Statistics with Reasoning

National Centre for Excellence in the Teaching of Mathematics

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
INTERPRETING, CONSTRUCTING AND PRESENTING DATA					
	interpret and construct simple pictograms, tally charts, block diagrams and simple tables	interpret and present data using bar charts, pictograms and tables	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	complete, read and interpret information in tables, including timetables	interpret and construct pie charts and line graphs and use these to solve problems
	ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity				
	ask and answer questions about totalling and comparing categorical data				
	True or false? (Looking at a simple pictogram) "More people travel to work in a car than on a bicycle". **Is this true or false? Convince me.** Make up you own 'true/false' statement about the pictogram	**True or false?** (Looking at a bar chart) "Twice as many people like strawberry than lime". **Is this true or false? Convince me.** Make up your own 'true/false' statement about the bar chart.	**True or false?** (Looking at a graph showing how the class sunflower is growing over time) "Our sunflower grew the fastest in July". **Is this true or false? Convince me.** Make up your own 'true/false' statement about the graph.	**True or false?** (Looking at a train time table) "If I want to get to Exeter by 4 o'clock this afternoon, I will need to get to Taunton station before midday". **Is this true or false? Convince me.** Make up your own 'true/false' statement about a journey using the timetable.	**True or false?** (Looking at a pie chart) "More than twice the number of people say their favourite type of T.V. programme is soaps than any other" **Is this true or false? Convince me.** Make up your own 'true/false' statement about the pie chart.

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	What's the same, what's different? Pupils identify similarities and differences between different representations and explain them to each other	**What's the same, what's different?** Pupils identify similarities and differences between different representations and explain them to each other	**What's the same, what's different?** Pupils identify similarities and differences between different representations and explain them to each other	**What's the same, what's different?** Pupils identify similarities and differences between different representations and explain them to each other	**What's the same, what's different?** Pupils identify similarities and differences between different representations and explain them to each other
SOLVING PROBLEMS					
		solve one-step and two-step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	solve comparison, sum and difference problems using information presented in a line graph	calculate and interpret the mean as an average
	Create a questions Pupils ask (and answer) questions about different statistical representations using key vocabulary relevant to the objectives.	**Create a questions** Pupils ask (and answer) questions about different statistical representations using key vocabulary relevant to the objectives. (see above)	**Create a questions** Pupils ask (and answer) questions about different statistical representations using key vocabulary relevant to the objectives. (see above)	**Create a questions** Pupils ask (and answer) questions about different statistical representations using key vocabulary relevant to the objectives. (see above)	**Create a questions** Make up a set of five numbers with a mean of 2.7 **Missing information** The mean score in six test papers in a spelling test of 20 questions is 15.Five of the scores were 13 12 17 18 16 What was the missing score?