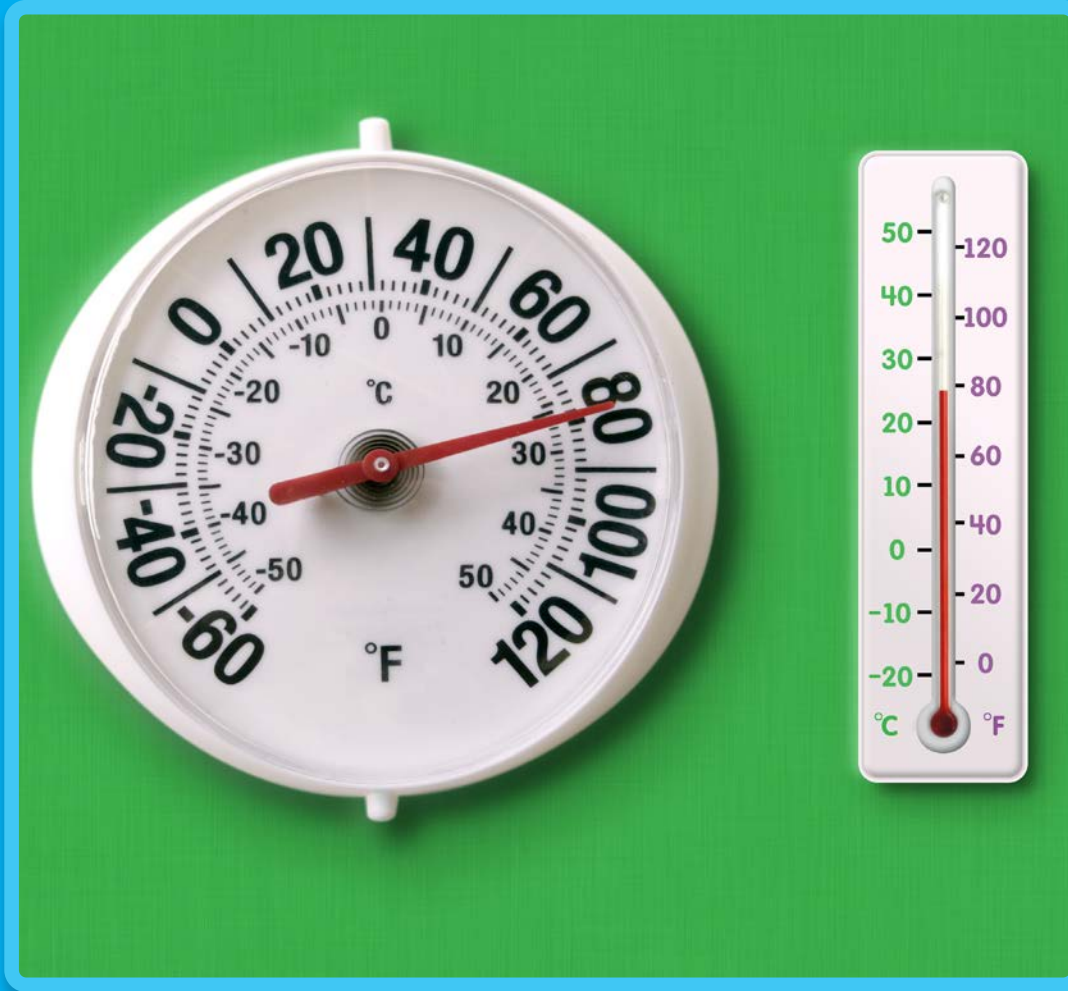


# Thermometers



by Stephen Schutz



How hot is it? How cold is it? Check the thermometer to see!

We use thermometers to measure temperature. There are many different kinds. Look inside to find out more!



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**Starfall Education Foundation**

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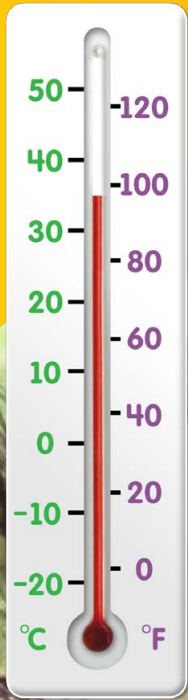
A desert landscape at sunset. In the foreground, a large saguaro cactus is silhouetted against the bright orange and yellow sky. The sun is a large, bright white circle on the right side of the image, casting a glow over the entire scene. In the background, there are silhouettes of mountains and other desert vegetation.

How  
**Hot?**



A photograph of a large iceberg floating in a body of water. The iceberg is white and jagged, with a large section of its surface visible above the water. The water is a deep blue, and the sky is a lighter blue. The iceberg's reflection is visible in the water.

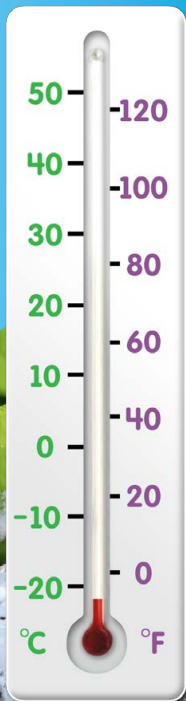
How  
**Cold?**



You can feel hot.

A **thermometer** tells you *how* hot.



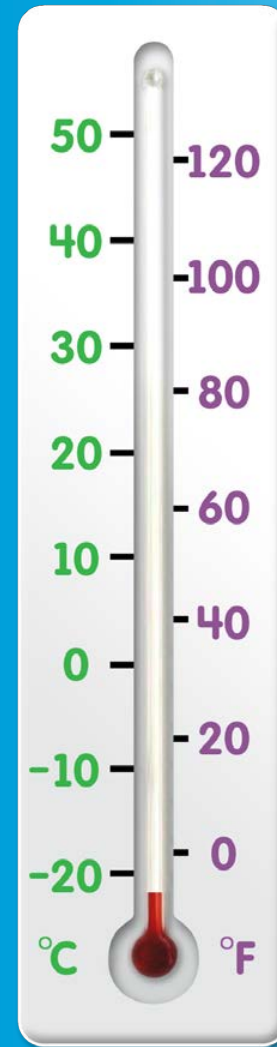
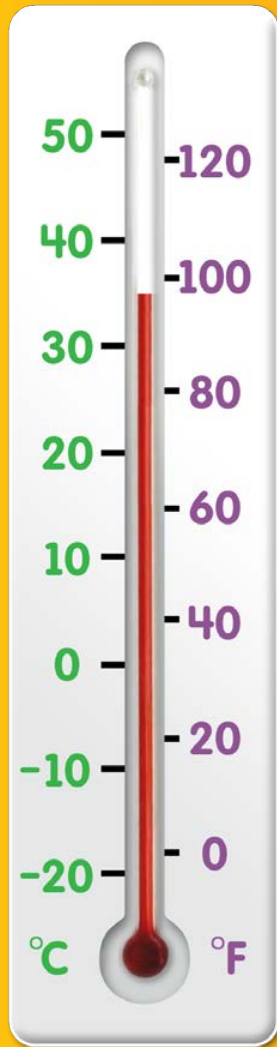




You can feel cold.

A thermometer tells you *how* cold.

# Hot

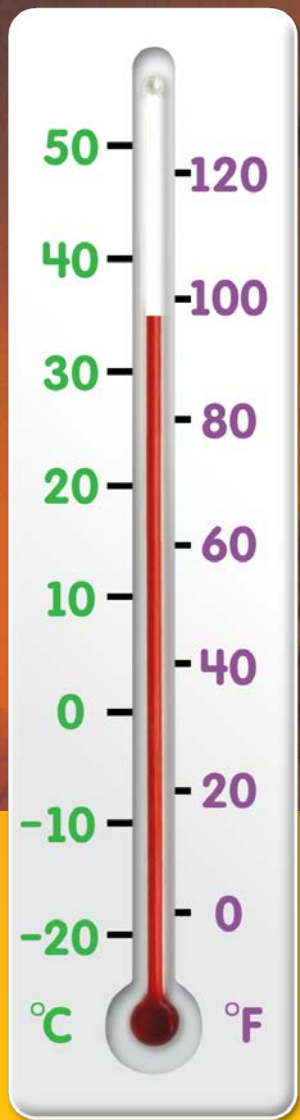


# Cold

Thermometers tell us how hot or how cold.

This is the **temperature**.





# High

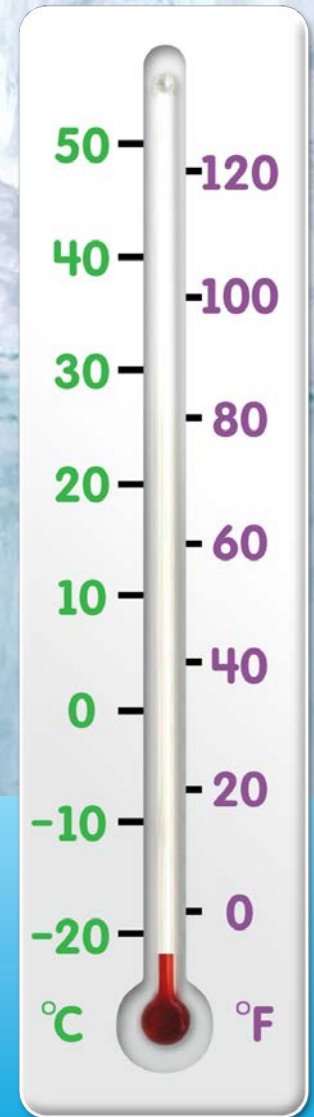
When it is hot, the line goes up.

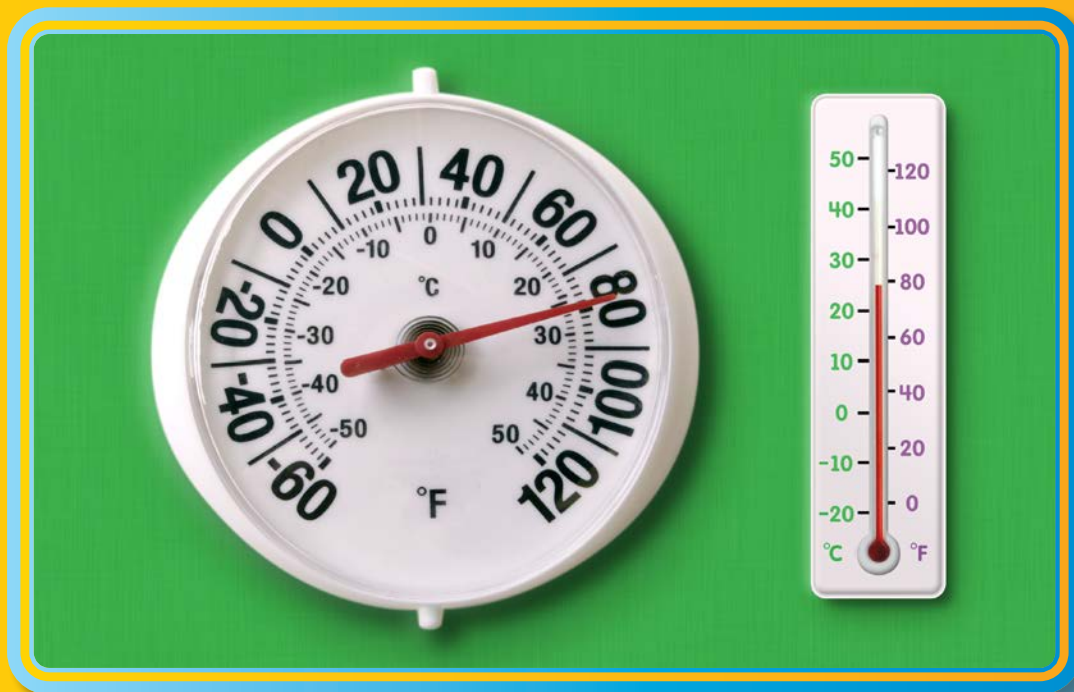
The temperature is high.

A photograph of several icebergs floating in a body of water. The icebergs are white and jagged, with some smaller chunks of ice nearby. The water is a deep blue color. The scene is set in a cold environment, as indicated by the presence of ice.

# Low

When it is cold, the line goes down.  
The temperature is low.







There are many kinds of thermometers.

All thermometers tell us the temperature.

They tell us how hot and how cold.



I feel sick! Am I hot?

Mom uses this thermometer to see.





It looks cold today! Will I need a coat?

I use this thermometer to see.





That looks yummy! Can we eat it?

Dad uses this thermometer to see.





Look at this picture. Is the temperature high or low?

What do you think the thermometer will say?

## Words You Know

**Temperature** The measure of how hot or how cold.

**Thermometer** An instrument that measures temperature.

## Thermometers

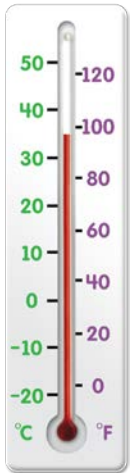


We use different thermometers for different purposes. Look at the groups of thermometers above. Do you know what each one is used for? Which group of thermometers will tell you if you have a fever? Which would you use for cooking? Which would you use to check the air?

# Learn More About Thermometers

## Celsius and Fahrenheit

We measure temperature in degrees. There are two sets of numbers (or scales) used to describe degrees, Fahrenheit and Celsius.



Look at this thermometer. The purple numbers on the right have an F° below them. The little ° next to the F means degrees. This side of the thermometer measures the temperature in Fahrenheit degrees.

The green numbers on the left have a C° below them. This side of the thermometer measures the temperature in Celsius degrees.

The Celsius scale is the standard scale used around most of the world to measure temperatures. Only the United States continues to use the Fahrenheit scale.

## How does a thermometer work?

All thermometers have something inside of them that responds to temperature changes in some way.

This thermometer has a red liquid inside of a glass tube. As the temperature rises, the liquid expands and the red line goes up!



This thermometer has a coil-spring inside of it. As the temperature rises, the spring expands and pushes the dial to the right.



This thermometer has a small electrical current inside that changes with temperature.





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## About the Author

At age 9, young Stephen Schutz was still struggling to read. What came easily for some children required many more hours of Stephen's work, and he was consistently toward the bottom of his class in reading. Now a Ph.D. in physics and a successful publisher and artist, Dr. Schutz wants to make sure children in his situation today have resources that can help. He turned to the Internet and conceived Starfall.com, an online educational resource available to children the world over.

## Acknowledgments

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