

# SCIENCE

## Lesson 1

### Prep

#### Topic: Reflecting on movement

#### Investigating movement of familiar objects

##### Lesson concepts

- A** The way objects move depends on a variety of factors, including their size and shape
- A** Questions can obtain responses
- A** Observations can be discussed and ideas can be represented
- A** Observations and ideas can be shared

Today students will:

- investigate, describe and compare the properties and movement of familiar objects.

#### Resources

##### Find and prepare

Shet — Ramp racers recording sheet

Investigation materials:

- objects that can slide, for example: assorted boxes, hardcover books, piece of paper, wooden or plastic blocks
- objects that can roll, for example: balls of various sizes and types both bouncy and non-bouncy, cylinders, such as jam tin, plastic bottles of various sizes, some half-filled with water, cardboard tubes, toys with wheels
- ramp approx. 1 m long, for example: stiff cardboard, small table (upturned)
- ramp supports to raise one end of ramp about 25 cm, for example: boxes, bricks, bucket
- towel or piece of fabric (roll and place along base of ramp to stop objects rolling away).

#### Key terms

observations,  
observe, properties

For definitions and explanations of terms, please see the [Glossary](#).

## Lesson

### Understand the investigation

#### Say to students

Today in science we are doing an investigation called 'Ramp racers'. You will roll or slide objects down a ramp. You will choose two **different** objects and release them one at a time and then together down the ramp. We will record what you observe on the recording sheet. It is important to show your best scientific thinking.

1. Locate the **Sheet** — [Ramp racers recording sheet](#).

#### Say to students

The question we are investigating is 'What affects how two different objects move down a ramp?'

As this is a science investigation, it is important that we give detailed observations to explain our thinking and work in a scientific way.

To begin with, you need to select two suitable objects that are different types. One might be good at rolling and one at sliding or one might not roll or slide well. If they are both good they **must not be** the same type, for example: you cannot choose one big ball and one small one.

Choose your objects and if they are suitable we will begin.

#### Note

It is important that the objects selected are quite different to allow the student to make comparisons. If a selection is too similar, ask the student to keep one and select a different type of object.

#### Say to students

Now that you have your objects, you are going to draw or write the name of one of them in the first box. Then in the second box we will write or draw what the properties of this object are. These can be any properties, not just ones to do with moving. I will help you write the tricky properties in a while.

Then turn over to the back of the sheet and do the same for your second object. Draw or write its name, and list or draw its properties too.

## Conduct the investigation

2. Check for understanding before students attempt to record objects and properties.

### Say to students

Now, you can test your objects. Remember to test them one at a time at first and then release them together. Use the letting go method to be fair and make close observations of how each move. Test them at least three times to make sure you are observing everything accurately.

3. Observe students conducting their investigation.

## Conduct interviews

4. Work through the recording sheet, inviting students to share their observations and scribe additional ideas for them:
  - a. Check properties for accuracy and ask for clarification.
  - b. Ask if there are any other properties they can observe and add these.
  - c. Ask them which of the properties they have described above are properties that affect the objects' movement. (Re-read the properties if need be.)
  - d. Discuss with students the two observations in the last section and record their ideas.

### Share your observations with an adult about:

1. How each object moved down the ramp.
2. Why the objects moved differently.

### Say to students

Is there anything else you have thought of that you would like to add to your recording sheet?