



©Starflower Foundation

<p><b>Description:</b> Students propagate native plant seeds using techniques that replicate natural seasonal dispersal of the seed. The seedlings can be used for the <i>Plant Growth Monitoring</i> activity and for stewardship activities such as enhancement plantings, fundraisers, or donations to other restoration projects and nurseries. These native seedlings offer a real world comparison to the hybridized rapid-cycling Wisconsin Fast Plants used in activities for the ‘Plant Growth and Development’ science kit.</p>	<p><b>Vocabulary</b>  <b>Duplicate:</b> to resemble another; to produce something equal to  <b>Native plant:</b> a plant species that has occurred in Washington before European contact 300 years ago  <b>Propagate:</b> to cause to increase or continue by reproduction</p>
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Students understand that careful observation of natural processes can help to answer questions and solve problems.</li> <li>• Students understand that seed dispersal type influences successful germination and growth.</li> </ul>	<p><b>Washington State EALRs</b>  <b>Science 1.1.5</b> Understand physical properties of Earth materials. Explain how some Earth materials are useful to living things (i.e. water and soil for growing plants).  <b>1.1.7</b> Understand the life cycles of plants. Observe and describe the life cycle of a plant. <b>1.3 Changes:</b> Understand how interactions within and among physical and living systems cause changes. <b>2.1 Investigating Systems:</b> Develop the knowledge and skills necessary to do scientific inquiry. <b>2.1.2</b> Understand how to plan and conduct simple investigations.</p>
<p><b>Print Materials:</b></p> <ul style="list-style-type: none"> <li>• ‘How-to-do Activity: Native Plant Seed Propagation’</li> </ul> <p><b>Kit Materials:</b></p> <ul style="list-style-type: none"> <li>• Samples: ‘Seed Dispersal Type Samples’ (from <i>Seed Dispersal Sort</i> activity)</li> <li>• ‘Starflower Plant ID’ cards of the plants to be propagated</li> </ul> <p><b>Teacher supplied:</b></p> <ul style="list-style-type: none"> <li>• Seed to grow (field collected or from suppliers)</li> <li>• Propagation supplies as needed for seed species (See ‘How-to-do Activity’)</li> <li>• Adult helper/s to assist with planting</li> <li>• Live plants, or photos of mature plants to be propagated</li> </ul>	<p><b>Science Kit: Plant Growth &amp; Development</b></p>

<p><b>Before Activity:</b> Select seed species and propagation technique best suited for educational goals, schedule and potential use (see ‘How-to-do Activity’ and consult with the project stewardship group). Set up propagation stations with supplies.</p> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Gather in habitat or propagation area. Show samples of native plant seeds. Discuss dispersal type. Review “Why do plants have different dispersal types?” (see <i>Seed Dispersal Sort</i> activity)</li> <li>• Discuss what seeds need for successful germination (soil, water and sun in the right combination).</li> <li>• State that, “Seeds can successfully germinate if they find a good place to land and grow. Tiny, fluffy seeds that drift through the air and land in clearings have different needs than heavy seeds that fall to earth under the parent plants. Some seeds need cold for a long period in winter to break dormancy to germinate; some seeds need to be chewed to be exposed.”</li> <li>• “We can learn and copy these processes ourselves after carefully observing how seeds naturally disperse and grow. ‘Seeds that ‘fly through the air’, or are ‘carried by animals’, can be scattered thickly on the surface of soil and covered lightly with finely shredded leaves; ‘seeds that drop to earth’ should be planted in loose soil duff (potting soil) and covered with shredded leaves; ‘seeds that are eaten by animals’ may need to be soaked or have their thick outer skin opened.”</li> <li>• Discuss that, “It is also important to think about how and when to plant seeds; plants that naturally reach the ground in fall and are covered by fallen leaves should be planted in fall with a leaf mulch; tiny seeds that remain on the plant until they fall to the earth in spring, should be planted shallowly on top of soil in spring after being in the cold air all winter; seeds that are heavy and fall to earth in fall, should be planted fairly deeply in mulched soil. People who grow plants learn to observe these naturally occurring details and replicate them to successfully grow native seeds.” Look for examples in the habitat area and ask students to make their own observations about how a seed might naturally plant itself.</li> <li>• Show the seed species that students will plant. Show examples of the species when mature (Plant ID cards or plants in the habitat area). State that, “Different kinds of seeds have different propagation requirements.” Discuss different ‘sowing preferences’ for the seed species the students will be planting (see ‘How-to-do Activity’, page 4)</li> <li>• Ask, “How do these sowing preferences replicate the natural seed dispersal method?” Compare and discuss.</li> <li>• Demonstrate correct planting techniques (see ‘How-to-do Activity’). Form students into teams for planting at stations.</li> <li>• Label planting containers or direct sown locations with student or team names, and date of planting. Follow up with care as needed for propagated seedlings (see ‘How-to-do Activity’).</li> <li>• Student journal: Record the seed species, dispersal type, and propagation steps used to plant their seeds.</li> </ul> <p><b>Extension:</b> Analyze dispersal types and seasonality. Use these observations to predict outcomes to plan a propagation trial for seeds gathered from natural areas.</p>
---