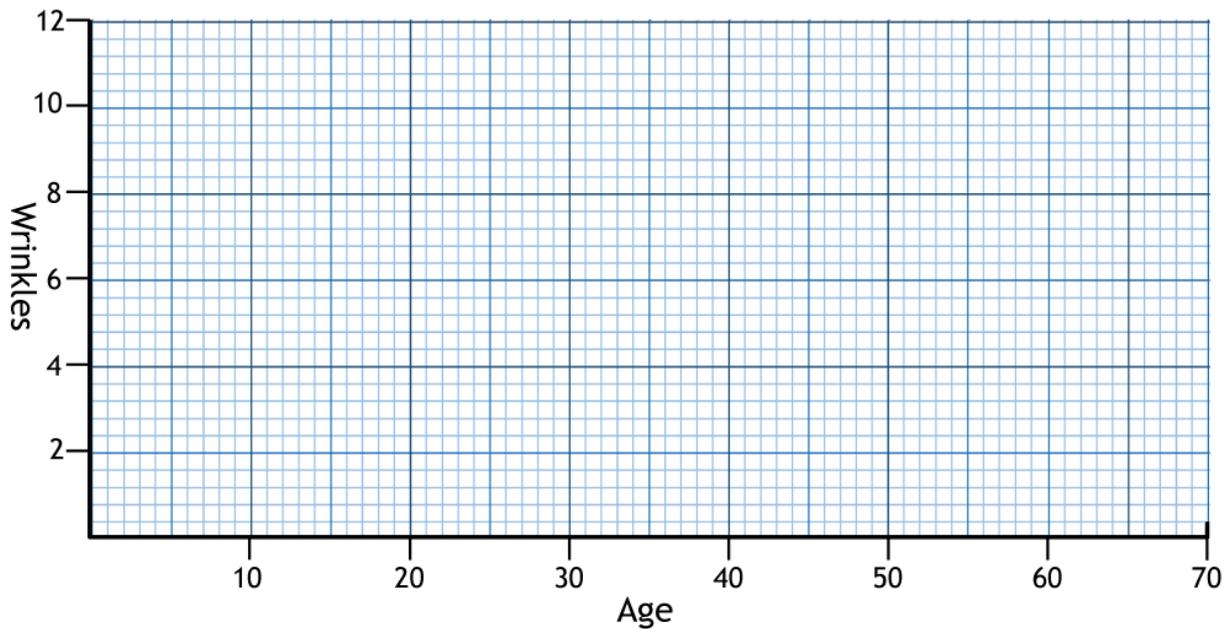


Student sheet A - how wrinkly?

A cosmetics company wanted to see if there was a relationship between your age and how wrinkly you are. They asked some of the teachers in your school their age and counted how many wrinkles they had.

Age	Number of wrinkles
30	5
40	12
50	9
60	11
70	12

1. Use the grid below to plot a line graph of the results



2. One of the variables is 'age'. What is the other variable?

3. Circle a word to describe the pattern:

As the teachers get older, the number of wrinkles that they have increased / decreased.

4. Which result does not fit the pattern?

5. Can you think of any reasons why this result might not fit the pattern?

.....

Student sheet B - how wrinkly?

A cosmetics company wanted to see if there was a relationship between your age and how wrinkly you are. They asked some of the teachers in your school their age and counted how many wrinkles they had.

Age	Number of wrinkles
25	3
30	5
35	8
40	12
45	10
50	9
55	2
60	11
65	12

1. Plot a line graph of the results on graph paper.

Suggestions:

- Age along the bottom (x-axis)
- Number of wrinkles up the side (y-axis)
- Start both axes at '0'
- The numbers on the axes should have even steps e.g. 0, 5, 10 etc. on the x-axis and 0, 1, 2 etc. on the y-axis

2. Name the two variables in this experiment.

.....

3. What is the relationship between the two variables? Use the word **decreases** or **increases** in your answer at least once.

.....

.....

4. Which results don't fit the pattern? Explain your answer.

.....

5. Can you think of any reasons why these results might not have fitted the pattern?

.....

.....

.....

Student sheet C - how wrinkly?

A cosmetics company wanted to see if there was a relationship between your age and how wrinkly you are. They asked some of the teachers in your school their age and counted how many wrinkles they had.

Age	Number of wrinkles
25	3
30	5
35	8
40	12
45	10
50	9
55	2
60	11
65	12

1. Plot a line graph of the results on graph paper. Include a line of best fit.

2. Name the two variables in this experiment.

3. Describe the relationship between the two variables.

4. Are there any anomalous results? If so, explain why you think they are anomalous.

5. Can you think of any reasons why these results might not have fitted the pattern?

6. How could you increase the reliability of the experiment?

The following marks and comments are expected from students:

1. Line graph, showing a positive correlation.

A discussion could focus on correct scale (for standard and challenge sheets), accuracy of plots, appropriate line.

The line should not be 'dot to dot' and should not take into account the clear anomalies at 55,2 and 40,12.

2. Age and number of wrinkles
3. As the teachers get older, the number of wrinkles that they have increases.
4. 55,2 and 40,12 could be considered anomalies. There are other results that don't exactly follow the pattern but not sufficiently to consider them anomalous.
5. Suggestions may include the following. 55,2 - low stress, good diet, good sleep, less sun, botox, face-lift, genetic factors etc. 40,12 - high stress, poor diet, less sleep, lots of sun / sun burn, smoker, genetic factors etc.