



Title of Scheme of Learning: Statistics

Subject: MATHS
Term: Summer 1
Year: 8
Length of Unit: 6 weeks

Big Learning Question: How does a journalist use maths?

Big Assessment outcome? Individual journal project answering a specific problem or hypothesis using the data handling cycle

Success Criteria for Big Assessment Outcome:

Unit 12 (collecting and organising data)

- Collect, classify and tabulate data using data collection methods such as:
 Taking measurements
 Conducting surveys
 Using questionnaires
 Collating and classifying data
- Informally appreciate the role of bias when selecting a sample
- Solve problems using information presented in tables and graphs

Unit 13 (working with grouped data)

- Understand and use simple inequality notation in this context
- Collect and organise continuous, grouped data
- Present data in different ways
- Analyse and interpret grouped data

Unit 14 (averages and range)

- Find the mean, median and mode of simple data sets
- Solve more complex problems involving averages
- Find the mean from a simple bar chart or frequency table (NOT grouped data at this stage)
- Find the range and use this to comment on the spread of data
- Use an average and the range to compare two simple sets of data
- Appreciate the existence of outliers and the impact they may have on averages

Unit 12: Collecting and organising data

Framed work: Weekly review check- up (week 1 – peer assessed and week 2 teacher assessed – followed by mad time student responses)

Lesson	Learning Objective	Learning Outcomes	Planned Questions	Do Now	Main	Plenary	Differentiation	Mastery Skill Exit ticket	H/W
12.1	Identify types of data (discrete, continuous etc.)	Introduce project Identify and use key terminology for types of data – discrete, continuous,	What type of data is this? Give an example of continuous data? Give an example of discrete data? What is the difference between the two? Why is age continuous data?	What types of data are there and where do you find them?	What are the differences between discrete and continuous data?	How can you describe these two pieces of data?	Memory games to remember key terms	12.1 I can identify types of data	

		<p>primary, secondary, sample, qualitative and quantitative</p> <p>Data handling cycle – specify the problem and plan the investigation</p>			<p><u>Independent task:</u> match key words with definitions</p> <p><u>Talk task:</u> match data with the descriptors</p>		<p>What are the advantages/disadvantages ?</p> <p>Would you need to present discrete and continuous data in different ways?</p>		
12.2	Collect data using tallying	<p>Understand the data handling cycle</p> <p>Know how to collect data using a tally table</p>	<p>What are the mistakes in this tally chart?</p> <p>How can you collect data efficiently?</p> <p>What is the difference between this data?</p>	<p>I want to find out what 8A do after school. How can I collect this data?</p>	<p><u>Talk task:</u> design a data collection tool to answer the problem</p> <p><u>Independent task:</u> do newspapers use longer words than books?</p>	<p>Spot the mistakes in the tally table?</p>	<p>Recap tallying properly</p> <p>Tally birthday months instead of the newspaper vs. books</p>	<p>12.2 I can collect data in a tally chart (collect, classify, tabulate)</p>	
12.3	Analyse non-bias questions in questionnaires								

12.4	Create non-bias questionnaire with response boxes		Why can the response boxes not overlap?				[Red]	12.3 I can write an unbiased questionnaire with response boxes	
12.5	Collect data in a two way table		What kinds of data do you collect in a two way table? What are the advantages and disadvantages?				[Red]	12.4 I can collect discrete data in a two way table	
12.6	Collect and record data in a pictogram						[Red]	12.5 I can collect discrete data in a pictogram	

							Do not do pictogram but introduce to box plots/histogram in grouped data?		
12.7	Collect and present discrete data in a bar chart							12.6 I can collect discrete data in a bar chart	
Unit 13: Working with grouped data									
13.1	Understand and use simple inequality notation								

13.2	Collect and organise continuous grouped data						<div style="background-color: red; height: 100px; width: 100%;"></div> <div style="background-color: green; height: 100px; width: 100%;"></div>	13.1 I can use inequalities to collect continuous grouped data	
13.3	Present data in a grouped frequency chart						<div style="background-color: red; height: 100px; width: 100%;"></div> <div style="background-color: green; height: 100px; width: 100%;"></div>	13.2 I can present continuous data in a grouped frequency chart	

13.4	I can present data in pie charts						<p>May want 2 lessons on this</p>	13.3 I can present continuous data in a pie chart	
13.5	Interpret graphs and charts								
13.6	Compare and contrast graphs and charts of continuous grouped data							13.4 I can interpret and compare grouped data graphs and charts	

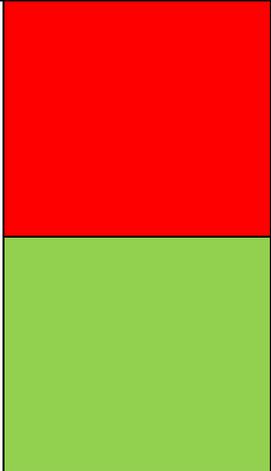
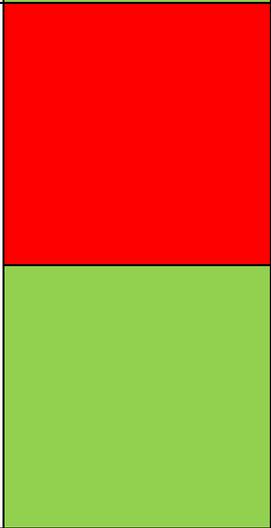
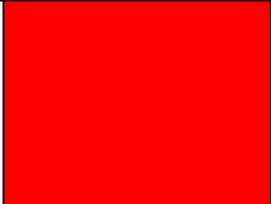
Unit 14: Averages and range

14.1 Find the mean of a set of data

14.1 I can find the mean of a set of data

14.2 Find the mode and median of simple data sets

14.2 I can find the mode and median of simple data sets

14.3	Solve more complex problems involving averages								
14.4	Find the mean from a simple bar chart/frequency table							14.3 I can find the mean from a frequency table	
18.5	Find the range and use this to comment on the spread of data								

14.6	Use an average or the range to compare two sets of data								
14.7	Appreciate outliers and their effect on data								

Curriculum Links to Oasis 9 habits Values:

Students are encouraged to interact with **patience** towards one another' s contributions in class and support and help each other where appropriate. They are encouraged to be **compassionate** towards other student' s efforts and contributions; supporting and celebrating where appropriate exercising **consideration** where others may find something more challenging than they do. Students are encouraged to see the **joy** that can be taken in mathematics and that it can be studied for the pleasure of it. Students are encouraged to understand that resilience is developed through **self-control** of ones reaction to challenging situations (including work one finds difficult. Students are encouraged to demonstrate **self-control** in terms of their interactions within the classroom. Students are encouraged to be **humble** in terms of understanding their achievements on the journey towards their GCSEs and the roll they can play in supporting others along this journey. Students are encouraged to be **honest** when reflecting on their progress to accurately identify the best areas to focus on for development. This **honesty** is also encouraged in terms of owning one' s own mistakes or poor choices within the classroom setting.

Resources to support teaching and learning

www.mathematicsmastery.org (toolkit),
www.vle.mathswatch.co.uk,

www.mymaths.co.uk,

www.mathsgenie.co.uk,

www.corbettmaths.co.uk,

<http://www.counton.org/resources/ks3framework/pdfs/vocabulary.pdf> (vocabulary list)