

How can a linear model be helpful and why is it important to determine its accuracy?

Why Is It Helpful To Use A Linear Model For A Set of Data?

Most experiments that are conducted in the world do not have a steady rate of change between its variables, so a linear model is created to find a set of data that is perfectly linear and that represents the general line or clustering of actual data. While linear models do not always accurately represent data, and this occurs when actual data does not clearly show a relationship between its two variables, linear models are helpful in determining the future points of data, the expected points of data, and the highest possible accuracy of data. This information is helpful when using experiments to think about nature and the world in a broader sense.

Once one finds a linear model for a set of data, the model can be turned into an equation that represents a linear relationship. This equation is in slope-intercept form, and variables' values can be plugged into the equation where the letters "x" and "y" are to find future points on a line. For example, if a person wanted to know the distance in which a snail can travel in a certain amount of time, and conducted an experiment with a snail, it is very possible that the snail did not travel distances at a completely steady rate. Using a linear model would be helpful in knowing future points, for instance, when finding the accurate amount of time in which a snail travels for four hours. A model line is especially important when one wants to know a reasonable or predicted point on a graph. Knowing predicted points is very helpful when analyzing data. For instance, if I examined the relationship between the age of a person and the amount of food needed to be consumed, I would use a model line to present the general, or assumed, amount of food that a certain aged person would need to consume for each meal in ounces. This strategy

would make it less difficult to find an expected point of data, such as (14, 15) and then make conclusions about the data and the rate of change between its two variables.

-Hannah