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Pinecone Meteorology



During the fall, while the leaves are changing rapidly, so is the weather. In order to accurately predict the weather, meteorologists can use many different tools including thermometers to measure temperature and hygrometers to measure humidity (or water content in the air). But did you know that nature can also predict the weather? Today, you will become a meteorologist using a pinecone to record observations and predict the weather!

Pinecones change in response to humidity in the air around it. When the weather is hot and dry, the scales of a pinecone will open up to allow wind to sweep away dry seeds from the inside of the pinecone to be rooted in the ground and eventually become a tree. However, when the weather is wet and rainy, pinecones swell and the scales of a pinecone close up in order to protect the seeds from damage from rain and storms. So, by observing how pinecones change in response to the weather, we can predict what the weather will likely be before it happens.





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Weather Forecasting Experiment

Materials:

- Pinecone
- Mounting Putty or Tape

Directions:

1. Start by going on a nature walk or looking in your backyard to find a pinecone. While you are outside, notice any changes in nature happening and notice how the weather feels. Lots of changes take place in autumn and now is the perfect time to observe them firsthand.



2. Next, take your tape or mounting putty and use it to attach your pinecone to an easily accessible windowsill. This project works best if the pinecone is attached to the outside of the window or inside next to an open window.

3. Now we wait! Use the data table below to observe how the pinecone changes in the following days and weeks. Notice any patterns between how the pinecone looks and changes in the weather. Be sure to record the date, weather, and pinecone appearance (Are the scales more opened or closed? Does the pinecone appear smaller and narrow or broader? Does it appear wet or dry?)



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Questions to Think About

- Do you notice any patterns between the weather and the pinecone appearance?
- How do you think pinecones open and close their scales?
- Why do pinecones change with the weather?
- What else changes based on weather? What changes based on the season?

