

KS1 Y1 Plant Science

Lesson Plan 3, November

Birch Trees, wind-borne seeds



Objective: 1. IDENTIFY and NAME BIRCH TREES 2. New trees can grow from seeds in the right place 3. Factors that affect wind dispersal of seeds. 4. Understand the term 'fruit'.

You will need:

1. Lots of maple, ash, hornbeam and lime seeds, cones and dry birch catkins. (See www.hellotrees.co.uk/resources for Tree ID of each of these trees.)
2. Safe way for one child at a time to climb on to a table.
3. Plant pots, soil and citrus-bag netting for follow-up lesson: seed planting.
4. Hello Trees book Betty Birch.



You need to know: 1. 'Fruit' is a useful and correct term for all seed-bearing structures.

LESSON



Scientific
method
Geog
English

OBSERVE WIND DISPERSED SEEDS.

Hold up one after another of the fruits.

Say **where** the trees were that the fruits came from.

Elicit **descriptions, comments**, identify the **seed** within the fruit: feel seed within wings; squidge dry catkins; shake **cones** upside down so **seeds** fall out.

Ask possible reasons for wings and bracts (Help seed fly through the air? Attract bees to flowers? Help cushion seeds' fall?)

Remember **acorns** and **haws** are **seeds** of **oak** and **hawthorn trees**.

Remember **why trees produce seeds**.

Ask what the **seed would need** to be able to grow into a tree?

Elicit: soil, light, water, warmth. Also, space to grow big. Immediately under the tree not ideal.

Ask how the **seed** could get to a good place further away than under the tree.

Remember: **acorn** (**jay** and **squirrel**) **hawthorn** (**great tit**).

Elicit: some seeds dispersed by **birds or other animals**

Ask how today's **seeds** are dispersed. **All today's seeds are dispersed by wind.**



Method
Plants
Maths

LET'S SEE WHAT HAPPENS TO OUR SEEDS IN THE AIR. 'We are going to do **tests**.'

Ask one pupil to hold a small chair, 2 pupils to hold a sturdy table and a 4th pupil to climb on to the chair and then the table, toss a **maple, lime, ash** or **hornbeam fruit** in the air.

Elicit: seeds will go further if they spin because they will be longer in the air.

Elicit: best if: lightweight; from high; longer in air; released in strong wind; no leaf obstruction.

Elicit: 1. light weight if dry. 2. no leaf obstruction if after leaf fall. 3. Strong attachment.

Ask if anything else would help lots of new trees to grow.

Elicit: best if tree produces lots of seeds, best if seeds start growing in the Spring.

Maths: Repeat the 'tests' many times. **Emphasise:** The more often you get the same result, the more confident you can be that the result has not occurred by chance.

Tips: 1. toss the fruit upwards and away. 2. Don't bother to try to time the fall: too short to measure.

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Plants
English
Animals
Seasons

Read 'Betty Birch' so pupils can IDENTIFY and NAME BIRCH TREES.

- Explain: you will read a story. **Please remember LEAVES, FLOWERS, SEEDS, BARK and TREE SHAPE of BIRCH TREES.**
- While reading, emphasise: **TREE SHAPE, BARK, LEAVES** (point out double serrations)
- Clarify: **3 different catkins: 2 of FLOWERS, 1 of SEEDS.**
- Elaborate on how small the seeds; how numerous; they have wings; how neatly the catkin is held together by other bits (bird-shape? aeroplane-shape?).
- Remind pupils of **dormouse**: **size**; lives all its life in **trees** (**nest and food**); **sleeps a lot**.
- Emphasise **seasons**: changes in temperature, changes in the tree.



English
Method
Plants

Comprehension: IDENTIFY and NAME BIRCH TREES

- Elicit: **LEAF** (shape, colour, size, serrations), **BARK** (colour, feel), **TREE SHAPE.**

Ask pupils to stand and make the **SHAPE OF A BIRCH TREE** in the air (as dormouse).

Ask pupils to make the **SHAPE OF BIRCH SEEDS** (put finger tips and wrists together).

Ask pupils to make the shape of the seeds and wings (finger tips together, elbows wide).

Ask pupils to make the shape of holding bits (curve their arms out as if around a seed).



WIND DISPERSAL OF BIRCH SEEDS

Ask pupils to form pairs. Give each pair a birch catkin. Ask one to squidge a bit into their hand, the other pretend to be the wind and blow the seeds and bits. See how far they disperse. Then pupils swap roles.



Plants



Plants
Seasons

SEEDS and SEASONS. Ask which season is best for seed germination? (**Winter** frost would kill delicate new leaves. **Spring** is warm.) What if warm **Autumn** days? Seeds of most trees germinate only when warm weather follows at least 30 days of cold.

Remind pupils:

BIRCH BARK, TREE SHAPE, LEAF, CATKIN FLOWERS, CATKIN SEEDS.

SEEDS need soil, light, water and warmth to grow.

BIRCH TREE SEEDS are dispersed by wind.

Other seeds are DISPERSED by wind or by birds or animals.

SEEDS germinate when warm weather follows cold – in Spring.

PLENARY

1. Pupils can now **IDENTIFY AND NAME BIRCH TREES.**

2. Pupils know that tree seeds need soil, light, water and warmth to germinate and thrive.

3. Pupils know that some **TREE SEEDS are DISPERSED** by wind, some by wildlife.

Plants
Seasons

Follow-up lesson: Plant tree seeds in pots. To deter mice and squirrels, cover some pots with netting (bags that easy-peelers are sold in) and leave them outside. Keep some pots indoors. Put some seeds in fridge (to be planted in Spring). Will seeds germinate only after they have been cold for a long time, and then get warm?