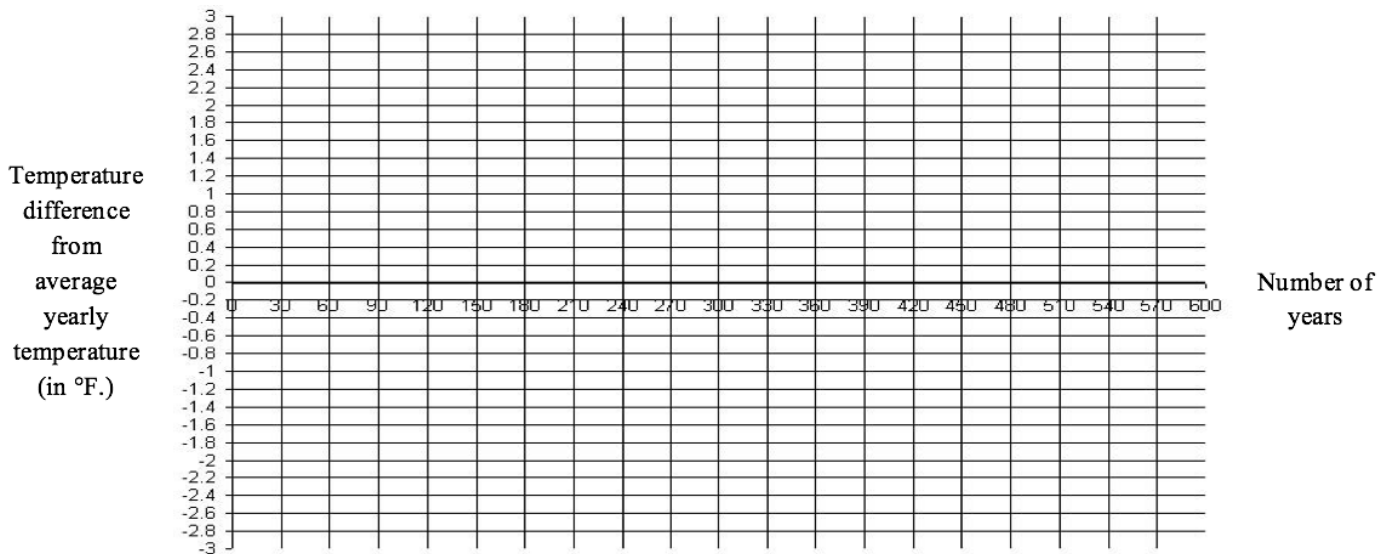# Weather

STEM Sims

Lesson 3: Long-term Weather
Climate is the aggregate of the long-term weather for a given area. Temperature is one factor that determines the climate for that region. You'll investigate whether temperature changes or remains the same over a long period of time. Bundle up and start collecting your weather data.

Doing the Science
1.   Start the Weather/Climate simulation.
2.   Click the "Spin" button.
3.   A red icon indicates an increase in temperature of 0.1 ºF. A blue icon indicates a decrease in temperature of 0.1 ºF.
4.   Look at the bottom right of the screen and find where it says "ClimateChangeCalc." The box directly above the word "Climate" reports the net change in temperature over the thirty-year period. A red outline around the box indicates an increase in temperature, and a blue outline indicates a decrease in temperature. A green outline indicates that there was no change in temperature. Record this point on the graph below.
5.   To speed the spin rate up, click on the green "Faster" icon next to the "Spin" button.
6.   Click the "Spin" button again. Read and record the 30-year net change in temperature in the graph below.
7.   Repeat step 6 until you have collected 600 years of data (20 spins).
8.   Record your data on the graph below.

Temperature difference from average yearly temperature (in ºF.)

Number of years

Do You Understand?
1.   What were the upper and lower bounds of the 30-year temperature data for the 600 years of spins?

2.   Climate is the collection of many weather factors, including temperature. Based on temperature, was the climate changing in the area over which the temperature data were collected? Discuss your reasoning for your response.