

# Weather Waltzes With the Forest

## Background Information for Teachers

### Skills

Artistic interpretation, oration, creative writing, discussion, cooperative learning, critical thinking

### Subject Areas

Communications media, music, language arts

### Materials

A variety of musical instruments and objects to create sound effects

Tape recorder

Blank tape

No doubt you've heard the comment, "If you don't like the weather in Washington, just wait a few minutes, it will change." The topographic layout of the state, from the ocean to the mountains to the desert, allows us to enjoy a unique variety of weather patterns. The weather, acting in concert with the topography, affects the location and variety of trees and vegetation. But other than determining where trees grow and what type of trees grow in different places, what does weather have to do with Washington's forests?

It is not unusual for us to experience summer droughts — even in typically wet western Washington. For the most part, trees are adapted to particular weather patterns. For example, Douglas fir is genetically programmed to survive anywhere in the state but especially in western Washington's cold, damp winter and warm, dry summer. But even trees adapted to drought situations are susceptible to drought-induced risks. For instance, the likelihood of forest fire, both natural and human-caused, is higher during times of prolonged drought. Also, if trees are deprived of water for unusually long periods of time they can become stressed and possibly die.

Forests are not just affected by weather; they aid in protecting other species from certain weather conditions. Forests act to regulate temperature, providing beneficial protection to many animals. In winter, forests are warmer than surrounding open space and offer shelter from wind and deep snow. In summer, forests are cooler than surrounding open spaces and are very inviting to hikers, campers and certain wildlife species.

Forests play an important function in flood control for many communities. Heavy rains are slowed when they hit the dense forest canopy, and tree roots help keep soil from being washed away. Of course, summer thunder and lightning storms have the potential to create forest fires. Fire plays an important role in the forest ecosystem by cleaning out accumulated woody debris, opening space for sunlight to reach shade-intolerant species and providing the catalyst for some species to germinate (see Lesson 7: *Fire: Friend or Foe?*). On the other hand, forest fires can destroy homes and other personal property, take lives and wipe out commercial forests.

The dance performed by forests and weather is complex and intricate. Weather has significant impacts on forests, yet forests in turn modify the effects of weather.



## Learning Outcome

Students will identify ways forests are affected by weather and ways forests provide protection from weather.

## Learning Procedure

**Write a Radio Show Script:** Students will create a “radio show” about the interactions of the forest ecosystem and the weather. To begin, use the background information and lead a discussion on the interplay between Washington’s forests and the weather. Divide students into four groups to represent the seasons. Let the groups decide who in each team will provide sound effects, who will represent forest plants and animals and who will portray people visiting or living near the forest. Then, each group prepares a short script for their seasonal segment of the radio show.

**Imagine the Weather through Music:** Using a tape recorder, each team takes a turn recording the sounds and experiences of their assigned season. Help them decide what objects and musical instruments can portray different weather sounds. (For example, wind instruments and whistles can represent wind; drums and clapping can sound like thunder; small bells can represent snow; sandblocks rubbed together can sound like rain.) Encourage students to be creative in finding ways to portray weather sound effects. Interspersed among the weather sounds, the other students will tell their experiences, from the perspectives of their chosen characters, of the forest and the weather. A deer or elk may be grateful to have the forest as shelter from the deep snow in the fields. A homeowner in the valley may be glad that the forest keeps the spring rains from flooding her/his home. (The class may need to do some group brainstorming to come up with ideas for weather sounds and character ideas.)

## More Ideas

Students write haiku about the interactions of forests and weather. Haiku is a Japanese form of poetry that usually has nature as its topic and consists of three lines: 5 syllables, 7 syllables and 5 syllables. Example:

Clouds gather quickly. (5 syllables)

Tree tops shed the streaming rain. (7)

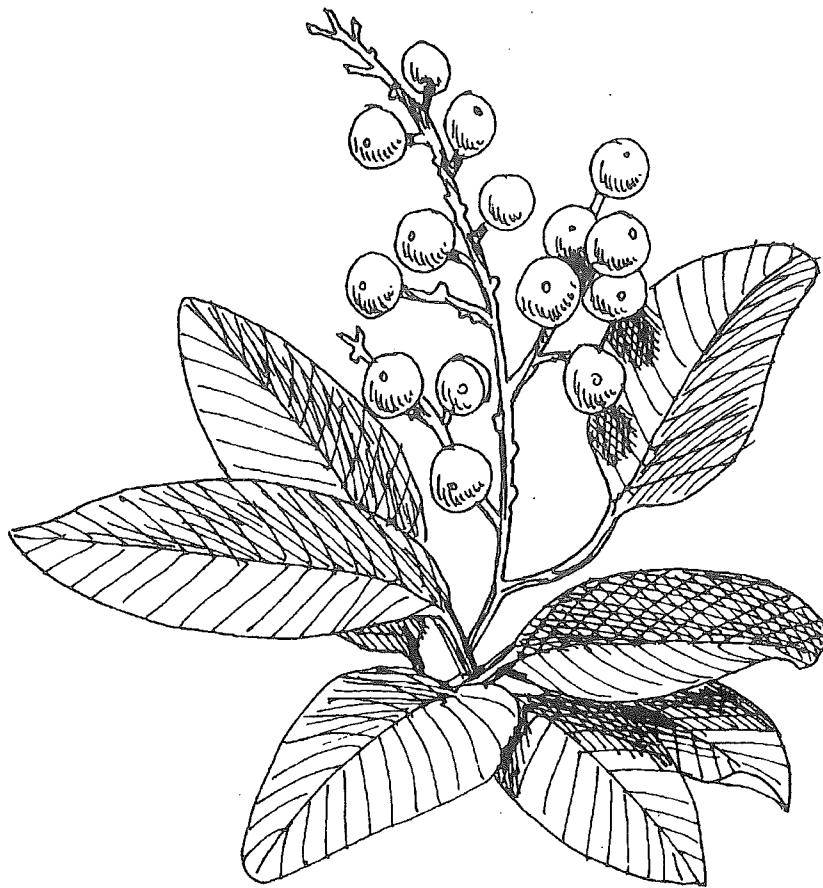
The twin fawns are dry. (5)

With Vivaldi’s *Four Seasons* as background music, students record their poems onto a class tape.

**Assessment: What Did We Learn?**

To demonstrate knowledge gained, have each student draw a picture representing ways forests provide protection from the weather and write a short paragraph explaining the picture.





**3. Pacific Madrone**

