**Winter Seedheads - Activity 7: How Do I Travel?**

In nature, many features have evolved overtime for specific reasons. The same goes for seedheads of plants. They all look a bit different but why? What's the point? This activity encourages students to use their critical thinking skills and think about why something is the way that it is. How does this structure help the plant survive?

**Goals**

- Understand different seed dispersal mechanisms
- Sort winter seedheads by seed dispersal mechanism
- Use a classification system
- Demonstrate an understanding of biodiversity

**Material**

- Biodiversity sheet
- Worksheet

**Activity**

Have you ever noticed the seeds from plants scattering in the fall and winter? Since plants can't move, they have to evolve different ways to disperse their seeds. If all seeds just fell to the bottom of the parent plant, they would all have to compete for nutrients, water, sun, and space. Nature has developed mechanisms to avoid this.

WIND - Time to Fly:

Some seeds are dispersed by wind. These usually have fluffy filaments attached to them that act as little parachutes. These catch the wind and help carry the seeds to new locations. Because the chances of one of these seeds landing in the perfect location to germinate is low, wind-dispersing plants usually produce hundreds of seeds per flower. That way, the chances of one seed making it to the perfect spot to grow is bigger.

WIND - Time to Slide:

Many of our seedheads use wind in another way. Some plants have many tiny seeds at the top of their tall stems. After a snowfall, the seeds are still above the snow surface. This allows them to fall and be blown along the surface of the snow. When you go outside to look at seedheads, give one a gentle shake and see if any seeds fall out.

HITCHHIKER:

Some seeds depend on animals to help them move. Ever walked through a field only to have to pick burrs off of yourself afterwards? Some seeds have hooks or teeth on them that lets them stick to the fur

(or clothes) of animals that brush up against the plant. These hitchhikers then travel with the animal before eventually becoming dislodged in a new location away from the parent plant, hopefully somewhere hospitable for growing. Some seeds even get sticky when wet to act as hitchhikers on animals.

AN INTERNAL AND EXTERNAL TRIP:

Other seeds may depend on animals for dispersal too, only in a different way. Some plants produce tasty fruits around their seeds. This tempts animals to eat up the seeds and later poop them out far away in a pile of fertilizing manure. These seeds usually have tough outer coats that prevent them from being broken down and digested along with the rest of the fruit inside an animal's digestive system. This is the case for plants like raspberries, blueberries, and serviceberries.

WATER:

Water is another force that plants take advantage of for dispersal. Some plants have light buoyant seeds that float in water, allowing it to carry them downstream to a new location. For example, Ohio Buckeye seeds are hollow and float in water. Many buckeye trees live near water and when the seeds fall from the tree, they can roll down into the water and be dispersed somewhere downstream.

For this activity, have students fill out the worksheet with the seedheads in the biodiversity sheet. Have them consider what the seed looks like to find their answers. Is the seed attached to fluffy silk tendril? Does it have hooks? Is it inside of a delicious fruit? Some plants may belong to multiple categories!

**How Do I Travel? Worksheet: *ANSWERS***

Different seedheads have different dispersal mechanisms for their seeds. Can you sort them into the right columns? Use the seeds in your biodiversity sheet!

| Wind - Flying | Wind - Sliding | Hitchhikers | Eaten by animals | Water - Floating | Other |
|---|---|---|---|---|---|
| St. Johnswort<br>Yarrow<br>Aster<br>Goldenrod<br>Milkweed<br>Bulrush<br>Dock<br>Ostrich Fern<br>Virgin's Bower<br>Knapweed<br>Plantain<br>Cattail | Cinquefoil<br>Tansy<br>Mullein<br>Evening Primrose<br>Mustard<br>Wild Cucumber Vine<br>Black-eyed Susan | Queen Anne's Lace<br>Burdock<br>Thistle<br>Motherwort<br>Heal-All<br>Plantain | St. Johnswort<br>Tansy<br>Teasel<br>Chicory<br>Knapweed | Teasel<br>Bulrush<br>Dock<br>Knapweed | All species can be listed here for dispersal via humans! |