SP 3.1

**Graphing with Skittles**

**Instructions**

**Before completing this assignment, the students must work through their outcome-based work booklets in order to gain some background information on graphs. The booklets include mini assignments from the Math Makes Sense textbook and other digital resources.**

**Pre – Assessment**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Outcome SP 3.1 – Pre Test Review

1. What is the difference between a bar graph, a pictograph and a line plot?
   1. Bar graph- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Line plot-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Pictograph-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. Create a pictorgraph using the following information. Your graph needs to be a many to one correspondence

|  |  |
| --- | --- |
| Favorite color of jellybean | Amount |
| Purple | 25 |
| Green | 8 |
| Orange | 16 |

Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Key:

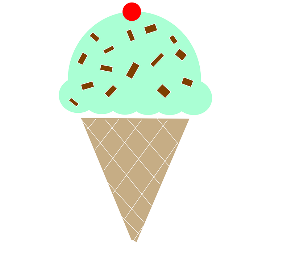
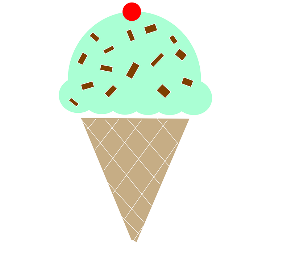
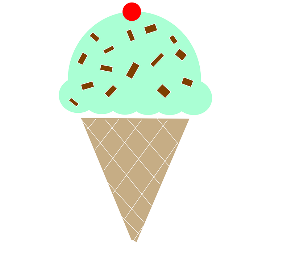
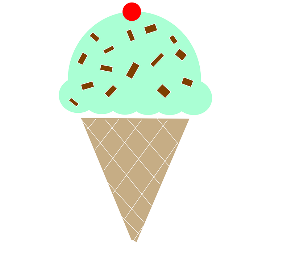
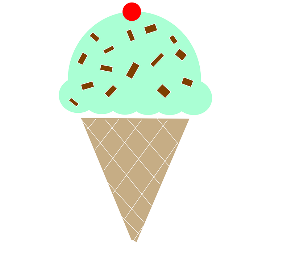
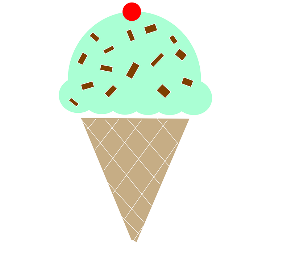
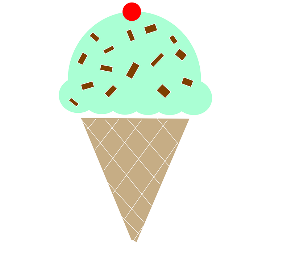
1. Which color of jellybean was the least favorite? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How many more people chose orange jellybeans than green jellybeans? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. If Isobel was surveying the entire school to find out their favorite type of animal, how would she best record her data? (multiple choice question)
   1. Tally chart
   2. List
   3. Bar graph
4. How many titles and labels should you have on a graph?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Cody and Taylor were at a birthday party. They kept track of the treats they saw. Display the following data in a bar graph. Use graph paper.







**Vocabulary Sheet**

|  |  |
| --- | --- |
| **Word** | **Definition** |
| **Data** | A collection of information gathered by observation, questioning or measurement. It is organized in graphs or charts. |
| **Chart** | A way to organize collected data |
| **List** | A way to organize numbers or information. (Hint: your mom may often create one of these before going to the grocery store.) |
| **Tally Mark** | A way of counting items by making one mark for each item you count, and grouping by 5s as you go. |
| **Tally Chart** | A chart on which a count is kept by using tally marks. |
| **Line Plot** | A graph that uses and X to show each piece of data. |
| **Bar Graph** | A graph using bars on a grid to show data. |
| **Title** | The part of a graph that tells what the graph is about. |
| **Axis** | A line along the edge of a graph. We label each axis to tell what data is displayed. |
| **Scale** | The numbers written along either axis in a graph. The number of items each unit on a bar graph represents. |

**Graphing with Skittles!!**

**Directions**: Ms. Jo and Mrs. Bob are having an argument about what color of skittle shows up the most in one bag. They need your help to settle their argument. Your job is to count the number of each color of skittles in a bag and then graph your information by following these directions:

1. Wash your desk and hands
2. Place a layer of paper towel on your desk.
3. Collect 1 bag of skittles and place on the paper towel
4. Open your bag of skills and sort the skittles on the sorting page provided
5. Record your data in a tally chart.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |

1. Enjoy your skittles and clean up your mess.
2. Use the data in your tally chart to create a pictograph, bar graph and line plot.
3. Once you have finished your research and graphs you will need to write a 3-sentence report telling Ms. Jo and Mrs. Bob what color of skittle showed up the most and what color showed up the least.

**Colour Sorting Chart**

|  |  |  |
| --- | --- | --- |
| **Red** | **Yellow** | **green** |
| **Purple** | **Orange** |  |

**Tally Chart: Skittles**

|  |  |  |
| --- | --- | --- |
| **Colour** | **Tally Marks** | **Total** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**How many red? \_\_\_\_\_\_\_\_\_\_ How many yellow? \_\_\_\_\_\_\_\_\_\_\_**

**How many blue?\_\_\_\_\_\_\_\_\_\_**

**How many green? \_\_\_\_\_\_\_\_\_\_ How many Purple? \_\_\_\_\_\_\_\_\_\_**

**How many orange? \_\_\_\_\_\_\_\_\_\_**

**Bar Graph**

**Shade the boxes to show how many skittles of each colour that your package contained.**

**Skittles Bar Graph**

Scale – one box is equal to one Skittle

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **10** |  |  |  |  |  |
| **9** |  |  |  |  |  |
| **8** |  |  |  |  |  |
| **7** |  |  |  |  |  |
| **6** |  |  |  |  |  |
| **5** |  |  |  |  |  |
| **4** |  |  |  |  |  |
| **3** |  |  |  |  |  |
| **2** |  |  |  |  |  |
| **1** |  |  |  |  |  |
|  | **Red** | **Green** | **Purple** | **Yellow** | **Orange** |

**Questions**

1. **What colour has the most? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
2. **What colour has the least? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
3. **Are there more Green or Purple? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
4. **Do any of the colours have the same amount? \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

Colours of the Skittles

**Picture Graph**

**Draw in each box to show how many Skittles of each colour that you had in your package.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Red** |  |  |  |  |  |  |  |  |  |
| **Yellow** |  |  |  |  |  |  |  |  |  |
| **Green** |  |  |  |  |  |  |  |  |  |
| **Purple** |  |  |  |  |  |  |  |  |  |
| **Orange** |  |  |  |  |  |  |  |  |  |

**Key – One picture is equal to \_\_\_\_ number of Skittles.**

**Which colour has the most? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Which colour has the least? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Do you have more green or red?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Do you have less red or orange? \_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CATEGORY | **4** | **3** | **2** | **1** |
| **Scale** | Scale is visible in a key with labels and is appropriately sized for the data set.  Scale is organized and neatly displayed in a many-to-one correspondence | Scale is visible but not appropriately sized for the data set.  Scale is displayed in a one-to-one display | Scale is visible but are not appropriately sized for the data set. | No Scale is visible |
| **Neatness and Attractiveness** | Neat and attractive. Chose colors that go well together and make the graph easy to understand. A ruler and graph paper were used. | A ruler and graph paper were used to make the graph readable.  Printing is readable | Lines are neatly drawn but the graph is without color and no ruler was used.  Coloring messy and printing is hard to read. | Appears messy and "thrown together" in a hurry. Lines are visibly crooked and graph has no color.  Printing is messy and hard to read. |
| **\*\*\*Title** | Title is creative and clearly relates to the problem being graphed (includes dependent and independent variable). It is printed at the top of the graph. | Title clearly relates to the problem being graphed (includes dependent and independent variable) and is printed at the top of the graph. | A title is present at the top of the graph. | A title is not present. |
| **Labeling of X axis** | The X axis has a clear, neat label that describes the units used for the independent variable (e.g, days, months, participants' names). | The X axis has a clear label that describes the units used for the independent variable. | The X axis has a label. | The X axis is not labeled. |
| **Labeling of Y axis** | The Y axis has a clear, neat label that describes the units and the dependent variable (e.g, % of dog food eaten; degree of satisfaction). | The Y axis has a clear label that describes the units and the dependent variable (e.g, % of dogwood eaten; degree of satisfaction). | The Y axis has a label. | The Y axis is not labeled. |

Graphing Rubric Name: \_\_\_\_\_\_\_\_\_