Alisa Kutsel
Methods of Stem Education
March 9, 2020

Temperature Tracking and Temperature Blanket

This is an ongoing lesson that I would like to undertake, when and if I am teaching in a regular classroom due to the fact that it requires daily tracking. Our school is located in Walnut Creek, CA, so the data we would be collecting is this region specific.

We would be creating a temperature blanket, based on knit versions of temperature blankets, specifically a knitting pattern called "Weather or Knot" (https://myemail.constantcontact.com/Weather-or-Knot--A-Knitalong-for-2019-.html?soid=1101389895149&aid=Gb3M-5_SbcE) In the elementary classroom, instead of crocheting or knitting each layer, we would create a paper chain, with each observed day made into a row.

The data I would like the kids to focus on is two-fold. First, we look at the daily temperature for our area and determine the average temperature for that day. For that data, we will be using www.weather.com, specifically https://weather.com/weather/today/l/d48dc7bae06fe72bfe95fa04d91892f8ea7ed63112dffdf52a52a4581abfbe69. After recording this information, we will refer to the data table at US Climate Data https://www.usclimatedata.com/climate/walnut-creek/california/united-states/usca2120
At this source, we are able to look at average temperatures for our area calculated over the past 30 years. Armed with these two data points we determine what our row of paper chain blanket will look like. These are the guidelines: There are 10 colors of paper, each signifying a range of temperature within 10 degrees. Our range is not that large as Walnut Creek annual temperature varies between 90F and 32F. Because we compare daily temperature with its past average, we reflect that change in size of the strips. Thicker strips represent temperature above the average and thinner represent temperature below the average.

The reason I think incorporating this data and this project is so important is because how much information can come out of this daily tracking. We would talk about the weather and the difference between the weather and climate. We would talk about climate change and how that affects life in Walnut Creek (local plants, business, etc). Students can visually see the way patterns change. We discuss calculating the averages, and how those numbers are determined. We would talk about different ways of measuring the temperature and ways we can design instruments for recording it. There is a hands-on

experience of putting the chain together (each student gets one loop that day, so we can also see how our class numbers vary throughout the year). This data and lesson are directly connected to NGSS standards 3-ESS2-1 of Weather and Climate and I believe it enhances the lesson by providing visual and daily references. In this data source, we can also look at the average precipitation and how that is changing. Especially since precipitation is such a big issue in California, and tie it directly into climate change.

I think the use of data is essential, it connects the classroom to the outside world, it gives students an opportunity to evaluate a source and learn how to read data to extract the information needed.