

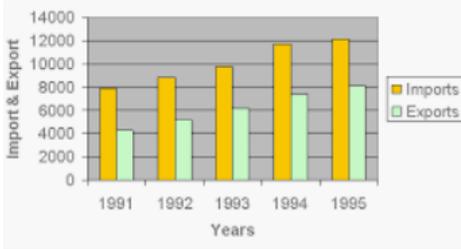
# Maths Knowledge Organiser

## YEAR 8– PART 6

### Key Language

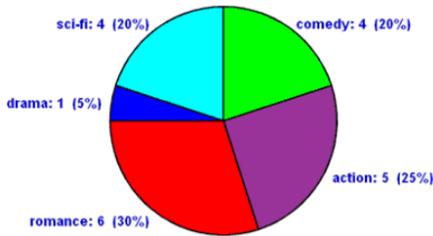
1	<b>Hypothesis</b>	an idea or question you want to test
2	<b>Sample</b>	the group of things/people you want to use to check your hypothesis.
3	<b>Primary Data</b>	data you collect yourself
4	<b>Secondary Data</b>	data you source from elsewhere e.g. the internet/ newspapers/ local statistics
5	<b>Qualitative data</b>	data categories including characteristics, for example, names, ages, locations and occupations. Or personal preferences, for example, food, clothes and leisure activities. It is also called categorical data.
6	<b>Quantitative data</b>	data that can be quantified by counting or measuring. There are two types of quantitative data: Discrete and Continuous.
7	<b>Discrete Data</b>	numerical data that can only take set values like shoe size.
8	<b>Continuous Data</b>	numerical data that has an infinite number of values (often seen with height, distance, time)
9	<b>Proportion</b>	numerical relationship that compares two things
10	<b>Average</b>	a measure of central tendency –or the typical value of all the data together
11	<b>Total</b>	all the data added together.
12	<b>Frequency</b>	the number of times the data values occur.
13	<b>Represent</b>	something that show relations or quantities
14	<b>Outlier</b>	a value that stands apart from the data set.
15	<b>Mean</b>	Find the total of all the scores or amounts then divide by how many scores or amounts there were.
16	<b>Median</b>	the middle value of an ordered set of data values.
17	<b>Mode</b>	the value with the highest frequency (the one that occurs the most).
18	<b>Spread</b>	the distance/ how spread out/ variation of data.
19	<b>Range</b>	Biggest value – smallest value
20	<b>Comparisons</b>	should include a statement of average (mean, median or mode) and central tendency (range) as well as a statement about spread and consistency.
21	<b>Consistent</b>	a set of data that is similar and doesn't change very much.
22	<	less than
23	>	more than
24	≤	less than or equal to
25	≥	greater than or equal to



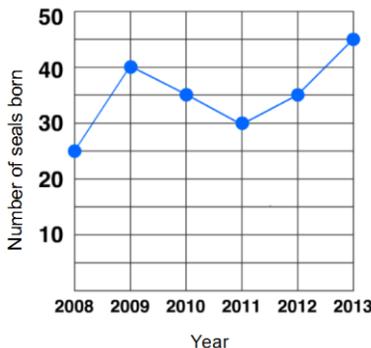


**Multiple Bar chart:** Compares multiple groups of data

- Clearly labelled axes
- Scale for axes
- Comparable data bars drawn next to each other.



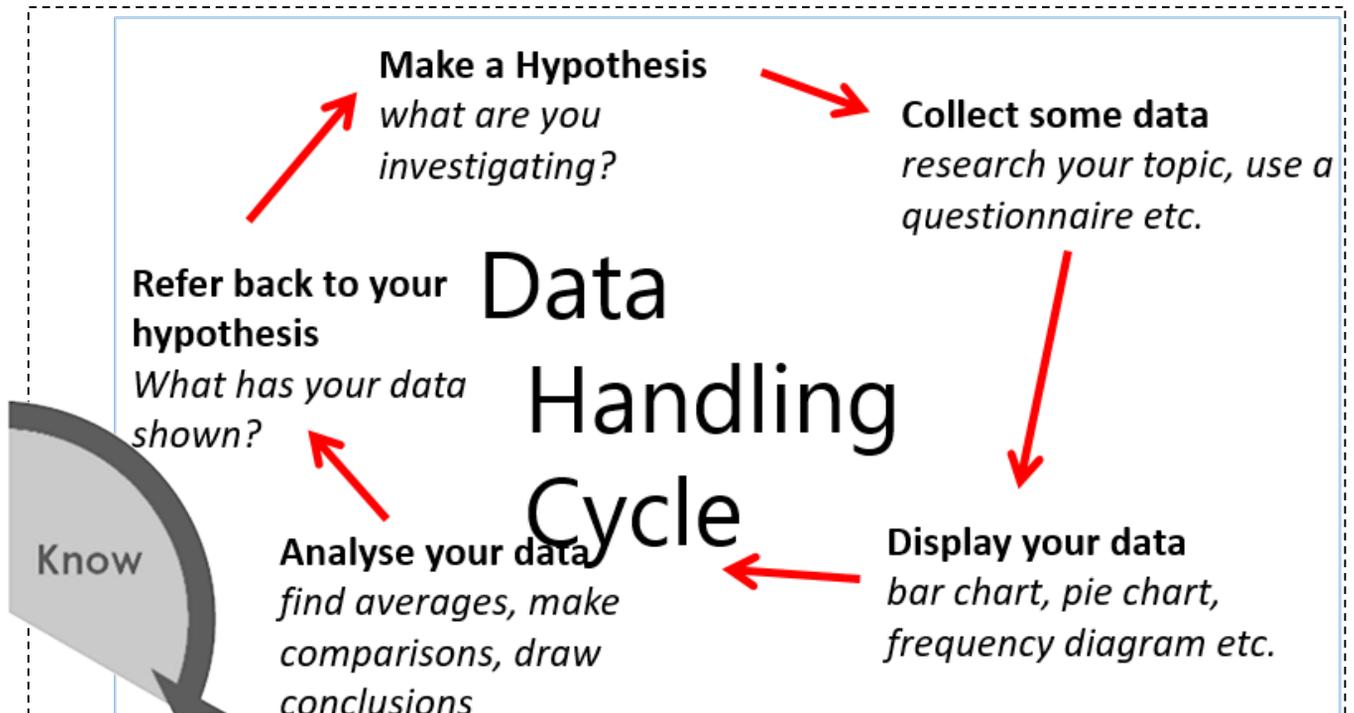
**Pie chart:** a graph using a divided circle, where each section represents a proportion of the total.



**Line graph:** commonly used to show change over time.

The points are the recorded information and the lines join the points.

The Data Handling Cycle





1. What is the sign for greater than or equal to?
2. What do we call an idea or a question we want to test?
3. Find the total of 3, 12 and 10.
4. What could you use to display data in the data handling cycle?
5. What type of data is shoe size?
6. What do we call data we get from newspapers or the internet?
7. What is the outlier in this set of data? 1.7, 2, 4, 3, 2, 21, 3, 4, 2, 3
8. What do we call the group of things/people we want to use to check our hypothesis?
9. Find the median of this data: 5, 12, 13, 5, 3, 10, 11
10. How do you calculate the range?
11. Find the range of this data: 12, 60, 10, 32, 41.
12. What does represent mean in Maths?
13. When you are asked for a comparison what two things should you mention?
14. What does each section represent in a pie chart?
15. What is continuous data?
16. What type of graph do we use to show change over time?
17. What is the name of the average that shows the highest frequency?
18. What are the two types of qualitative data?
19. What is the mode of this data: 3, 6, 4, 6, 2, 4, 6.
20. Which average is calculated by adding up the values and dividing by how many there are?
21. Write the correct sign between these numbers < or >  
                   5   10                   6   4
22. What type of data is hair colour?
23. Find the mean of these numbers: 2, 4, 2, 5, 2.
24. What does frequency mean?

ANSWERS

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|---|--|
| <ol style="list-style-type: none"> <li>1. <math>\geq</math></li> <li>2. Hypothesis</li> <li>3. 25</li> <li>4. Bar chart, pie chart, frequency diagram</li> <li>5. Discrete</li> <li>6. Secondary</li> <li>7. 21</li> <li>8. Sample</li> <li>9. 11</li> <li>10. Largest value – smallest value</li> <li>11. 50</li> <li>12. something that show relations or quantities</li> <li>13. Average and spread</li> <li>14. A proportion of the total.</li> </ol> | <ol style="list-style-type: none"> <li>15. Numerical data that has an infinite number of values</li> <li>16. Line graph</li> <li>17. Mode</li> <li>18. Discrete and Continuous</li> <li>19. 6</li> <li>20. Mean</li> <li>21. <math>5 &lt; 10</math>            <math>6 &gt; 4</math></li> <li>22. Qualitative</li> <li>23. 3</li> <li>24. the number of times the data values occur</li> </ol> |
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