

STATISTICS

MNU 4-20a

I can evaluate and interpret raw and graphical data using a variety of methods, comment on relationships I observe within the data and communicate my findings to others.

MTH 4-20b

In order to compare numerical information in real-life contexts, I can find the mean, median, mode and range of sets of numbers, decide which type of average is most appropriate to use and discuss how using an alternative type of average could be misleading.

MTH 4-21a

I can select appropriately from a wide range of tables, charts, diagrams and graphs when displaying discrete, continuous or grouped data, clearly communicating the significant features of the data.

Pupils should be able to:

- Calculate mean, range, mode and median for a set of data
- Compare sets of data by comparing the above measures
- Construct a frequency table (ungrouped) from a set of data.
- Display data using stem-and-leaf charts.
- Conduct a class-survey to gather two pieces of data from each pupil.
- eg height and hand-span, or day and month of birth
- Organise resulting in tabular form
- Display results using a scattergraph
- Describe correlation in general terms from a scattergraph
Eg "strong positive correlation"

PUPILS SHOULD COMPLETE THE FOLLOWING EXERCISE AND ASSESS THEIR PROGRESS BY TICKING ONE OF THE OPTIONS FOR EACH TOPIC IN THE TABLE BELOW

	DEVELOPING	CONSOLIDATING	SECURE
Calculate mean, range, mode and median Q1			
Display data on a scatter graph. Line of best fit. Q2			
Display and interpret stem and leaf diagram Q3			

mymaths lessons: library/data/presenting data/ scattergraphs & line of best fit
library/data/ processing data/ mean& mode, median and range, all averages,
stem and leaf

SELF EVALUATION EXERCISE

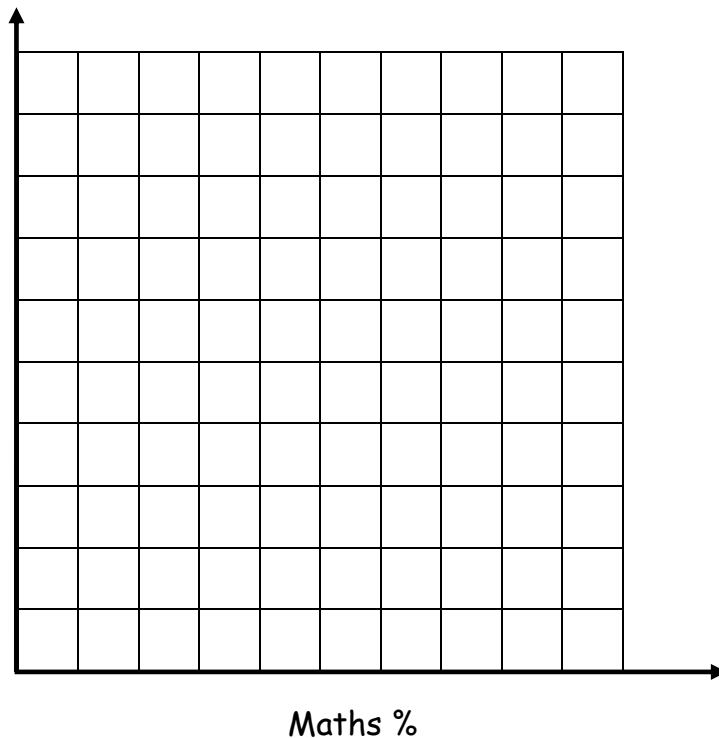
DATE DUE _____

1. Calculate the mean, mode, median and range of the following numbers:
3, 1, 4, 1, 5, 9, 2, 6, 5

2. The table below shows the percentage results for 10 pupils in Maths and Physics tests:

	Ally	Al	Tam	Laola	Suz	Ali	Craigo	Pierre	Jo-o	Chazz
Maths	73	35	62	84	46	79	55	82	98	77
Physics	65	30	65	80	37	68	51	41	92	78

Create a Scatter diagram below by labelling the axes, marking in a scale and plotting the above data



- a) One pupil complained of feeling ill during the Physics test. Who do you think it was? Give some reasons for your answer.
- b) Draw a line of best fit on the diagram
- c) Donny scored 72% in his maths test but missed his Physics exam. Use the line of best fit to estimate his Maths score.
- d) It looks like there is a strong correlation between Maths and Physics marks. Can you list 3 subjects where you think there would be
- i. No correlation with Maths
 - ii. A strong correlation with Maths

3. The stem and leaf diagram below shows the ages of teachers in the Maths department

Maths department				
2	5	8		
3	6	8		
4	2	4	7	7
5	3	4	8	

2 | 6 = 26 years

n = 11

- a) Write down the mode, median and range of the ages.
- b) Mrs Standdad, 53, joins the department. Place her age on the diagram and write down the new mode, median and range of the ages.

- c) The ages of the teachers in the English department are:
27, 30, 31, 42, 33, 37, 35, 57, 57, 42

By making a back to back stem and leaf diagram display this information on the above diagram.

- d) Write down the mode, median and ranges of the ages of the English department.

- e) Mrs Standdad claims that the English department is on average 10 years older than the Maths department.
Is her claim correct? Explain your answer.