Find a Food Chain

Outdoor Classroom Field Journal Activity Lesson Plans & Resources

Online Lesson Plans & Resources: https://www.alabamawildlife.org/oc-activity-food-chain/

Students will find evidence of a food chain that exists within the school's outdoor classroom and create a model to show the transfer of matter and energy within the environment between producers, consumers, and decomposers.

The questions below can be used to help introduce the topic, engage the students, and build a foundation to discuss the topic:

Example Discussion Questions & Answers (online as a interactive PowerPoint or PDF)

Q: What are some of the plants/animals that you eat? Raise your hand if you eat…
A: *Fruit like apples or bananas, vegetables such as carrots or broccoli, or meats such as hamburgers or fried chicken.*

Q: What do you think the chicken ate? How does your body use the chicken you ate?
A: *The chicken could have eaten corn or other plant material. After you eat the chicken, your body uses the nutrients and energy from the chicken to give you energy to move, grow and stay warm.*

Q: How did the energy get inside the corn before the chicken ate the corn?
A: *The energy in the corn (or other plants) originally comes from the sun to start the food chain. This forms a food chain, and YOU are part of that food chain. For example, this Food Chain could include the sun, then corn, then the chicken, and finally you. Sun → Corn → Chicken → YOU*

Q: What is a "food chain"?
A: *A food chain is the path of energy in the form of food from one organism to the next, linking the organisms in a chain with each dependent on the next as a source of food and energy. For instance, a food chain is created when humans/animals eat other animals that have eaten plants. An example is that humans eat chicken, chickens eat corn, and corn plants get energy from the sun.*

Q: What is the original source of energy in all food chains?
A: *The sun! Plants are the original "producers" of energy in the food chain through photosynthesis. The plants use the energy from the sun to convert water and carbon dioxide from the air into sugars (or food) for the plant.*

Q: What are the different levels of a food chain?
A: *The "primary consumers" (herbivores and omnivores) eat the "producers" (plants), and then "secondary consumers" eat the "primary consumers," and the energy is passed on until you reach the "apex predator." The "apex predator" does not have any other animals that hunt it for food. It is the top predator.*

Q: How does energy flow within a food chain?
A: *The energy flows from the sun, through the producers to the consumers. Example: sun → producer (plant) → primary consumer (animal: herbivore or omnivore) → secondary consumer (animal: carnivore or omnivore) → tertiary consumer (or apex predator)*

Q: How much energy do you think is passed on at each level?
A: *Only ~10% of the energy is passed on to the next level or consumer each time.*

Q: Where are we in food chains? Can we be the producers? The consumers? The apex predator?
A: *No, we cannot be producers because we cannot produce (or make) our own energy from the sun like plants can. We can be the primary consumers if we eat plants (fruit & vegetables), or we can be the*

secondary consumers if we eat animals (chicken, cows, pigs, deer, etc.) that eat plants. Y*es, we are the apex predator because there are no other animals in Alabama that view us as prey. Black bears are considered omnivores, but they do not hunt humans as prey*.

Q: Does the apex predator complete the food chain?
A: *No, The final link in the food chain is the "decomposers" that help return nutrients to the soil so the whole process can start again. When the animals die then decomposers and scavengers eat the decaying animals, and then the decomposers' excrement returns the nutrients (that provide energy) back to the soil. For example, the "castings" (poop) of earthworms are considered rich fertilizer (food) for plants.*

Q: What are decomposers?
A: *Decomposers:*

- *Are the last stop on the food chain.*
- *Eat the things no one else wants to.*
- *Are very small so they can break down large pieces of dead stuff.*
- *Are referred to as nature's recyclers because they help return nutrients to the soil for the plants.*

Q: Why are decomposers important?
A: *Some of the most common decomposers are bacteria, worms, slugs, snails, and fungi like mushrooms. If they didn't do their job the ground would be covered with junk.*

Q: What food chains do you think we can find in our outdoor classroom?
A: *Answers will vary. Numerous examples of food chains exist in your school's outdoor classroom, so let the students explore and provide examples of what they think they will find. Discuss an example or two, and review the Example Food Chain Components chart for the activity sheets.*