Intro to Excel
and
Charts

Data Collection
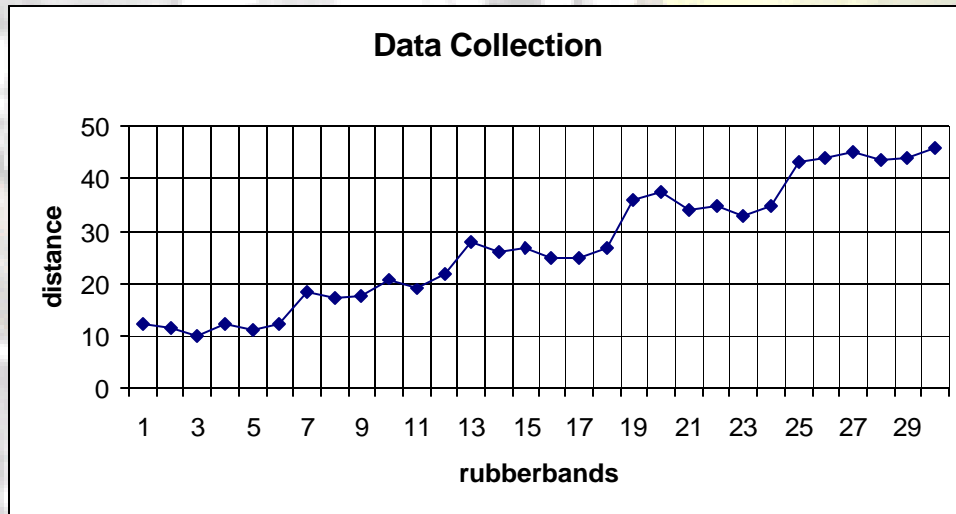
log on to computer- 002LJT____ Go to Startup, All Programs, Excel

1. A1   *"JHS Tech Ed"*

2. A2   *"Egg Bungee Jumping"*

3. A3 and A39   class block

4. B3 and B39 *"team #-name"*

5. A4 and A40   team member names

6. E4   *"Egg weight ="*

7. A6   *"Elastics"*

8. B6   *"Distance"*

9. A7:B7   fill in your data up to A36: B36

10. FILE/ page setup/ select landscape

11. FILE/ save/ in my documents   Period_team number/_2 last
    names   example   *A1_5_smithjones*

12. Save after every step

13. select cells A6 to B36

14. use **BORDERS** button, outside border

15. select cells A6: B6

16. use **BORDERS** button, outside border, fill color

17. H4   *"Elastics"*

18. J4   *"Average Distance"*

19. H5   *"2"*

20. H6, H7, H8, H9   "4, 6, 8, 10"

21. select cells H4: I4

22. **merge and center** button, use **BORDERS** button, outside border, fill color

23. select cells J4: K4

24. **merge and center** button, use **BORDERS** button, outside border, fill color

25. select cells H5:K9

26. use BORDERS button, outside border

27. J4   select **AutoSum** button, drop down arrow, **AVERAGE**

28. select cells B7:B12, enter

29. **average** again for 4,6,8 and 10.

30. select your distance data, B7: B36

31. **Chart Wizard**, Line Chart (select middle left), next, next

32. **Chart options**, step 3, fill out title, "*Data Collection*", add titles for the X and Y axis.

33. Investigate the other tabs. **Legend**- de-select show legend, finish

34. **Merge and Center** in the page, cell A1

35. **Merge and Center** in the page, cell A2

Scatter Plot Charts
And
Trendlines

Scatter Plots are similar to Line Graphs. Data points are plotted on the horizontal (x) axis and the vertical (y) axis of a graph. **Scatter plots** show much one variable (y) is affected by another variable (x). The relationship between the two is called their correlation.

You will create a scatter plot chart using the data obtained during your Engineering Research. From the plotted points, Excel can add a line showing the average data points and their correlation. This is called a **trend line**. You will extend your **trend line** to help you calculate how many rubber bands you will need to allow your egg to "jump" any needed distance.

# of rubber bands can be plotted on a graph as the independent variable on the x- axis of the graph.
Drop distance can be plotted on the same graph as the dependent variable on the y- axis.
The points on the graph are called an **XY plot** or a **scatter plot**.
The **trend line** is a line on a scatter plot which can be drawn near the points to clearly show the trend between the two sets of data.

In the **Data Chart** below, we can see that the distance of each bungee jump, seems to depend on the amount of rubber bands used.

elastics	distance
4	12.50
4	14
4	13
6	16
6	15.5
6	17.5
8	23
8	22.5
8	23
10	27.5
10	29
10	28
12	32
12	32
12	33
14	37
14	38.5
14	39

Of Course, your data will be different!

You will now use Excel to plot this data and create a **scatter plot chart** with a **trend line** to help calculate bungee jump distances.

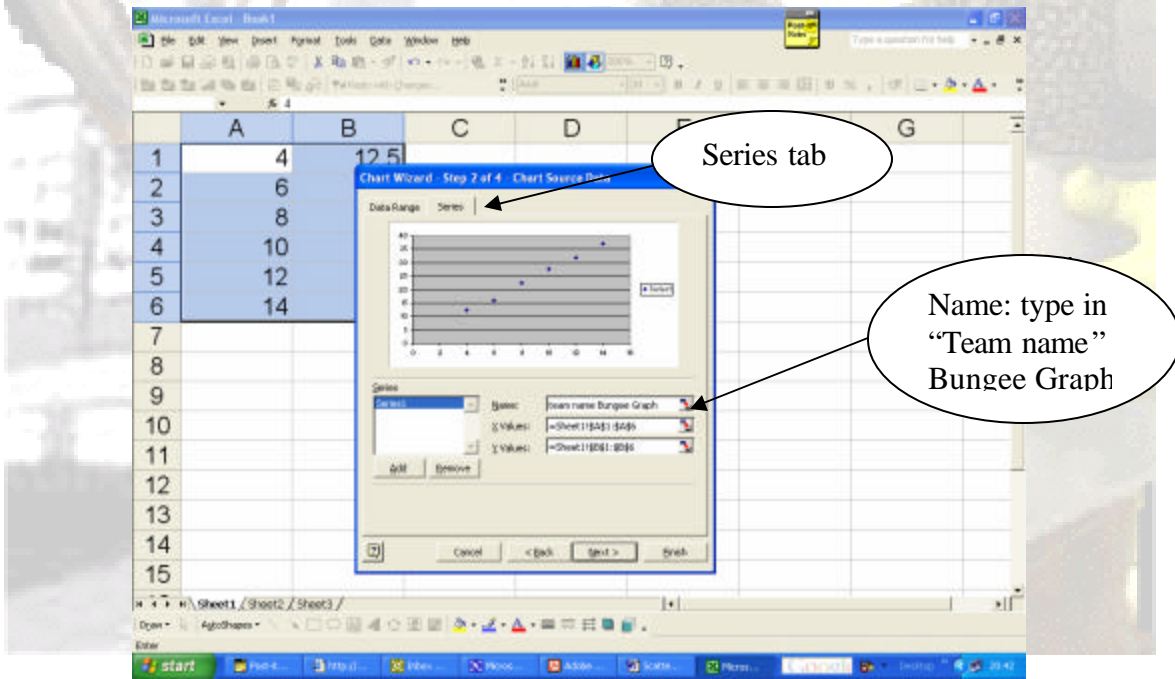1. Open your **Excel Spreadsheet**,
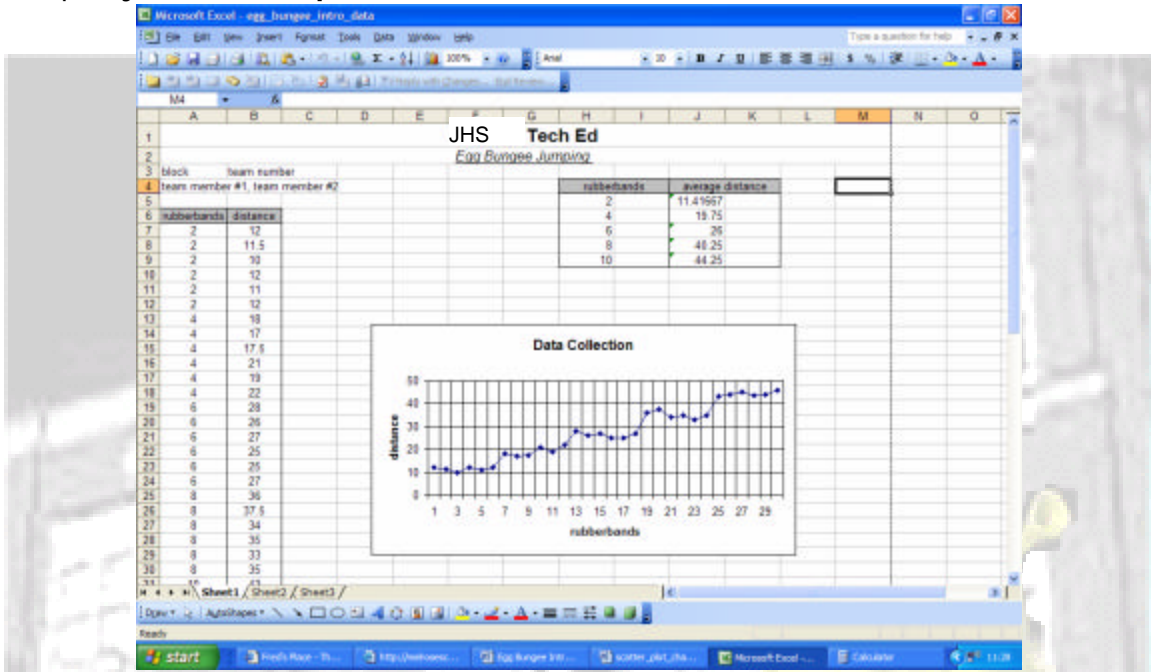
2. Using your mouse, **Left mouse click** to select the complete range of data. Start at the top left cell (A2) and pull down and to the right (B46). The cells will turn blue, except for A2.
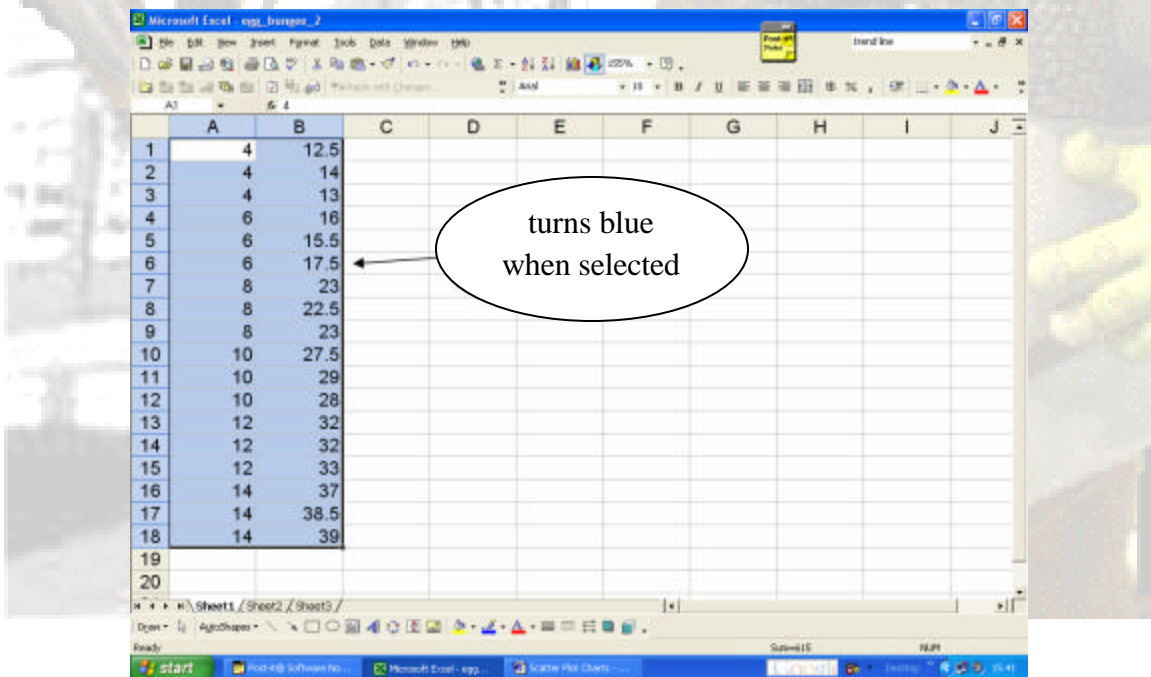
## 3. Insert/ Chart, click on **XY (Scatter)**.
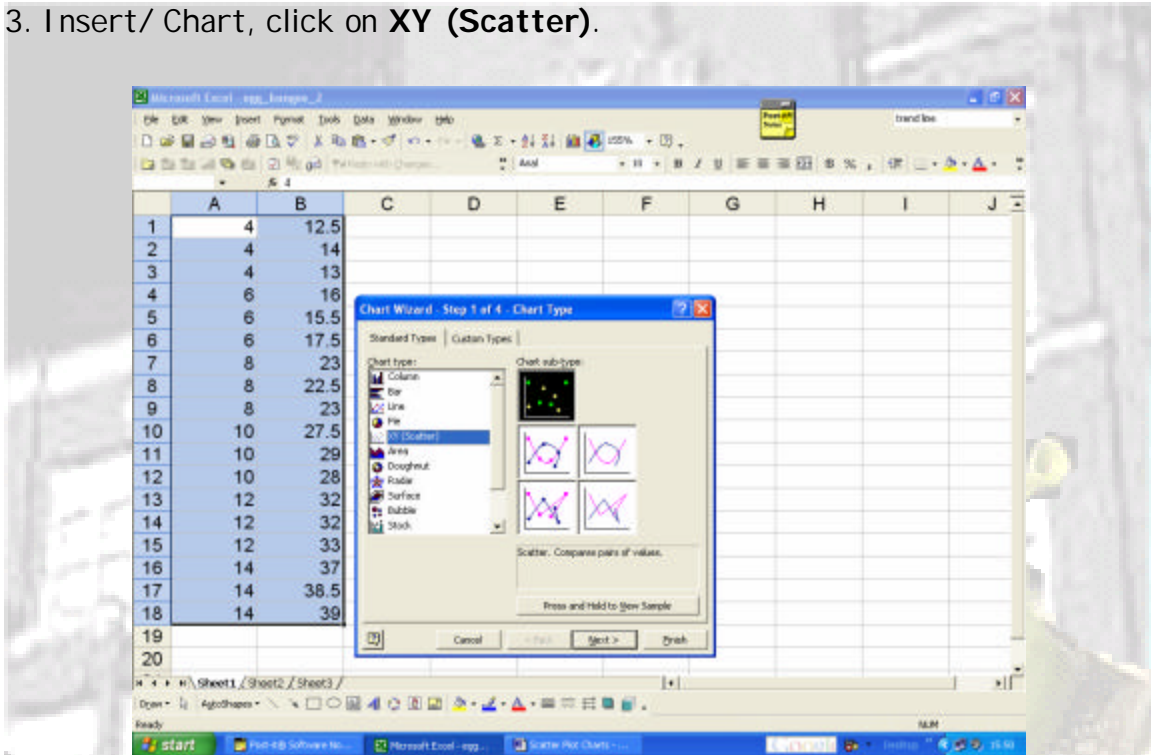
4. Click on "**next**"

5. Click on "**next**". Select the **Titles tab**, enter the x-axis value, *Rubber Bands*. Enter the y-axis value, *Distance*

6. Select the **Gridline Tab**, de-select major and minor gridlines.

7. Select the **Legends Tab**, de-select Show Legend

8. Click on "**next**". Select- **Place chart in sheet 1**.

9. Click on "**Finish**". Your graph will appear. Put the cursor on the grey plot area, **right mouse click**, select **clear**.
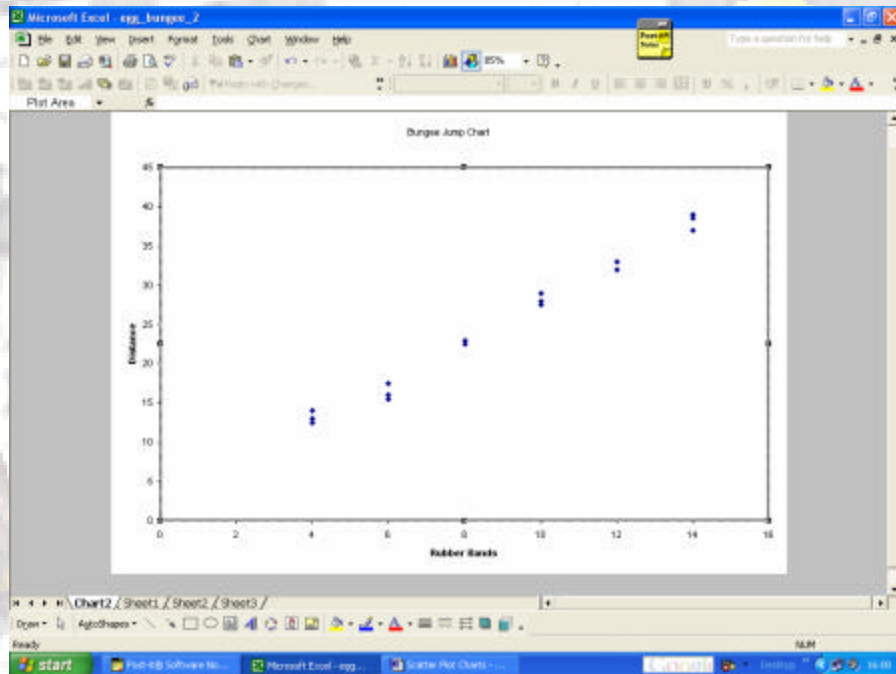

10. Make sure the new chart is selected, has dots on the corners, **Right mouse click**, Cut.

11. Go to cell B43, **Right mouse Click, Paste**. Your new chart should appear.
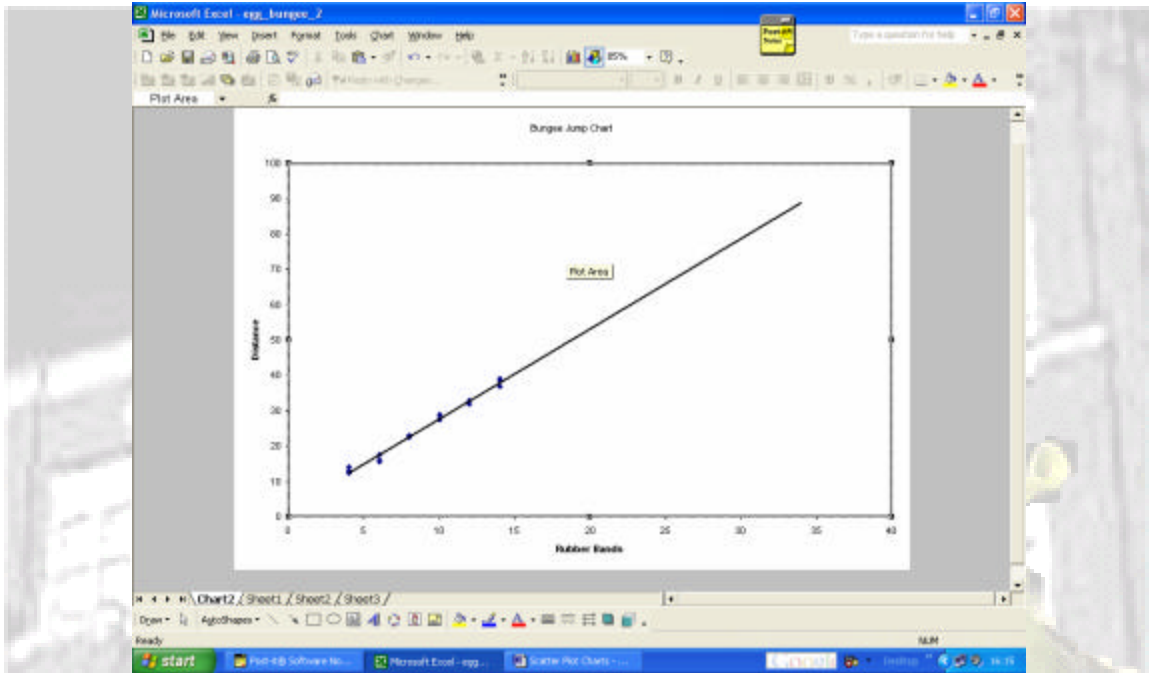
12. To add a **Trendline**, **right mouse click** on any Data Point (blue dot), click on **add Trendline**. Select **Linear**
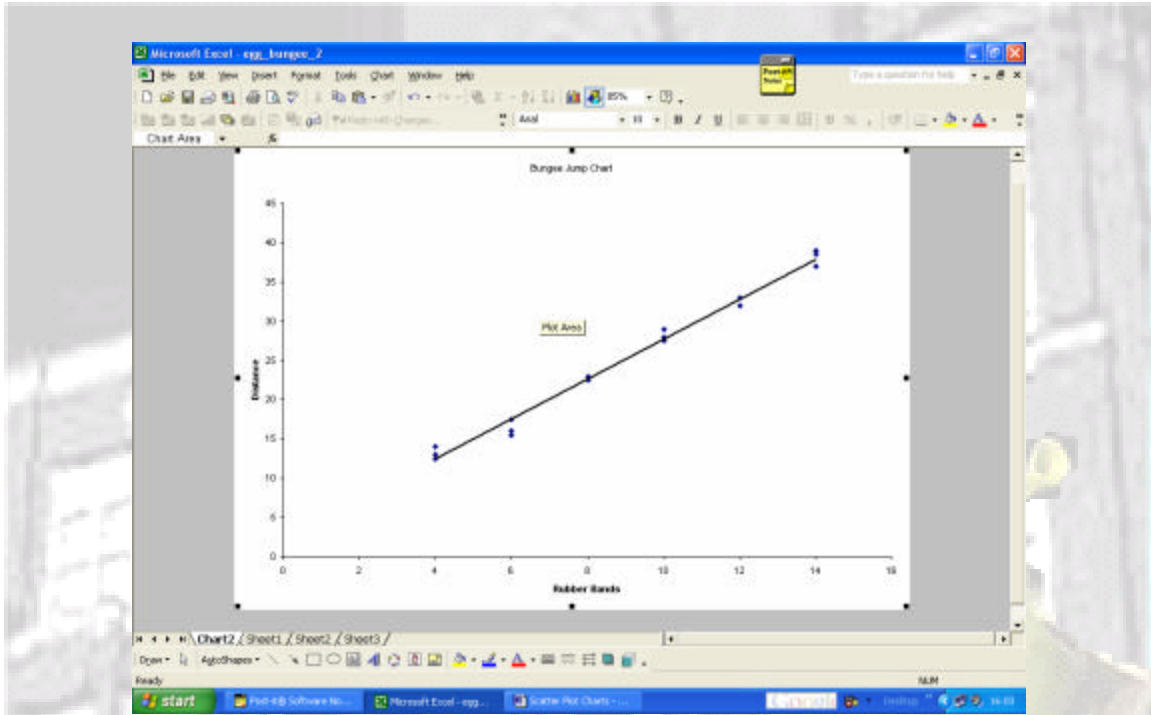

11. Place your mouse arrow on the Trendline. **Right mouse click**, select **Format Trendline**. Select the **Option tab**. On the **Forecast**, set it to **40 units. ok**
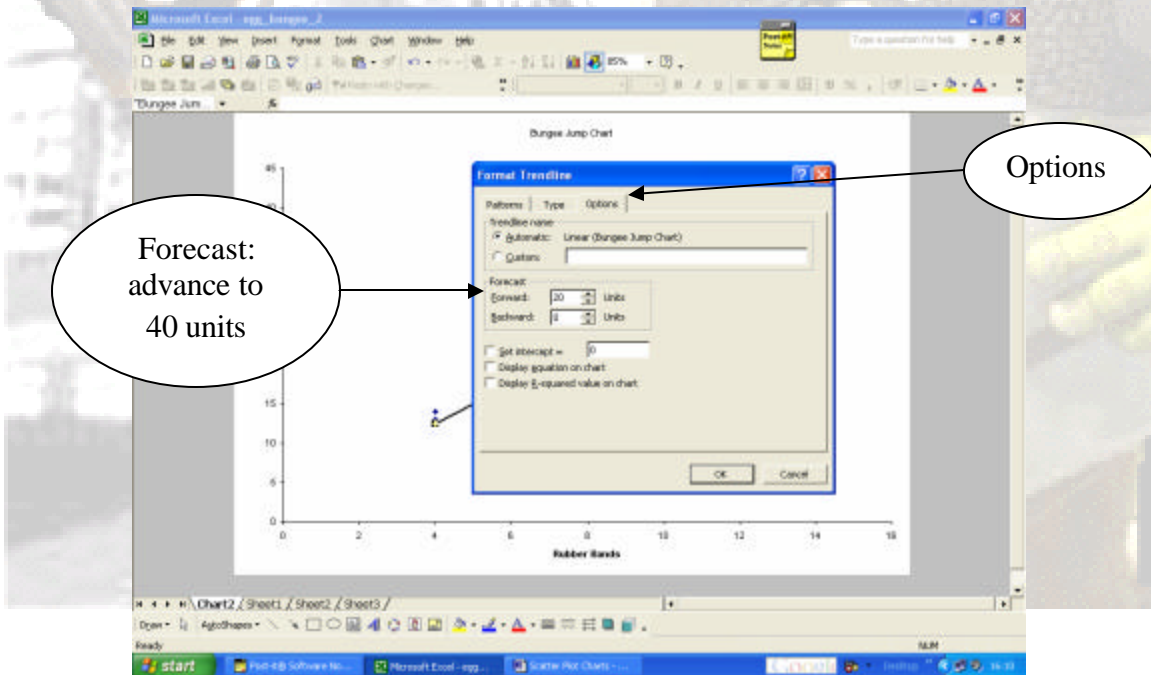
12. Here is the **Trendline**, advanced to show probable distances achieved with more rubber bands.

13. To add the X and Y axis', (which will help in selecting the correct # of rubber bands, Chart/ Chart Options/ Gridlines. Select the lines you wish.
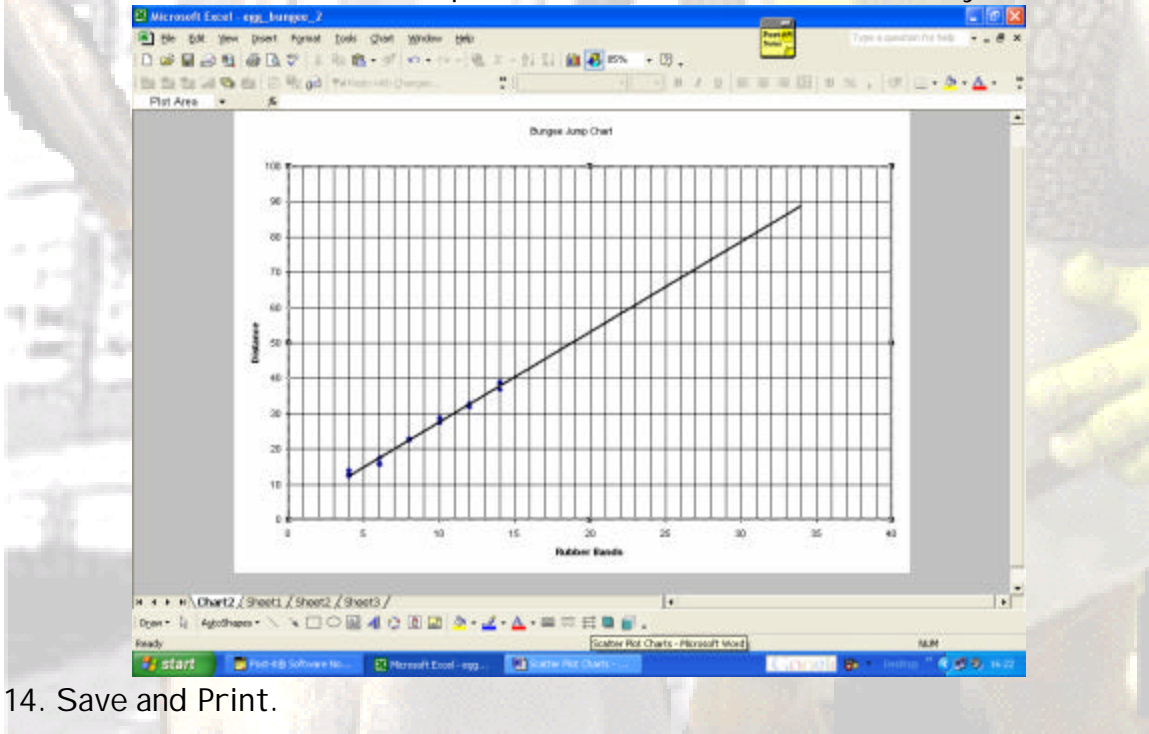
14. Save and Print.

15. Log off, and log back on as "mmsres"