Name_____ Period _____ Date _____

Weather

STEM Sims

Lesson 2: Randomness Within Bounds

Some things can move in random patterns, but they do this only in a confined space. For instance, a honeybee might fly around the inside of a room in a random fashion, but the overall flight pattern all fits within the volume of the room.

Doing the Science

1. Start the Weather simulation.
2. Click the "Spin" button. Each spin collects data over a 30-year time period.
3. Record your data in Table 1 below. 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. Click the "Spin" button and record your data in the graph below for a total of 30 spins.

Table 1.

Spin	Temperature Difference Over 30-year Period	Spin	Temperature Difference Over 30-year Period
1		16	
2		17	
3		18	
4		19	
5		20	
6		21	
7		22	
8		23	
9		24	
10		25	
11		26	
12		27	
13		28	
14		29	
15		30	

Do You Understand?

1. What were the highest (upper) and lowest temperature differences (lower bound) you recorded?

2. The range is a measure of the variation in a data set. The range is calculated by subtracting the lowest value in the data set from the highest value. What is the range of your data set?

3. Did the temperature data appear to be random within the bounds of the data set? Please explain.