

**Outdoor Learning Opportunities:** 

**Bubbling Pine Cones** 

Standards: S.LS.PS.1 SED.SD.BRC.PS.6 PHD.FM.PS.6 ALT.RPS.PS.2 M.MD.PS.1

| Materials:   | Vocabulary:   |
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| <ul> <li>Pinecones</li> <li>Baking soda</li> <li>Vinegar</li> <li>Plastic tray or cookie sheet</li> <li>Small bowls or cups</li> <li>Eye droppers</li> </ul> | <ul> <li>Prediction</li> <li>Hypothesis</li> <li>Experiment</li> <li>Pinecone</li> <li>Conifer</li> </ul> |

Take children on a nature walk to gather pinecones. They can work in pairs to help each other to find as many as they can. Have them pay attention to where they find them and the surrounding trees they may have come from.

Have the children explore the pinecones by looking for the seeds inside. Bring the pinecones back to the classroom (or stay outside in the play area). Have the children work together to sprinkle baking soda all over their pinecone. Have them make predictions about what might happen when they add vinegar to the pinecone. Then they can test their hypothesis by using eye droppers to apply vinegar to their pinecone.

Extension: Use the pinecones in an art project by painting them and then using them to make prints on paper. Use pinecones to make bird feeders by putting peanut butter (or shortening if allergies) on the pinecone, then rolling it in bird seeds.

Extension 2: After collecting pinecones, children can sort them by size and type.

## **Guiding Questions:**

- Where do pinecones come from? What is a conifer?
- Can your friend help you to find pinecones?
- What do you find inside a pinecone?
- Compare and contrast the different pinecones you find? How many different types can you find?
- Can you predict what will happen when you drop vinegar on the baking soda?