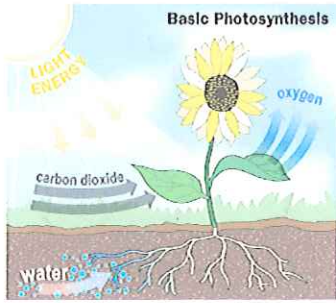
Parasitism – type of predation in which the predator feeds on but usually does not kill a larger organism

Niche – functional role of a species in an ecosystem

Speciation – process by which new species are formed

Extinction – refers to species that have disappeared permanently

Photosynthesis



Autotroph

Auto = self

Troph = nutrition

Terrestrial = Land

Aquatic = Water



Plants



Diatoms = Phytoplankton

Heterotroph

Hetero = Another

Troph = Nutrition

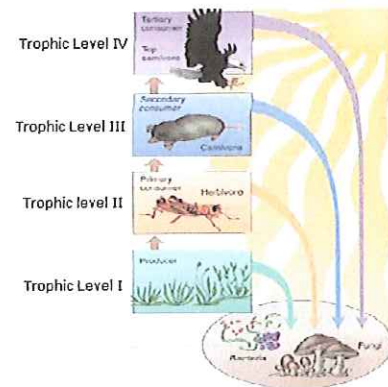


Marine = Krill

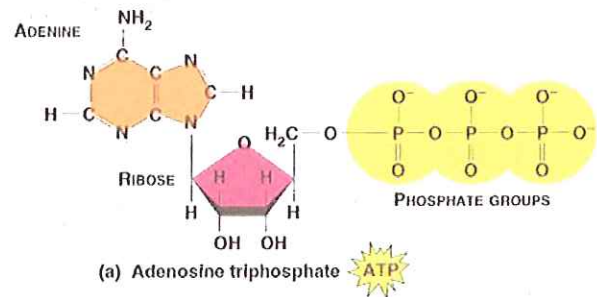


Terrestrial = Elephant

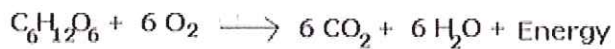
Trophic Levels



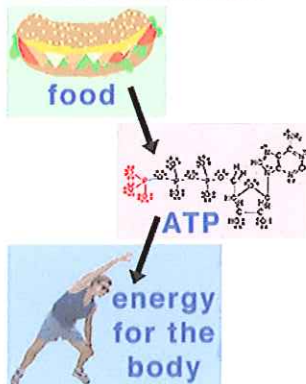
ATP = Energy Currency



Cellular Respiration



Metabolism



BIOME



freshwater



marine



desert



forest



GRASSLAND



TUNDRA

- organisms that use energy from sunlight to make carbohydrates

- ex. most plants
algae
certain bacteria

- the process by which organisms use light energy to change carbon dioxide and water into compounds that store chemical energy } organic compounds (carbohydrates)

- Organisms which cannot use sunlight to make carbohydrates

- these organisms must consume other organisms to obtain the chemical energy required to maintain cellular functions

- A molecule that acts as the main energy source for cell processes

- Composed of nitrogenous base, a sugar, and three phosphate groups

- process by which heterotrophs break down carbohydrates to release energy which is used by the organism

- The sum of all chemical reactions in the body

- biological process that provides energy for organisms

Mutualism



Clownfish and sea anemones – anemone hides clownfish but doesn't sting it

Commensalism



the bird gets food from the back of the cow but the cow is not affected

Predation



Invasive



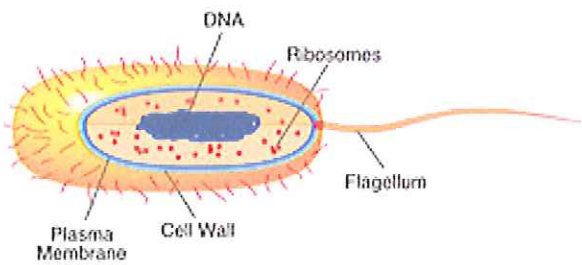
Purple Star Thistle



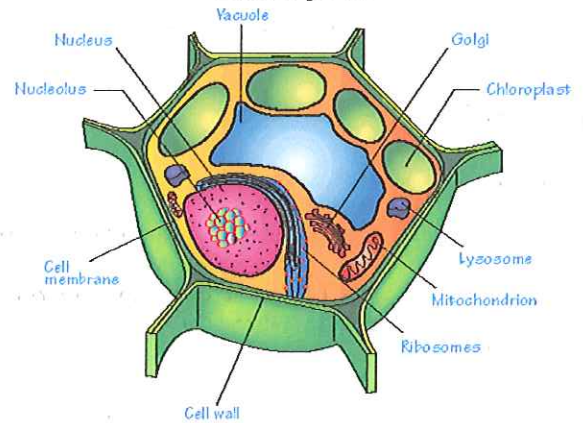
Asian Longhorned Beetle

Zebra Mussle

Prokaryotes



Eukaryote



Parasitism



Mosquito



Roundworm

Plants



Green Algae



Moss



Ferns



Seed Plants

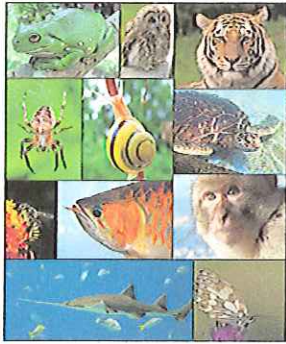
<ul style="list-style-type: none"> • made of one or more eukaryotic cells • have cell membrane • have ribosomes • have nucleus which contains DNA • contain membrane bound organelles • 1 billion yrs. old <p>ex. plant and animal cells</p>	<ul style="list-style-type: none"> • single-celled organism • no nucleus • single-loop DNA • have protein making ribosomes • have cell membrane surrounded by cell wall • 2.5 billion yrs. ago <p>ex. = bacteria</p>
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- Eukaryotic
- Living organisms belonging to the Plantae Kingdom
- Rely on sunlight to undergo the process of photosynthesis

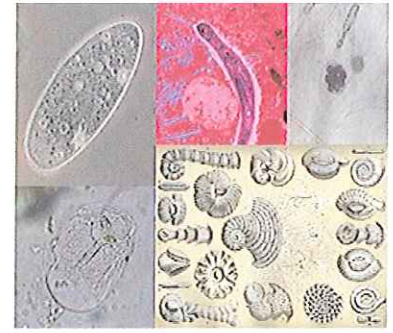
photo = light $\left(\begin{matrix} \text{light} + \text{H}_2\text{O} \\ + \text{CO}_2 \end{matrix} \right)$

synthesis = putting together ↙

Animal



Protists



Habitat



Speciation



Three- spined stickle back



Bali Tiger

Passenger Pigeon



Dodo Bird (1651)



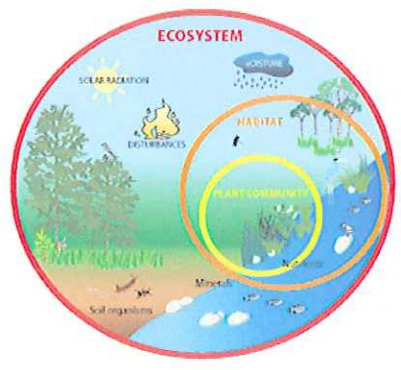
Ecology

ECO = HOUSE or LIVING RELATIONS

OLOGY = STUDY OF



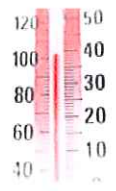
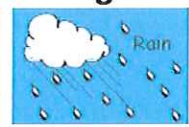
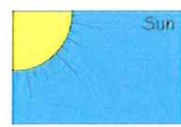
Ecosystem



Abiotic

A = NOT

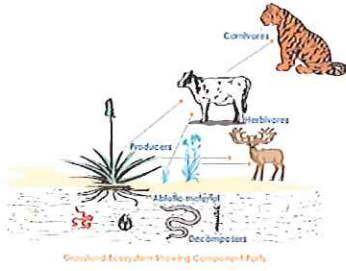
Biotic = Living



- Eukaryotic microorganisms
- simple organization
- no specialized tissues

- mostly multicellular
- all heterotrophs
- fixed body types once fully developed
- motility
- specialized tissues
- digestion
- asexual/sexual reproduction

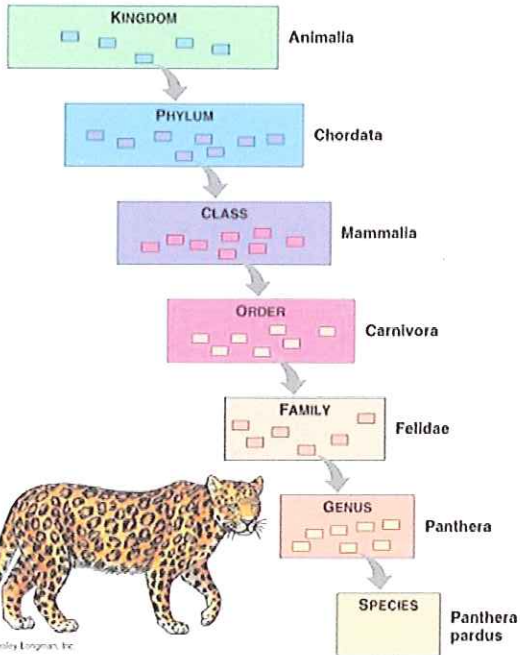
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Niche



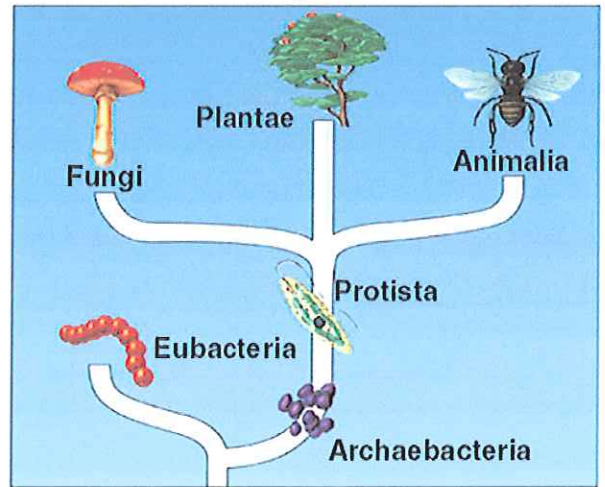
JUST RELATING



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Diversity of Life



Ecology Wordsearch



BONUS WORDS

- | | | | | |
|------------|---|---------------|--------------|------------|
| ↓ | ↓ | ↓ | | |
| - FISH | | TROPHIC LEVEL | TAXONOMY | NICHE |
| - DOLPHINS | | BIOME | MUTUALISM | EXTINCTION |
| - SHARKS | | ECOLOGY | COMMENSALISM | |
| - BLACK | | HABITAT | PREDATION | |
| - TAUTOGS | | ECOSYSTEM | INVASIVE | |
| - SEA | | ABIOTIC | PARASITISM | |
| - MOM | | BIOTIC | SPECIATION | |

1) Terrestrial
Freshwater
Marine
Are examples -----

2) organism occupies
a -----
in a food chain

3) study of organisms
and relations and
interactions -----

4) natural physical environment
which an organism lives

5) functional role of a species
in an ecosystem -----

6) symbiotic relationship in
which both partners benefit

7) process by which new species
are formed -----

8) refers to species that have
disappeared permanently

9) Practice and science of classification -----

10) means relating to produced by or caused by living organisms

11) an ecological interaction in which one organism feeds on another -----

12) ecological interaction in which one species benefits and the other is neither harmed nor helped -----

13) type of predation in which the predator feeds on but usually does not kill a larger organism

14) non-native plants or animals that adversely affect habitat they invade -----

15) non-living chemical and physical factors in the environment

16) consists of all organisms in a particular area as well as non-living physical component of environment -----

Ecology Wordsearch

A 20x20 grid of letters with various words circled and highlighted. The words found are:

- Row 1: **PARASITISM** (circled)
- Row 2: **WOLF** (circled)
- Row 3: **WOLF** (circled)
- Row 4: **WOLF** (circled)
- Row 5: **WOLF** (circled)
- Row 6: **WOLF** (circled)
- Row 7: **WOLF** (circled)
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- Row 17: **WOLF** (circled)
- Row 18: **WOLF** (circled)
- Row 19: **WOLF** (circled)
- Row 20: **WOLF** (circled)

BONUS WORDS

- | | | | |
|----------------|---|-----------------|----------------|
| ↓ | ↓ | ↓ | |
| - FISH ✓ | | TROPHIC LEVEL ✓ | TAXONOMY ✓ |
| - DOLPHINS ✓ | | BIOME ✓ | MUTUALISM ✓ |
| - SHARKS ✓ | | ECOLOGY ✓ | COMMENSALISM ✓ |
| - BLACK ✓ | | HABITAT ✓ | PREDATION ✓ |
| - TAUTOGRASS ✓ | | ECOSYSTEM ✓ | INVASIVE ✓ |
| - SEA ✓ | | ABIOTIC ✓ | PARASITISM ✓ |
| - MOM ✓ | | BIOTIC ✓ | SPECIATION ✓ |
| | | | |
| | | | |

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EXTINCTION

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