

# Sheep Sleep – from the BBC

<http://www.bbc.co.uk/science/humanbody/sleep/sheep/>

Washington State Mathematics Standard **A1.6.D**: “Find the equation of a linear function that best fits bivariate data that are linearly related, interpret the slope and y-intercept of the line, and use the equation to make predictions.”

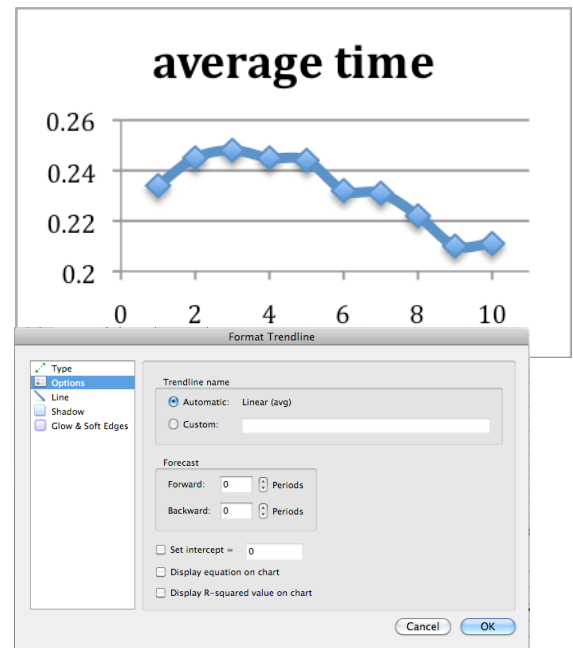
trial	avg time
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
<b>AVG</b>	<b>=AVERAGE(B24:B33)</b>

Set up a spreadsheet to hold the data:

For now try 10 rows, 2 columns => 10 sets of trials.

Generate and enter your data then highlight the appropriate range of cells and make an X-Y (scatter) plot.

Click on the plot (line) itself to select all of the points simultaneously then go to the Chart menu to select “Add Trendline...” This will give you a “Format Trendline” dialog box that allows you to do just that. Using the “options” button you can add the trend line’s equation and set the intercept so that you can consider the slope of the line (assuming a linear trend line....).



In the end you will have a chart like this. (see below) Note that you can set it up so that the chart is created and the trend line and equation are adjusted as the numbers are added. Does the trend line tell you anything about how fast you will be after 20 trials? How about 200??

