

Year Six Statistics

Find **at least** ten items in your home measured in millilitres.

Order the capacities of your chosen items and then:

Calculate the median capacity.

Calculate the modal capacity.

Calculate the range of the capacities.

Calculate the mean of the capacities.

Here is a worked example:

ITEM	CAPACITY
Body butter	300ml
Shower cream	250ml
Conditioner	200ml
Shampoo	300ml
Face wash	100ml
Antiperspirant	50ml
Hairspray	75ml
Body lotion	400ml
Cleanser	200ml
Liquid soap refill	1000ml

Write the data set in order: 50ml, 75ml, 100ml, 200ml, 200ml, 250ml, 300ml, 300ml, 400ml, 1000ml.

Median – Find the middle value (or values and divide by 2). $200\text{ml} + 250\text{ml} = 450\text{ml}$
 $450\text{ml} \div 2 = \mathbf{225\text{ml}}$

Mode – Find the value that appears most times in the list. In this data there are two values: **200ml & 300ml**

Range – Calculate the difference between the lowest and highest value. $1000\text{ml} - 50\text{ml} = \mathbf{950\text{ml}}$

Mean – Add all the values together and divide by the number of values in the set – in this example ten items.

$$1000 + 400 + 300 + 300 + 250 + 200 + 200 + 100 + 75 + 50 = 2875$$

$$2875 \div 10 = \mathbf{287.5\text{ml}}$$

For an extra challenge, convert your answers into litres.