



## PINECONE HYGROMETER

### SCIENCE SAFETY

PLEASE follow these safety precautions when doing any science experiment.

- **ALWAYS** have an adult present.
- **ALWAYS** wear the correct safety gear while doing any experiment.
- **NEVER** eat or drink anything while doing any experiment.
- **REMEMBER** experiments may require marbles, small balls, balloons, and other small parts. Those objects could become a **CHOKING HAZARD**. Adults are to perform those experiments using these objects. Any child can choke or suffocate on uninflated or broken balloons. Keep uninflated or broken balloons away from children.

### INGREDIENTS

- Pinecone

### INSTRUCTIONS

**STEP 1:** Attach a pinecone to a secure location outside.

**STEP 2:** Record the humidity for your location from [www.weather.gov](http://www.weather.gov) and whether the pinecone is open or closed each day. Represent your data in a table.

**STEP 3:** After two weeks graph your data. What happens to the pinecone when the humidity is high? What happens to the pinecone when the humidity is low? Describe any weather patterns over the two weeks. Using the data describe the typical weather conditions expected during this time of the year.

### EXPLANATION

Pinecones act as a natural hygrometer, which measures the amount of moisture in the atmosphere. Pinecones contain seeds, which are transported by the wind. Pinecones open their scales to disperse the seeds when the air is dry and close their scales when the air is moist, which keeps the seeds dry. Therefore, when a pinecone closes its scales, it's indicating a higher humidity, while a pinecone with open scales, indicates a lower humidity.



### SCIENCE BACKGROUND

Weather is a combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time.

Meteorologists use a variety of weather instruments, such as a thermometer, anemometer, barometer, hygrometer, and rain gauge to collect weather data.

Meteorologists use this data to record patterns of the weather across different areas and times, so they can make predictions about what kind of weather might happen.

### I CAN STATEMENTS

- ✓ I can use and share observations of local weather conditions to describe patterns over time.
- ✓ I can represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

### NEXT GENERATION SCIENCE STANDARDS CONNECTION

K – Weather and Climate  
3 – Weather and Climate

