Teacher's Notes – Scatter it

This can be used on its own as a skill builder or as a starter for 'Are you a masterpiece'. It explores the use of scatterplots when working with data.

After this lesson students will

- *be able to read bivariate data from a table.*
- *be able to demonstrate the ability to display bivariate data on a scatterplot and then analyse the data and draw a conclusion.*
- *Identify the benefit of technology in mathematics.*

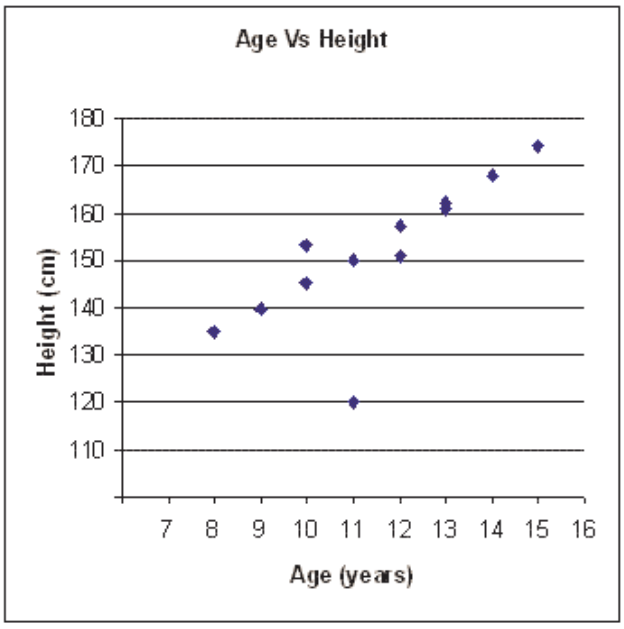
1. You may wish to expand on what bi means: (Latin bis, bi-, *twice*), bicycle (2 wheels), bisect (cut in two), biannual (two time a year) etc.

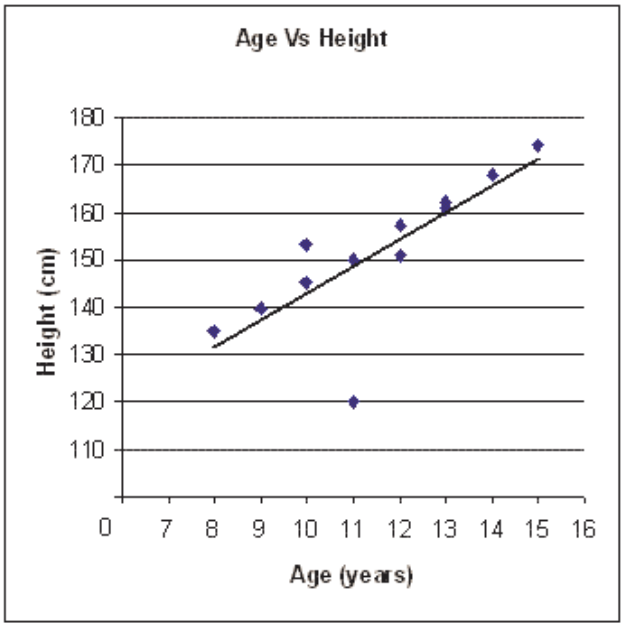
2. Confirm that students realise that the letter along the top represent a single students and below each students is their age and height. I.e. Student A has is 11 years old and is 150 cm tall.

3. You may find it easier explain how bivariate data is placed on the graph in terms of the game Battleship. You need a horizontal and vertical value and place the data in the appropriate 'co-ordinate'

Age: Youngest = **8** years Oldest = **15** years
Height: Shortest = **120** cm Tallest = **174** cm

4 & 5. The students Graph should appear similar to the ones below. Notice how the points appear to be climbing. This is called a **positive relationship** between variables. Most of the points lie close to the line of best fit. We say there is a **strong relationship** between the variables. **The line of best fit** is a straight line ruled through the data, touching as many as the points as possible.





6. I notice / I wonder: - What do the students notice and wonder about the data/graph

7. Conclusion: From this sample data, there is a strong, positive relationship between age and height. The older a student gets, the higher they become. I noticed one student aged 11 was quite a bit shorter than the others. I wonder if this was an error in the students recording or if they have a disability.

8. Students can use the same techniques they learnt in Lesson 2 (Learn to scatter it even more!!). Let the students decide on their own parameters. Students may notice that using technology is a quicker and tidier method of graphing data.