

TOPIC 3

Human Impact on Ecosystems

Unit 1: Ecosystems & Environment

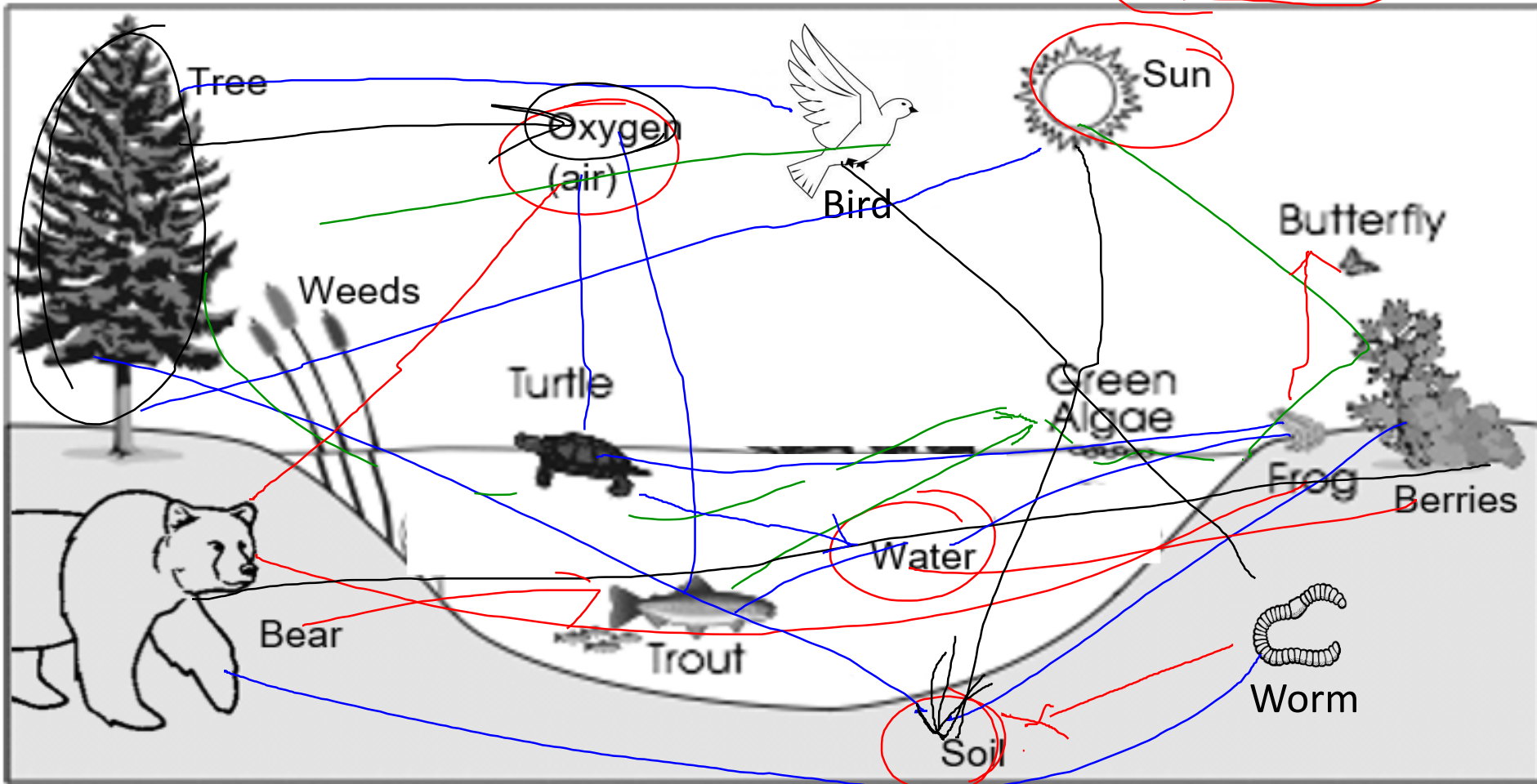


Quiz ^{Thursday}~~Wednesday~~

- Biomes: rainforest, deciduous forest, tundra, taiga, grasslands, desert
- Food chains & food webs
 - Predator/prey
 - Consumer, producer, decomposer
 - Herbivore, carnivore, omnivore

The connections between

What is an Ecosystem? all living and non-living parts.



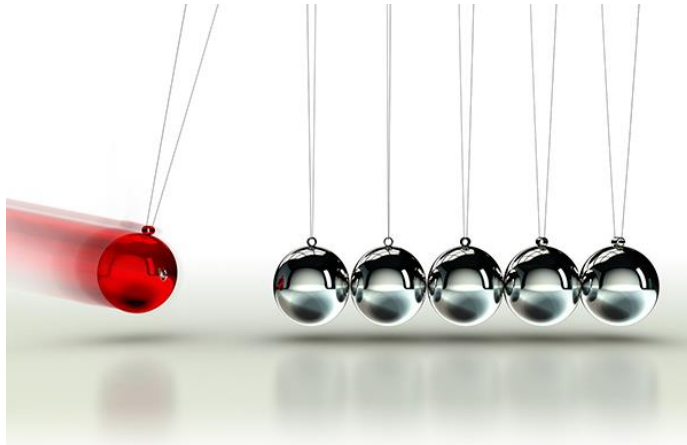
Ecosystem

An **ecosystem** is all the **living** and **non-living** parts of an area.

- The living and non-living parts are **connected** to each other.
- Ecosystems include the **food webs** and the non-living parts around the organisms: **water, air, soil/land, Sun**

<https://youtu.be/bJEToQ49Yjc>

What is an **Impact**?



An **impact** is an action of one person or object onto another, and the changes that happen from the action.

“Cutting down trees has a bad impact on the forest”

“Education has a good impact on people”

Humans can impact **ecosystems** in **good** and **bad** ways.



Negative (bad) Impact

Any time we put something into the environment that is **bad** for it we call it **pollution**.

land pollution
air pollution
ocean pollution

What are some examples of **Pollution**?

- Cutting trees
- throwing away garbage
- smoke from factories, fires, cars,
- garbage in the sea

Examples of Pollution

- Smoke from burning coal, oil, and natural gas



- Wastewater from companies or homes



Examples of Pollution

→ helps plants grow

→ kills bugs that eat the crop

- Fertilizer or pesticides for farming



- Plastic pollution



<https://www.youtube.com/watch?v=5FWvbui6ook>

Human Impact Project

- Choose one human activity to research. Find out how it impacts the ecosystem. Create a Powerpoint to share your learning & present to the class.
- You may work with a partner.

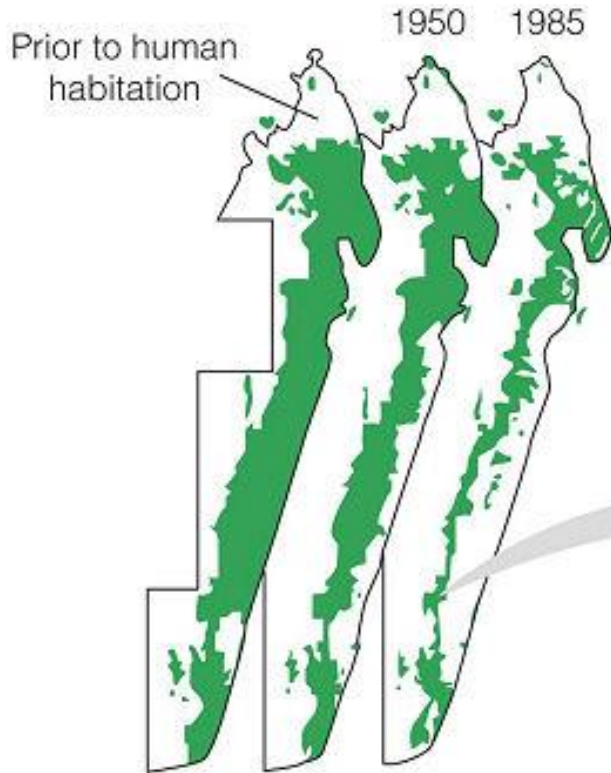
Negative (bad) Impacts

Much of what humans do to the earth is bad for ecosystems and food webs.



1) Construction

When humans build new cities, animal homes are destroyed.



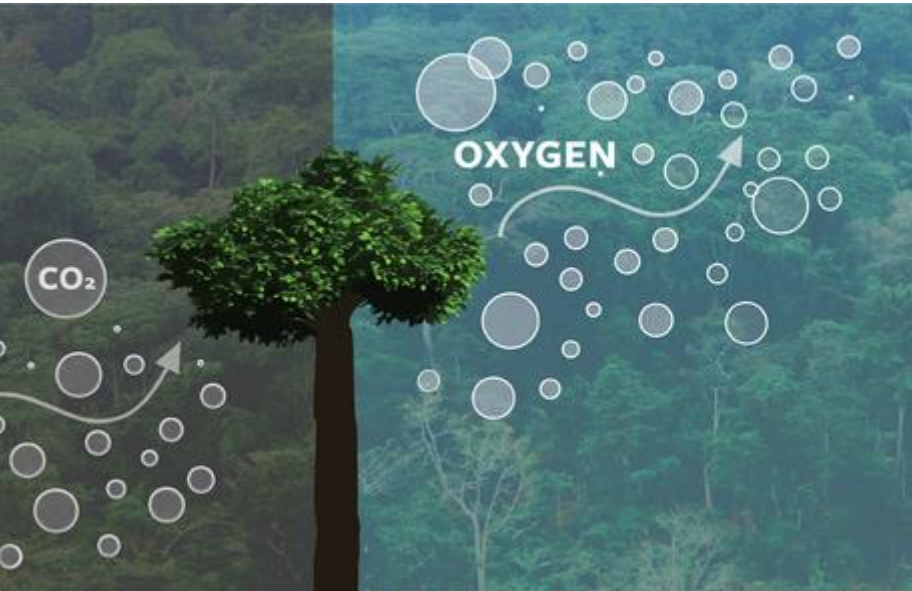
2) Farming

- When humans use land for farming animal homes are destroyed.
- Water is used up. (irrigation)



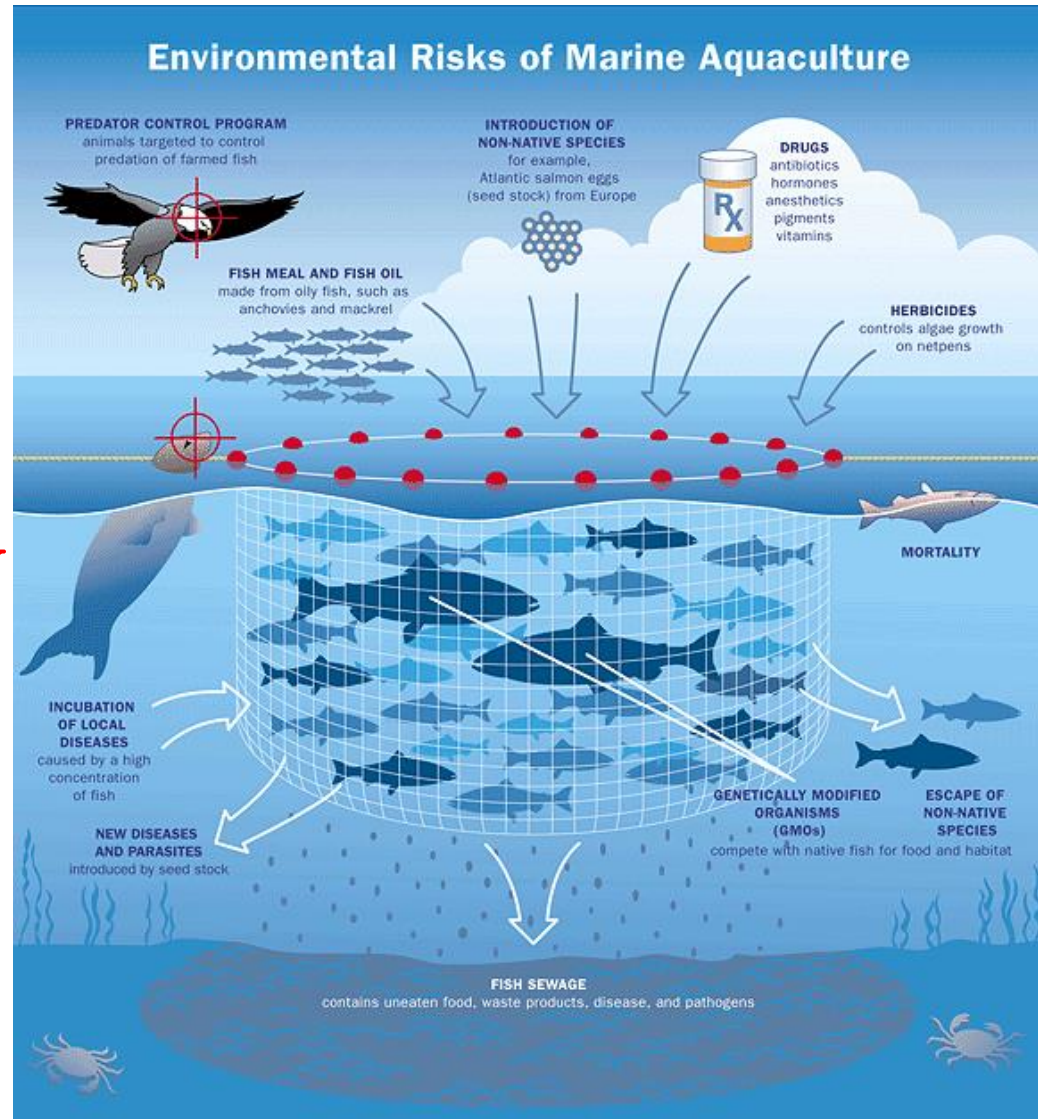
3) Deforestation

- When humans cut down **trees**, animal homes are destroyed.
- Trees are also important because they produce **oxygen**, which we need to breathe.



4) Fishing

- If too many fish are caught they may go **extinct**.
↳ not on Earth anymore
- There may not be enough fish for **predators** in the food web.



How can we help?

It would be impossible to live without having any impact on the environment, but we can try to **decrease** it.

Carbon

Represents the amount of forest land that could sequester CO₂ emissions from the burning of fossil fuels, excluding the fraction absorbed by the oceans which leads to acidification.



Cropland

Represents the amount of cropland used to grow crops for food and fibre for human consumption as well as for animal feed, oil crops and rubber.



Grazing Land

Represents the amount of grazing land used to raise livestock for meat, dairy, hide and wool products.



Forest

Represents the amount of forest required to supply timber products, pulp and fuel wood.



Built-up Land

Represents the amount of land covered by human infrastructure, including transportation, housing, industrial structures and reservoirs for hydropower.



Fishing Grounds

Calculated from the estimated primary production required to support the fish and seafood caught, based on catch data for marine and freshwater species.



One way to decrease environmental impact is to use biodegradable materials.

Biodegradable

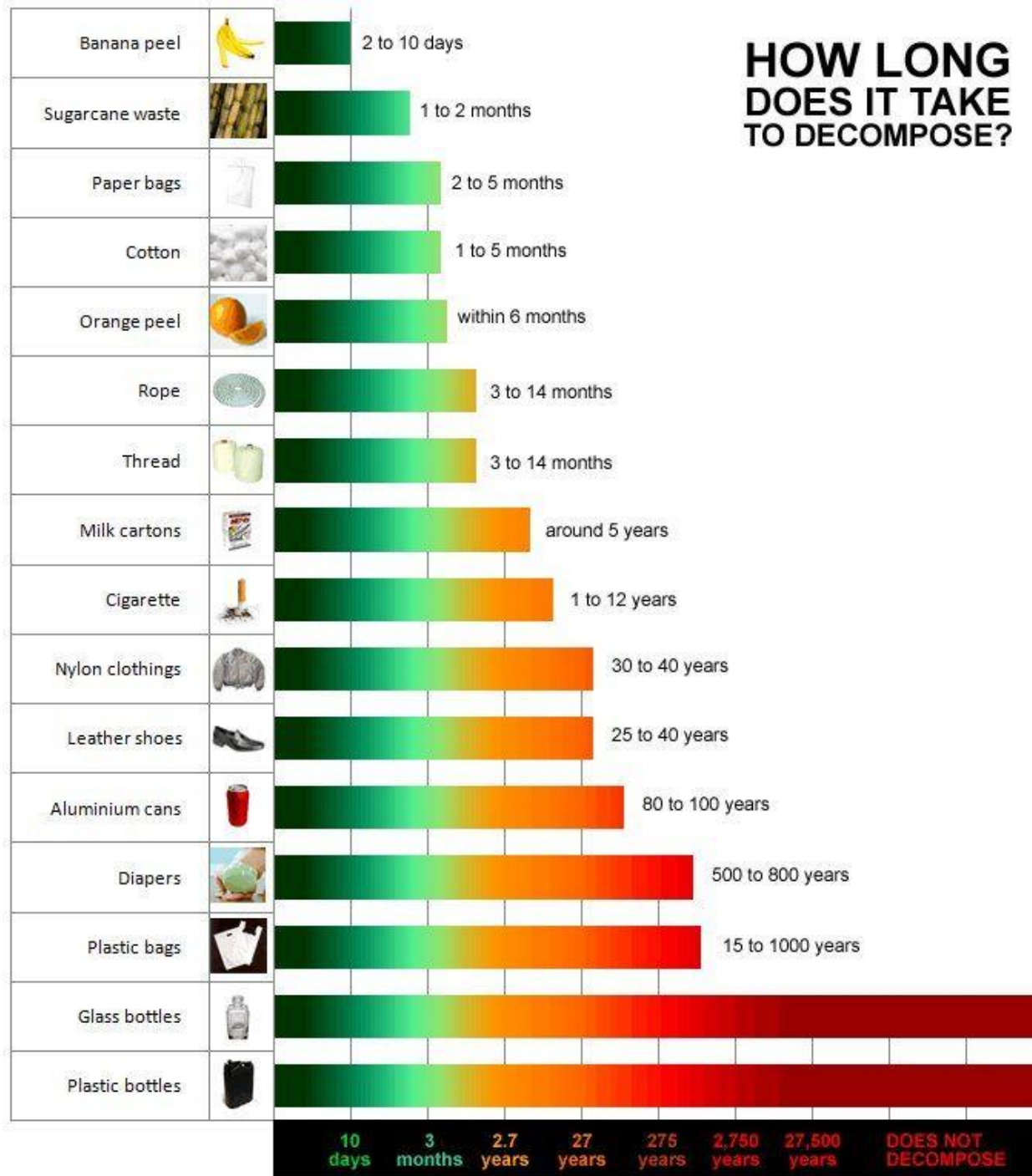
A material that can be **broken down** by **decomposers** in the food chain.

Examples:

If the material cannot be broken down by decomposers, it is **non-biodegradable**.

Examples: plastic straws, batteries, metal

HOW LONG DOES IT TAKE TO DECOMPOSE?



Other ways to decrease environmental impact

- stop cutting trees
- don't throw garbage in the sea
- stop hunting animals
- stop dumping carbon dioxide
- stop making smoke
- recycling wood
- use solar panels for electricity