Lesson Created by: Katie Brandon

Title: Sizing Pumpkins

Grade or Age Intended: 5th grade   Length: This lesson will take 3-4 days to complete

Standard: 5.6.1 Explain which types of displays are appropriate for various sets of data.  
5.5.5 Understand and use the smaller and larger units for measuring weight (ounce, gram, and ton) and their relationship to pounds and kilograms.

Objective: The students will subtract measurements of the diameter of pumpkins with 80% accuracy.

The students will create a double line graph, plotting the weight of two different pumpkins with 100% accuracy.

Teacher Preparation: The teacher will have to purchase a variety of pumpkins that are different sizes and weight. The teacher will also have to supply the students with a tape measurer and weighing scales. A data recording sheet will also have to be created, so the students can record their measurements. Graph paper and a sheet to subtract measurements must also be created.

Introduction/Motivation: How many of you are excited for Halloween? What are some items that come to mind during Halloween? That is right; pumpkins are very popular during Halloween. When we look at pumpkins every pumpkin is different, whether it is the shape, diameter, or weight. During the next few days, we will be subtracting diameters of different pumpkins and we will graph the weight of two different pumpkins for five days.

Step-by-Step:
1. Inform students that they will get with a partner and measure the diameter of the 10 pumpkins.
2. The teacher will pass out the tape measurers and tell the students to measure in inches and record all measurements.
3. After the students have measured all of the pumpkins, they will use their measurements and create 5 subtraction problems and solve them, individually.
4. The students will then weigh each pumpkin and record the data.
5. After all pumpkins have been weighed, the students will select two pumpkins to make a graph of their recorded weights.
6. The students will create the graph by making the y-axis the weight of the pumpkin and the x-axis will be each day they have been weighed. (Ex. Day 1, Day 2, Day 3, and so on).
7. After the graph has been created the students will graph pumpkin 1 with one line and pumpkin two with another line.
8. After each student weighs the pumpkins and the data has been graphed, the students will get with a partner and carve the pumpkin, so the weight changes every day.

9. After the students complete the daily tasks, the class will come together and have a group discussion on their findings and what they learned.

**Closure:** Now that we have measured the diameter and weight of the pumpkin, we are going to learn more about pumpkins by reading “The Pumpkin Patch.”

**Adaptation/Enrichment:** For students that are mild to moderate disabled the teacher can assist the students or an aide may also assist them, if available. For students that are learning disabled in written expression, the teacher may assist them while they write.

**Self-Reflection:** I will reflect on the lesson by asking myself if the students were engaged. I will also ask myself if the students learned how to make double line graphs and subtract measurements.

I chose to have the students create their own problems by measuring their own pumpkins because they are able to get involved and do hands-on activities instead of me having them subtract amounts that were given to them. The same is true for the double line graph. I will be able to observe the students and encourage them as they work to discover and learn themselves.
Record your data on this sheet with the pumpkin’s diameter and weight. Make sure that you record the right information for each pumpkin. Each pumpkin is labeled. Make sure to also label each measurement!

<table>
<thead>
<tr>
<th>Number of Pumpkin</th>
<th>Diameter of Pumpkin</th>
<th>Weight of Pumpkin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pumpkin 1</td>
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<td>Pumpkin 2</td>
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<td>Pumpkin 9</td>
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<tr>
<td>Pumpkin 10</td>
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</tbody>
</table>
Name ________________________________

Create 5 measurement subtraction problems by using the measurements you have just recorded from measuring the diameter of a pumpkin. Make a mixed measurement if possible (feet and inches). After you create the problems solve them.

For example:  Pumpkin 1:  1 ft 11 inches  
              - 1 ft 7 inches  
              ____________________

1.          4.          
2.          5.          
3. 
Double Line Graph Instructions: Make sure to choose two different pumpkins to graph their weight. You will then create a graph on graph paper. The y-axis will be the weight and the x-axis will be the number of day it is. (Ex. First day you weigh is 1; second day you weigh is 2, etc.) Make sure to graph each pumpkin with a different color line or one dotted and one a true line.