Pine Cone Experiment

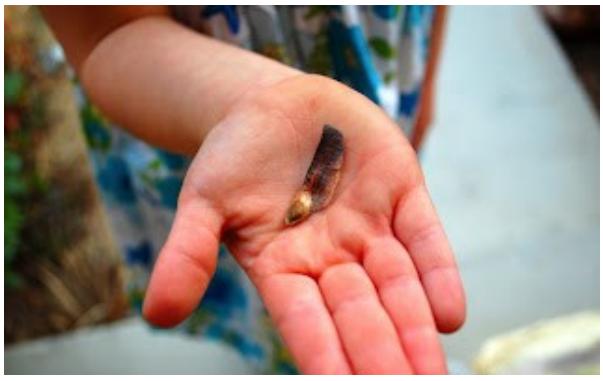
Objective:

To observe the structure of seed cones.

To understand why trees make cones.

Supplies:

- 3 jars
- 4 seed cones (same size if possible)
- Slicing tool
- Towel or piece of cloth
- Warm and cold water
- Ruler
- Timer
- Magnifying glass (optional)



Method:

1. Select one cone to be dissected.
2. Choose how you would like to do this. You can try to slice open lengthwise if the cone is not too tough. You can also wrap it in a cloth and twist like you are wringing out a washcloth. This should loosen the scales and release some seeds.
3. Observe the scales and seeds with a magnifying glass. Do you see wings on the seeds or scales? Why would the seeds have wing structures?

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Leaf Chromatography Experiment cont.

Method (continued):

4. For the other three cones, measure the length of each one. Document this information in a sketch or chart.
5. Fill one jar with warm water, one jar with cold water, and leave the other jar empty.
6. Place a cone in each jar. It should not take long until you notice a change. What do you notice?
7. Record the changes on your sketch. Take a new measurement and compare to the initial length of the cone. Was there a change?
7. Note: If you can only find wet cones, leave them out in the air to dry and observe the changes this way. What do you notice? This might take longer to observe a change.

Further Information:

- Conifers are hydroscopic, meaning they absorb moisture from the air. When the seed cone gets damp, the cells at the bottom of the seed-bearing scale absorbs water. This pressure moves the scale forward and closes the cone.
- When it's dry, the scales will open and the seeds will move around.
- The opening and closing scales is an adaptation that improves survival for the trees. The cone closing in wet weather prevents the seeds from being released when it would be difficult for them to travel by wind to a new area to be planted.

Source: https://shelovesscience.com/pine-cone-experiment/