

Full Day Life Cycles (links with QCA 5B)

Introduction

Objectives :

- To learn that flowering plants reproduce,
- that seeds can be dispersed in a variety of ways,
- to consider conditions affect germination and plan how to test them
- that insects pollinate some flowers
- to make careful observations of fruits and seeds ,
- that many fruits and seeds provide food for animals and humans

Resources/ Materials required:

Two sets of worksheets (seeds and poster)

Lots of plastic bags to collect seeds/pods

Pencils

Habitat boards for extinction game

Pictures of Animals for extinction game

Sticky labels for plant names

Plant pots

Suggested Activities:

Morning: Fruits and seeds-how they are dispersed (scattered) and whether they are edible. Seed planting-the conditions needed for a seed to germinate (sprout and grow)

Afternoon: Farm tour.

- Looking at animals and their young.
- Why animals need to reproduce.
- Reasons why animals die out (become extinct).

Nature Walk (info can be given during walk)

What are seeds, nuts and fruits? Why do plants make them?

Seeds are the embryos (early stage of the development of a plant) of the mother plant.

Plants grow them in order to reproduce (produce more plants). In the same way that animals reproduce and have young which grow into adults, plants grow from seeds that grow into adult plants. In flowering plants, seeds are made by transferring pollen from one plant to another. The pollen fertilises the ovum (female part of the plant) and the seed begins to grow inside it. Fruits are the ripened ovary of a flowering plant, containing one or more seeds, nuts

are dried up, hardened fruits and contain one seed.

How do flowering plants make seeds?

Brightly coloured flowering plants attract insects (like bees) who want to reach their nectar. The bees fly into the flower and then become covered in pollen. When the bee flies to another flower of the same type, it pollinates it as the pollen falls off its fur. Sneaky!

How do plants disperse their seeds?

Show examples, point to seeds.

Plants are very clever and can disperse (scatter) their seeds in different ways. The plant wants its seeds scattered over a large area so that as many new plants as possible will grow.

What are the different ways plants disperse seeds?

Seeds can be dispersed by the wind:

The types of seeds that do this are light (think of poppy seeds), or feathery (old man's beard) and are shaken out of the plant by the wind; other plants are aerodynamic- they are shaped so that they will fly through the air (helicopters- the seeds pods from sycamore trees for example). A few seeds have explosive spores that explode so the seeds bounce out over the ground; some plants bear fruits that are edible (apples, plums, blackberries). Animals (and humans) eat them and the seeds are spread when the animal digests the fruit and the seeds are pooped out! Some fruits are hooked, sticky or spiked and latch on to the fur of animals or the feathers of birds and are carried along.

We will be planting some seeds today. What are the conditions needed for a seed to germinate successfully?

Soil, water, light, warmth, safety from predators

Explain that children will walk around the garden and nature reserve in small groups to collect different seeds. Discuss walking safely, respecting the plants, taking seeds carefully- only need one person to collect in each group. Hand out containers, split children in to groups- each with a leader.

Meet back in Education room. Hand out worksheets, sellotape, scissors.

Children work in the same groups trying to match the seeds/fruits they have found with the picture of the mother plant.

Seed Game

Give one child a bean bag and get them to spread their arms like a tree. The bean bag represents their seed. Their seed becomes ripe and drops from the tree. Another child stands where the seed lands, and becomes a tree, picks up the seed and drops it, whereupon the next child becomes a tree where the seed lands, and so on and so forth until you run out of children.

Try wind pollinated and dispersed by animals

Next: Seed planting. Each child will be given a seed to plant. Discuss different types of seeds. Children write the name of their plant and their own name on the pot.