



Grade Level: 3-5

Essential Skills: 1, 2, 4, 5, 9

CCSS: 3.RF.4, 3.RI.1, 3.W.8, 3.W.10, 3.SL.1, 4.RF.4, 4.RI.1, 4.W.8, 4.W.10, 4.SL.1, 5.RF.4, 5.RI.10, 5.W.8, 5.W.10

NGSS: 3-LS1-1

Time: 50 minutes

Materials:

**Life of Douglas-fir Kit* or:
Per Student**

- 3"x3" *Life Cycle card**
- 3.5" x 3.5" paper gift card box or jewelry box*
- Christmas Tree booklet*
- Green paint*
- 3" wooden Christmas tree*
- Glue*
- Paintbrush

*Included in the kit from Oregon Agriculture in the Classroom

AITC Library Resources:

Books:

- Christmas Tree Farm
- The Tree Farmer
- The Life Cycle of a Tree

More Lessons:

- Discover Christmas Trees
- The Gift of Trees

The Life of Douglas-fir

Description:

Students will explore the life cycle of a Douglas-fir Christmas tree through this fun craft learning the various stages of growth.

Activity Directions:

Part 1: The Story of Christmas Trees

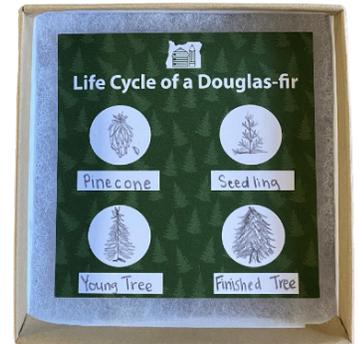
1. Read the book *Christmas Farm* by Mary Lyn Ray.
2. After reading the book, ask students the following questions:
 - a. What caused some of the trees to be "lost"?
 - b. What kind of care did the trees need throughout the year?
 - c. What age were the trees when Wilma sold them to customers?



3. Tell students they will be learning about how Christmas trees grow in Oregon.

Part 2: Introduction to an Oregon Christmas Tree Farm

1. Explain to students that they will be watching a short video to learn more about how trees are grown on a farm in Oregon.
2. Watch *Christmas Tree, How Does it Grow?* by True Food TV: <https://youtu.be/lcmVOcCWbQg>



3. After the video, ask students the following questions:
 - a. What tools did the Christmas tree growers use to harvest and care for the trees?
 - b. How do Christmas tree growers care for the trees?
 - c. What happens to the Christmas trees after they are cut at the Noble Mountain Tree Farm?

Part 3: The Life of Douglas-fir Activity

1. Provide students with a set of materials: a life cycle card, Christmas tree booklet and a 3.5"x3.5" paper jewelry box.
2. Read through the Christmas tree reader as a class or individually. After, instruct students to fill in the life cycle card with the following stages of growth: pinecone, seedling, young tree and finished tree. Then, in the circles above the labels on the life cycle card have students sketch the growth stages based on the pictures in their booklets.



Pinecone



Seedling



Young Tree



Finished Tree

3. After students have completed their life cycle card, have them glue it inside the paper jewelry box on the bottom piece.
4. Then, provide students with a wooden Christmas tree, green paint and a paintbrush. Have students glue the wooden Christmas tree to the top of the lid of the jewelry box.
5. Instruct students to paint the tree to represent a Douglas-fir Christmas tree like they saw in the video.



Life Cycle of a Douglas-fir



Pinecone



Seedling



Young Tree



Finished Tree



Christmas Trees

Importance to Oregon

Oregon grows more Christmas trees than any other state in the country. It is about 30% of the United States' Christmas trees. There are more than 1,000 farms that grow the trees. Oregon sold over 4.5 million trees in 2017. Oregon grown Christmas trees were worth 104.4 million dollars in 2019. The counties that grow the most are Benton, Clackamas, Marion, Polk, Yamhill, and Linn. They are all on the western side of the state.



FUN FACTS

- California receives about 45% of the Christmas trees grown in Oregon
- More real Christmas trees are purchased each year than fake trees
- Christmas trees are grown and harvested in all 50 states
- Christmas trees can remove dust and pollen from the air



Photos: Oregon Department of Agriculture

Species of Christmas Trees

The top selling **species** of Christmas trees in Oregon are Douglas fir, Noble fir, Grand fir and Nordmann fir. Other species sold include Fraser fir, Balsam fir, and pine trees. More than half of the Christmas trees sold in Oregon are Noble fir. Each species has different qualities like smell and branch style.

DOUGLAS-FIR



Douglas-fir have been the top choice Christmas tree in the United States since the 1920s (but they aren't the most popular tree in Oregon). The needles on a Douglas-fir stick out in all directions from the branch. They are a dark green to blue green color and are soft. The needles have a sweet smell when they are crushed.

GRAND FIR



Grand firs are native to Northern California and the Pacific Northwest. They are large trees and can be up to 230 feet tall. But that is if they aren't grown to be Christmas trees. Their needles are thick, shiny, and a dark yellow-green color. They have a strong Christmas smell.

NOBLE FIR



Noble fir is the most popular Christmas tree in Oregon. Their branches are evenly spaced and good for hanging ornaments. Noble fir needles look almost silver or grey-green. Another reason people like them is that they keep fresh for a long time. Their needles stay on better than some other species.

NORDMANN FIR

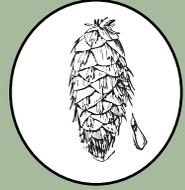


Nordmann fir also keep their needles very well after the trees have been cut. The needles are soft and pretty. These trees have become popular because they don't have a strong smell. This means that people who have allergies or sensitive noses can enjoy Nordmann firs.

Life Cycle

Christmas trees are planted yearly so there are always trees ready for harvest at different sizes. Seeds from a pinecone are gathered in various locations throughout the state and purchased for use in growing trees. The trees are anywhere from 1-3 years old when they are planted in a field. They are grown in a nursery or greenhouse before that. The **seedlings** are planted in rows in the ground during the spring. Christmas trees are planted by hand or by machine.

The trees are mostly left alone during the first couple years of growth. Trees at age 3-6 are called a young tree. Some farms will use fertilizer and pest control during that time. Some will not. Each year, starting at about 3, crews go through the trees with **machetes** or clippers and **shear** the tree. This means they are trimming the branches to help the tree be the cone shape we are used to. Christmas trees are considered a finished tree at 6-10 years old when they are harvested.



Pinecone



Seedling



Young Tree



Finished Tree

Harvest

Prep for harvest can begin in the summer. Some farmers will go through the trees and put a tag on the ones they want to harvest that year. They will choose trees that are healthy, shaped well, and meet the size requirements they need to fill. Harvest will begin in early to mid-November. This is so Christmas trees can be in tree lots by Thanksgiving. Crews go through the trees and use a chain saw to cut down the ones with tags. Sometimes they are taken out of the field with trucks, but other times the trees are lifted and flown by helicopter. The helicopters are able



to get to places that trucks sometimes cannot. And they move trees much more quickly.

Some farmers let people go to the farm and cut their own Christmas tree. This is usually called U-Cut.



Trees are shaken after harvest to remove loose needles and other unwanted material. Sometimes they are put through a baler and wrapped in netting to keep them compact and safe on the way to the lot. They are also tagged to indicate their height. After that, trucks will come to take the trees to their final destination.

Vocabulary

Baler: A machine to tightly bundle trees together with cord, wire, or netting.

Exporter: A person or company who sells trees to other countries.

Fungi: A simple organism, or living thing, that is neither a plant nor an animal. When there is more than one fungus they are called fungi.

Germinate: To start or cause to start growth; sprout.

Girdle: Remove the bark around a tree trunk.

Machete: A knife with a wide heavy blade, used to cut crops.

Seedlings: A young plant that is raised from a seed.

Shear: To cut off with scissors or a tool like scissors

Species: A group of living things that can reproduce with one another but not with those of other groups.