

What's the Degree?

Background Information:

Show students a thermometer. A thermometer tells us the temperature. Ask the students if they have ever seen one before? We use the thermometers to tell us the air temperature outside, our body's temperature, car temperature, and house temperature. Thermometers measure temperature in degrees. Degrees are equal units on a temperature scale or thermometer. Thermometers use Fahrenheit and Celsius scales. In the United States, we predominately use Fahrenheit as our unit of measure. Fahrenheit is a degree scale where 32 degrees is the freezing point and 212 degrees is the boiling point. Celsius or centigrade is the metric scale where 0 degrees is freezing and 100 is boiling. Twin satellites, named GRACE, are circling the Earth to produce accurate gravity maps and improve the accuracy of many science measurements related to climate change.

Objectives:

At the end of the lesson, students will be able to:

- Define words related to temperature.
- Understand how to read and use a thermometer.
- Know the difference between Fahrenheit and Celsius.
- Realize that GRACE will help scientists improve their study of climate change.

Standards:

Science: unifying concepts and processes; science as inquiry; science and technology.

Math: measurement

Vocabulary:

Thermometer
Fahrenheit

Temperature
Celsius

Degrees

Materials:

Crayons

Scissors

Thermometer cutouts

Oak tag

Directions to the Teacher:

1. Review the background information. Show students different types of thermometers (digital, house thermometers, scientific thermometers, paper thermometers etc.). Show students the different numbers and have students read certain temperatures.
2. Hand out thermometer cutouts. Have students color the bottom half of the thin rectangle red. Leave the top white. Have students cut this out.
3. Cut out the thicker rectangle with the numbers. Cut a small slit on the bottom and top of this rectangle (along the dotted line).
4. Fold and put the ends of the skinny rectangle into these slits. If it is too loose, tape the edges. Do not tape the skinny rectangle because we need it to move.
5. Slide the skinny rectangle up and down to show different temperatures.
6. Use a real thermometer and change temperatures on it (put in refrigerator, cold water, hot water, in a blanket, in the sun etc.) Have students read different temperatures and change their homemade thermometers to match the given temperature.

Extensions:

1. Have a temperature scavenger hunt. Give degree ranges ex. 55-60 degrees Fahrenheit. Students will try to find / guess different areas or items in the class or school that they think would be about that temperature.
2. Invite the nurse into class to take and record each student's body temperature.
3. Ask the students to record the temperature in their homes.

References / Resources:

<http://www.energy.ca.gov/education/projects/projects-html/thermometer.html>

<http://www.teachervision.com/lesson-plans/lesson-4131.html>

Let's Make Our Own Thermometer

