Explore Seeds with Wings

Collect birch and spruce seeds and discover their wings!

Did you know some seeds have wings? Go outside to collect birch and spruce seeds. Explore how wings help these seeds travel!

Materials Needed:

Large mixing bowl, spoon, Ziploc bag, access to outdoors (near birch and spruce trees). *Optional:* Magnifying glass.

Instructions:

Birch Seeds

Collect: Find a birch tree. Interior Alaska birch trees have trunks with white papery bark that peels off. Around the tree, look on the ground for tiny brown seeds with delicate round wings. Pick the seeds out of the snow with a spoon. In places where you see many seeds, fill a large mixing bowl with snow (try to take snow from both higher and lower layers of the snowpack.

Hint: If you go out after a windy day, you will see more seeds on the ground!

Experiment: Bring the bowl indoors and let the snow melt. How many birch seeds did you find? Do they float or sink? Blow gently and watch the seeds move on the surface of the water. How do you think their wings help them travel?

Spruce Seeds

Collect: Find a forested area with white spruce trees. Try looking on a south facing hillside with mixed birch and aspen trees. Keep an eye out for spruce cones. When you see them, pick a few and gently place them in a Ziploc bag. Shorter spruce trees alongside a sunny trail may have more cones within reach.

Experiment: At home, let the spruce cones dry out. When they are dry, gently shake the cones and see the seeds fall out! Many seeds inside the cones will have already dispersed, but you may find a few still nestled in. If the seeds fall from a few feet above the ground, they will fly like little helicopters, their wings spinning above the seed. Try launching the seeds again and again!

Try This: Take a closer look at your seeds with a magnifying glass! What do you notice? How do the wings look different from the main part of the seed?

You might find other kinds of seeds during your explorations. Look at the trees and other plants around you. How do their seeds look similar to and different from each other? Sort the seeds by how they look.

Try using iNaturalist to take pictures and identify the seeds you found:

www.inaturalist.org

Seeds with Wings

Many plants disperse their seeds through the air. Winged seeds can have designs that are more aerodynamic than anything humans have ever built!

Learn more about winged seeds, courtesy of the BBC:

www.bbc.co.uk/programmes/p00lxw4t

In Interior Alaska, several tree species grow seeds with wings, including birch, black spruce, white spruce, and alders.

Spruce seeds develop inside cones. Their wings develop as part of the scales in the cone. Look carefully inside a spruce cone or pinecone and you may be able to see the imprints on the scales where the wings once sat. In the fall, cones begin to dry out and seeds are released throughout the winter, their wings spinning like helicopters. For black spruce, wildfires can speed up the release of seeds.

Birch seeds develop from flowers on catkins. The tiny winged seeds are the birch tree's fruits, or *samaras*. The part under the seeds, shaped like a flying bird, is a called a *bract*. These form the catkins of the birch tree, on which the flowers grow and turn to seed. Once the seeds mature, the catkin dries out and disintegrates. The winged seeds glide away from the tree in fall and winter. In spring, melting snow will carry the seeds to new areas.

Many other plants use wind to disperse seeds. For example, dandelion seeds have parachutes to help carry them for several miles!

Watch a clip about dandelion seeds:

www.youtube.com/watch?v=slUkyA2cy60

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