2.4 How many rubber bands does Barbie need?

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How many rubber bands should we attach to Barbie so that she has the absolute most fun without smashing her head if she were to bungee jump down the stairwell? Here's the catch: **You may only use seven rubber bands to figure this out.**

Measure the distance from the jumping platform to the top of Barbie's head at the lowest point of the bungee jump in centimeters or inches (make sure you indicate which one below). Record your measurements below.

# Rubber bands	0	1	2	3	4	5	6	7
Distance traveled (cm)								

Record your team results in the Class Data spreadsheet. Only use one row per partnership.

Use your group's data to complete the following:

1. Identify the explanatory and response variables.

2. How many variables do you have? Are they categorical or quantitative?

3. Use technology to make a scatterplot. Enter it below then describe the relationship displayed in the scatterplot.

	Shape *(Linear/Non-Linear)*
	Strength *(Weak/Moderate/Strong)*
	Direction *(Positive/Negative)*
	Strangeness *(Gaps/Clusters/Influential Points)*

4. Use all of your descriptions to write a sentence IN CONTEXT about the relationship you see.

Big Ideas

1. Distinguish between explanatory and response variables for quantitative data.
2. Make a scatterplot to display the relationship between two quantitative variables.
3. Describe the shape, strength, and direction of a relationship displayed in a scatterplot and identify unusual features.

Check Your Understanding

1. Is there a relationship between the amount of sugar (in grams) and the number of calories in movie-theater candy? Here are the data from a sample of 12 types of candy.

Name	Sugar (g)	Calories
Butterfinger Minis	45	450
Junior Mints	107	570
M&M'S®	62	480
Milk Duds	44	370
Peanut M&M'S®	79	790
Raisinets	60	420
Reese's Pieces	61	580
Skittles	87	450
Sour Patch Kids	92	490
SweeTarts	136	680
Twizzlers	59	460
Whoppers	48	350

a. Identify the explanatory and response variables.

b. Make a scatterplot to display the relationship between the number of calories versus the amount of sugar in movie-theater candy.

c. Describe the relationship shown in the scatterplot.

Answers

Check Your Understanding Answers

1. Is there a relationship between the amount of sugar (in grams) and the number of calories in movie-theater candy? Here are the data from a sample of 12 types of candy.

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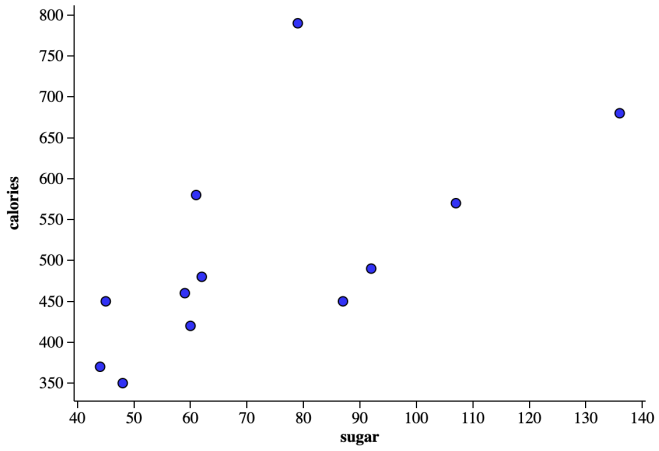
a. Identify the explanatory and response variables.

Explanatory: Sugar
Response: Calories

b. Make a scatterplot to display the relationship between the number of calories versus the amount of sugar in movie-theater candy.



c. Describe the relationship shown in the scatterplot.

The relationship between calories and sugar is moderate, positive and linear. All of the points tend to follow the trend of the rest of the data, except Skittles which have a higher calorie count than expected for the amount of sugar they contain.