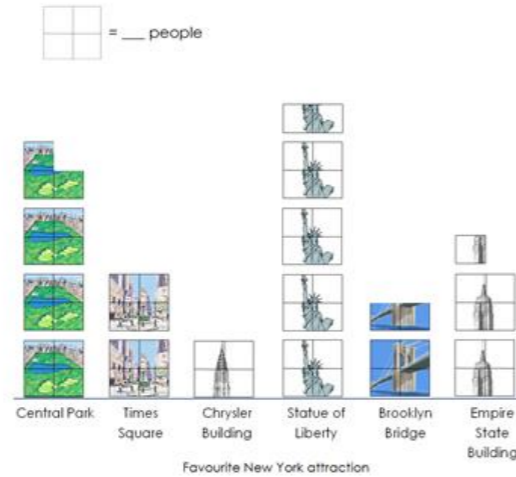


# Year 4 Unit 4: Discrete and continuous data (2 weeks)

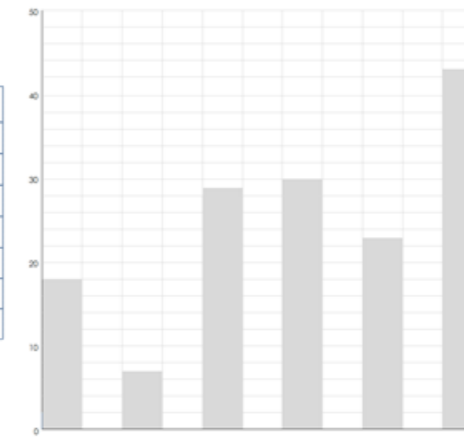
## Discrete or continuous?

It is important for all adults to have a secure understanding of the difference between **discrete** and **continuous** data. Spending time completing [this task](#) will deepen your understanding.

- Before you start...**
- What prior experience do pupils have in collecting data?
  - Have pupils encountered different types of graph in Maths Meetings or other subjects?
  - Are pupils secure with counting in steps of different value, such as 2, 5 and 10?
  - Have pupils a secure understanding of units of measure including time and length?



Favourite New York attraction	Number of adults
Statue of Liberty	30
Brooklyn Bridge	23
Empire State Building	43
Chrysler Building	29
Times Square	7
Central Park	18
Total	150



**Video:** To scale or not to scale? How to read a bar graph.

Lesson 5 is a suggested consolidation lesson. This could be used to collect and represent discrete data of pupils' own choosing.

**Representing data using pictograms**  
 L1 Read, interpret and compare pictograms  
 L2 Construct a pictogram

Pupils make connections with data represented in frequency tables and pictograms, consolidating and extending their understanding of data presented in this way. When constructing and interpreting, attention should be paid to the use of a key and identifying the value of each symbol in the graph.

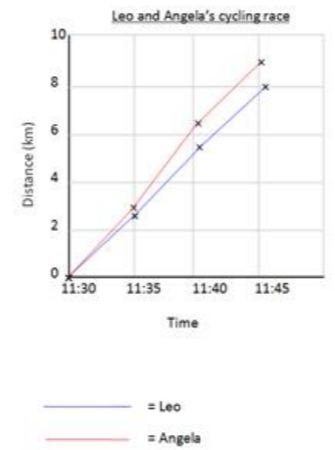
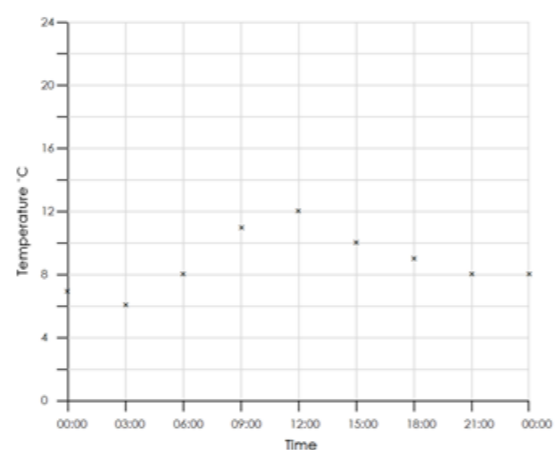
? How will you make use of opportunities to apply understanding of multiplication when working with pictograms?

**Representing data using bar charts**  
 L3 Read, interpret and compare bar charts  
 L4 Construct a bar chart

Building on understanding of pictograms and their limitations for larger data sets, pupils interpret and compare bar charts. Pupils deepen their understanding of the use of scales for axes and consider the appropriateness of scales and the importance of accurate labelling.

? How will your examples and questioning support pupils in identifying when different scales will need to be used?  
 ? How can you build in opportunities to discuss how zero is represented in a graph?

**Context is key**  
 Where possible, consider real-life reasons for pupils to collect and present data. Making use of experiments or observations in foundation subjects or Science, or aspects of school life such as parent or pupil voice, can give meaningful contexts for working with data.



**Video:** Telling the story of the graph

**Exploring time graphs**  
 L6 Read a time graph  
 L7 Construct a time graph  
 L8 Interpret time graphs  
 L9 Construct time graphs with more than one data set

Pupils read and interpret continuous data in the form of time graphs, identifying similarities and differences with other graphs studied in the unit. They use their reading to construct a 'story of the graph' and identify possible reasons for the information shown. They consider the appropriateness of scales when constructing time graphs, first with one then two sets of data. When considering two sets of data, pupils learn that presenting data on one graph allows for comparison.

? What skills do pupils need in order to successfully construct a time graph? How might you model these?  
 ? How will you make links with pupils' prior knowledge of time?

Lesson 10 is a suggested consolidation lesson.

**Model it!**  
 Take time to consider how you will effectively model constructing graphs e.g. by using a visualizer.