



# Douglas-fir Cone Exploration

(Information from National Wildlife Federation - <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Plants-and-Fungi/Douglas-Fir>)

The Douglas-fir tree is a conifer tree. It has needles as leaves and grows its seeds inside of cones. It is the Oregon state tree. Douglas-fir trees along the coast can grow to be very large – some are 250 feet tall (that’s like 10 two-story houses!) The Douglas-fir trees in Portland are a bit smaller. Most are closer to 125 feet tall and 3-5 feet wide (that’s as wide as your stretched-out arms!) Some have been alive for 300 years.

Squirrels, owls, hawks, and crows find shelter in the tall branches of the Douglas-fir tree. One little animal, called the Red Tree Vole, spends most of its life in the Douglas-fir tree. Red Tree Voles make their nests in the top of the tree, eat the seeds as food, and get a drink by licking water off the needles.

Douglas-fir cones have scales, and each scale looks like a tiny mouse tail is sticking out of it. If you look carefully, you can find the seeds hiding in between the cone scales. Squirrels, mice, birds, and chipmunks feast on the seeds to get ready for winter.

You can find the Douglas-fir seeds inside the cone the same way a squirrel finds them.

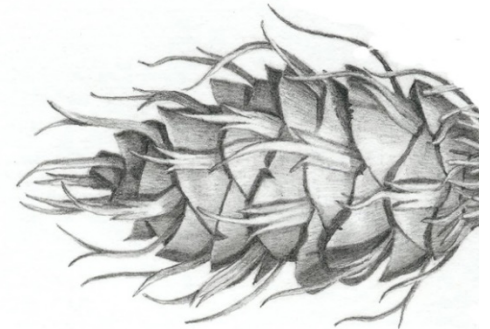
Let’s explore!

## Dissect (pull apart) a Douglas-fir cone to learn its parts.

1. These three tools will make this investigation easier:

- Magnifying lens (provided)
- Tweezers (provided)
- Scotch Tape
- Pencil or pen for drawing

2. Take a walk along a street with trees or in a nearby park. *(Continued on the back)*



### LET’S STAY AND PLAY UNTIL WE CAN BE TOGETHER AGAIN!

Scan the QR code on the right or visit [youtube.com/pdxparksandrec](https://youtube.com/pdxparksandrec) to watch fun videos on performing arts, preschool, visual arts, nature, sports, fitness, and swimming!



### SLOW THE SPREAD OF COVID-19

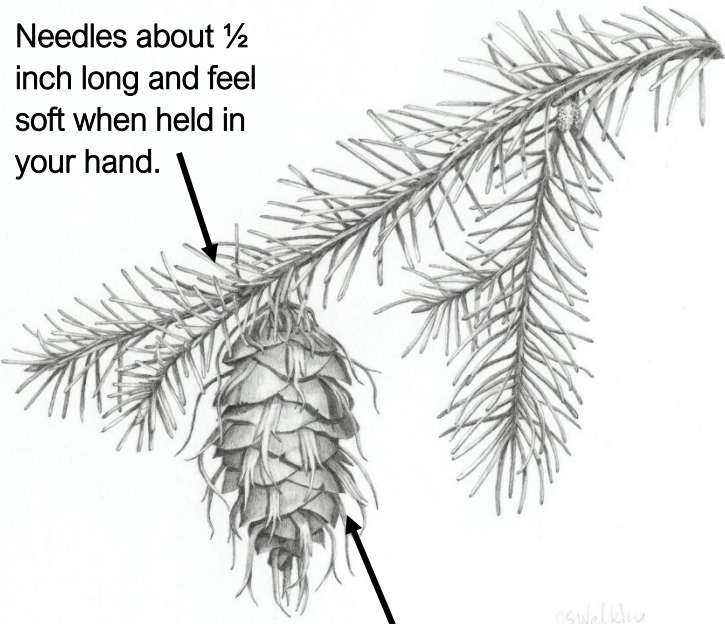
While doing this activity, remember to stay at least six feet away from others you don’t live with. Only touch your own supplies and wash your hands for at least 20 seconds when you are done. If you are exploring at a park, please avoid areas that are closed.



3. Look for a tall tree with needles on its branches and greyish bark with deep ridges. The trees are shaped like this:



Tip: Douglas-firs have **needles that feel soft** when held. The **cones hang down** from the ends of the branches.

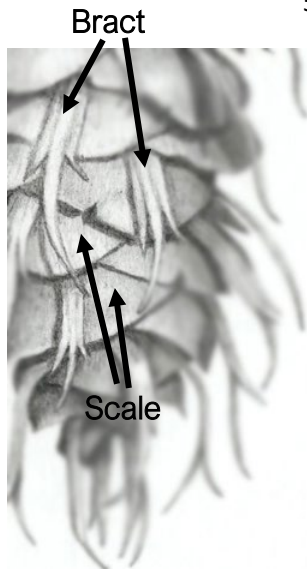


Needles about 1/2 inch long and feel soft when held in your hand.

Cones look like they have mouse tails coming out of them

4. Hunt for a Douglas-fir cone on the ground to pull apart. The cones that work best have space between the scales, are dry, and are light brown in color.

5. Use the magnifier and tweezers to get a close look at the parts.



6. Can you find the **scales** of the cone? Using your fingers or tweezers, start peeling the cone scales away from the top of the cone.

7. Can you find the **bracts** and **seeds**? Each scale has a **bract** that looks like a mouse tail on one side. **Seeds** are on the opposite side. (Sometimes the seeds have already fallen out, leaving a **seed shadow**.)

**Questions to think about:**

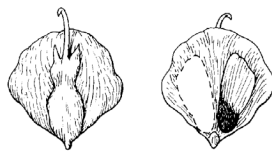
*What color are the seeds?*

*Why do you think the bract is there?*

*Can you find any creatures living inside a cone? (Use your magnifier to look closely.)*

Draw the parts of your Douglas-fir cone.

Tape the parts of your dissected cone here.



Special thanks to **Janene S Walkky of JS Walkky Botanical Art** for giving us special permission to use her sketch of the Douglas-fir branch for this lesson. See more of her art at [jswalkybotanicalart.com](http://jswalkybotanicalart.com).