*In partnership with:*

National Centre for Excellence in the Teaching of Mathematics

White Rose Maths

# Statistics

| Position, Direction and Movement | | | | | |
|---|---|---|---|---|---|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. | Interpret and present data using bar charts, pictograms and tables. | To understand the difference between discrete and continuous data. | Complete, read and interpret information in tables, including timetables. | Interpret and construct pie charts and line graphs. |
| | Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. | | Interpret and present discrete and continuous data using bar charts and time graphs. | | Solve problems involving pie, bar and line charts. |
| | Ask and answer questions about totalling and comparing data. | | | | |
| | **True or false?** (Looking at a simple pictogram) "More people travel to work in a | **True or false?** (Looking at a bar chart) "Twice as many people like strawberry than lime". | **True or false?** (Looking at a graph showing how the class sunflower is growing over time) "Our sunflower | **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". | **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 |

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| | car than on a bicycle".<br><br>**Is this true or false?**<br>**Convince me.**<br>Make up your own 'true/false' statement about the pictogram | **Is this true or false?**<br>**Convince me.**<br>Make up your own 'true/false' statement about the bar chart. | grew the fastest in July".<br><br>**Is this true or false?**<br>**Convince me.**<br>Make up your own 'true/false' statement about the graph. | **Is this true or false?**<br>**Convince me.**<br>Make up your own 'true/false' statement about a journey using | any other"<br><br>**Is this true or false?**<br>**Convince me.**<br>Make up your own 'true/false' statement about the pie chart. |

| **Solving Problems** | | | | | |
|---|---|---|---|---|---|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | | Solve one-step and two-step questions (e.g. How many more?) using information presented in bar charts, 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:**<br>Pupils ask (and answer) questions about different statistical representations | **Create a questions:**<br>Pupils ask (and answer) questions about different statistical representations | **Create a questions:**<br>Pupils ask (and answer) questions about different statistical representations using key vocabulary relevant to the objectives. | **Create a questions:**<br>Make up a set of five numbers with a mean of 2.7.<br><br>**Missing information:**<br>The mean score in six test papers in a spelling |

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| | | using key vocabulary relevant to the objectives. | using key vocabulary relevant to the objectives. | | test of 20 questions is 15.Five of the scores were 13 12 17 18 16.<br><br>What was the missing score? |

| Vocabulary | | | | | |
|---|---|---|---|---|---|
| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| | table<br>column<br>row<br>diagram<br>tally<br>tally chart<br>block diagram<br>pictogram<br>represent<br>label<br>title<br>scale<br>most/least popular<br>most/least common<br>category | interpret<br>present<br>bar chart<br>graph<br>caroll diagram | mode<br>range<br>equation<br>rule<br>discreet data<br>continuous data<br>survey<br>questionnaire<br>time graph | line graph<br>bar line chart<br>maximum<br>minimum<br>value<br>outcome<br>x- axis<br>y – axis<br>database | pie chart<br>mean<br>average<br>median<br>statistics<br>distribution<br>substitution<br>rate<br>sample |