**Judgement with Jelly Beans Activity Handout**



**Your Task:** Jelly Belly Candy Company needs you and your partner to create a linear approximation model so they can have a precise prediction of the quantity of jelly beans it will take their machines to fill up a tube with a specific height.

**Jelly Belly’s Expectations:** To be successful, Jelly Belly is requiring that your model can accurately predict the number of jelly beans within a plus/minus range of three jelly beans for any given height tube.

From the previous lesson, *Mathematical Modeling - Linear Approximations*, we talked about the following steps to model an approximately linear situation:

1. **Collect data** into an organized table.
2. **Graph a scatter plot** of your data with proper labels on the axes.
3. **Draw in a line-of-fit** using a ruler that best represents your data and record two known points that your line-of-fit passes through.
4. **Create a model**, in this case a slope-intercept form equation using your two data points.
5. **Define the variables** in the model so the meaning is completely understood.
6. **Evaluate** using the model to make a prediction.
7. **Data collection.**

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| **Tube Height (in cm)** | **Number of Jelly Beans** |
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**2. Graph a scatter plot.**



**3. Draw in a line-of-fit.**

Point 1 is ( , )

Point 2 is ( , )

**4. Create a model.**

**5. Define the variables in your model.**

The variable x represents\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The variable y represents\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**6. Evaluate using your model.**

The Jelly Belly Candy Company wants to know “How many Jelly Beans will it take to fill up a tube with a height of 30.48 cm?”