

# Handling Data

Sort, without direction, random collections of natural, scrap and commercial materials in a range of ways. Talk about the sorting.

Sort for one criterion using one-property materials and talk about the sorting.

Sort for one criterion using 2/3/4 property materials and re-sort for a different criterion.

Use diagrams such as Carroll, Tree or Venn when sorting. Include the idea of negation *eg, red/not red*. Label diagrams using picture cards.

Talk about possible areas for data collection *eg, relating to themselves or their surroundings*.

Represent this data using objects, pictures or simple graphing programs

Use mapping diagrams to show relationships between members of two sets. Talk about the work.

Sort for two criteria on diagrams such as Carroll, Tree or Venn. Respond to and ask questions about resulting displays.

Record, compare and talk about data which represents objects/people using *eg drawings, pictures or simple databases*.

Extend sorting activities to include the use of logic materials. Use Carroll/Tree/Venn diagrams to sort and talk about the reasons for their sorting. Play games using logic materials.

Represent pictorially the result of sorting for two criteria using given Carroll, Tree and Venn diagrams.

Collect information relevant to a topic and record in a given table.

Organise and discuss the recording of data in pictograms and simple block graphs using ICT software where appropriate. Introduce use of a baseline (horizontal and vertical). Discuss appropriate title and labels.

Discuss opportunities for collecting data. Introduce simple tallying for recording of data, and organise using a given frequency table.

Represent data from a frequency table on a block graph and interpret results.

Use simple graphing packages to produce horizontal and vertical bar charts to represent data focusing on:

- graph title;
- axes labels.

Discuss the numbering of the frequency axis. Interpret results.

Read and interpret information from a variety of given tables, charts and graphs.

Use classification programs/decision trees to display information about the numbers or properties of objects, *eg sort 3-D shapes, musical instruments or minibests*.

Explore relevant questions or statements, *eg "What is the most popular flavour of crisps?" or "It always rains on Tuesdays"*.

Introduce the bar-gate convention when tallying.

Represent data by drawing and labelling pictograms where the symbol represents more than one object. Discuss and interpret results.

Discuss, draw and label bar charts on given axes, which require simple scales, *eg 2, 5, and 10*. Interpret results.

Enter in, and access information from a simple database.

Collect data using observations, surveys and experiments. Compare ideas and methods of collection with others.

Develop an awareness of pie charts (with a maximum of four sectors) using:

- visual discrimination;
- simple fractions, *eg half and quarter*.

Use ICT software to represent data in a range of ways. Discuss which representation shows the information most clearly.

Design and use an appropriate observation sheet for an identified issue. Evaluate its effectiveness.

Discuss the need to group data. Record data in tables with given class intervals.

Construct and interpret pictograms where one symbol represents a group of objects and another symbol represents less than that number or half of that number. Discuss and interpret the results.

Design and use a Decision tree diagram to sort or identify objects. Evaluate and refine own methods.

Use opportunities in the classroom and games to explore doubt and certainty. Extend the vocabulary from everyday language to include words *eg "might", "certain", "likely", "could happen", "impossible", "definitely", "definitely not", "fair", "unlikely" . . .*

Use opportunities in the classroom to give an opinion on the outcome of a particular event.

Discuss and suggest events, the outcomes of which are impossible, uncertain, or certain.

Discuss, draw and label bar-line graphs. Interpret results.

Sort and search an existing relevant computer database in response to directed questions.

Create an organised list to identify all possible combinations, *eg matches to be played in a games tournament*.

Understand the notion of mean and range. Calculate the mean and range of a set of data in relevant contexts.

Discuss, plan, collect, organise and represent data in response to a question or statement. Interpret information and evaluate the effectiveness of the process.

Draw and label line graphs, paying particular attention to the numbering and scaling of the axes. Discuss and interpret results. Discuss the type of data that can be represented in a line graph.

Discuss the fact that intermediate values on a line graph may or may not have a meaning.

Complete and interpret given pie charts with divisions marked.

Compare and order events using finer divisions of language *eg "very likely", "unlikely", "less likely", "probable", "possible" . . .* Be aware of the idea of evens.

Use the language of probability to predict the outcome of simple experiments and test the results.

Test hypotheses by interrogating data in a prepared computer database, *eg "Do people live longer today than 100 years ago?"*

Insert data into a prepared relevant computer database and interrogate. Using two criteria, discuss the data and draw valid conclusions.

Set up own simple database.

Use equal class intervals to create frequency tables for grouped data.

Discuss examples of data represented in newspapers, magazines and multimedia sources.