



2020 Cub Scout Backyard Challenge



Backyard EcoSystem

Category: Nature

Difficulty: Intermediate

Description:

All of nature is organized into ecosystems, where the death of one allows the life of another – where everything is recycled, and nothing is wasted. If we start to think of our backyard as an ecosystem in which we play an important role then we can make new discoveries on a regular basis and feel a greater connection to the cycle of life of which we are part.

Many types of gardens can be incorporated into an ecosystem-design approach, but all such designs share certain characteristics. The first is diversity. The more diversity contained in an ecosystem, the more stable it will be. Thus, we strive to create different types of habitats, and use a varied array of plants to attract many types of wildlife to our yards, from the smallest microbes to large birds and mammals. While we will never understand all the complexities of life, even in our own backyard, it is an opportunity to start to think about how one organism or plant is essential to the life of many other organisms.

Spend some time sharing each other's thoughts about how a backyard ecosystem functions. Be sure to include the below points on the food chain. Show them the food chain photo and use the notes below the picture to lead the discussion.

A **food chain** is the sequence of feeding in an ecosystem. There are three parts:

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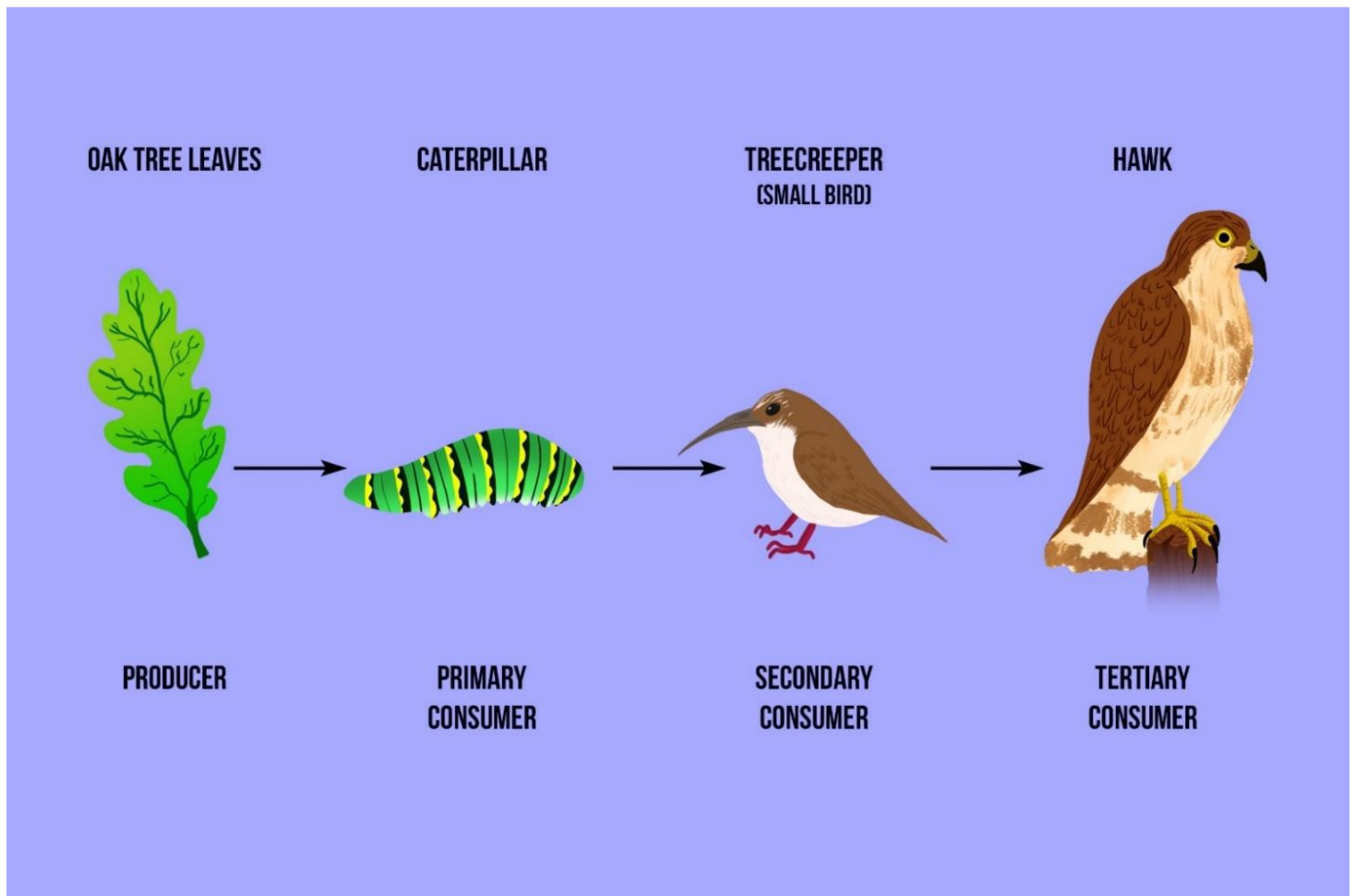


Producers: An organism which makes its own food, usually through photosynthesis using energy from the sun and nutrients in the environment. Examples include algae, plants, and trees.

Consumers: An organism which obtains energy by feeding on other organisms.

Decomposers: Organisms such as bacteria and fungi that extract their energy from dead plant and animal matter using biochemical reactions without the need for any internal digestion.

Example:



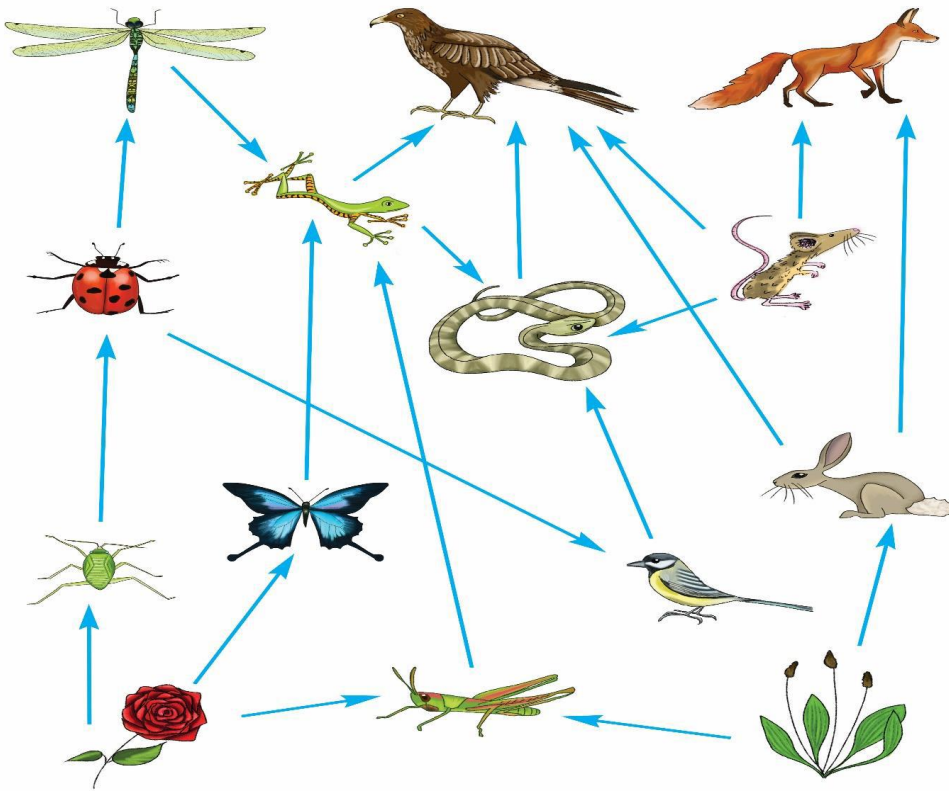


Like all food chains this one begins with a producer, which in this case is the oak tree. The next organism in the sequence is the caterpillar which eats the oak tree leaves. The caterpillar is the primary consumer which is then eaten by the next organism in the feeding sequence, the tree creeper (small bird), known as the secondary consumer. Finally, the tree creeper (small bird) is eaten by the tertiary consumer which in this food chain is the hawk. When the hawk dies, bacteria will decompose the body of the hawk into nutrients. Fungi will decompose the tree the hawk was perched on after the tree dies.

Ask your scout if the food chain is an accurate model to view how all animals interact.

If you think about it, nature is much more complicated than a straight line. Interactions between various organisms are much more tangled. Kind of like a web. A... Food... Web...

Have your Scout draw what a Food Web would look like, then show your Scout the illustration below. Food webs are networks of interconnected food chains. The following is just one example:





As organisms will often eat more than one food source, food chains are not always that useful. Instead, food webs can show which organisms within an ecosystem consume which for survival.

Ask your scout: “Do you think a Food Chain, or a Food Web better explains the relationship between producers and consumers?”

After this discussion, take your Scout into the backyard and see if you both can find signs of how animals interact. **“Your job today is to go out in your backyard, with your buddy, and quietly look for and observe reptiles, amphibians, arachnids, fish, insects, or mammals. Describe where you saw them (forest, field, marsh, lake, trail) and tell what they were doing and who was eating whom/what.**

After they get all hot, sweaty and hungry, come back inside and use the internet to answer these two questions:

Do you know a wild animal that is found only in our area of the country?

Why do you think it survives in our area and not anywhere else?

