MATHEMATICS Unit 18: Measuring Data	Year Group: 7 set 4-5

Key Vocabulary

Data	Information that we can analyse.
Average	A number that represents a typical, central value for a set of data. There are three different types of average. When most people talk about average they are probably talking about the mean.
Mode	The most common result in a set of data or the group that contains the biggest frequency.
Median	The middle item when the values are put in order from smallest to largest.
Mean	The total of all the data added together divided by the number of items there are.
Spread	A measure of how varied the data is.
Range	The highest result minus the lowest result. The larger the range, the larger the spread in the data.
Approximate	When you calculate the mean you can get a strange answer. E.g. you could get the average number of children in a family is 1.8. This is not possible, so we often need to approximate our answers so that they make sense.

Key facts / Diagrams

Mode:
3, 3, 4, 4, 4, 5, 6, 7, 8
The mode is 4 as there are more 4s.

7, 4, 2, 8, 3
This data doesn't have a mode as each number is only in the list once.

Median:
3, 3, 4, 4, (4) 5, 6, 7, 8
When the numbers are in order, 4 is the middle number, so the median is 4.

7, 4, 2, 8, 3
2 is NOT the median. Put them in order first.
2, 3, (4) 7, 8
4 is the median.

Range:
3, 3, 4, 4, 4, 5, 6, 7, 8
The range is 8-3 = 5.

7, 4, 2, 8, 3
The range is 8-2 = 6.

Common misconceptions

- You need to know that when there are an even number of items, the median is half way between the two middle numbers.
- If you don't put the numbers in order you won't get the correct median.
- Always check the "reasonableness" of the averages. If your answers don't seem sensible, check what you did on the calculator.

Worked examples

Mean:
3, 3, 4, 4, 4, 5, 6, 7, 8
Total: 3+3+4+4+4+5+6+7+8 = 44.
The mean = 44 ÷ 9 = 4.8888… ≈ 4.9.
The mean is just under 5.

7, 4, 2, 8, 3
Total: 7+4+2+8+3 = 24.
The mean = 24 ÷ 5 = 4.8.
The mean is just under 5.