Averages

LO: To compare sets of data using average and spread

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1) Zone

2) Recap how to find 3 averages and range.

3) Compare data using averages.

4) Practice question.

6) Follow up work

Blue Zone	Green Zone	Yellow Zone	Red Zone
 Going slow	 Good to go	 Caution Starting to lose control	 Stop! Out of control
E.g. sad, sick, tired, bored	E.g. happy, calm, focused, ok	E.g. worried, excited, annoyed	E.g. angry, terrified, elated

Starter question

Find the mode, median, range and mean of this set of data:

5m, 0.5m, 3m, 5m, 4m, 5m, 1m. 0.5m

To find the mode;

1) Look at your list of either numerical or non numerical data. The value that comes up the most is your mode.

2) If you have two values that come up the same amount of times, they are both the mode.

To find the median;

1) Put all of the numbers in order starting from the smallest.

2) Find the middle number.

3) If there are 2 numbers in the middle, Add them together and divide by 2.

Starter question

Find the mode, median, range and mean of this set of data:

5m, 0.5m, 3m, 5m, 4m, 5m, 1m. 0.5m

To find the range;

1) Identify the highest number and lowest number in your list.

2) Find the value of the highest number take away the lowest number

LO – To be able to find the mean of a set of data.

To find the mean;

1) Add all of the values together.
2) Divide by the number of values you have. This is the mean.

What I'll Learn Today…

- To use the mean, median or mode to compare averages of two or more sets of data.

- To use the range to compare spread of two or more sets of data.

Comparing data

Use an average and a measure of spread to compare two sets of data.

Averages: median, mean, mode

Spread: range - A big range, means more variation in the data.
A big range means the data is less consistent.
A small range means the data is more consistent

Example 1

Brothers, Richard and Peter Chambers recorded their last 7 times for 100m rowing (In seconds):

Richard	16	15	21	12	20	14	12
Peter	14	10	21	14	13	24	11

Compare these sets of data using the median and range.

Richard – Median = Range =

Peter – Median = Range =

Example 2

Here are some results from the long jump final:

Jade Johnson
GB

Brittney Reese
USA

6.54m	6.81m	6.75m	6.67m	6.80m

6.28m	6.87m	7.21m	6.42m	6.92m

a) Find the mean and range of both sets of data.

b) Compare the data using the mean and range.

Jade – Mean =

Range

Brittney – Mean =

Range =

800m Freestyle

Rebecca Adlington has been training to try to reduce her pulse rate after a race in order to enhance performance in competitions.

Here are her pulse rates for the 9 swims before and after the training.

Before	178	200	196	185	165	175	163	195	188
After	183	152	148	168	132	189	155	146	192

Compare these sets of data using the range and median. Explain your findings.

4x400m Relay

Shana	Christine	Nicola	Perri
52.03	51.39	52.26	51.52
51.36	52.02	51.14	51.51
51.27	51.30	51.32	51.59
52.22	51.21	52.65	51.48
52.82	51.48	52.48	51.50

Above are the relay split times (in seconds) for the womens 4x400m team for the last five races.

1) **Compare each athlete's times by calculating the mean and range of their times.**

2) **Who is the most consistent runner? Explain your answer.**

3) **The Olympic committee want to select one of the athletes for the womens 400m race. Who should they use? How did you decide this?**

Triple Jump

Philips Idowu

Nelson Evora

Below are the 5 jumps recorded for each athlete in a competition:

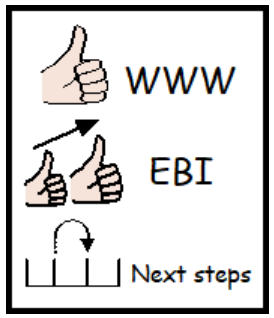
17.03m	17.37m	17.87m	17.52m	17.96m

17.21m	17.27m	17.75m	17.85m	17.52m

1) **Which athlete has the longest mean jump?**

2) **Calculate the range and explain which athlete is the most consistent triple jumper.**

3) **The competition went into a 6th round where Idowu jumped 17.73m and Evora jumped 18.30m. Does this have any effect on the mean distances jumped and consistency of each athlete? Show your calculations.**



LO: To be able to find the area of rectangles.

WWW

EBI

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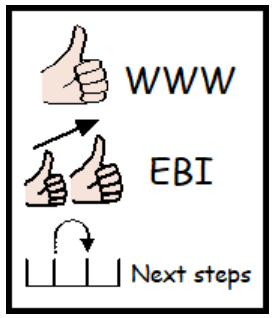

LO: To be able to use average and spread to compare data.

Follow up work

1) Mixed Averages worksheet.

2) Olympic comparison worksheet.

For ALL worksheets you can either print out and write your answers on, or write your answers on paper.

Please take pictures of your work and email to jo.gould@grangepark.kent.sch.uk