

Candy Grab Lab

Have you ever wondered how many Starbursts you could pick up with one hand? If you had a bigger hand, might you be able to pick up even more candy? Have you ever envied the bigger kids at Halloween? In fact, did you ever think you might be able to predict how much candy a person could pick up?

Our goal with this project is to investigate the relationship between the size of a person's hand and how many Starbursts that person can pick up. If our model is good enough, we can predict the number of Starbursts someone can pick up based on his or her handspan.

VARIABLES

Independent Variable: _____

Dependent Variable: _____

DATA COLLECTION

Handspan is the distance from the tip of the thumb to the tip of the pinkie finger on your fully stretched out hand. On the back of this sheet of paper, lay your dominant hand on the page and trace around ONLY your thumb and pinkie finger while stretching your fingers out as much as possible. This drawing represents your handspan.

Lay a ruler on top of your drawing. Use the ruler to find the two points on your drawing which are the furthest distance apart. Draw a small dot on each point.

Measure the distance between these two points to the nearest half centimeter (cm). This is your handspan. Record your handspan below.

Trade papers with a classmate. Double check the other person's handspan measurement.

Use the same hand to grab as many candies as possible from the container. You must grab the candies with your fingers pointing down (no scoop!) and hold the candies for 2 seconds before counting them. After counting, put the candy back into the container. Record your data below.

My handspan is cm.

I can pick up Starbursts.

My Handspan

LINEAR REGRESSION

Use your chosen technology to perform linear regression on the data collected by your class.

$m =$

$b =$

Regression Equation:

CORRELATION COEFFICIENT AND COEFFICIENT OF DETERMINATION

Correlation Coefficient

Coefficient of Determination

$r =$

$r^2 =$

Interpret what the correlation coefficient means about your data.

Interpret what the coefficient of determination means about your data.

MAKING PREDICTIONS

Use the regression equation you found above to predict the number of Starbursts that three different staff members should be able to pick up based on their handspan.

Name: _____
Handspan: _____

Prediction: _____
Actual: _____

Name: _____
Handspan: _____

Prediction: _____
Actual: _____

Name: _____
Handspan: _____

Prediction: _____
Actual: _____