

SUSTAINABLE ECOSYSTEMS AND CLIMATE CHANGE



SNC1W

WHAT IS AN ECOSYSTEM?



WHAT IS AN ECOSYSTEM?

- An ecosystem is a biological community of interacting organisms in an environment.
 - Consists of living and non-living things
 - Includes all things essential for survival



WHAT IS AN ECOSYSTEM?



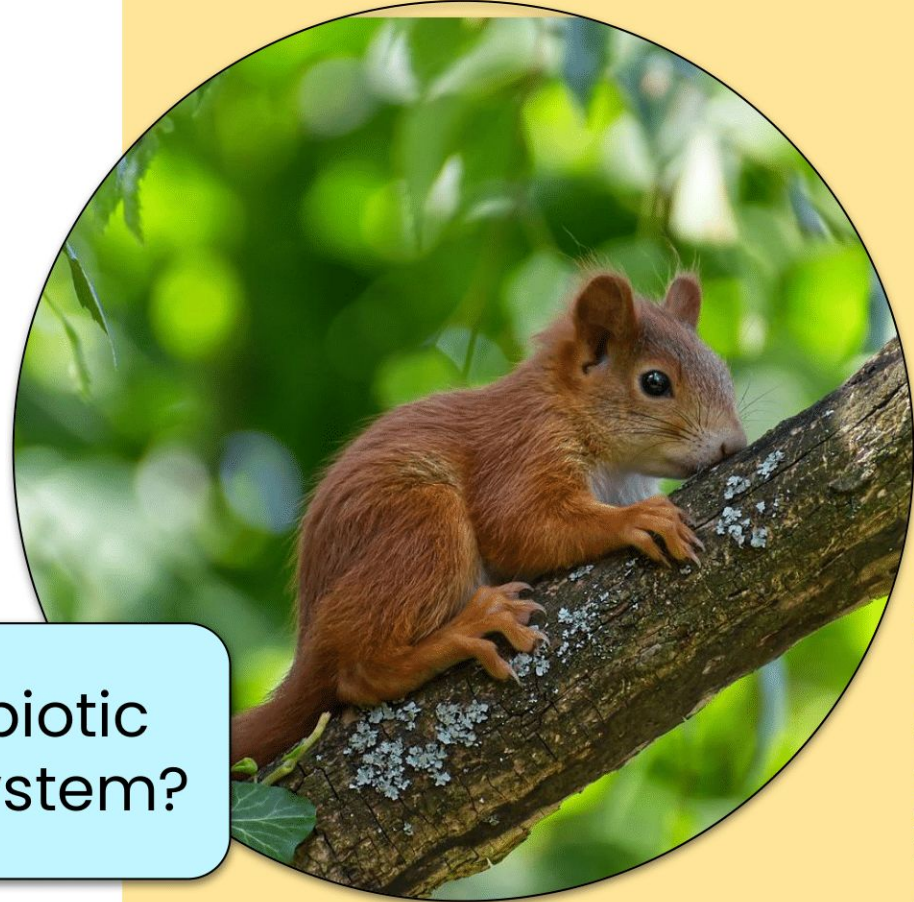
- Plants and animals coexist with each other in ecosystems.
 - Ecosystems also include non-living things, such as water, rocks, soil, and sand.

Describe one way a living thing might depend on a non-living thing.

WHAT IS AN ECOSYSTEM?

- **Biotic factors** include all the living things in an ecosystem.
 - **Examples:** Mammals, humans, insects, fungi, bacteria

What are examples of biotic factors in a desert ecosystem?



WHAT IS AN ECOSYSTEM?



- **Autotrophs** (producers) are organisms that produce their own food.
 - **Example:** Plants because they make their own energy from the Sun.

Are there any animals that are autotrophs? Explain.

WHAT IS AN ECOSYSTEM?

- **Heterotrophs** (consumers) are organisms that cannot create their own food, but instead, rely on other organisms like plants and animals for food.

Is a Venus flytrap an autotroph or heterotroph?
Research the answer!



WHAT IS AN ECOSYSTEM?

- **Detritivores** (decomposers) are organisms that break down organic matter into simpler forms so that they can be reused.

Why are decomposers important?





Think about it!

Brainstorm six things that all living things have in common.

ALL LIVING THINGS...





Think about it!

Define each biotic factor and provide at least one example for each.

Autotrophs

Heterotrophs

Detritivores

WHAT IS AN ECOSYSTEM?

- Abiotic factors refer to all the non-living things that are found in an ecosystem.
 - **Examples:** Sunlight, soil, air, rocks, minerals
- They play an important role in the survival of biotic (living) creatures.



WHAT IS AN ECOSYSTEM?

- Sunlight is an abiotic factor that is essential for all life.

Plants would be unable to grow without sunlight.

How would this affect all other living things?



WHAT IS AN ECOSYSTEM?



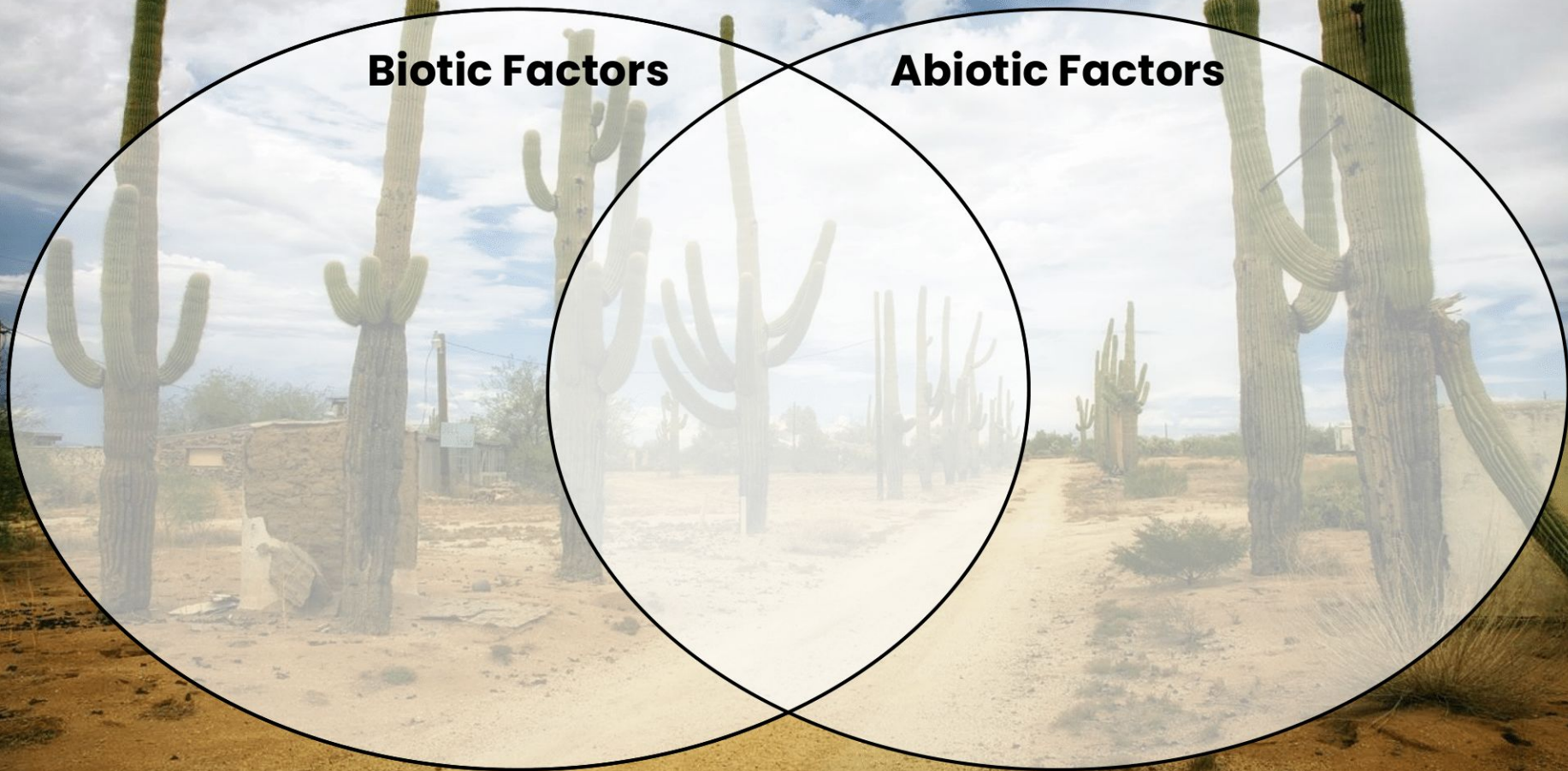
- Light, temperature, humidity, atmosphere, and acidity are also abiotic factors.
- Abiotic factors vary from ecosystem to ecosystem.
 - **Example:** Water ecosystems include abiotic factors like water clarity, water pressure, and tides



Complete the Venn diagram to compare and describe biotic and abiotic factors.

Biotic Factors

Abiotic Factors

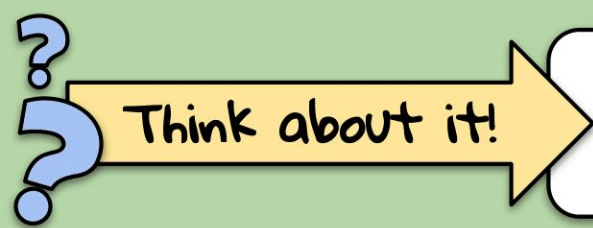




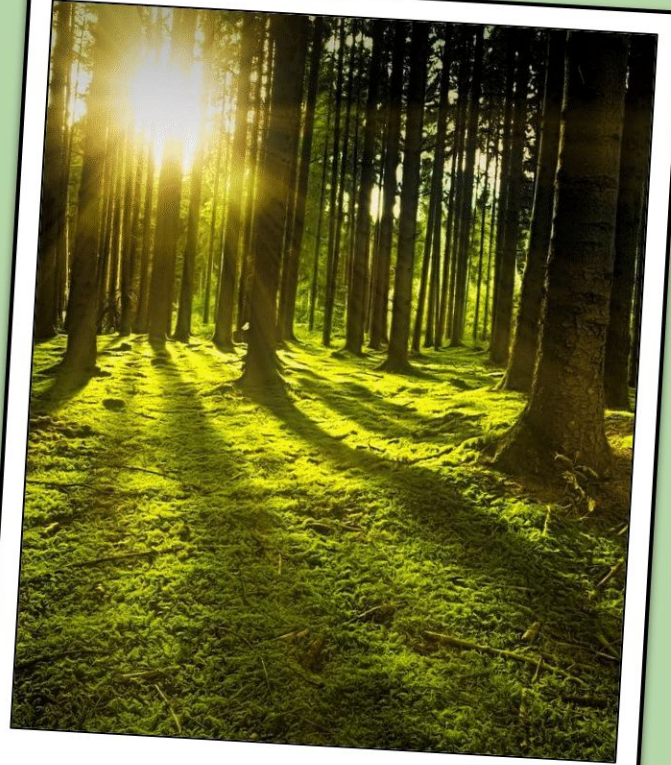
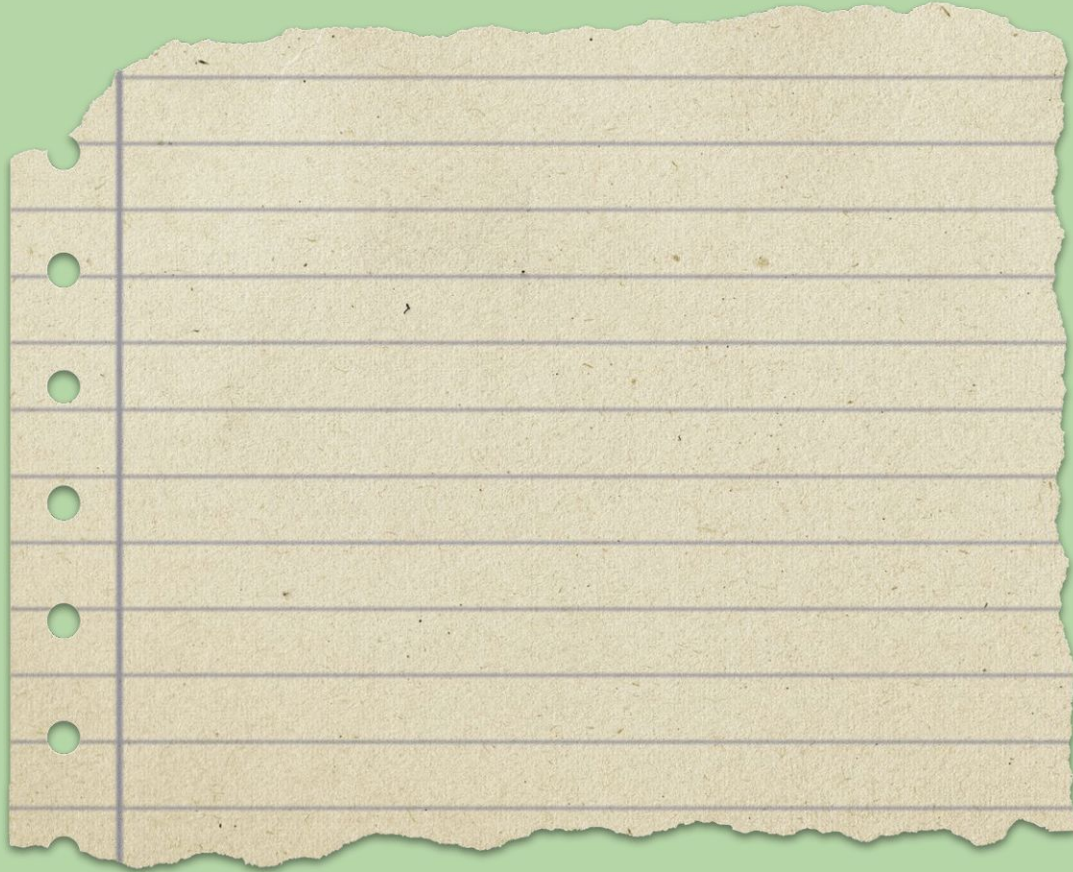
List examples of heterotrophs, autotrophs, and detritivores using the chart below.



Heterotrophs	Autotrophs	Detritivores



What producers, consumers, and decomposers might you find in a forest ecosystem?



WHAT IS AN ECOSYSTEM?

ACTIVITY

Divide into 6 equal groups:

Boreal Forest	Tundra	Temperate Deciduous Forest
Grassland	Mountain Forest	Tropical Rainforest

- In your groups, choose a biome and write a brief description of each. Identify the biotic and abiotic factors in this biome. When you are finished, you will present your findings to your class.