

# Create a Food Web



Alabama Wildlife Federation Outdoor Classroom Field Journal Activity

To use this interactive PowerPoint with your students:

1. Click on "**Enable Editing.**"
2. Click the "**Slide Show**" tab at the top of the screen.
3. Then choose "**From Beginning**" from the menu.

# To review...What is a Food Chain?

A **food chain** is a sequence of organisms (plants & animals) where each organism provides food and energy for the next link (or organism) in the chain. Food chains demonstrate how these organisms are dependent on one another in an ecosystem.



Plant gets energy from sun!



Grasshopper eats plant...



Toad eats grasshopper...



Snake eats toad...



Hawk eats snake...

**Example Food Chain:** Sun → Plant → Grasshopper → Toad → Snake → Hawk

# Are you part of a food chain?

What would an example food chain look like for humans?

Yes, we are part of a food chain!



Grass gets energy  
from the sun...



Cows eat grass...

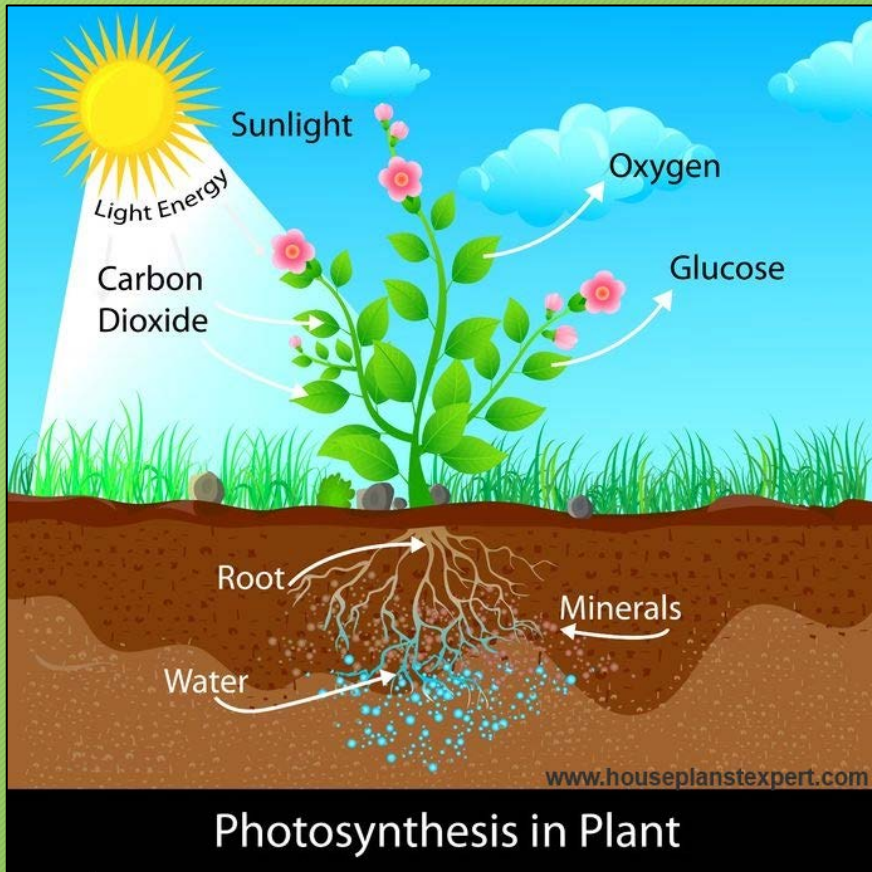


We eat hamburgers  
(meat from cows)...

This is an example Food Chain that shows how energy flows from the sun to humans:

**Sun → Grass → Cow → Human**

# How do grass and other plants get their energy from the sun?



The sun emits energy in the form of light. Plants (like grass) absorb the energy from the sun in their leaves, and then use the energy to convert water (from the soil) and carbon dioxide (from the air) into sugars (or food).

Plants are the original "producers" of energy in food chains using this chemical process called **photosynthesis**.

# In our previous example, is the food chain complete?

Sun → Plant → Grasshopper → Toad → Snake → Hawk

No, the final link in **ALL** food chains is the "**decomposers**".

When **organisms** (plants & animals) die then scavengers like vultures and decomposers like pill bugs eat the **detritus** including **carrion** (decaying animal carcasses) and plant matter.

The decomposers help break down the dead matter into smaller pieces and process the nutrients so that the nutrients are returned to the ecosystem where they can be used by other plants to grow and survive.



**Complete Food Chain:** Sun → Plant → Grasshopper → Toad → Snake → Hawk → Decomposers

# Which parts of the food chain will be eaten by the scavengers and decomposers?

## Example Food Chain:

Sun → Plants → Grasshopper → Toad → Snake → Hawk

ALL dead plants and animals will be eaten and broken down into nutrients by scavengers and decomposers.



vultures



earthworms



fly larvae



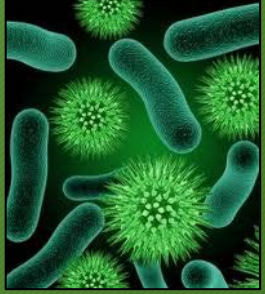
slugs



pill bugs



fungi



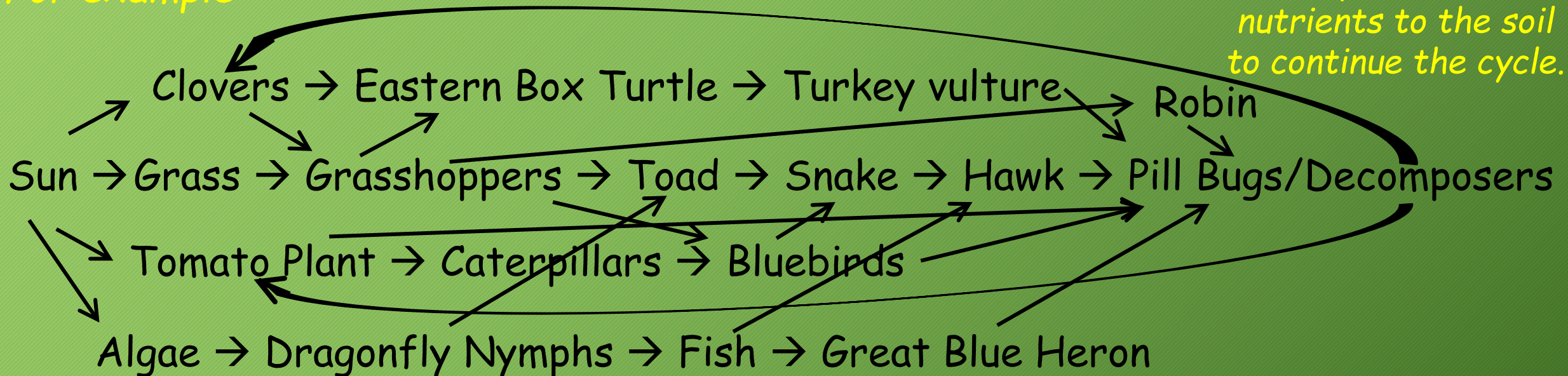
bacteria

# What is a Food Web?

A food web is made of many interdependent food chains with overlapping members and is a representation of the flow of matter and energy through an entire ecosystem.

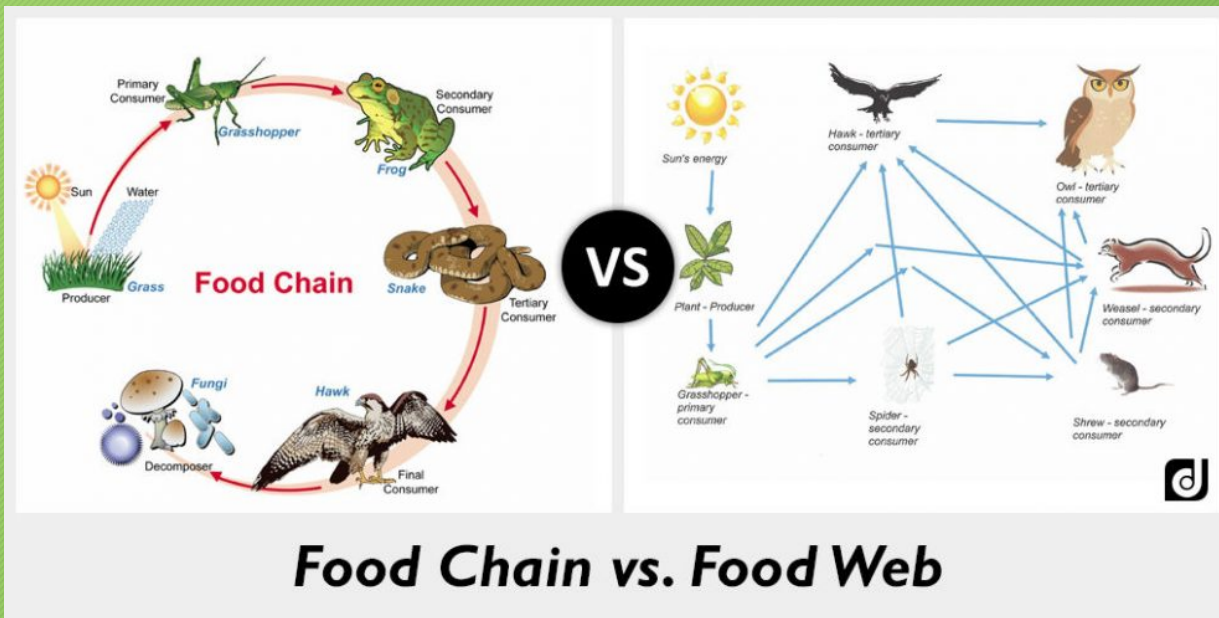
*For example:*

*Decomposers return nutrients to the soil to continue the cycle.*



# How is a food web different from a food chain?

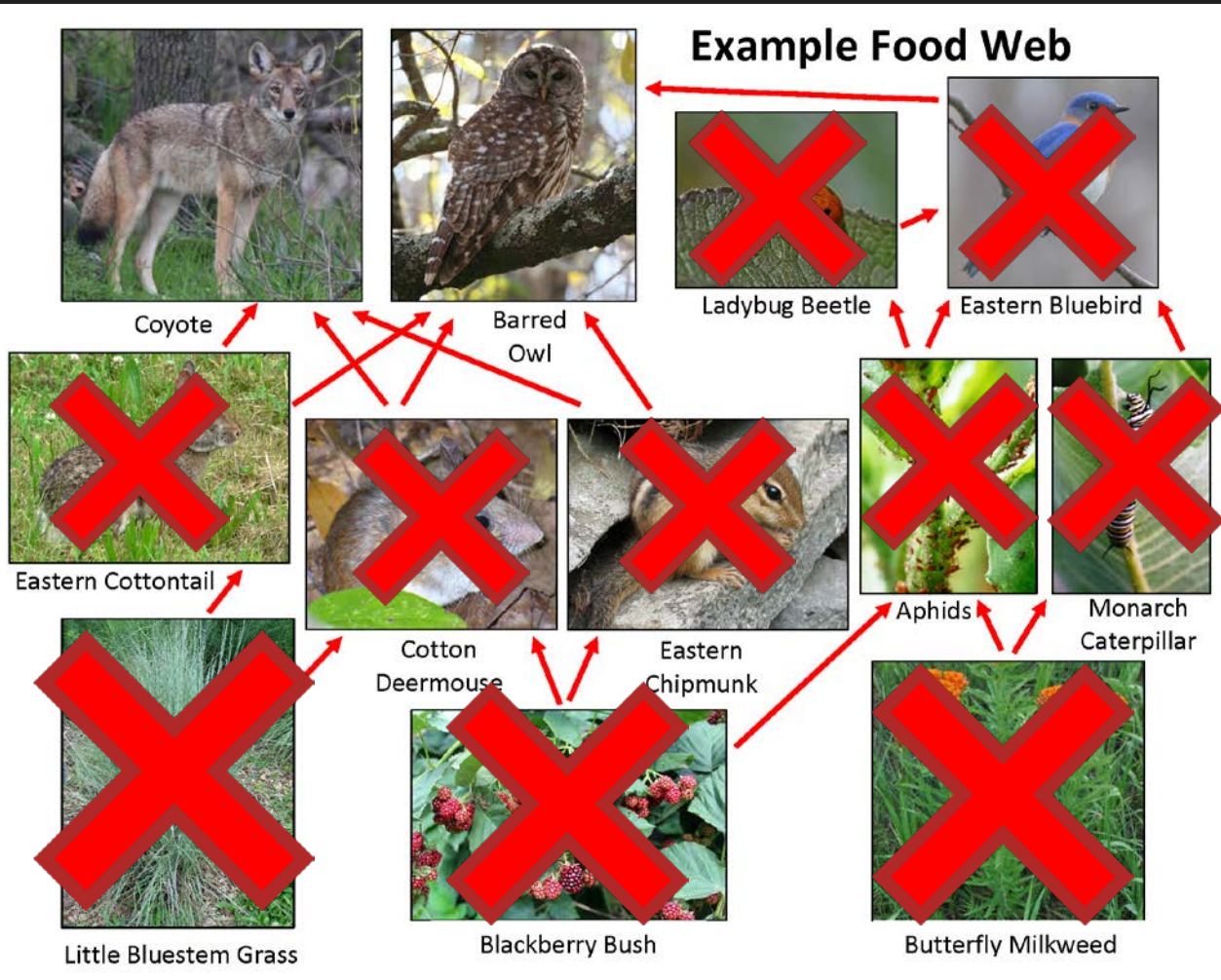
Food chains include one producer (plant), primary consumer (herbivore or omnivore), secondary consumer (omnivore or carnivore), apex predator, and decomposer.



Food webs contain multiple producers, consumers, and decomposers that can be found in an ecosystem to demonstrate the interdependence of these organisms.



# What happens if many of the plants in an ecosystem die due to a forest fire?

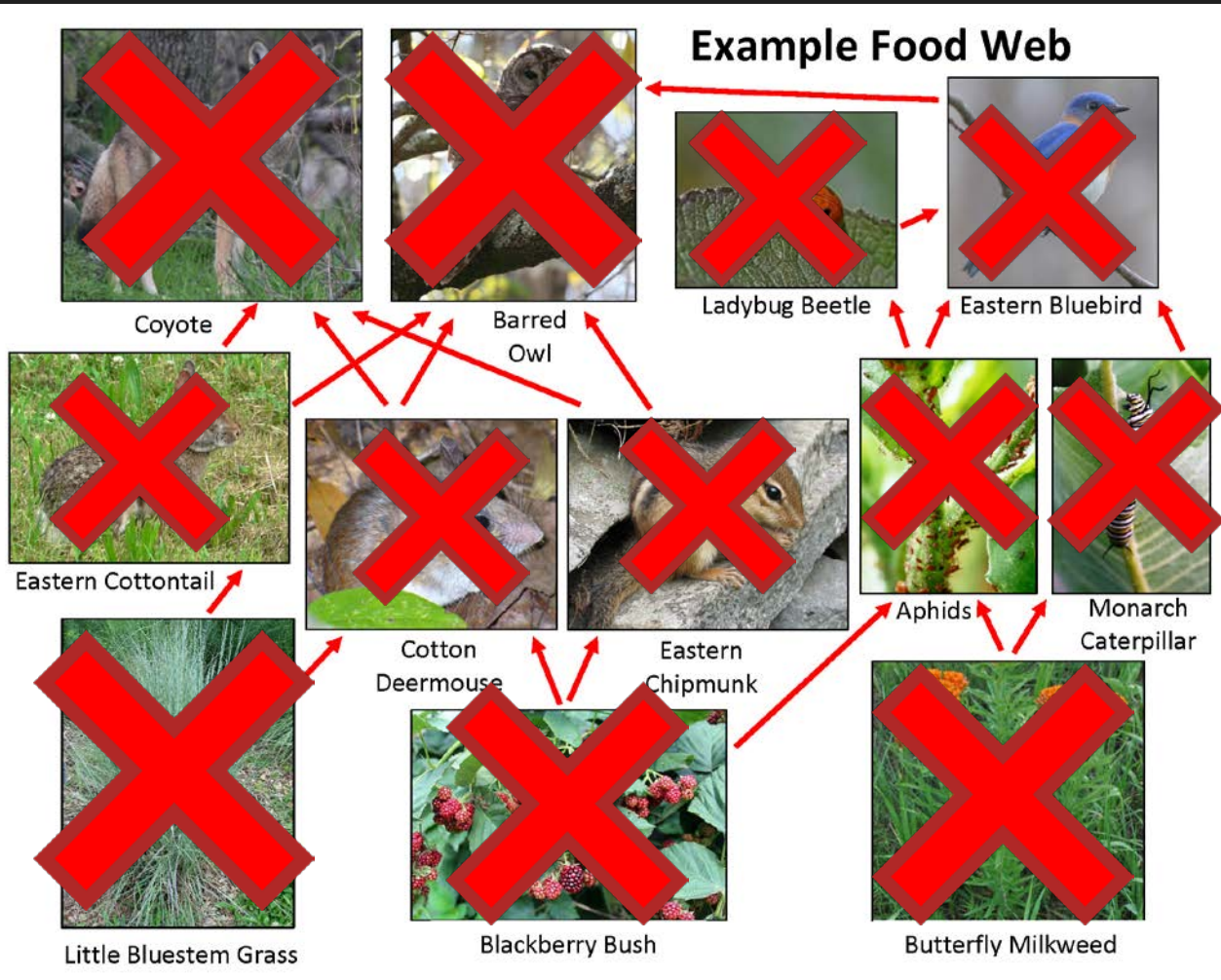


Some of the primary consumers (animals) in the ecosystem would not get enough food to provide the energy their bodies need to move, grow, heal, stay warm, and reproduce.

Some of these animals will probably:

- Leave the ecosystem to look for food
- Become sick or diseased
- Stop reproducing
- Die

# What would happen to the apex predators when the primary consumers disappeared?

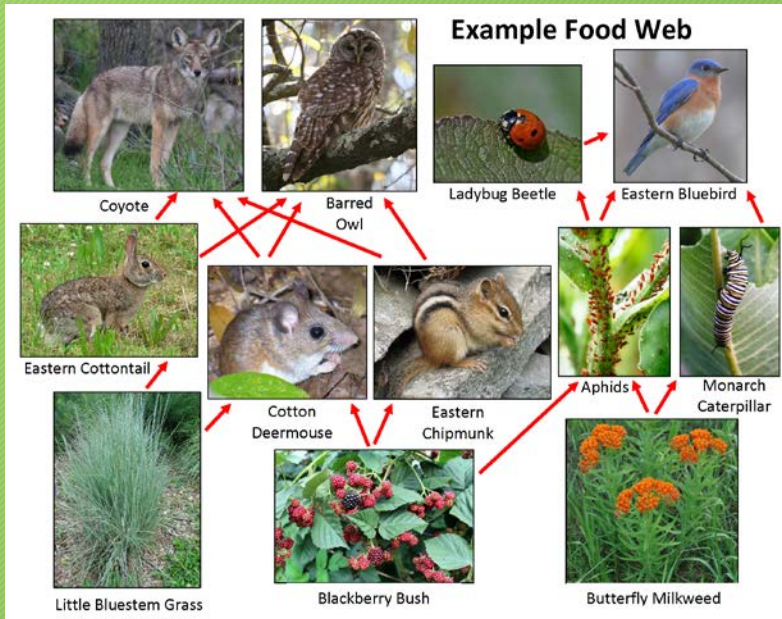


The secondary and tertiary consumers (animals) would have fewer food and energy sources and their populations would decline.

The apex predators would have to compete for food...OR...they would:

- Look elsewhere for food
- Become sick or diseased
- Stop reproducing
- Die

# What other things may occur that could effect the food web in this ecosystem?



- **Drought** (long period with little or no rain) could cause plants to die or cause them to not produce as much fruit and berries.
- **Human development** (such as new roads, houses, shopping malls) can remove or reduce the amount of plants and animals (food) available for other wildlife.
- **Non-native, invasive plants or animals** could invade the ecosystem and cause competition with the native species for food sources.

- **Other apex predators** could move into the ecosystem looking for food and the apex predators could wipe out the population of some of the other animals.
- **Diseases or fungi** could attack a population of a specific plant or animal in an ecosystem, which would reduce the food sources in the food web in that ecosystem.

# What organisms are dependent on one another for food and energy in our outdoor classroom?

Producers like...

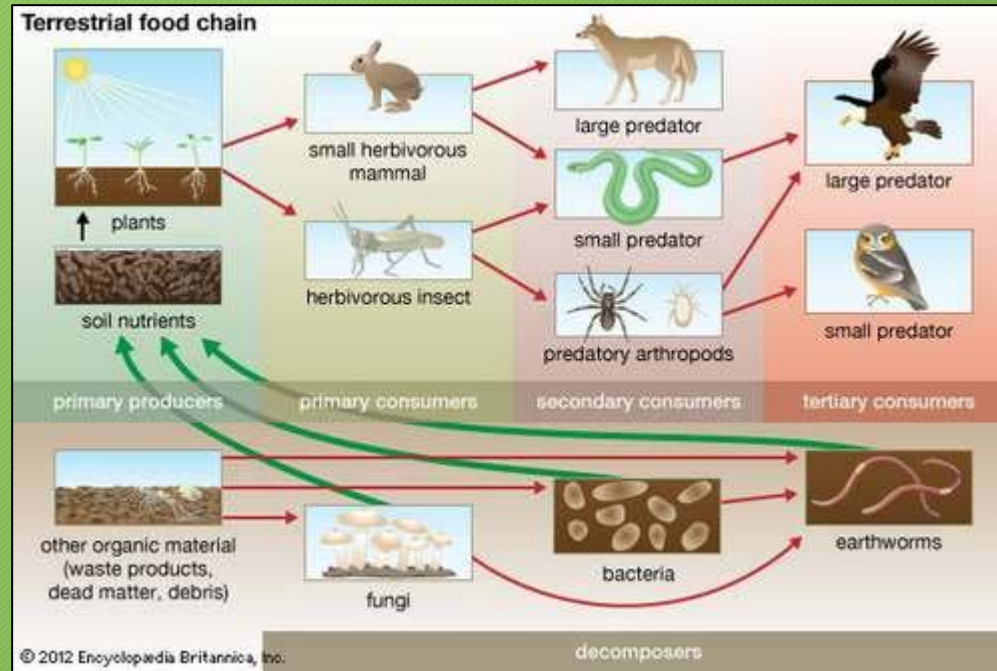
- ✓ grass
- ✓ bushes
- ✓ wildflowers.

Consumers like...

- ✓ grasshoppers
- ✓ rabbits
- ✓ hawks.

Decomposers like...

- ✓ bacteria
- ✓ earthworms
- ✓ fungi (mushrooms).



What would a **FOOD WEB** for the organisms in our outdoor classroom look like?

\*Be sure to use the **Example Food Chain Components Chart** and **AWF's Common Wildlife webpages** with your activity sheets.