Food Chains activities

Learning Objective: Represent feeding relationships within a habitat by food chains; explain that food chains begin with a green plant which 'produces' food for other organisms.

- Give the children the downloaded and cut up pictures of animals and plants found in the Peat Bog habitat (Bog Habitat cards) and give them a few minutes to look at them and discuss their features and characteristics and how they could be grouped or sorted. Discuss ideas.
- Challenge the children to group the cards again into animals that eat plants or animals that eat other animals. Discuss the ideas. Introduce the terms Herbivore and Carnivore.

Explain that every habitat will have its own food chains. Most habitats have lots of plants, and fewer animals, ask for children's ideas as to why this is?

- Plants use the energy from sunlight to make food in their leaves by a process called photosynthesis. They are called "producers" because they produce their own food. Most animals cannot make their own food. They must eat something else in order to get the energy to live and grow. These animals are called "consumers". Some animals eat plants and are called "herbivores". They need to eat a lot of plants, because plants contain relatively little energy. Consumers that eat meat are called "carnivores". They get their meat by eating other animals, usually smaller than themselves. Omnivores (like humans) eat both plants and animals.

- Once the children are confident with the vocabulary, (predator, prey, consumer, producer etc) ask them to assign the animals to a particular group based on whether the animals eat plants (consumer), eat animals (predator) or are plants (producers). Also note that prey is an animal eaten by another animal.
- Show children how a food chain works and what the arrow represents → (eaten by)
  E.g. grass → snail → bird → cat

- Explain that a food chain usually begins with a green plant which gets its energy from the Sun. It is then followed by a number of Consumers and then a Top Consumer (Predator).

  Sun → Producer → Consumer → Top Consumer

- Demonstrate a simple food chain found in the Peat Bog
  E.g. Heather → Red Grouse → Fox

- Ask children to create their own food chains using the Bog Habitat cards, describing whether the plants and animals are producers, consumers or top consumers.

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- See how many different food chains you can make with the arrows used correctly and the animals placed in the right position. These can then be demonstrated to the class or drawn/ stuck into Science books.
- ***Assessment: Can children organise the animals into a workable food chain with a green plant at the start? Are the arrows used correctly?***

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Food Web Activities

Learning Objective: Recognise that feeding relationships exist between plants and animals in the habitat and describe using food chains and webs.

- **Recap on food chains and introduce food webs.** A food chain follows one path as animals find food. A food web consists of many food chains which demonstrates how the many different plants and animals are connected. A food web is several food chains connected together.
- Demonstrate how a food web would work in the Bog environment.
- Pass out Bog Habitat cards, explaining that each pupil is a different organism and thus a different member of the food web.
- Arrange the children in a circle and give one child a picture of the Sun and a ball of string.
- The Sun holds the end of the ball of string and throws or rolls it to someone else in the circle, explaining the connection to that organism. For example, "The sun gives energy to the Heather."
- That person then holds the string and throws it, explaining the connection e.g. "the Red Grouse feeds on the heather".
- Each time the ball of string is thrown, the individual throwing it holds onto the end, so that a web is formed in the centre of the circle. This goes on until everyone holds a piece of string. The string must be held taut in order to illustrate the interconnectedness of all the organisms.

  The explanations can be based on predator/prey relationships, for example, the Plover eats the Cranefly or on other relationships, e.g. the Bilberry Bumblebee collects nectar from the Bilberry.

  - Ask the children what they think would happen if something happened to one of the organisms in the web. Now demonstrate: Point to one individual and announce that this organism is destroyed by the moorland fire. As that plant or animal drops out of the food web and let go of the string, each person who feels the slack of the string lets go. Soon, the entire web has fallen to the ground all because one member of the food web was removed.
  - Discuss the activity with the children. Ask them what they think would happen if more than one organism in the food web was removed? What if the population of one animal increased suddenly? What if there were too many carnivores and few herbivores? Or, too few carnivores and too many herbivores? What would happen to the food web?

- ***Can the children describe how the ecosystem is interdependent and how if one part of the chain/web collapses the whole food system is affected?***

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