MATHS

Lesson 12

Prep

Topic: Patterns and algebra

Sorting objects

Lesson concepts

- **Patterns** — Classification
- **Functions** — Rules

Today students will:

- sort objects into groups based on similar features
- identify the similar features
- describe sorts using mathematical language.

Resources

Sheet

Sheet — Sorting rules (cut out)

Find and prepare

collection of materials that can be sorted, counted and compared (such as a collection of small toys, a collection of stationery items)

four hoops for sorting groups (or draw circles on the floor in chalk)

collection of collage materials (for example: buttons, fabric, toothpicks, pasta, stickers, paper)

containers to sort and store collage materials

scrap paper

marking pen

glue

Key terms

sort, describe, compare, similar, different, same, group, rule, colour, size, shape, use, feel

For definitions and explanations of terms, please see the Glossary.

Lesson

Introduce the lesson

Say to students

> Today, we are going to learn about sorting. First, let's practise what we have already learned about comparing similarities and differences in objects.

Help students to make a small collection of materials that can be sorted and compared (for example: a collection of small toys or a collection of stationery items).

Ask students to describe and compare the materials as they have collected.

Focus questions

Q: *How could you describe this object?*
Q: *How does it look, sound, smell, feel?*
Q: *What could you do with this object?*
Q: *How is the (car) the same as/different to the (train)?*
A: For example, they both have wheels, they are both ways to travel, the car is blue and the train is red, the car has four wheels and the train has eight wheels.

Explore sorting as a way of organising materials

Say to students

> Now we have collected and described our materials, so we can sort them into groups.

Focus questions

Q: *What does 'sort' mean?*
Q: *How do you sort?*
Q: *What type of things can be sorted?*
Q: *What helps you to decide which group to put things in?*
Q: *How could you show that the objects are in different groups?*

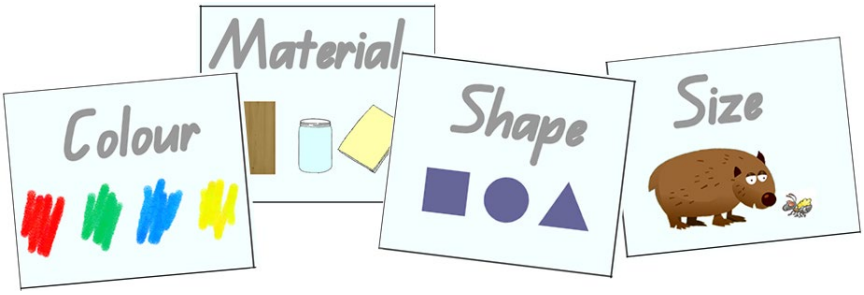
Create distinct areas for the objects to be sorted (use hoops or draw 'sorting circles' on the floor with chalk).

Say to students

Sorting is putting together items that are similar to each other (for example, size, colour and shape). When you choose what groups to sort the items into, you are making up a sorting rule.

Ask students to:

- sort the materials they have collected, in any way they choose (use the **Sheet — Sorting rules** for sorting ideas, if necessary)
- explain how they sorted the materials (for example: by colour, size, shape, use, material).



Focus questions

Q: *How could you sort this collection?*

Q: *What other ways could you sort it?*

Q: *If you started with this object, what could go with it in a group? Why?*

A: Answers will vary. For example: If I started with the pencils, I could put the crayons in the same group because they are both used for drawing.

Describe criteria for sorting objects

Provide students with a collection of mixed collage materials and some containers in which to sort them.

Say to students

These materials need to be sorted so they will be easy to find when you use them.

Focus question

Q: *What would be a good way to sort these items so they are easy to find when you need them?*

Ask students to:

- sort materials so they will be easy to find (for example: all items for gluing, all items for cutting)
- explain the rule they are using to sort the materials (such as sorting by colour, by use, by size or what they are made of)
- place the materials into containers.

Help students to label the containers (for example: write a word on a piece of card or glue an object to the outside of each container to show what is stored inside).

Focus questions

Q: *What have you grouped together? Why?*
Q: *How did you arrange your groups?*
Q: *What is your rule for sorting these objects?*
Q: *Where else could you have placed this item? Why?*