



Seed dispersal

Curriculum for Excellence Level **First, Second**

Context

This session plan highlights the importance of sustainably managing our natural resources, focusing on woodlands and what trees need to live and grow.

Aim

To raise awareness of the importance of trees and woodlands and their sustainable use.

To highlight that trees and other plants use different methods to disperse their seeds and the elements seeds need to germinate successfully.

Please note that these activities and games help you deliver multiple outcomes of the Curriculum for Excellence, including Literacy and English and Health and Wellbeing.

What to do

Pick and choose from the following activities to highlight how trees and other plants reproduce and ensure the survival of their species.

Activity 1: Hide and seed

This game will get children thinking about how large seeds such as conkers and acorns are dispersed by small mammals.

Supporting information and resources:

- **Squirrel food - raisins, sultanas, previously collected seeds - anything that can be left to biodegrade and it doesn't matter if you lose them.**

At the beginning of your session explain to the group that they are squirrels and give each learner a piece or several pieces of 'squirrel food'. In your chosen area ask the 'squirrels' to find secret places to hide each of their food items as part of their winter store of food.

Once all the squirrels have hidden their food carry on with your session and move onto other activities. As your session draws to a close return to the original area and give the children five minutes to find their stash.

Some members of the group will have successfully found their cache of squirrel food, others will have forgotten or will be unable to locate their cache.

Discuss what impact this might have on the squirrels.

What might happen to the lost seeds?



Activity 2: Get set, grow!

This activity is in the form of 'tag' and explains to learners what a seed needs to germinate and the factors that affect germination rates.

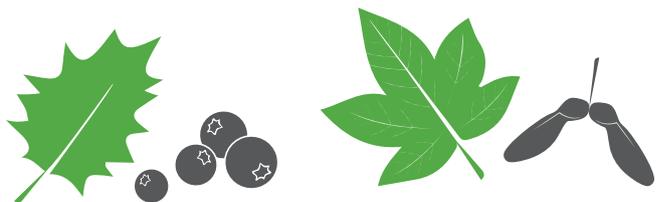
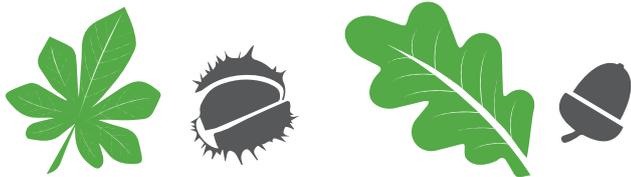
Supporting information and resources:

- 5 containers e.g. buckets
- 5 sets of Resource cards - Get set, grow!
- Safe space to run
- Hi-vis jacket or mask to denote the bird/animal

Prior to activity set the containers in a spread-out pattern over your chosen area (ideally a flat area with no trip hazards).

Fill each container with one set of element cards e.g. 'light'. Ensure you have enough copies in each bucket for each member of your group.

To set the scene, discuss with your learners what a seed needs to germinate i.e. the five elements; light, water, air, food and warmth.



Activity 3: Seed gym

This activity looks at the varying methods of how seeds are dispersed and transported.

Supporting information and resources:

- Information note - Seed dispersal
- Resource cards - Seed dispersal (optional)

Discuss the varying methods of seed dispersal using the seed dispersal information note and seed dispersal resource cards.

In small groups ask your learners to think about an action which demonstrates how a particular type of seed moves or alternatively give each group one of the following seed dispersal methods and ask them to practice the action described.

Each group in turn acts out their seed dispersal method and the other groups have to guess what method they are demonstrating.

Seeds dispersed by the wind:

- Dandelions - mime blowing a dandelion
- Sycamore tree seeds spin in the wind like helicopters - spin with arms out at right angles

Choose one or two learners to wear the hi-vis jackets and be hungry birds, squirrels or other animals that are going to try to eat (tag) the 'seeds' - the rest of the group.

The 'seeds' mission is to collect one of each of the five element cards whilst avoiding being eaten by a bird or animal. If the 'seeds' successfully collects one of each of the five element cards they can germinate and grow into a tree. At this point they stop and stand still in the shape of a tree.

After playing the game a couple of times discuss issues that may affect germinating seeds e.g. birds and animals eating them, drought, shade from other trees or a hard winter. Play the game again introducing more predators - what affect does this have on the number of seeds that successfully germinate?

- Horse chestnut tree seeds (conkers) drop, bounce and roll - mime the action
- Poppy heads rattle in the wind causing the seeds to drop out and roll - stand on the spot and shake whole body

Seeds dispersed by water: e.g. by trickling raindrops or falling into rivers:

- Alder cones - swimming action

Seeds dispersed by animals:

- Squirrels collect nuts and bury them in the ground, birds eat berries and excrete the seed out again - mime being squirrels and birds
- Sticky seeds such as burrs stick to feathers, fur and human clothes and are dispersed this way - one learner attaches to another by locking arms
- Seeds dispersed in animal excrement - we'll leave this one with you!

Seeds catapulted from exploding seed pods:

- Big star jumps in air clapping hands above head and shouting 'bang!'



Activity 4: Seed dispersal methods

This activity takes the form of a relay race and is an active way of getting learners to correctly identify and match seed dispersal descriptions to pictures.

Supporting information and resources:

- Information note - Seed dispersal (optional)
- Resource cards - Seed dispersal
- Identification keys, books (optional)

Find a suitable area for a running activity (ideally a flat area with no trip hazards).

You will need a set of each of the seed dispersal resource cards for every team.



Activity 5: Seed sleuths

This activity requires learners to investigate and use observation techniques.

Supporting information and resources:

- Selection of different seeds
- Resource cards - Seed dispersal
- Collecting bags or pots
- Sorting trays - 4
- ID sheets, books, apps etc.

Show the group a variety of seeds (actual samples or the seed dispersal picture resource cards) and ask them to examine and discuss the differences between them and consider the different shapes and sizes of the examples.

Ask the learners to explore a given location in pairs and look for evidence of seeds and consider their method of dispersal. How many different methods or types of seed can they find?

Place all the cards randomly around the running area face down on the floor.

The first team member collects an image card and brings it back to the team.

The next team member runs to collect a description card, etc.

Once all the cards have been collected the team works to match up the correct description and seed dispersal title cards with the two correct seed dispersal picture cards.

The first group to correctly match all their cards wins.



Use ID sheets, apps, books, etc. to identify any finds.

Place the seed dispersal title cards (dispersed by wind, water etc.) in the sorting trays. Ask the learners to sort the seeds, by their dispersal method, into the correct trays.

Once the seeds have been sorted into dispersal method they can then be sub-sorted into species.

Discuss the groups findings. Which dispersal method seems to be the most prevalent in the location? How many tree/plant species have been identified?



Activity 6: Seeds, leaves and trees

This activity is a relay and requires learners to sort and classify pictures of trees to their corresponding seeds and leaves.

Supporting information and resources:

- Resource cards - Seeds, leaves and trees
- ID sheets, books, apps etc.

Allocate a suitable area for a running activity (ideally a flat area with no trip hazards).

You will need a set of each of the resource cards for every team – one title card, one leaf card and one seed card.

Place all the cards randomly around the running area face down on the floor.



Activity 7: Quiz questions - Seeds, leaves and trees

This activity is a quick and fun way to gauge learners understanding of what seeds belong to which tree. This can be played as a knock out game.

Supporting information and resources:

- Quiz questions – Seeds, leaves and trees

Allocate a space for learners to stand if they think the answer is true and a different space if they think it is false.

In their relay teams, learners take turns to run and collect a full set of each of the resource cards. There are various ways this can be done.

For example, the first team member collects a tree picture card and brings it back to the team. The next team member runs to collect a seed picture card. Next team member runs to collect a leaf picture card.

Once all the necessary cards have been collected each team works to match up the correct tree picture card with the correct leaf and seed picture card.

Use ID sheets, books, apps to help if necessary.

First team to correctly match all their cards into full sets wins.



Read out the questions. Learners should vote with their feet as to whether they think the statement is true or false. If they vote correctly they stay in the game. If they answer incorrectly they are out. Last person standing is the winner.

Additional facts about each tree species are provided to increase learners' knowledge and interest.

“Thank you to Natural Resources Wales for sharing this resource with Outdoor & Woodland Learning Scotland”