## Examples of what children should be able to do, in relation to each (boxed) Programme of Study statement

**interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs**

* Collect data, measuring where necessary. They work with a range of data, such as shoe size and width of shoe across the widest part of the foot, the number of letters in children’s names, the width of their hand spans, the distance around their neck and wrist, data from nutrition panels on cereal packets, and so on.
* They decide on a suitable question or hypothesis to explore for each data set they work on. For example, ‘We think that…boys have larger shoes than girls’, ‘…our neck measurements are twice as long as our wrist measurements’, ‘…girls’ names have more letters than boys’ names’ or ‘…children in our class would prefer to come to school by car but they usually have to walk’.
* Children consider what data to collect and how to collect it. They collect their data and organise it in a table. They choose a Venn or Carroll diagram, or a horizontal or vertical pictogram or bar chart to represent the data. Where appropriate, they use the support of an ICT package. They justify their choice within the group so that they can present it.
* They understand that they can join the tops of the bars on the bar-line chart to create a line graph because all the points along the line have meaning.

**solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs**

* Undertake one or more of three enquiries:

* + What vehicles are very likely to pass the school gate between 10:00 am and 11:00 am? Why? What vehicles would definitely not pass by? Why not? What vehicles would be possible but not very likely? Why? What if it were a different time of day? What if the weather were different?
  + Does practice improve estimation skills? Children estimate the lengths of five given lines and record the estimate, measured length and difference. They repeat the activity with five more lines to see whether their estimation skills have improved after feedback.
  + What would children in our class most like to change in the school? Children carry out a survey after preliminary research to whittle down the number of options to a sensible number, e.g. no more than five.
  + Children identify a hypothesis and decide what data to collect to investigate their hypothesis. They collect the data they need and decide on a suitable representation. In groups, they consider different possibilities for their representation and explain why they have made their choice.
  + In the first enquiry, children use tallies and bar charts. In the second, they use tables and bar charts to compare the two sets of measurements. In the third, they use a range of tables and charts to show their results, including Venn and Carroll diagrams. They use ICT where appropriate.

## Non-Statutory Guidance

Pupils understand and use a greater range of scales in their representations.

Pupils begin to relate the graphical representation of data to recording change over time.