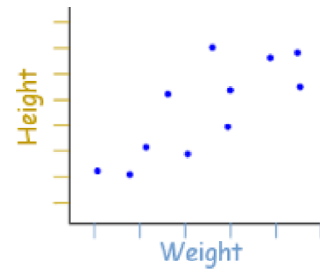**Unit 3 Part 1 - Relations**

2.3 - Using Scatter Plots to Analyse Data

Learning Goal:

You will construct and interpret scatter plots, and understand key terminology

Scatter plot - a graph in which the values of two variables are plotted along two axes. The pattern of the resulting points reveals any relationship between the variables.

Dependent variable - a variable that is affected by some other variable

Independent variable - a variable that is not itself affected by the other variable, but that affects the other variable

ex: **variable 1:** amount of fuel needed to heat a house

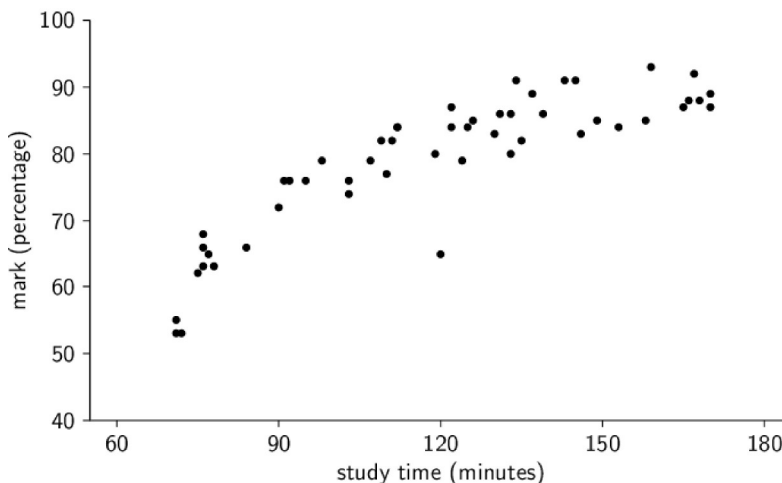   **variable 2:** temperature outside

   variable 1: a person's age

   variable 2: a person's height

On the scatter plot, the **independent variable goes along the x - axis** and the dependent variable goes along the y - axis.

outlier - a point on a scatter plot that is separate from the main body of data. If you believe the outlier is because of measurement error it can be removed from the data set.

inference - a conclusion based on reasoning and data.

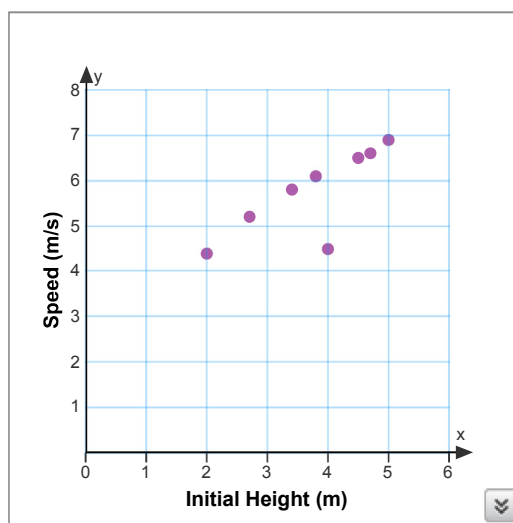Which is the independent variable?

Is there an outlier?

Can you make an inference from this data?

Example 1 - Construct a scatter plot by hand

A skateboarder starts from various points along a ramp and coasts to the bottom. This table lists the skateboarder's initial height and her speed at the bottom of the ramp:

Initial Height (m)	Speed (m/s)
2.0	4.4
2.7	5.2
3.4	5.8
3.8	6.1
4.0	4.5
4.5	6.5
4.7	6.6
5.0	6.9

Which is the independent variable?

Describe the relationship between the variables.

Is there an outlier? If so, what might cause it?

 Making a scatter plot on DESMOS!

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