

Science F-2

Chapter 7 — Making sense of what we found, and telling others

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Sorting and ordering data in provided tables and models to show patterns

This is read with the teacher. The teacher reads all the words. The child looks, says, points and does. The child does not need to read.

data and information can be sorted and ordered using provided tables and organisers, and visual or physical models, to show simple patterns — VC2S2I04

Evidences: They use provided tables and organisers to sort and order data, and represent simple patterns in data.

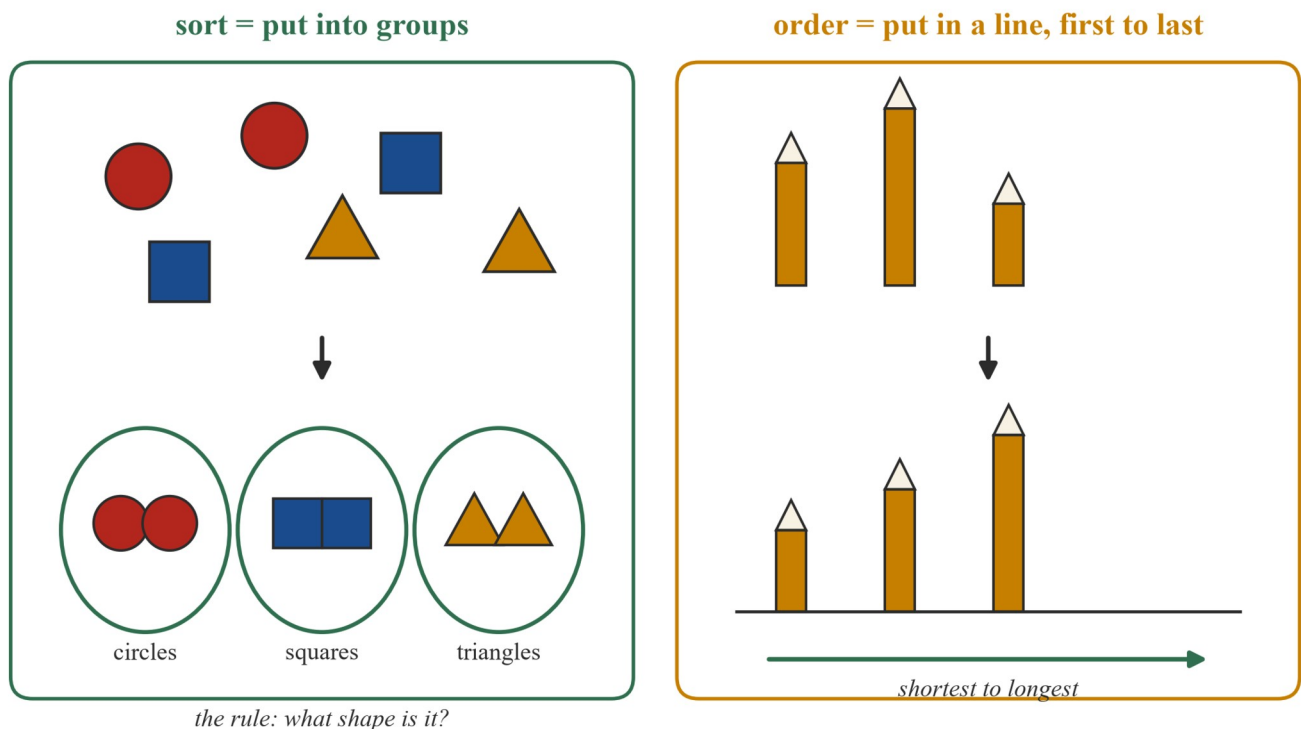
In this topic we will:

- sort things into groups, and order things in a line, and see the difference
- use a table that is given to us, and put one mark in one square
- record a straight move in a provided table (E01)
- say what a provided weather table could record across the days of a week (E02)
- record how far a material stretches in a provided table (E03)
- group animals by the common features of their bodies (E04)
- find a pattern in the sounds of elastic bands of different thicknesses (E05)
- order pictures of the Moon to show a monthly cycle (E06)

Theory

Two moves: sort and order

To **sort** means to put things into groups using a rule. To **order** means to put things in a line, from first to last.



Two pictures. Left: mixed circles, squares and triangles are sorted into three groups by the rule “what shape is it?” Right: three pencils of different lengths that are mixed up are ordered in a line from shortest to longest.

- In the left picture, the shapes are **sorted**. The rule is: what shape is it? Circles with circles. Squares with squares. Triangles with triangles.
- In the right picture, the pencils are **ordered**. They stand in a line from shortest to longest.

When we sort or order, we can see a **pattern**. A pattern is something we can see that repeats, or a line that goes up or down in the same way.

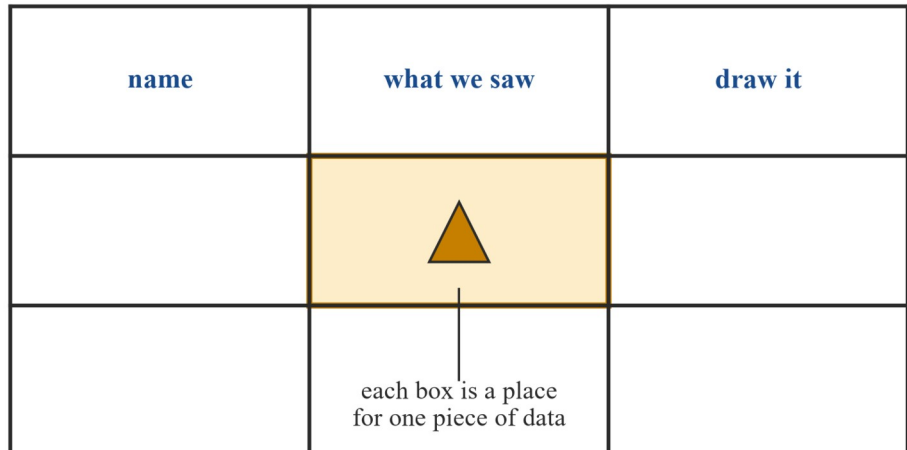
Data is what we find out and write down. Our pictures, our ticks and our numbers are all data.

A table that is given to us

In this topic, the table is always **given** to us. We do not have to make the table. We put our data into the boxes.

a table that is given to us

a row goes across



name	what we saw	draw it
	▲	
	each box is a place for one piece of data	

a column goes down

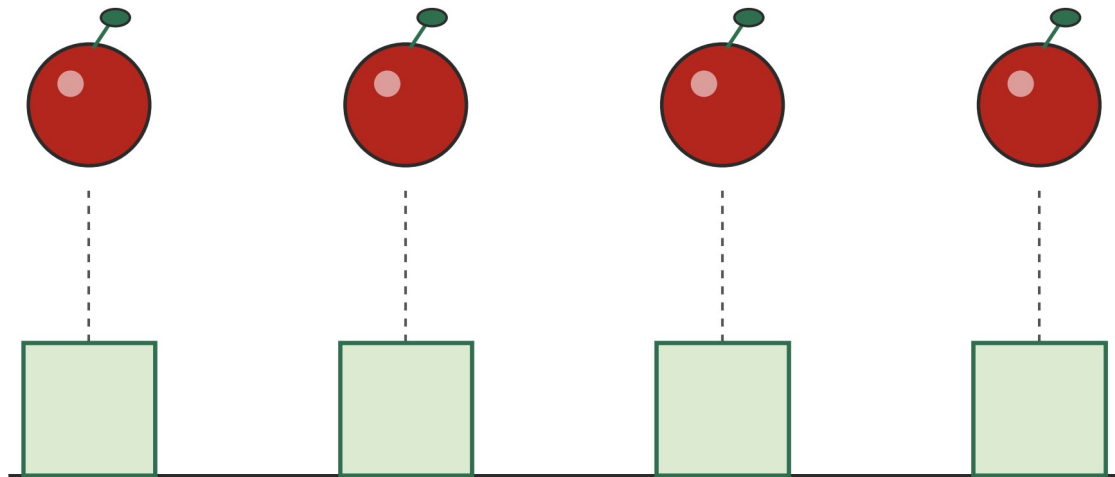
A table with three columns labelled name, what we saw and draw it. An arrow across the top shows a row goes across. An arrow down the side shows a column goes down. One box is coloured and holds one triangle: each box is a place for one piece of data.

- A **row** goes across.
- A **column** goes down.
- Each **box** is a place for one piece of data.

One thing, one square

When we put data in a table, we use one mark for one thing. One thing, one square.

one thing, one square



four apples. four squares. one square for each apple.

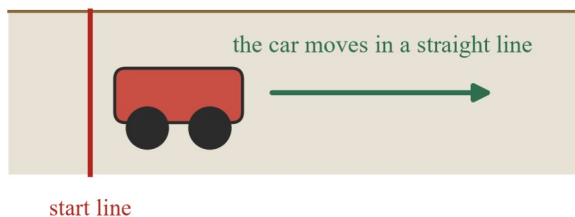
Four apples in a row above a row of four squares. A line joins each apple to its own square. The caption reads: four apples, four squares, one square for each apple.

Four apples. Four squares. One square for each apple. This match — one thing, one square — is how a table keeps our data true.

Recording a straight move

We can record how a toy car moves in a straight line. The table is given to us.

recording a straight move



try	squares it moved
try 1	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
try 2	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
try 3	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

one square for each block the car moves.

we colour the squares. then we can see how far it went.

Left: a toy car at a red start line on a floor, with a green arrow showing the car moves in a straight line. Right: a provided table with rows try 1, try 2 and try 3; each row has eight empty squares to colour, one square for each block the car moves.

We let the car go at the start line. We do not push it. We count the blocks it moves. We colour one square for each block.

Let go — do not push. Keep the floor clear so no one slips.

The table keeps our data in order. Then we can look at the squares and see a pattern: how far the car went each try.

A weather table for our week

Here is a table that could record our weather across the days of a week. The table is given to us.

a weather table for our week

day	what we saw	draw it
Monday	<i>sun? cloud? rain?</i>	
Tuesday	<i>sun? cloud? rain?</i>	
Wednesday	<i>sun? cloud? rain?</i>	
Thursday	<i>sun? cloud? rain?</i>	
Friday	<i>sun? cloud? rain?</i>	

the table is given to us. we fill it in together each day.

A provided table with columns day, what we saw and draw it, and rows Monday to Friday. The boxes are empty for the class to fill in together each day.

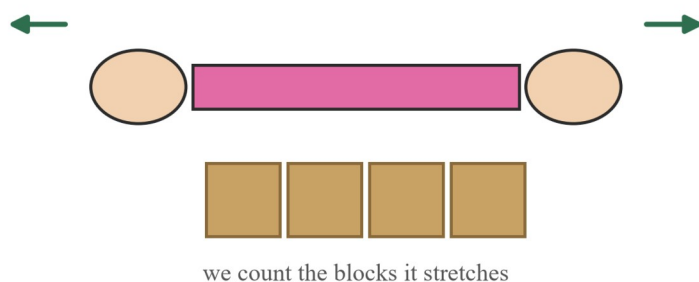
Each day we look at the sky. We say what we saw: sun, cloud or rain. We draw it in the box. At the end of the week, the table shows our week's weather in order, day by day. We can look for a pattern: were most days sunny? Were most days rainy?

The stretch test

We can find out how far a material can stretch before tearing. The teacher cuts strips of paper, fabric and elastic band. An **elastic band** is a band that stretches a lot and then goes back.

We hold a strip. We pull gently. We count the blocks it stretches. The table is given to us. We write the number of blocks.

the stretch test



material	blocks it stretched
paper	
fabric	
elastic band	

the table is given to us.
we write the number of blocks.

we pull gently. one block at a time. the same blocks every time.

keep the band away from faces.

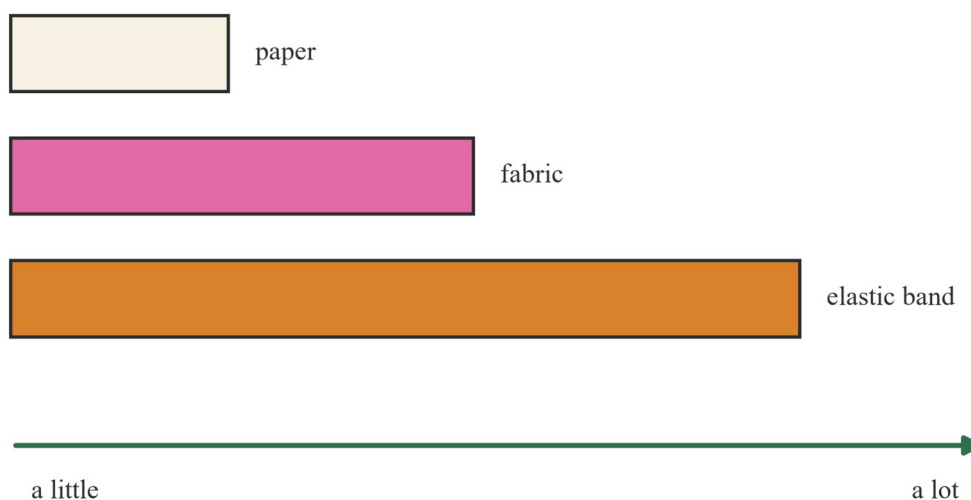
Left: two hands pull a strip of fabric gently, with blocks underneath to count how far it stretches. Right: a provided table with a row for paper, a row for fabric and a row for elastic band, and an empty column to write the blocks it stretched. A note reads: keep the band away from faces.

Keep the band away from faces. A stretching band can snap back.

We pull gently. One block at a time. The same blocks every time. Then our numbers are data we can order.

Here is the order we always find.

in order: from a little stretch to a big stretch



paper stretches a little, then it tears. the elastic band stretches the most.

Three bars in order from short to long: paper stretches a little, fabric stretches more, and an elastic band stretches the most. An arrow runs from "a little" to "a lot".

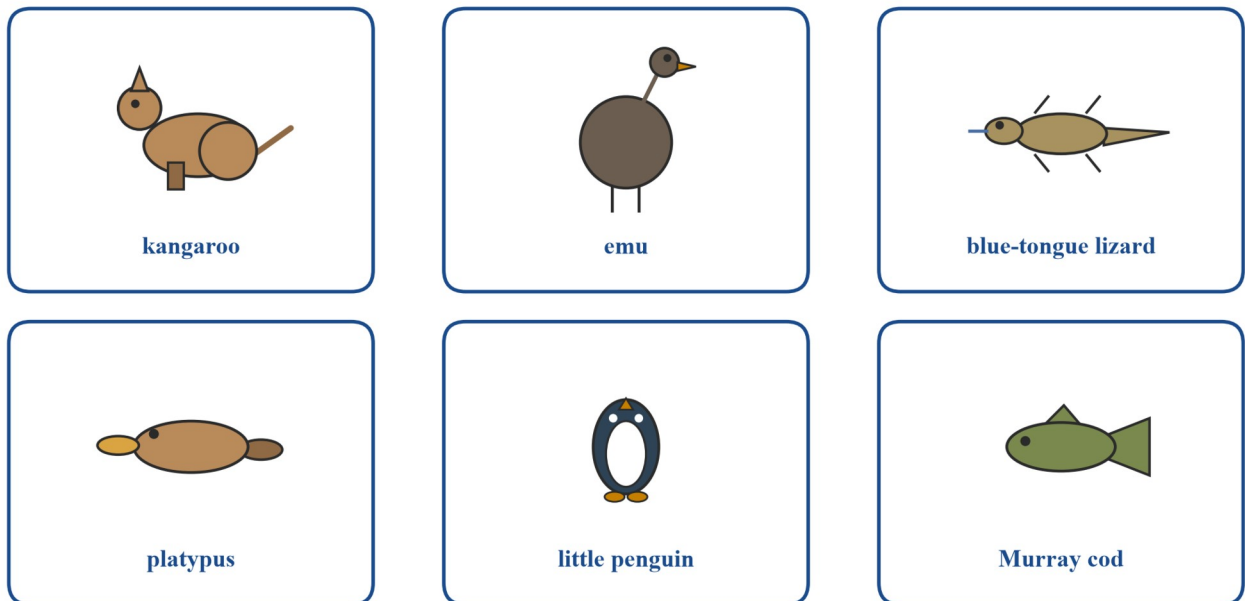
- Paper stretches a little, then it tears.
- Fabric stretches more.
- The elastic band stretches the most.

The order is a pattern we can see: paper, fabric, elastic band — from a little stretch to a big stretch.

Grouping animals by a common feature

Animals have a **covering** on their bodies. The covering keeps them safe. Some animals have fur. Some have feathers. Some have scales.

six animal cards

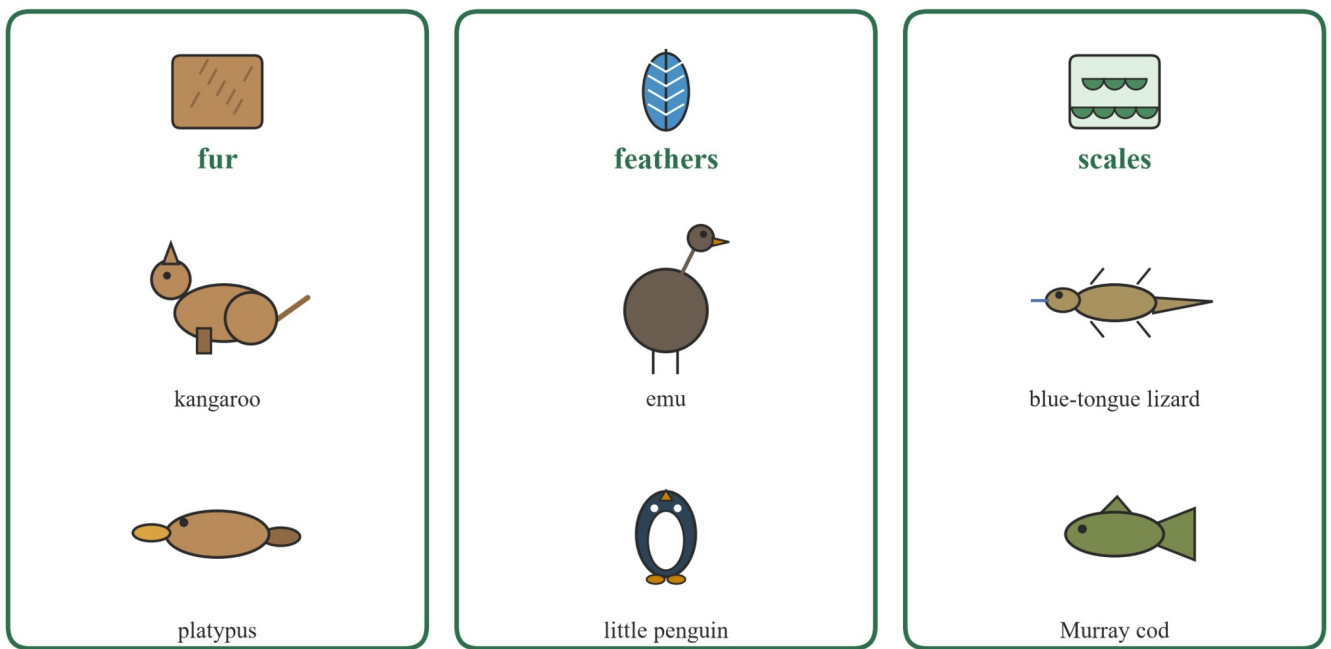


each animal has a covering on its body. the covering keeps it safe.

Six animal cards: a kangaroo, an emu, a blue-tongue lizard, a platypus, a little penguin and a Murray cod, each with its name.

These six animals all live in Victoria. We can sort them into groups by their covering. The rule is: what covers the animal's body?

sorted by the covering



the rule: what covers the animal's body?

Three group boxes headed by a picture of fur, a feather and a picture of scales. The fur group holds the kangaroo and the platypus. The feathers group holds the emu and the little penguin. The scales group holds the blue-tongue lizard and the Murray cod.

- **Fur:** the kangaroo and the platypus. The platypus has fur, even though it lives by a river and lays eggs.
- **Feathers:** the emu and the little penguin. The penguin's feathers keep it warm at the sea.
- **Scales:** the blue-tongue lizard and the Murray cod. The cod is a fish; fish have scales.

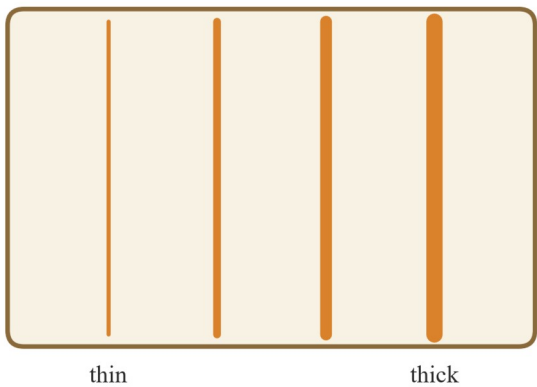
The groups show a pattern: animals with the same covering go together.

A pattern in sound

We can find a pattern in sound too. We stretch elastic bands of different thicknesses across a box. We pluck each band and listen.

a pattern in sound

we pluck each band and listen



band	sound
thin band	high
thick band	low

a high sound is like a whistle. a low sound is like a drum.

the table is given to us. we fill it in as we listen.

Left: a box with four elastic bands across it, from thin to thick, labelled thin and thick. Right: a provided table with rows for thin band and thick band; the thin band makes a high sound and the thick band makes a low sound.

- The thin band makes a **high** sound. A high sound is like a whistle.
- The thick band makes a **low** sound. A low sound is like a drum.

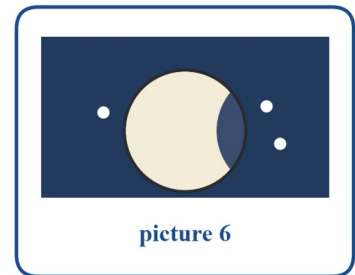
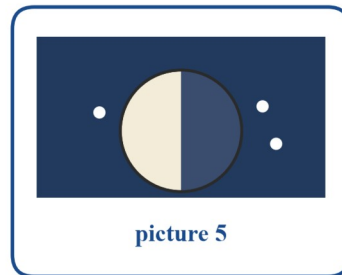
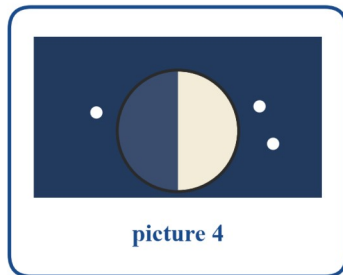
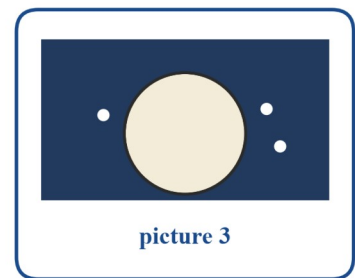
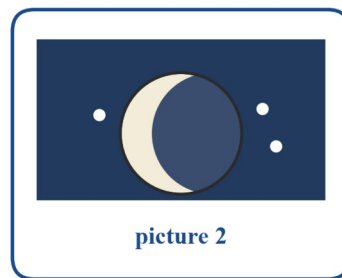
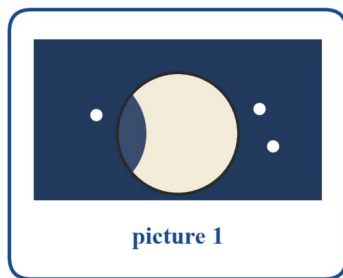
The table is given to us. We fill it in as we listen. The record shows a pattern: the thicker the band, the lower the sound.

The Moon's month

At night we can see the Moon in the sky. The Moon looks different on different nights. We drew a picture each time we looked. The pictures are our data. When only a thin part of the Moon is lit, we call that shape a **crescent**.

moon pictures from our class diary

we looked at the Moon at night and drew what we saw



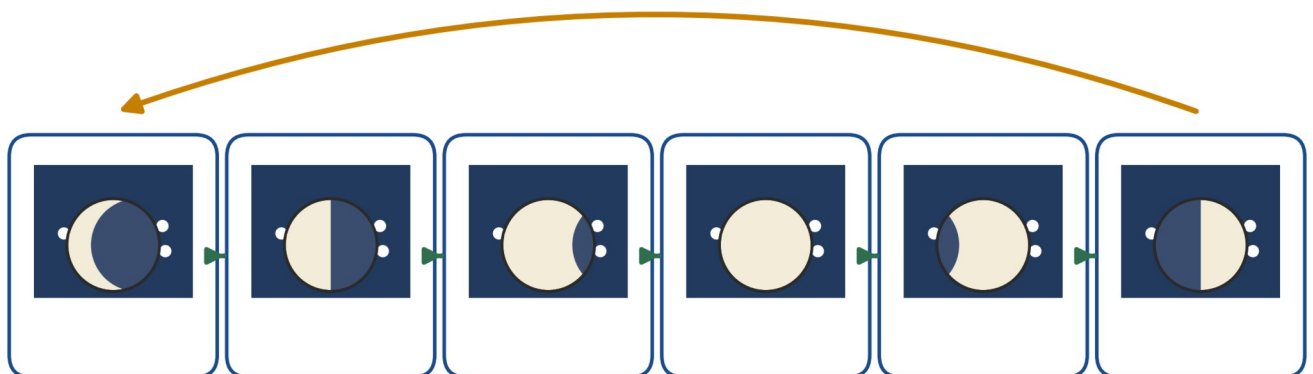
the pictures are all mixed up.

Six night-sky cards from a class diary, mixed up: a Moon more than half lit with a small dark part on the left, a crescent lit on the left, a full Moon, a Moon lit on the right half, a Moon lit on the left half, and a Moon more than half lit with a small dark part on the right.

The pictures are all mixed up. But we can **order** them, because the Moon changes in a pattern.

the moon pictures in order

then the pattern starts again



after the last picture, the Moon starts to look like the first picture again.

the shape changes in a pattern that repeats. this takes about a month.

we call it a cycle.

the ordered pictures are a model of the Moon's month.

The same six cards in order, as seen from Victoria: a crescent lit on the left, then the left half lit, then more than half lit with a small dark part on the right, then full, then more than half lit with a small dark part on the left, then the right

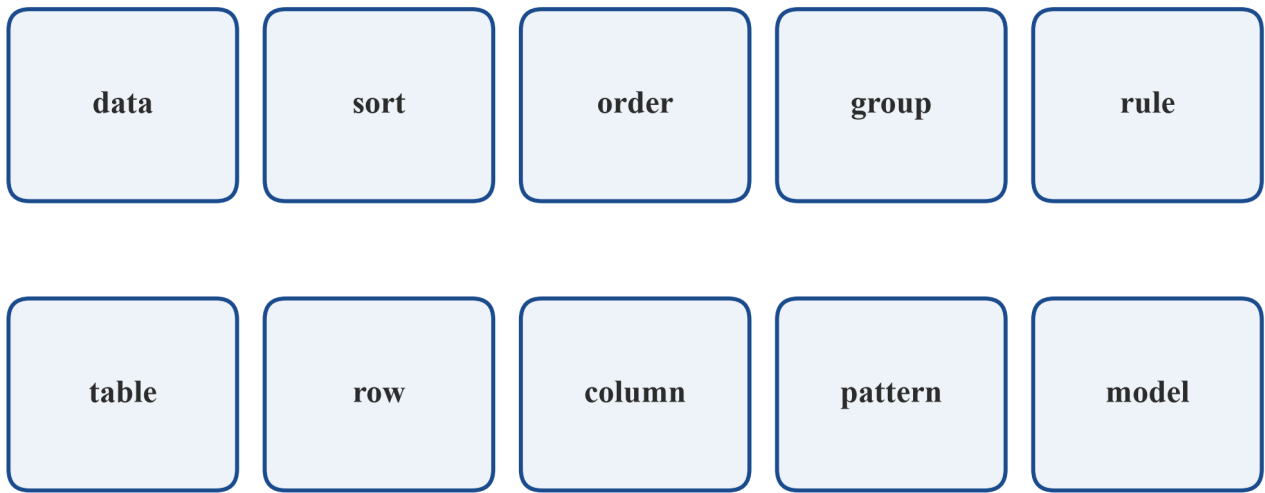
half lit. Small arrows run from card to card, and a long arrow loops from the last card back to the first: then the pattern starts again.

- The lit part grows from the left, to the full Moon.
- Then the lit part shrinks, on the right.
- After the last picture, the Moon starts to look like the first picture again.

The shape changes in a pattern that repeats. This takes about a month. We call it a **cycle**. The ordered pictures are a model of the Moon's month. A **model** is a picture or thing that shows how something really is.

Words for this topic

words for this topic



Ten word cards in two rows: data, sort, order, group, rule, table, row, column, pattern, model.

- **data** — what we find out and write down
- **sort** — to put into groups using a rule
- **order** — to put in a line, from first to last
- **group** — things that go together by the rule
- **rule** — the one thing we use for a sort
- **table** — rows and columns of boxes that hold data; here it is given to us
- **row** — the line of boxes that goes across
- **column** — the line of boxes that goes down
- **pattern** — something we can see that repeats
- **model** — a picture or thing that shows how something really is

Worked examples

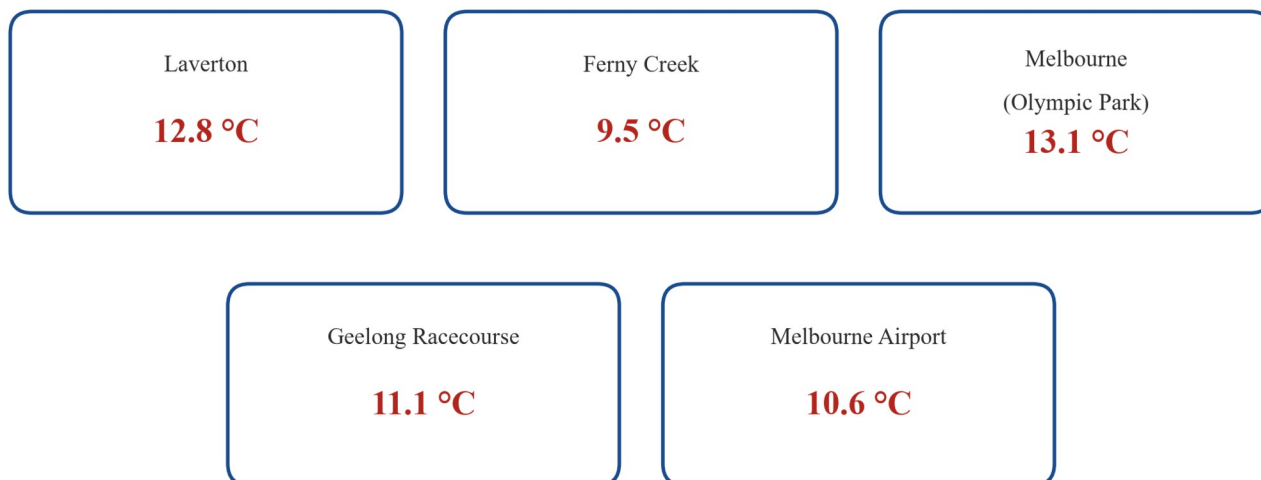
Do these with the teacher. Use what you can see here.

Worked example 1 — order real temperature cards and fill the table (E02)

These cards show how warm five places in Victoria were on one real morning: Thursday 20 August 2026, at 9:20 in the morning. The number on each card is the **temperature**. The temperature tells us how warm the place was.

five places in Victoria. one morning.

Thursday 20 August 2026, 9:20 in the morning



the cards are mixed up. how can we order them?

Five mixed-up cards, each with a Victorian place and how warm it was at 9:20 in the morning: Laverton 12.8 °C, Ferny Creek 9.5 °C, Melbourne (Olympic Park) 13.1 °C, Geelong Racecourse 11.1 °C, Melbourne Airport 10.6 °C.

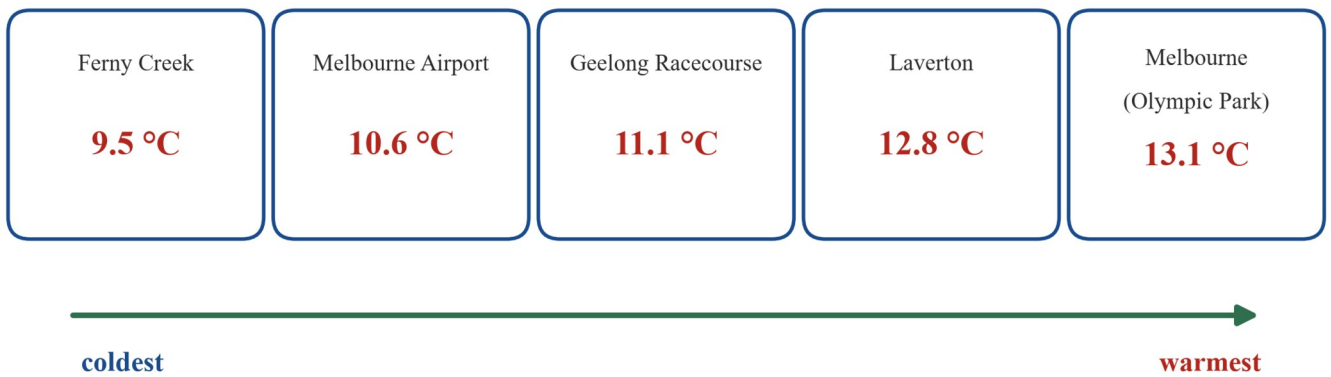
Source: Bureau of Meteorology, Latest Weather Observations for the Melbourne Area, 2026. Retrieved 2026-08-20.

Put the cards in order from coldest to warmest, into the table that is given to us.

Working	Say why
Read the numbers: 12.8, 9.5, 13.1, 11.1, 10.6.	The number tells us how warm each place was. A smaller number is colder.
Find the smallest number: 9.5. That is Ferny Creek.	The coldest place comes first.
Next smallest: 10.6, then 11.1.	Melbourne Airport, then Geelong Racecourse.
Next: 12.8, then the biggest, 13.1.	Laverton, then Melbourne (Olympic Park).
Write the order in the given table, one place in one box.	One thing, one box.

∴ The order from coldest to warmest is: Ferny Creek, Melbourne Airport, Geelong Racecourse, Laverton, Melbourne (Olympic Park).

the same cards, in order



Ferny Creek was the coldest place.

Melbourne (Olympic Park) was the warmest place.

at every place, the rain since 9:00 in the morning was 0.0 mm.

The same five cards in one line from coldest to warmest, with an arrow from coldest to warmest: Ferny Creek 9.5 °C, Melbourne Airport 10.6 °C, Geelong Racecourse 11.1 °C, Laverton 12.8 °C, Melbourne (Olympic Park) 13.1 °C. A note adds: at every place, the rain since 9:00 in the morning was 0.0 mm.

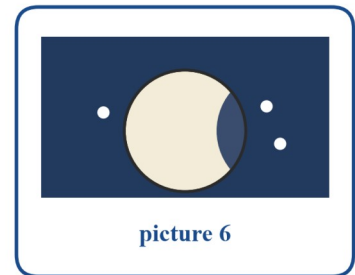
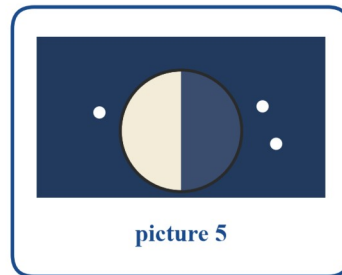
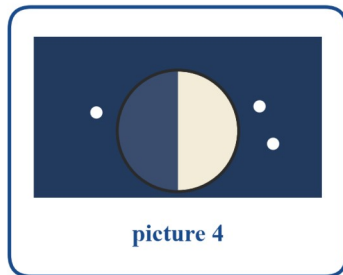
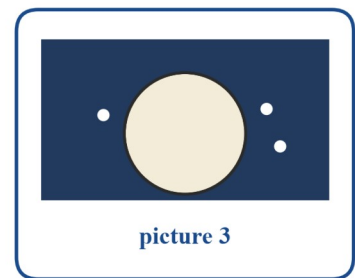
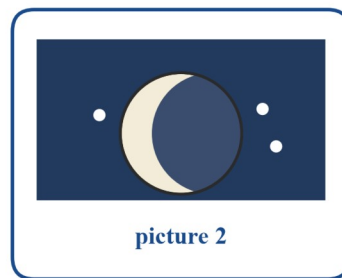
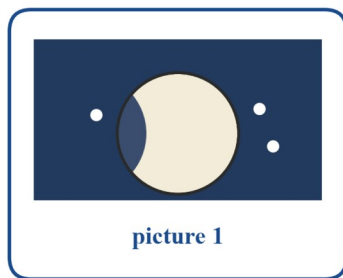
Look at the order. We can read a pattern off the record: the numbers go up along the line. And one more pattern is true for that morning — at every place, the rain was 0.0 mm. No rain at any place.

Worked example 2 — order the Moon pictures into a cycle (E06)

The Moon pictures from our diary are mixed up. Put them in order.

moon pictures from our class diary

we looked at the Moon at night and drew what we saw



the pictures are all mixed up.

Six night-sky cards from a class diary, mixed up: a Moon more than half lit with a small dark part on the left, a crescent lit on the left, a full Moon, a Moon lit on the right half, a Moon lit on the left half, and a Moon more than half lit with a small dark part on the right.

Working

Find the picture with the least light: the thin crescent lit on the left.

Next: the left half lit. Next: more than half lit, with a small dark part on the right.

Next: the full Moon.

Next: more than half lit, with a small dark part on the left. Next: the right half lit.

Put a small arrow between each picture, and a long arrow back to the start.

Say why

The cycle starts with a thin crescent. In Victoria, the light grows from the left.

The lit part grows.

The full Moon is in the middle of the cycle.

After full, the lit part shrinks, on the right.

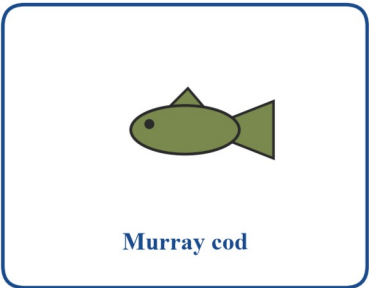
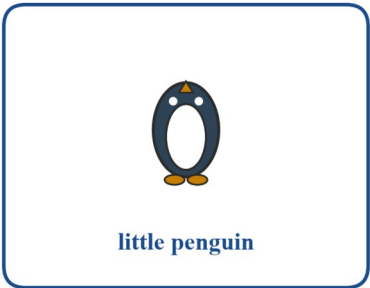
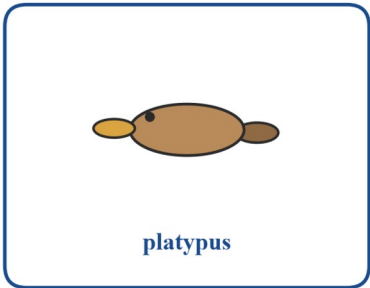
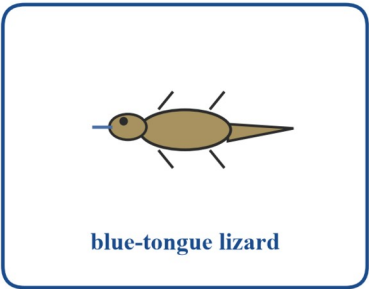
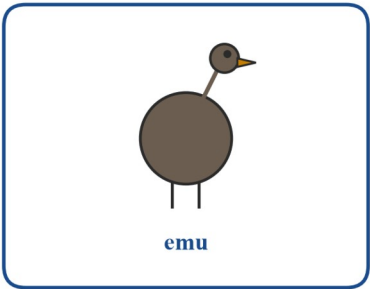
After the last picture, the pattern starts again.

∴ The order is: crescent lit on the left, left half, more than half lit, full, more than half lit the other way, right half — and back to the start. That loop is the Moon's monthly cycle.

Worked example 3 — sort the animals by covering (E04)

Sort the six animal cards into groups by covering.

six animal cards



each animal has a covering on its body. the covering keeps it safe.

Six animal cards: a kangaroo, an emu, a blue-tongue lizard, a platypus, a little penguin and a Murray cod, each with its name.

Working

Say the rule: what covers the animal’s body?
Kangaroo: fur. Platypus: fur.
Emu: feathers. Little penguin: feathers.
Blue-tongue lizard: scales. Murray cod: scales.

Say why

One rule for the sort.
Fur group.
Feathers group.
Scales group.

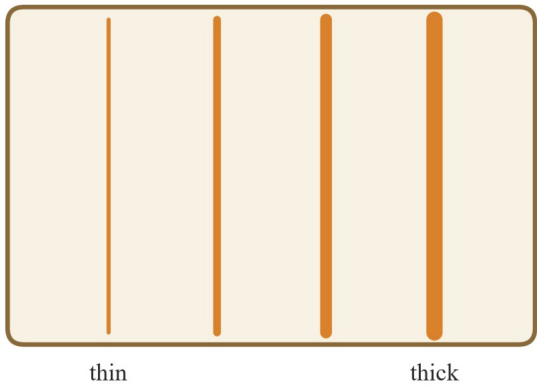
∴ Fur: kangaroo, platypus. Feathers: emu, little penguin. Scales: blue-tongue lizard, Murray cod. The common feature puts them in groups.

Worked example 4 — read the pattern off the sound record (E05)

Here is the record for the bands on the box. Read the pattern.

a pattern in sound

we pluck each band and listen



band	sound
thin band	high
thick band	low

a high sound is like a whistle. a low sound is like a drum.

the table is given to us. we fill it in as we listen.

Left: a box with four elastic bands across it, from thin to thick. Right: a provided table: thin band makes a high sound, thick band makes a low sound.

Working

Read the record down the column: thin band, high.
Thick band, low.

Say what changes along the row of bands: the band gets thicker.

Say what changes in the sound: it gets lower.

∴ The pattern is: the thicker the band, the lower the sound.

Say why

The record is in order, thin to thick.

Thinner to thicker, left to right.

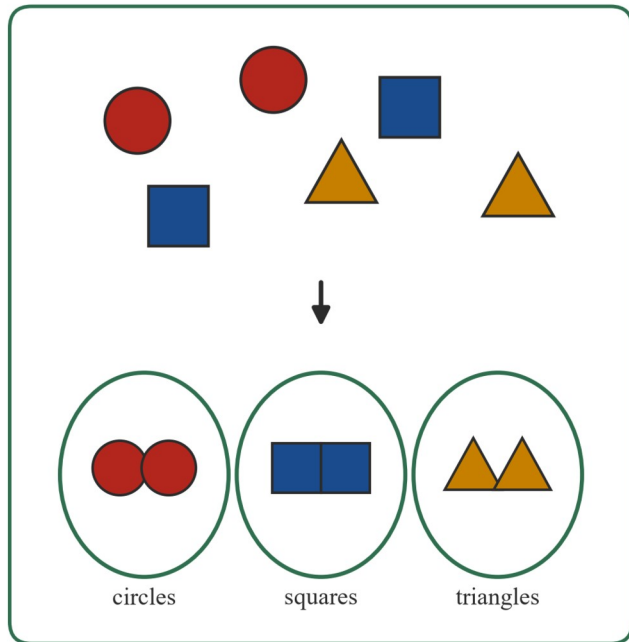
High to low.

Practice questions

The teacher reads all the words. The child says or does the answer. The teacher puts the answer down.

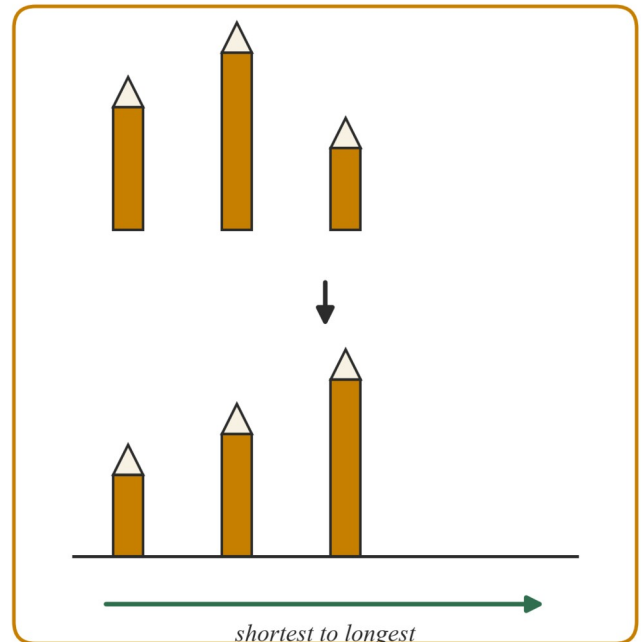
Q1. (Foundation) Look at the two moves.

sort = put into groups



the rule: what shape is it?

order = put in a line, first to last



Two pictures. Left: mixed circles, squares and triangles are sorted into three groups by the rule “what shape is it?”
Right: three pencils of different lengths that are mixed up are ordered in a line from shortest to longest.

- Point to the group of triangles.
- Point to the longest pencil.
- Say which picture shows a sort, and which shows an order.

Q2. (Foundation) Look at the table that is given to us.

a table that is given to us

a row goes across

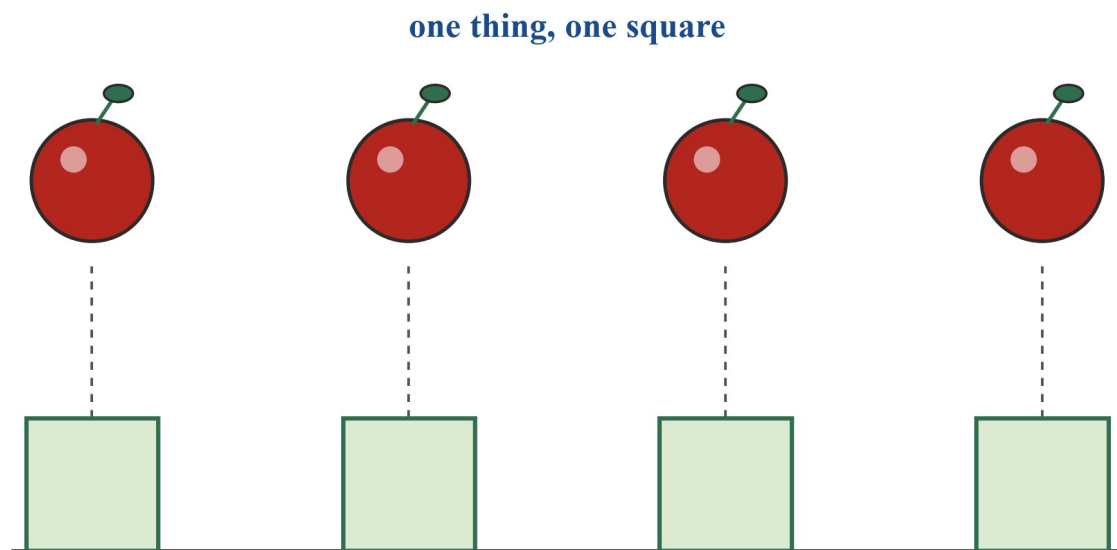
a row goes across →		
name	what we saw	draw it
		
	each box is a place for one piece of data	

a column goes down ↓

A table with three columns labelled name, what we saw and draw it. An arrow across the top shows a row goes across. An arrow down the side shows a column goes down. One box is coloured and holds one triangle: each box is a place for one piece of data.

- Point to a row.
- Point to a column.
- Point to the box that holds the data.

Q3. *(Foundation)* Look at the apples and squares.



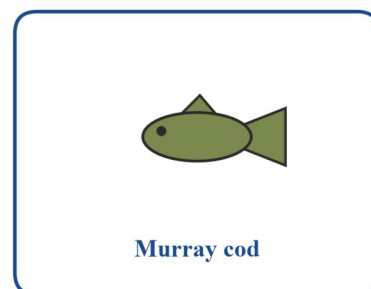
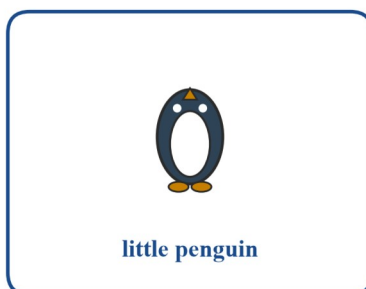
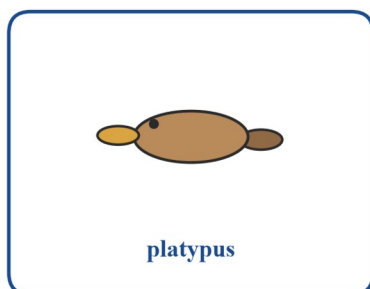
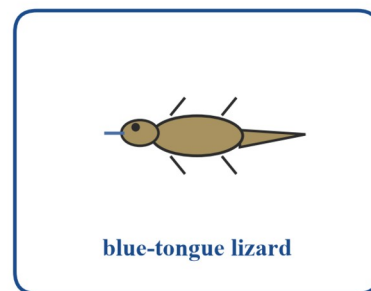
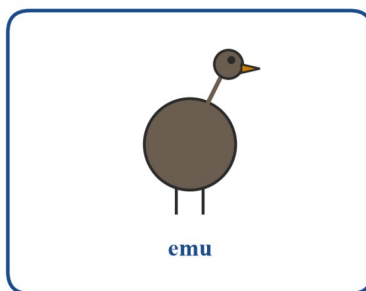
four apples. four squares. one square for each apple.

Four apples in a row above a row of four squares. A line joins each apple to its own square. The caption reads: four apples, four squares, one square for each apple.

- Say how many apples there are.
- Say how many squares there are.
- Say the match rule.

Q4. *(Foundation)* Look at the animal cards.

six animal cards



each animal has a covering on its body. the covering keeps it safe.

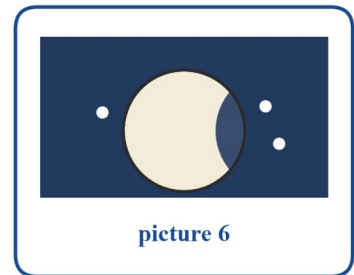
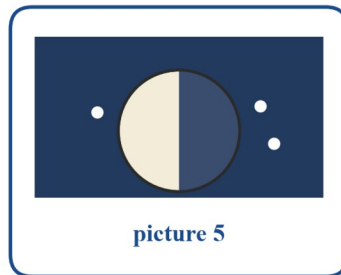
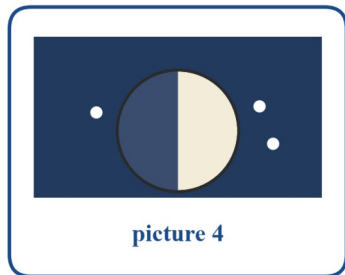
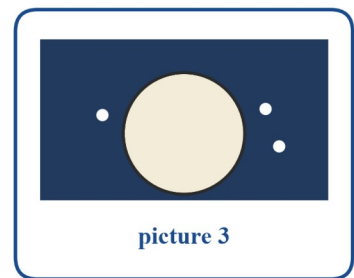
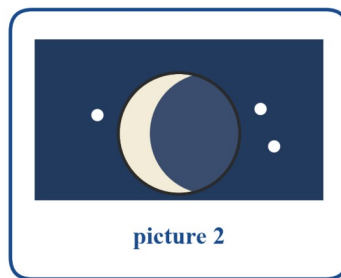
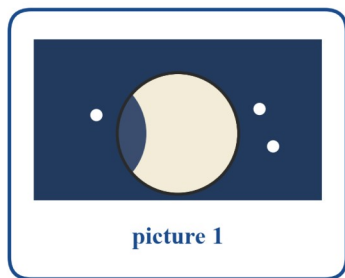
Six animal cards: a kangaroo, an emu, a blue-tongue lizard, a platypus, a little penguin and a Murray cod, each with its name.

- Point to an animal with feathers.
- Point to an animal with fur.
- Point to an animal with scales.

Q5. *(Foundation)* Look at the Moon pictures.

moon pictures from our class diary

we looked at the Moon at night and drew what we saw



the pictures are all mixed up.

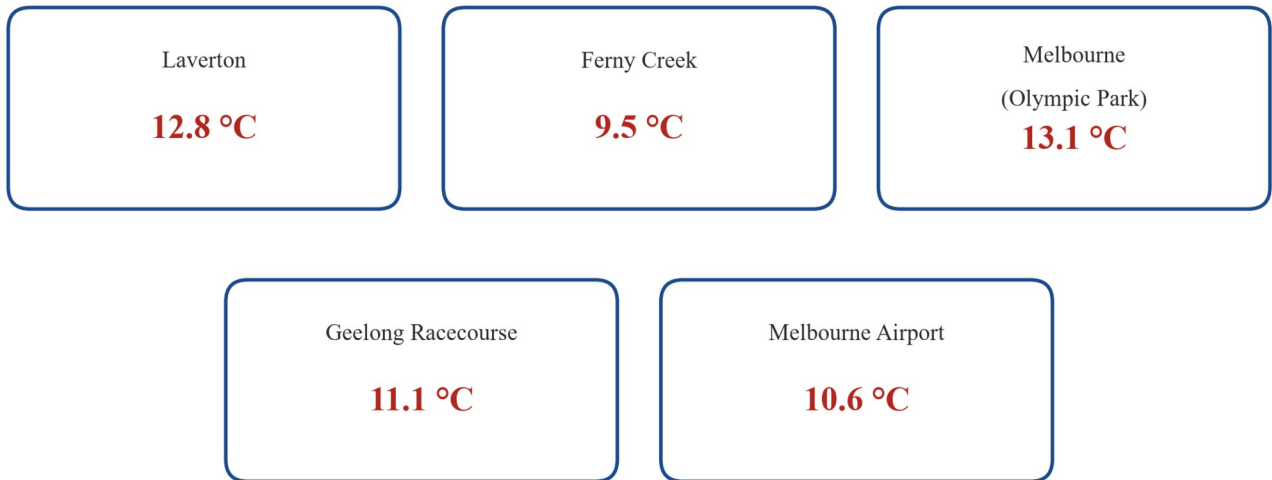
Six night-sky cards from a class diary, mixed up: a Moon more than half lit with a small dark part on the left, a crescent lit on the left, a full Moon, a Moon lit on the right half, a Moon lit on the left half, and a Moon more than half lit with a small dark part on the right.

- Point to the full Moon.
- Point to the picture with the least light.

Q6. *(Level 1)* Look at the temperature cards.

five places in Victoria. one morning.

Thursday 20 August 2026, 9:20 in the morning



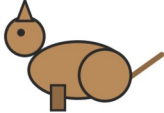
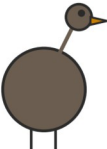
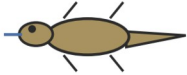
the cards are mixed up. how can we order them?

Five mixed-up cards, each with a Victorian place and how warm it was at 9:20 in the morning: Laverton 12.8 °C, Ferny Creek 9.5 °C, Melbourne (Olympic Park) 13.1 °C, Geelong Racecourse 11.1 °C, Melbourne Airport 10.6 °C.

- Point to the card with the smallest number.
- Point to the card with the biggest number.
- Say which place was the coldest.

Q7. *(Level 1)* Look at the animals sorted by covering.

sorted by the covering

 fur	 feathers	 scales
 kangaroo	 emu	 blue-tongue lizard
 platypus	 little penguin	 Murray cod

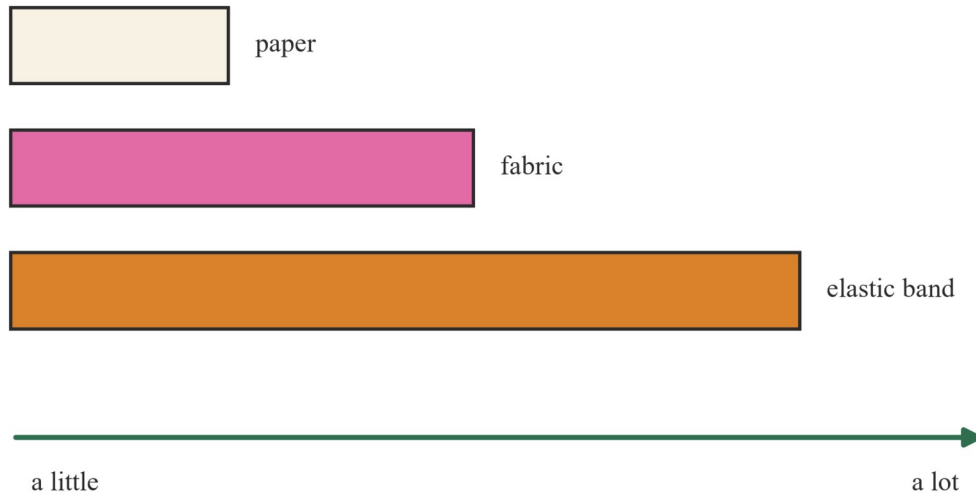
the rule: what covers the animal's body?

Three group boxes headed by a picture of fur, a feather and a picture of scales. The fur group holds the kangaroo and the platypus. The feathers group holds the emu and the little penguin. The scales group holds the blue-tongue lizard and the Murray cod.

- Say the rule for this sort.
- Say which group the platypus is in.
- Say which group the Murray cod is in.

Q8. *(Level 1)* Look at the stretch order.

in order: from a little stretch to a big stretch



paper stretches a little, then it tears. the elastic band stretches the most.

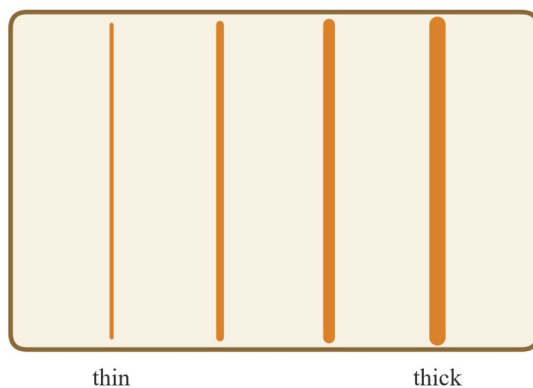
Three bars in order from short to long: paper stretches a little, fabric stretches more, and an elastic band stretches the most. An arrow runs from “a little” to “a lot”.

- Circle the one that stretches the most: paper · fabric · elastic band.
- Circle the one that stretches a little, then tears: paper · fabric · elastic band.

Q9. (Level 1) Look at the bands on the box.

a pattern in sound

we pluck each band and listen



band	sound
thin band	high
thick band	low

a high sound is like a whistle. a low sound is like a drum.

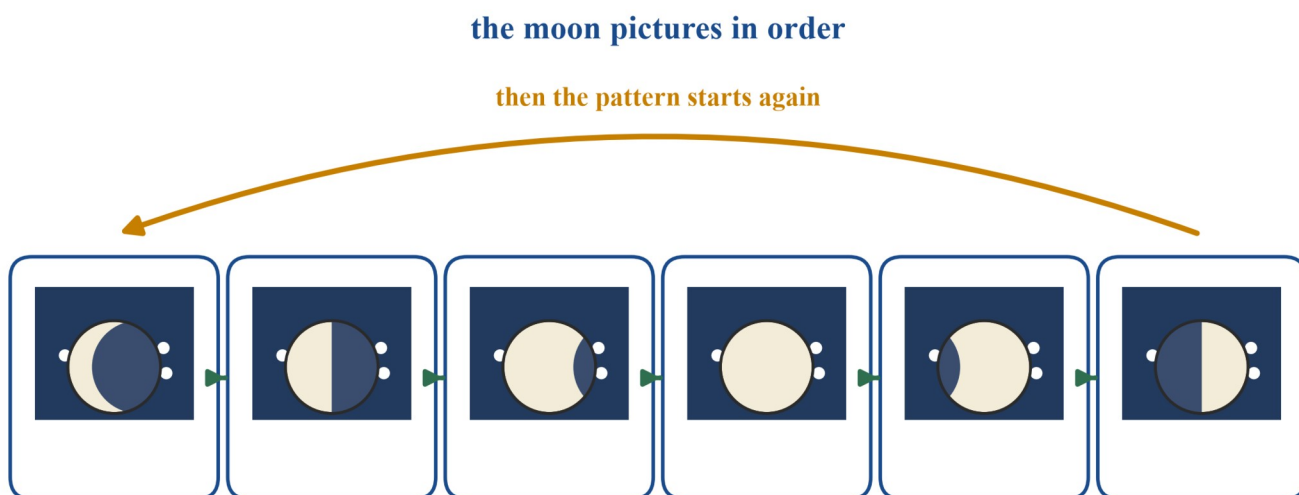
the table is given to us. we fill it in as we listen.

Left: a box with four elastic bands across it, from thin to thick, labelled thin and thick. Right: a provided table with rows for thin band and thick band; the thin band makes a high sound and the thick band makes a low sound.

- Circle the band that makes a high sound: thin · thick.

- b. Say what a low sound is like.

Q10. (Level 1) Look at the Moon pictures in order.



after the last picture, the Moon starts to look like the first picture again.

the shape changes in a pattern that repeats. this takes about a month.

we call it a cycle.

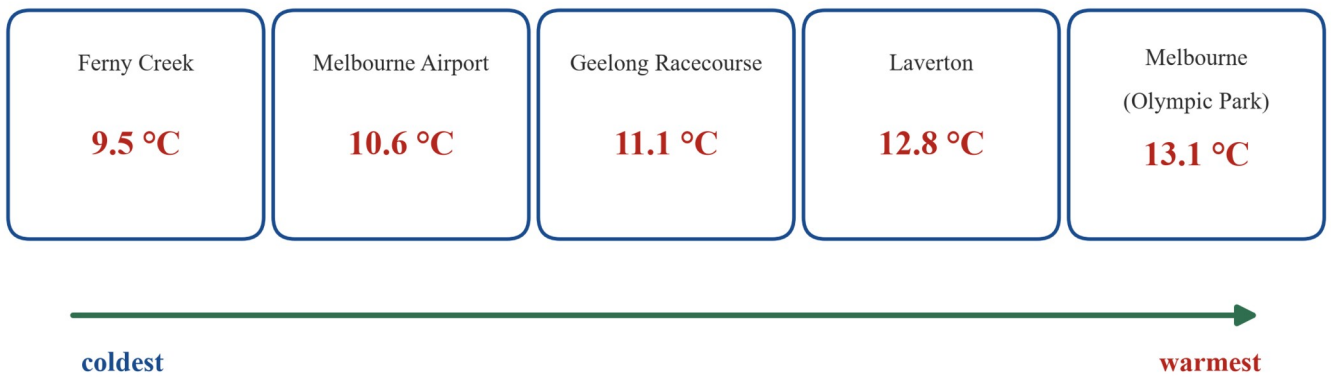
the ordered pictures are a model of the Moon's month.

The same six cards in order, as seen from Victoria: a crescent lit on the left, then the left half lit, then more than half lit with a small dark part on the right, then full, then more than half lit with a small dark part on the left, then the right half lit. Small arrows run from card to card, and a long arrow loops from the last card back to the first: then the pattern starts again.

- Point to the full Moon.
- Point to the picture that comes just after the full Moon.
- Say what the long arrow back to the start means.

Q11. (Level 2) Look at the temperatures in order.

the same cards, in order



Ferny Creek was the coldest place.

Melbourne (Olympic Park) was the warmest place.

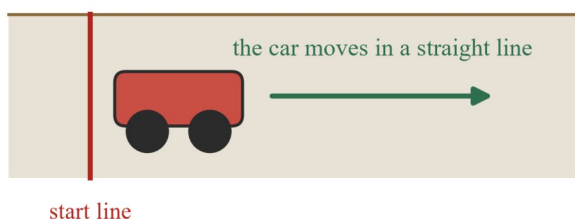
at every place, the rain since 9:00 in the morning was 0.0 mm.

The same five cards in one line from coldest to warmest, with an arrow from coldest to warmest: Ferny Creek 9.5 °C, Melbourne Airport 10.6 °C, Geelong Racecourse 11.1 °C, Laverton 12.8 °C, Melbourne (Olympic Park) 13.1 °C. A note adds: at every place, the rain since 9:00 in the morning was 0.0 mm.

- Say one pattern you can see in the order.
- Say the rain pattern for that morning.

Q12. (Level 2) Look at the record of a straight move. The car moved 5 blocks on try 1.

recording a straight move



try	squares it moved
try 1	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
try 2	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
try 3	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

one square for each block the car moves.

we colour the squares. then we can see how far it went.

Left: a toy car at a red start line on a floor, with a green arrow showing the car moves in a straight line. Right: a provided table with rows try 1, try 2 and try 3; each row has eight empty squares to colour, one square for each block the car moves.

- Colour the squares for try 1.
- Say how many squares you coloured, and why that many.

Q13. (Level 2) Look at the weather table for our week.

a weather table for our week

day	what we saw	draw it
Monday	<i>sun? cloud? rain?</i>	
Tuesday	<i>sun? cloud? rain?</i>	
Wednesday	<i>sun? cloud? rain?</i>	
Thursday	<i>sun? cloud? rain?</i>	
Friday	<i>sun? cloud? rain?</i>	

the table is given to us. we fill it in together each day.

A provided table with columns day, what we saw and draw it, and rows Monday to Friday. The boxes are empty for the class to fill in together each day.

- a. Draw a sun in the Monday box, the way the sky was that day.
- b. Say which column holds the drawings.
- c. Say what we can look for at the end of the week.

Q14. (*Level 2*) Look at the sound record. A band is thicker than the thick band on the box. Say what its sound will be like: higher or lower?

Q15. (*Level 2*) In the stretch test, why do we use the same blocks every time? Say why.

Answers

- Q1.** a. the third group b. the last pencil c. the left picture is a sort; the right picture is an order.
- Q2.** a. any line of boxes across b. any line of boxes down c. the coloured box with the triangle.
- Q3.** a. four b. four c. one square for each apple.
- Q4.** a. the emu or the little penguin b. the kangaroo or the platypus c. the blue-tongue lizard or the Murray cod.
- Q5.** a. picture 3 (in the mixed-up cards, the full Moon) b. the thin crescent lit on the left.
- Q6.** a. the Ferny Creek card (9.5) b. the Melbourne (Olympic Park) card (13.1) c. Ferny Creek.
- Q7.** a. what covers the animal's body? b. the fur group c. the scales group.
- Q8.** a. elastic band b. paper.
- Q9.** a. thin b. like a drum.
- Q10.** a. picture 4 b. picture 5, more than half lit with a small dark part on the left c. after the last picture, the pattern starts again.
- Q11.** a. the numbers go up along the line, from coldest to warmest (any true reading) b. no rain at any place; the rain was 0.0 mm at every place.
- Q12.** a. five squares coloured in the try 1 row b. five — one square for each block the car moved.
- Q13.** a. a sun picture in the Monday “draw it” box b. the “draw it” column c. a pattern — were most days sunny, cloudy or rainy.
- Q14.** Lower. The thicker the band, the lower the sound.
- Q15.** So every try is counted the same way; then our order is true.

Fully-worked solutions

- Q1.**
- a. The triangles are sorted into their own group. Point to it.
 - b. The pencils are ordered shortest to longest, so the last one is the longest. Point to it.
 - c. The left picture puts things in groups by a rule — a sort. The right picture puts things in a line, first to last — an order.
- ∴ Triangles group; last pencil; left is sort, right is order.
- Q2.**
- a. A row goes across. Point along the top line of boxes.
 - b. A column goes down. Point down a line of boxes.
 - c. The coloured box holds one piece of data — one triangle.
- ∴ Across = row, down = column, and each box holds one piece of data.
- Q3.**
- a. Count the apples: 1, 2, 3, 4.
 - b. Count the squares: 1, 2, 3, 4.
 - c. Each apple has its own square. One thing, one square.
- ∴ Four apples, four squares; the match is one square for each apple.
- Q4.**

- a. Feathers cover the emu and the little penguin. Point to one of them.
- b. Fur covers the kangaroo and the platypus. Point to one of them.
- c. Scales cover the blue-tongue lizard and the Murray cod. Point to one of them.

∴ Any animal with the named covering is right.

Q5.

- a. The full Moon is all lit. Point to it.
- b. The thin crescent lit on the left has the least light. Point to it.

∴ Full Moon; the thin crescent.

Q6.

- a. Read the numbers. The smallest is 9.5, on the Ferny Creek card.
- b. The biggest is 13.1, on the Melbourne (Olympic Park) card.
- c. The smallest number is the coldest place: Ferny Creek.

∴ Smallest 9.5; biggest 13.1; Ferny Creek was the coldest.

Q7.

- a. The sort uses one rule: what covers the animal's body?
- b. The platypus has fur, so it is in the fur group.
- c. The Murray cod is a fish with scales, so it is in the scales group.

∴ Rule: the covering. Platypus → fur. Murray cod → scales.

Q8.

- a. The elastic band's bar is the longest — it stretches the most.
- b. Paper's bar is the shortest — it stretches a little, then it tears.

∴ a. elastic band b. paper.

Q9.

- a. The record says the thin band makes a high sound.
- b. A low sound is like a drum.

∴ a. thin b. a drum.

Q10.

- a. The full Moon is picture 4 in the order.
- b. Just after full, the lit part starts to shrink: more than half lit with a small dark part on the left — picture 5.
- c. The long arrow says: after the last picture, the Moon starts to look like the first picture again. The pattern repeats.

∴ Picture 4; picture 5; the cycle starts again.

Q11.

- a. Read along the line: 9.5, 10.6, 11.1, 12.8, 13.1. The numbers go up. That is a pattern in the order.
- b. At every place the rain was 0.0 mm. The pattern is: no rain at any place.

∴ The numbers go up from coldest to warmest; and no place had rain.

Q12.

- a. One square for each block. The car moved 5 blocks, so colour 5 squares in the try 1 row.

b. Five squares, because the match is one square for each block.

∴ Colour five squares; the table keeps one mark for one block.

Q13.

- a. Draw the sun in the Monday box under “draw it”.
- b. The drawings go in the “draw it” column.
- c. When the week is done, we look across the rows for a pattern: were most days sunny? Rainy?

∴ The provided table holds the week in order, and the pattern is what we look for.

Q14.

The record shows the pattern: the thicker the band, the lower the sound. A band thicker than the thick band keeps the pattern going.

∴ Its sound will be lower.

Q15.

The blocks are how we count the stretch. If the blocks were different each time, the numbers would not match up, and our order would not be true.

∴ The same blocks every time, so the order is true.

Comparing what we found with our prediction and with others' observations

This is read with the teacher. The teacher reads all the words. The child looks, says, points and does. The child does not need to read.

observations can be compared to predictions and the observations of others, which may lead to further questions being identified — VC2S2I05

Evidences: With guidance, they compare their own observations and predictions with those of others, and identify further questions for investigation.

In this topic we will:

- compare what we saw with what we predicted (E04)
- compare our observations with a partner's observations (E01, E03)
- see that a difference is interesting, not a mistake
- say new questions that come from what we compared (E02, E05)

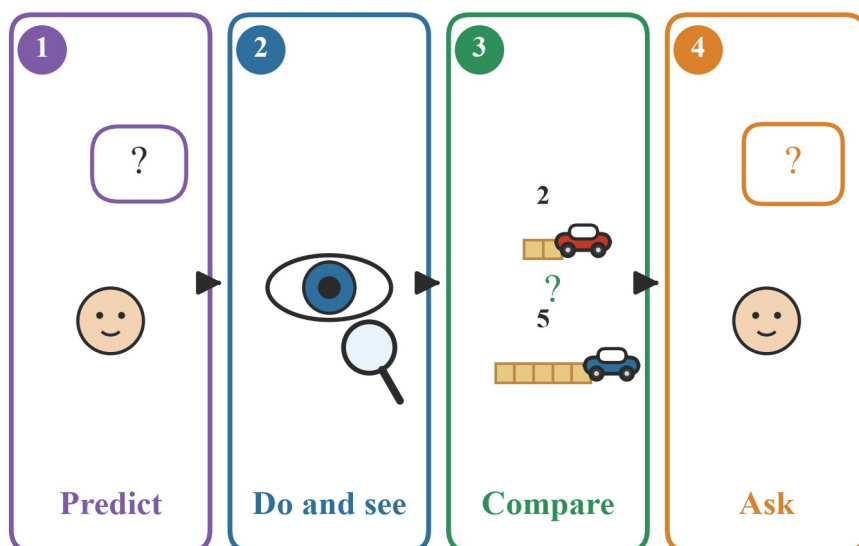
Theory

The four moves

In science, we do four moves.

1. **Predict.** A **prediction** is what you say will happen, before you do it. You have made predictions before.
2. **Do and observe.** An **observation** is what you see, hear, smell or feel when you look with care. We never use taste to observe.
3. **Compare.** To **compare** is to look at two things and see how they are the same and how they are different.
4. **Ask.** When you compare, a new question can pop up.

The four moves



Four move cards numbered 1 to 4: predict, do and observe, compare, and ask.

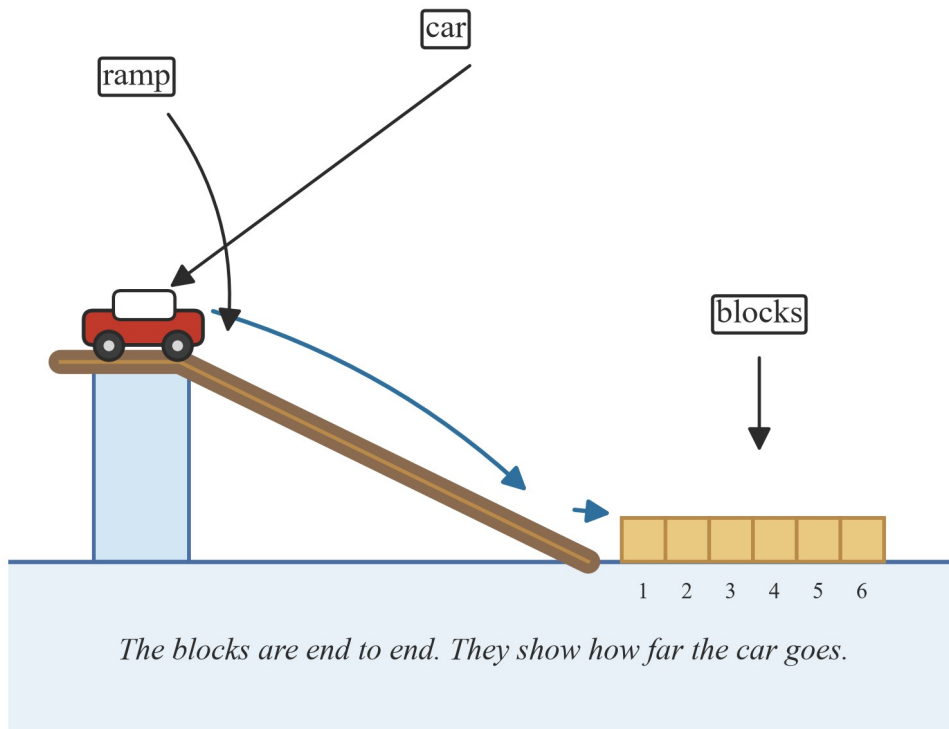
Point to each move. Say its name. Which move comes first?

Compare with your prediction

Here is the ramp from our moving work.

A **ramp** is a board with one end up high. We let a toy car go at the high end. We watch it roll down.

The ramp and the blocks



A ramp made of a board on a box, with a toy car at the top and blocks lined up on the floor.

Line the blocks up on the floor, end to end, starting at the bottom of the ramp. The blocks show how far the car goes. Count the blocks to where the car stops.

Before you let the car go, make your prediction. Look at the card. Circle the one you think will go a long way.

My prediction

I predict the will go a long way.



the little car



the big car

Circle one. Then let the cars go.

A prediction card with pictures of a little car and a big car to circle one.

Now let the car go. Watch where it stops. Count the blocks. Do the same thing with the other car.

Then compare. Use the record card. Look at what you predicted. Look at what you saw. Are they the same, or are they different?

My record card

What	I predicted	I saw	Same or different?
 big car	5 	2 	☐ same ☐ different
 little car	2 	5 	☐ same ☐ different
 ball	5 	5 	☐ same ☐ different

Tick same or circle different for each row.

A record card with columns for what I predicted, what I saw, and same or different.

- If they are the same, your prediction **matched** what happened.
- If they are different, your prediction did not match.

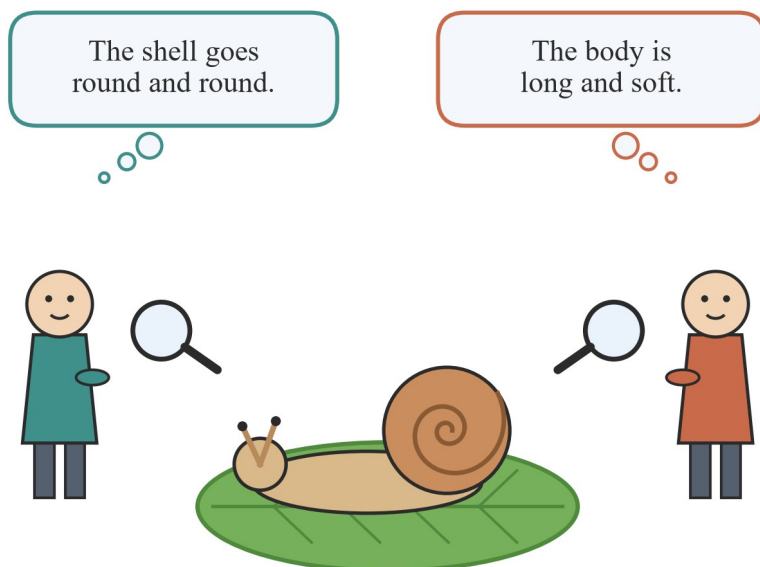
Both are good! Your prediction is what you think will happen. Your observation is what does happen. You find out when you look. When it is different, you have learned something new.

Compare with your partner

Now compare with a friend.

You and your partner look at the same snail in the garden. You each look with care. A **magnifying glass** makes small things look big.

Same snail. Two observations.



You both looked with care. You looked at different parts.

Two children with magnifying glasses looking at one snail, each saying a different observation.

- You say: *The shell goes round and round.*
- Your partner says: *The body is long and soft.*

You saw different things. You are **both** right! You looked at different parts of the snail.

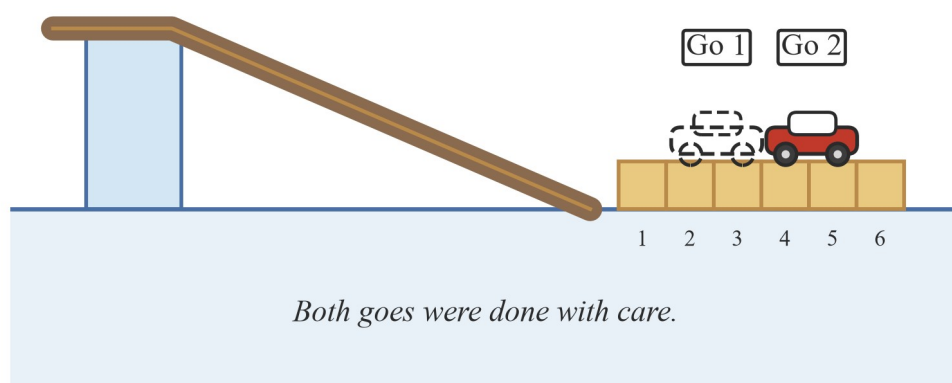
You and your partner can see more together than one of you can see.

Be gentle with the snail. Wash your hands after. Put the snail back where you found it.

The same thing can be different each time

Try the ramp again. Roll the same car down the same ramp. Do it two times.

Same ramp. Same car. A different place each time.



A ramp with blocks on the floor, showing a car stopping at block 3 on go 1 and block 5 on go 2.

- Go 1: the car stops at block 3.
- Go 2: the car stops at block 5.

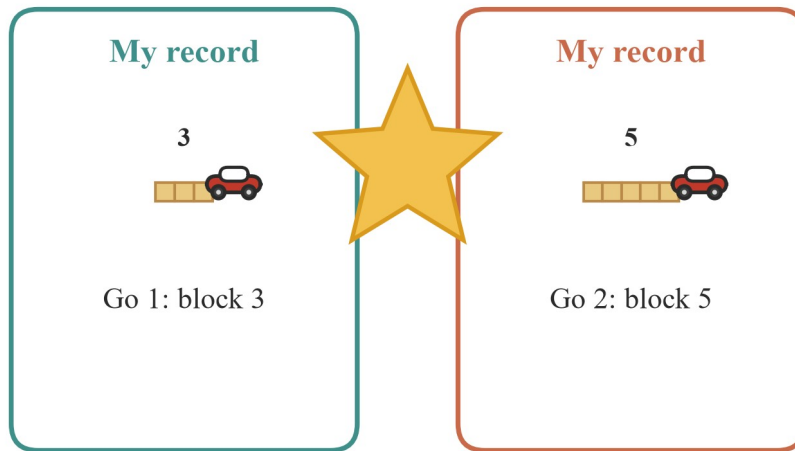
Same ramp. Same car. A different place each time!

No one made a mistake. Things can move in a new way each time. A difference like this is not a mistake. It is **interesting**. It can give us a new question: *I wonder why the car stopped in a different place?*

Different is interesting

In this class, when our records are different, we do not rub one out. We say: *That is interesting!*

Different is interesting!



It is not a mistake.

It is a new question.

Two different record cards side by side with a big star and the words: Different is interesting.

A difference is not a mistake. A difference is a new question.

These cards can start a question:

Question starter cards

I wonder ... <i>why did the car stop in a new place?</i>	What if ...? <i>the ramp is higher?</i>	Does everyone ...? <i>hear a quiet sound the same as me?</i>
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Say one question for each card.

Three question starter cards: I wonder, what if, and does everyone.

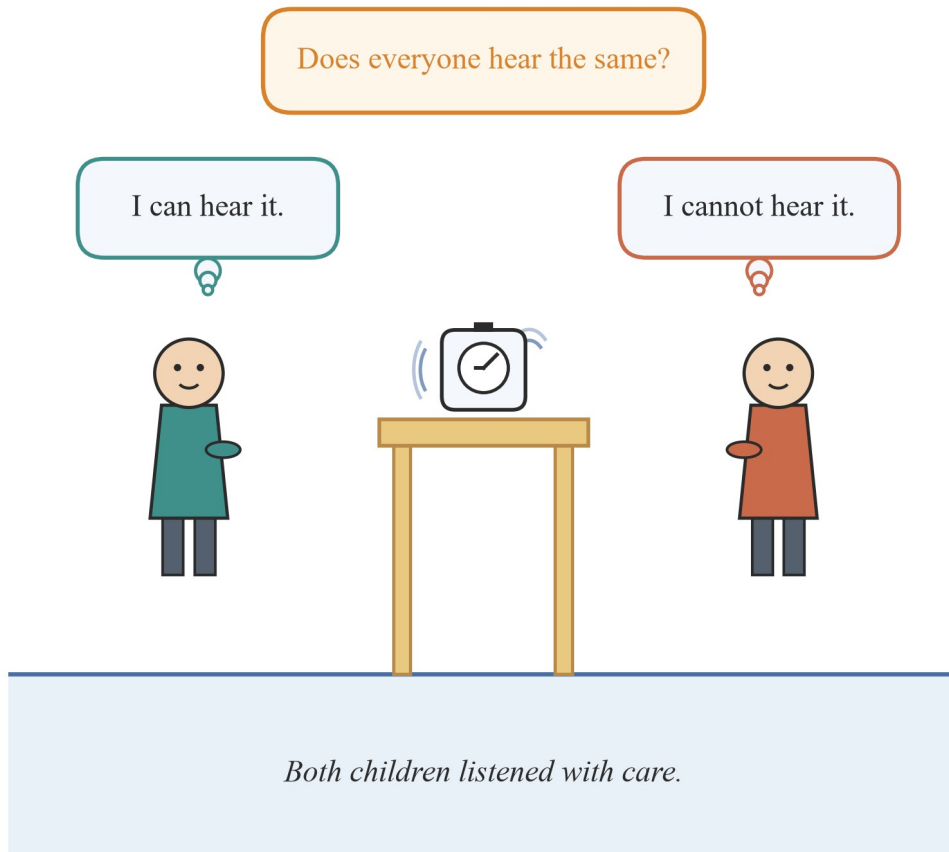
- **I wonder ...** *I wonder why the car stopped in a different place.*
- **What if ...?** *What if the ramp is higher?*
- **Does everyone ...?** *Does everyone hear a quiet sound the same as me?*

Say one question for each card.

A new question from sound

Put a quiet timer on the table. Tick, tick, tick. Two children listen.

A quiet sound



A quiet timer on a table; one child can hear it and one child cannot.

- One child says: *I can hear it.*
- The other child says: *I cannot hear it.*

Was the sound there? Yes. Both children listened with care. Their ears heard the quiet sound in a different way.

This gives a new question: *Does everyone hear a quiet sound the same as me?*

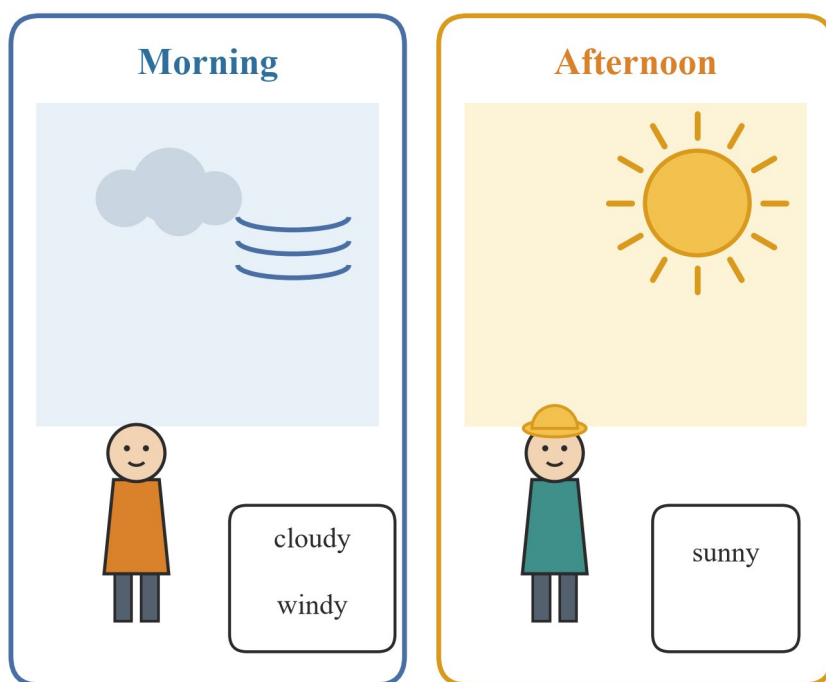
How can you find out? Ask more friends to listen.

Compare at different times

You can also compare the same thing at different times.

Look at the sky in the morning. Look at the sky in the afternoon. Never look straight at the Sun.

Same day. Different times.



Look at the sky in the morning. Look again in the afternoon.

Two weather cards for one day: cloudy and windy in the morning, sunny in the afternoon.

- In the morning it is cloudy and windy. You wear a jumper.
- In the afternoon it is sunny.

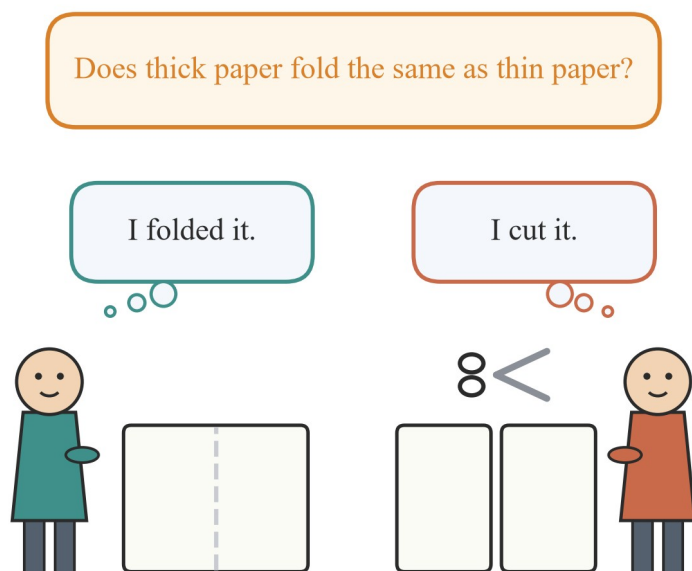
Same day, different times. The weather changed.

Now predict. What do you think the weather will be like tomorrow? Say why.

A new question from paper

You and your partner each change a piece of paper.

Different ways to change paper



You both changed the paper — in different ways.

One child folding paper and one child cutting paper, with a new question bubble.

- You **fold** your paper. Folding makes a new shape. The paper is still paper.
- Your partner **cuts** their paper. Cutting makes two pieces. The paper is still paper.

Compare. You both changed the paper. You changed it in different ways.

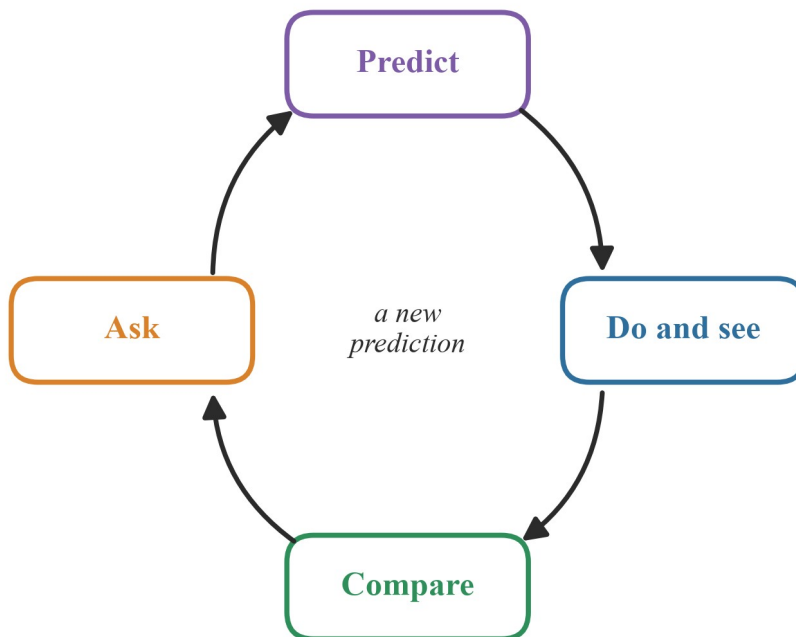
A new question: *Does thick paper fold the same as thin paper?*

Use child-safe scissors. Cut away from your body. A grown-up helps.

Round and round

The four moves go round and round.

Round and round



Your new question starts a new prediction.

A loop of the four moves: predict, do and observe, compare, ask, then back to predict.

Predict, do and observe, compare, ask. Your new question starts a new prediction. That is how science keeps going.

Worked examples

Do these with the teacher. Use what you can see here.

Worked example 1 — compare with your prediction

You predict: *The big car will go a long way.* You let both cars go. The big car stops at block 2. The little car stops at block 5. Did your prediction match?

Working

Your prediction: the big car goes a long way.
You saw: the big car stopped at block 2.
Block 2 is not far. The little car went to block 5.
The prediction and the observation are different.

Say why

This is what you thought would happen.
This is what happened.
The big car did not go a long way.
Circle *different* on the record card.

∴ The prediction did not match. That is good. Now you know something new.

Worked example 2 — two observations, both true

You say: *The shell goes round and round.* Your partner says: *The body is long and soft.* Did someone make a mistake?

Working

You looked at the shell.
Your partner looked at the body.
You both looked at the same snail.

Say why

The shell goes round. That is true.
The body is long and soft. That is true too.
You looked at different parts.

Working	Say why
No one made a mistake.	Both observations are true.

∴ Both are true. Same snail, different observations.

Worked example 3 — what do we do with a difference?

Go 1: the car stops at block 3. Go 2: the car stops at block 5. Circle the best thing to do.

- Rub out go 1.
- Keep both records and ask a question.
- Say someone made a mistake.

Working	Say why
You did both goes with care.	No one made a mistake.
The car stopped in a different place each time.	That is interesting.
A difference gives us a new question.	So we keep both records.

∴ The best thing is b: keep both records and ask a question. For example: *I wonder why it stopped in a different place?*

Worked example 4 — compare at different times

Morning: cloudy and windy. Afternoon: sunny. Say one thing that changed. Then predict tomorrow.

Working	Say why
In the morning it was cloudy and windy.	This is the morning observation.
In the afternoon it was sunny.	This is the afternoon observation.
The clouds went away. The wind stopped.	These are the changes.
Say what you think tomorrow will be like.	This is your new prediction.

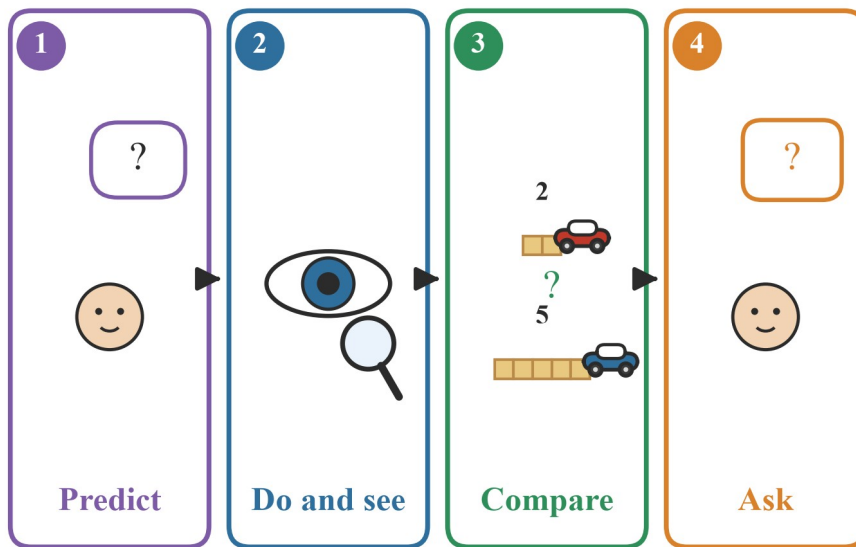
∴ The weather changed in one day. Your prediction for tomorrow can use what you saw.

Practice questions

The teacher reads all the words. The child says or does the answer. The teacher puts the answer down.

Q1. (Foundation) Look at the four moves.

The four moves



Four move cards numbered 1 to 4: predict, do and observe, compare, and ask.

- Point to *predict*.
- Point to *compare*.
- Say the first move.

Q2. (Foundation) A child predicts: *The ball will roll down the ramp.* The ball rolls down the ramp. Circle one.
same · different

Q3. (Foundation) Look at the prediction card.

My prediction

I predict the will go a long way.



the little car



the big car

Circle one. Then let the cars go.

A prediction card with pictures of a little car and a big car to circle one.

Say your prediction. Circle the one you think will go a long way.

Q4. *(Level 1)* Look at the record card.

My record card

What	I predicted	I saw	Same or different?
 big car	5 	2 	☐ same ☐ different
 little car	2 	5 	☐ same ☐ different
 ball	5 	5 	☐ same ☐ different

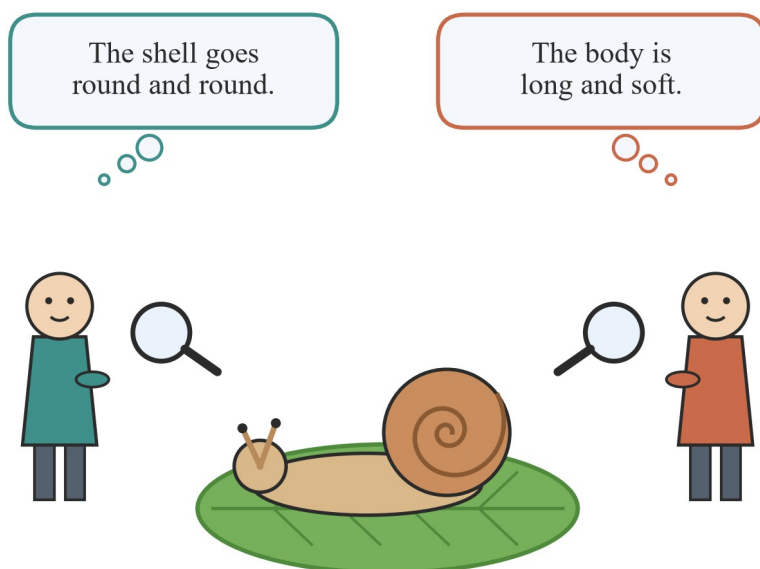
Tick same or circle different for each row.

A record card with columns for what I predicted, what I saw, and same or different.

For each row, tick *same* or circle *different*.

Q5. (Level 1) You and your partner look at the snail.

Same snail. Two observations.



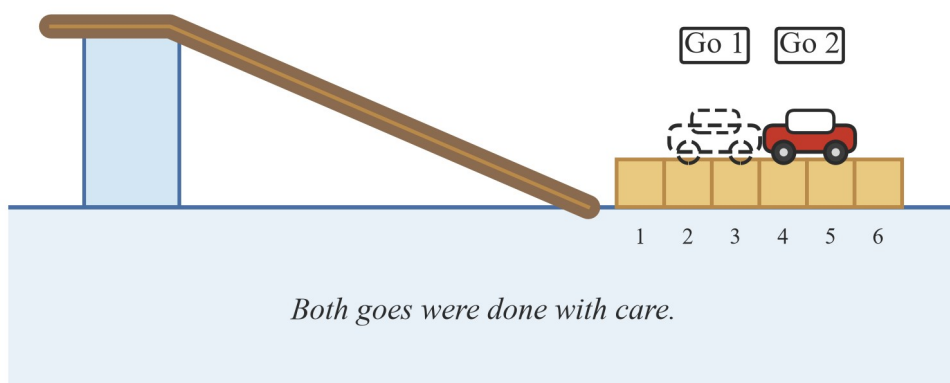
You both looked with care. You looked at different parts.

Two children with magnifying glasses looking at one snail, each saying a different observation.

- Say what you saw.
- Say what your partner saw.
- Are both true? Circle one: yes · no

Q6. (Level 1) The car stops at block 3, then at block 5.

Same ramp. Same car. A different place each time.



A ramp with blocks on the floor, showing a car stopping at block 3 on go 1 and block 5 on go 2.

Circle the best thing to do.

rub out one record · keep both records and ask · say someone made a mistake

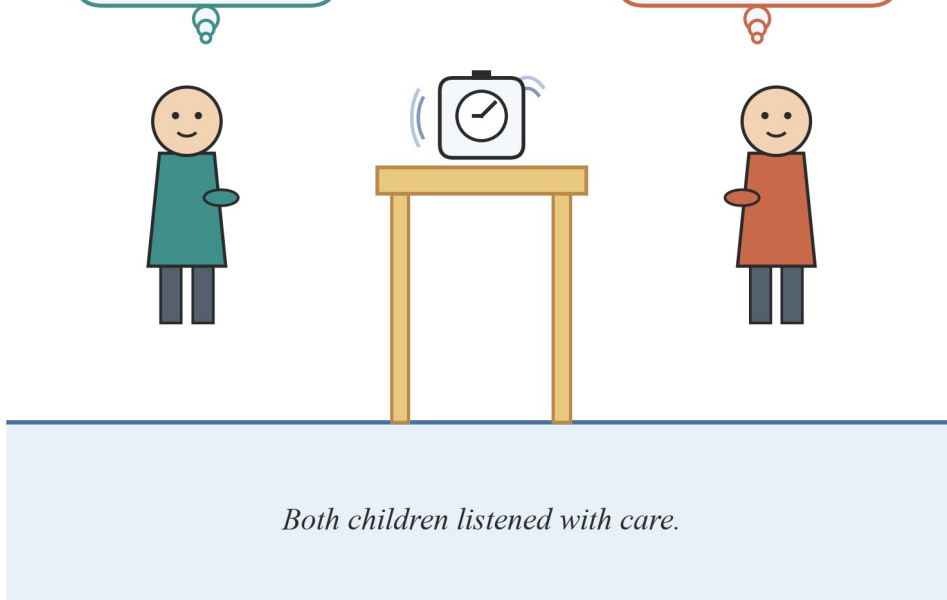
Q7. (Level 1) A quiet timer goes tick, tick, tick. One child can hear it. One child cannot hear it.

A quiet sound

Does everyone hear the same?

I can hear it.

I cannot hear it.

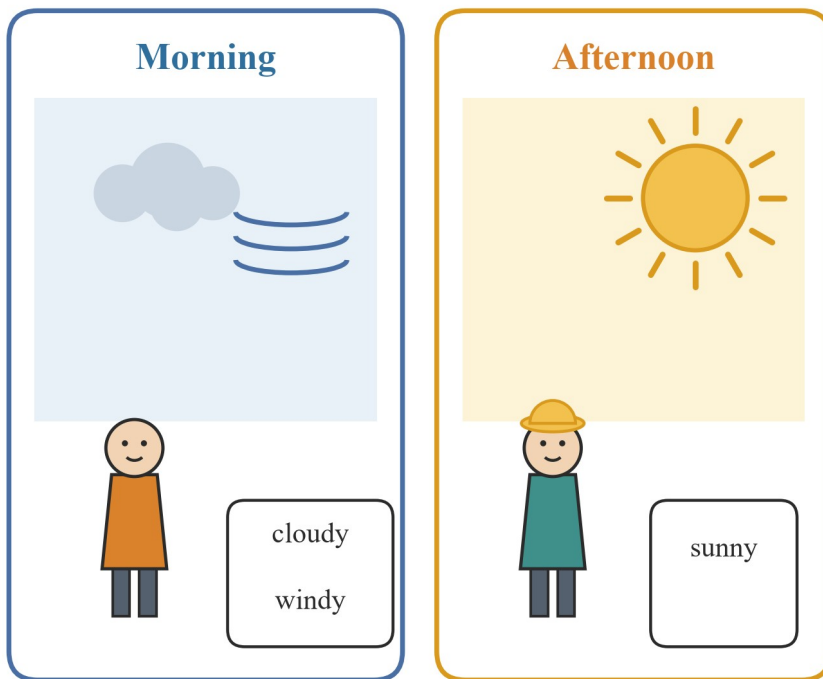


A quiet timer on a table; one child can hear it and one child cannot.

- Was the sound there? Circle one: yes · no
- Finish saying it: *I wonder if everyone ...*

Q8. (Level 2) Look at the weather cards.

Same day. Different times.



Look at the sky in the morning. Look again in the afternoon.

Two weather cards for one day: cloudy and windy in the morning, sunny in the afternoon.

- Point to what is different.
- Predict the weather for tomorrow.
- Say why.

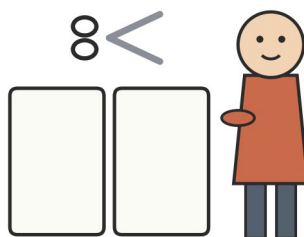
Q9. (Level 2) You fold the paper. Your partner cuts the paper.

Different ways to change paper

Does thick paper fold the same as thin paper?

I folded it.

I cut it.



You both changed the paper — in different ways.

One child folding paper and one child cutting paper, with a new question bubble.

- Say one thing that is the same.
- Say one thing that is different.
- Say a new question about paper.

Q10. (Level 2) Draw a line from each difference to its new question.

Match each difference to its new question

The car stops in a new place each time.	• •	Does everyone hear the same?
I cannot hear it. My partner can.	• •	What will tomorrow be like?
Morning: cloudy. Afternoon: sunny.	• •	I wonder why the car does that?

Draw a line from each difference to a question.

Three differences matched to three new questions.

Q11. (Level 2) Put the four moves in order for the ramp work. Write the numbers 1, 2, 3 and 4.

compare · predict · ask · do and observe

Q12. (Level 2) Tell your partner about your ramp work. Use the words to start.

I predicted ... I saw ... We were the same / We were different. I wonder ...

Answers

Q1. a. the first card b. the third card c. predict.

Q2. same.

Q3. either car may be circled; the saying matches the circle.

Q4. Row 1: different. Row 2: different. Row 3: same.

Q5. a. *The shell goes round and round.* b. *The body is long and soft.* c. yes.

Q6. keep both records and ask.

Q7. a. yes b. e.g. *I wonder if everyone hears a quiet sound the same as me.*

Q8. a. the clouds, the wind, the sun b. e.g. *sunny* c. e.g. *because it was sunny in the afternoon.*

Q9. a. e.g. *Both changed the paper.* b. e.g. *You folded it. Your partner cut it.* c. e.g. *Does thick paper fold the same as thin paper?*

Q10. car → *I wonder why the car does that?* · hearing → *Does everyone hear the same?* · weather → *What will tomorrow be like?*

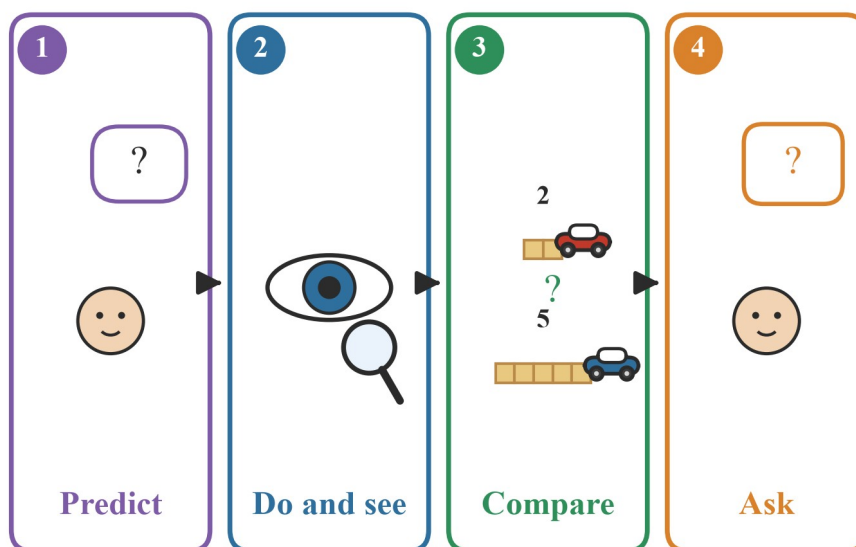
Q11. predict 1, do and observe 2, compare 3, ask 4.

Q12. e.g. *I predicted the little car would go a long way. I saw it stopped at block 5. We were different. I wonder why.*

Fully-worked solutions

Q1.

The four moves



Four move cards numbered 1 to 4: predict, do and observe, compare, and ask.

- a. Point to the first card. It shows a head with a thought bubble. That is *predict*.
- b. Point to the third card. It shows two records side by side. That is *compare*.
- c. The first move is *predict*.

∴ a. first card b. third card c. predict.

Q2.

The prediction was *the ball will roll down the ramp*. The ball rolled down the ramp. What happened is the same as the prediction.

∴ same.

Q3.

Say what you think will happen before you let the cars go. Circle one car. Your saying must match your circle, for example: *I predict the little car will go a long way*.

∴ Either car can be circled. The prediction matches the circle.

Q4.

Row 1: you predicted the big car goes a long way. You saw it stop at block 2. That is *different*. Row 2: you predicted the little car does not go far. You saw it stop at block 5. That is *different*. Row 3: you predicted the ball goes a long way. You saw it stop at block 5. That is *same*.

∴ Row 1: different. Row 2: different. Row 3: same.

Q5.

- a. You looked at the shell. You say: *The shell goes round and round*.
- b. Your partner looked at the body. Your partner says: *The body is long and soft*.
- c. You both looked at the same snail with care. You looked at different parts. Both sayings are true.

∴ a. *The shell goes round and round*. b. *The body is long and soft*. c. yes.

Q6.

Both goes were done with care. No one made a mistake. The car stopped in a different place each time. That is interesting. We keep both records and ask a question.

∴ keep both records and ask.

Q7.

- a. The timer made the sound. Both children listened with care. The sound was there.
- b. One child heard it. One child did not. That is a new question: *I wonder if everyone hears a quiet sound the same as me*.

∴ a. yes b. *I wonder if everyone hears a quiet sound the same as me*.

Q8.

- a. In the morning: cloudy and windy. In the afternoon: sunny. The clouds, the wind and the sun are different.
- b. A prediction uses what you saw. For example: *I predict it will be sunny tomorrow*.
- c. Say why: *because it was sunny in the afternoon*.

∴ a. the clouds, the wind, the sun b. e.g. *sunny* c. *because it was sunny in the afternoon*.

Q9.

- a. You both changed the paper. The paper is still paper. That is the same.

- b. You folded the paper. Your partner cut the paper. Those are different ways.
- c. A new question can use the word cards, for example: *Does thick paper fold the same as thin paper?*

∴ a. e.g. *Both changed the paper.* b. e.g. *You folded it. Your partner cut it.* c. e.g. *Does thick paper fold the same as thin paper?*

Q10.

The car stopped in a new place each time. That matches *I wonder why the car does that?* You cannot hear the sound. Your partner can. That matches *Does everyone hear the same?* The morning was cloudy. The afternoon was sunny. That matches *What will tomorrow be like?*

∴ car → *I wonder why the car does that?* · hearing → *Does everyone hear the same?* · weather → *What will tomorrow be like?*

Q11.

First you predict. Then you do and observe. Then you compare. Then you ask.

∴ predict 1, do and observe 2, compare 3, ask 4.

Q12.

Use the words to start, and say all four parts. For example: *I predicted the little car would go a long way. I saw it stopped at block 5. We were different. I wonder why.*

∴ The saying has a prediction, an observation, a compare, and a new question.

Sharing observations, findings and ideas in everyday and scientific words

Read aloud. A grown-up reads this topic to the children. Children answer by pointing, saying, circling, matching or drawing. There is no long writing.

VC2S2I06 — observations, findings and ideas can be shared with others by using everyday and some scientific vocabulary

Victorian Curriculum 2.0 — Science F–2, Communicating

Evidences: They use everyday and some scientific vocabulary to communicate observations, findings and ideas.

In this topic we will:

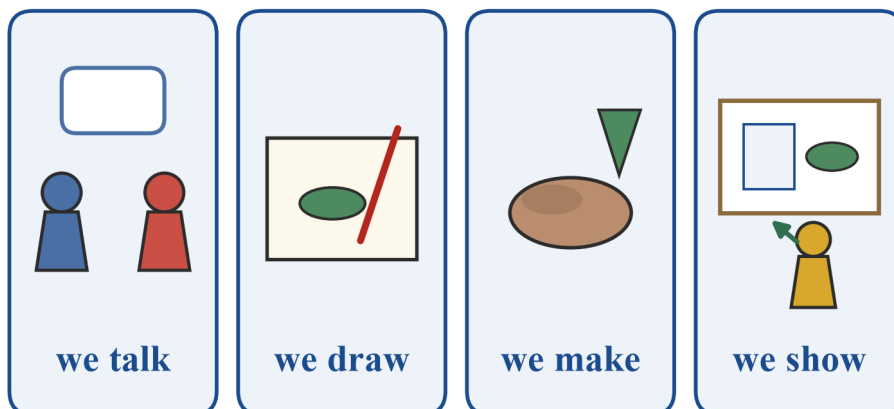
- talk, draw, make and show, to share what we see and find (E01)
- use everyday words, labels and arrows to show pushes and pulls (E02)
- use science words to share how materials change, in a collage (E03)

Theory

Sharing what we find

In this book we look at things, and we find things out. An **observation** is something you notice with your senses. A **finding** is what we found out. An **idea** is what you think about it.

When we **share**, we tell others or show others. Then they know what we saw and what we think. We can share in four ways.



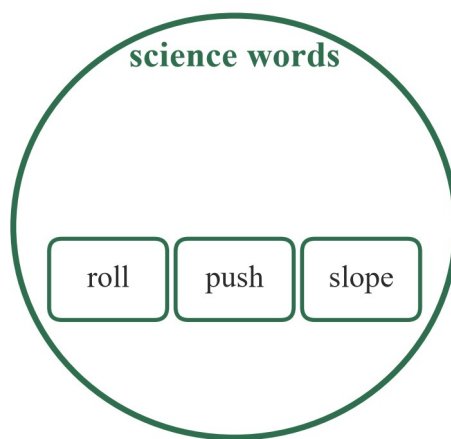
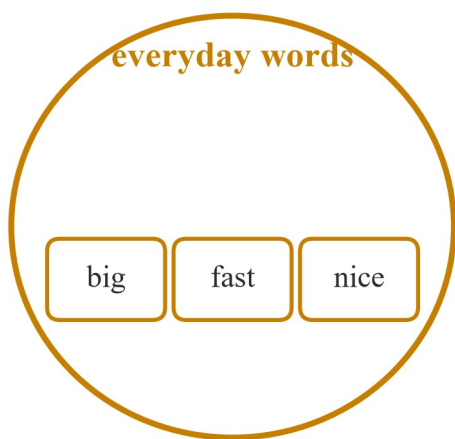
Four cards. We talk: two children with a speech bubble. We draw: a picture of a leaf and a crayon. We make: a clay model and a hand. We show: a child pointing at pictures on a board.

- **We talk.** We say it in words.
- **We draw.** We make a picture with labels.
- **We make.** We make a model with clay, paper or blocks.
- **We show.** We point to it and tell.

Two kinds of words

We have two kinds of words. **Everyday** words are the words we use at home and at play. **Scientific** means to do with science. Scientific words are the science words we learn in this book, like *roll*, *push* and *material*.

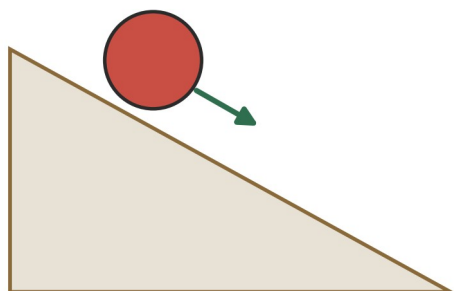
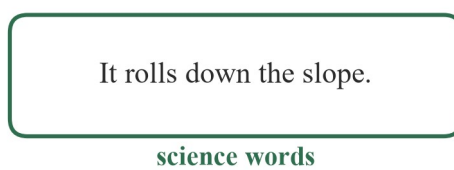
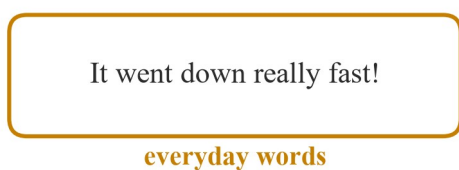
Both kinds of words are good for sharing. The science words help us say just what we saw.



both kinds of words are good for sharing

Two hoops. The everyday words hoop holds the word cards big, fast and nice. The science words hoop holds the word cards roll, push and slope. Under the hoops: both kinds of words are good for sharing.

Look at the same thing in two ways. A ball goes down the slope.

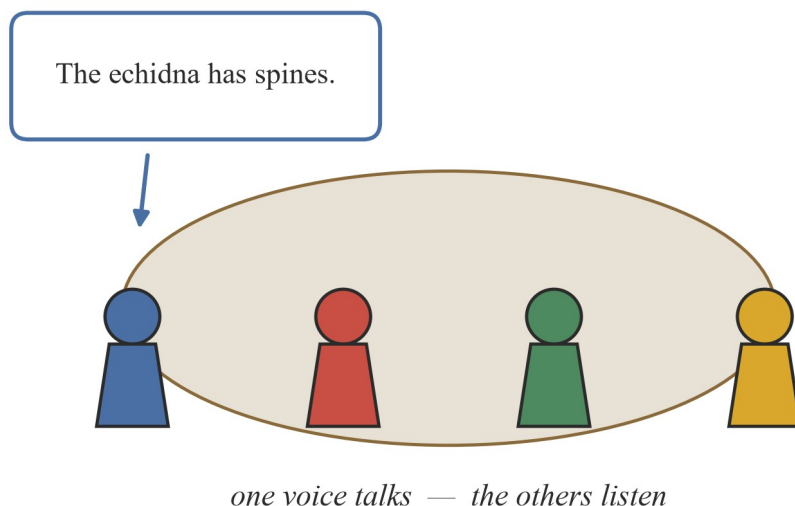


A red ball rolls down a slope with a green arrow. Two speech bubbles say the same thing in two ways: everyday words, It went down really fast! Science words, It rolls down the slope.

The two children saw the same thing. The science words say how it moved: it *rolls*.

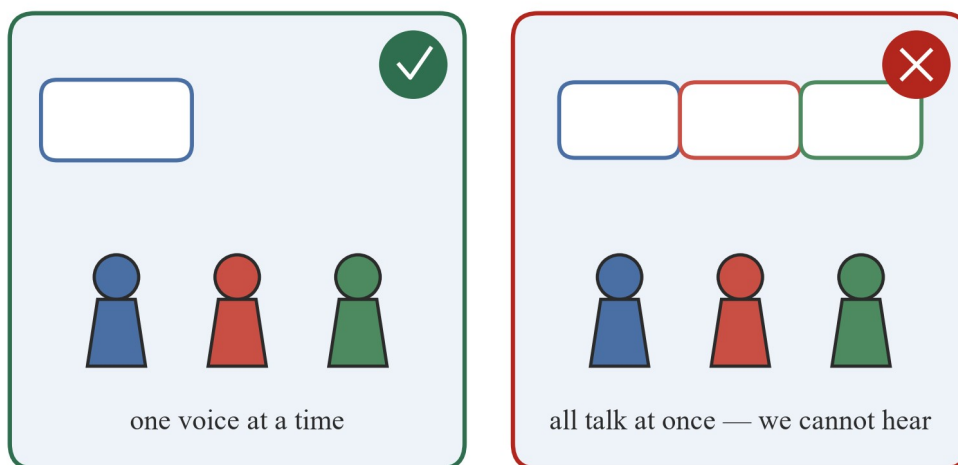
Talking in a circle group

We sit in a **circle group**. We take turns. One voice talks. The others listen.



Four children sit in a circle group. One child talks: The echidna has spines. The others listen. Under the picture: one voice talks, the others listen.

The talk rules:



Two pictures. Tick: one child talks and the others listen, one voice at a time. Cross: all the children talk at once and we cannot hear.

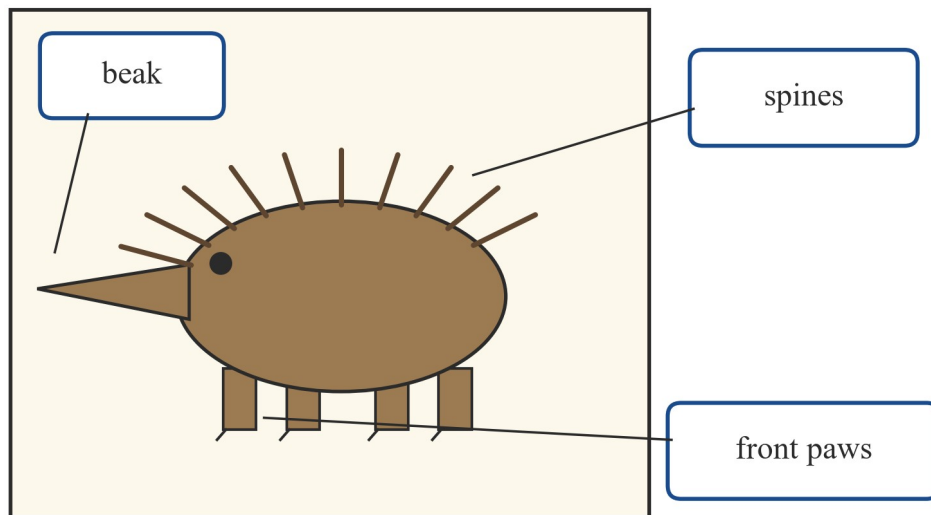
- One voice at a time.
- We listen to our friends.
- Then it is your turn.

Sharing a finding: the echidna

An **echidna** is an animal from Australia. It has spines on its back. It has a long beak and strong front paws. It eats ants.

Source: Zoos Victoria, Echidna, Healesville Sanctuary, n.d. Retrieved 2026-08-21.

We share it with a drawing. We draw the echidna, and we label the parts we saw. A **label** is a word card that names a part.

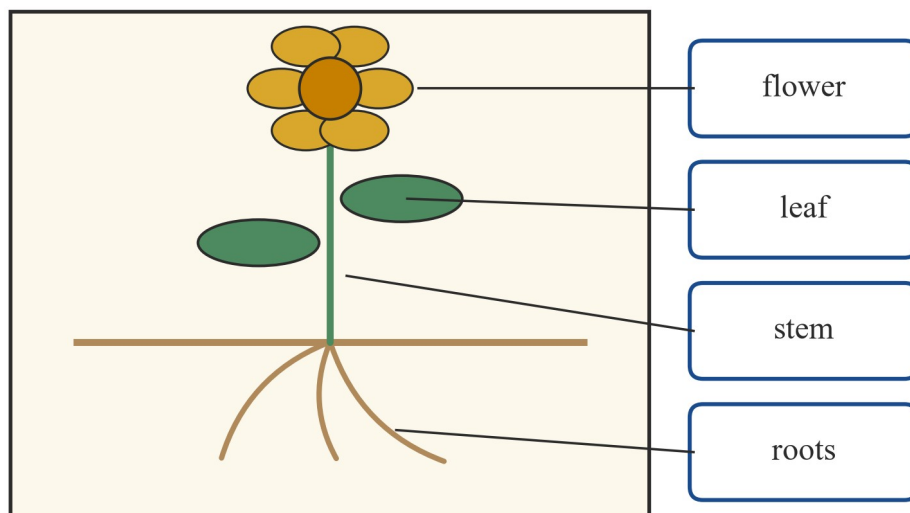


a drawing of an echidna, with labels

A child's drawing of an echidna on paper, with three label cards: spines on the back, the long beak, and the front paws.

Say the finding with the drawing: *The echidna has spines. It has a long beak. It has strong front paws.*

We share a plant with a drawing too. A plant has parts as well. This drawing labels the flower, the leaf, the stem and the roots. The **roots** are the parts under the soil.



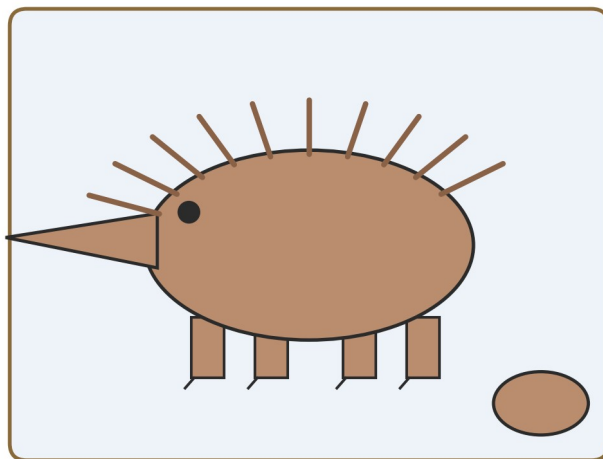
a drawing of a plant, with labels

A child's drawing of a plant on paper, with label cards: flower, leaf, stem and roots under the soil line.

Point and say the parts: flower, leaf, stem, roots.

Making a model

We share it by making. A **model** is a small copy of a thing. We make an echidna with clay. The model shows the same parts we saw: the spines, the beak and the legs.



clay model

spines

beak

legs

the model shows the same parts we saw

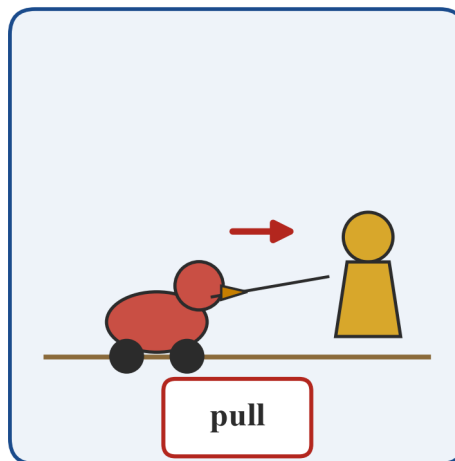
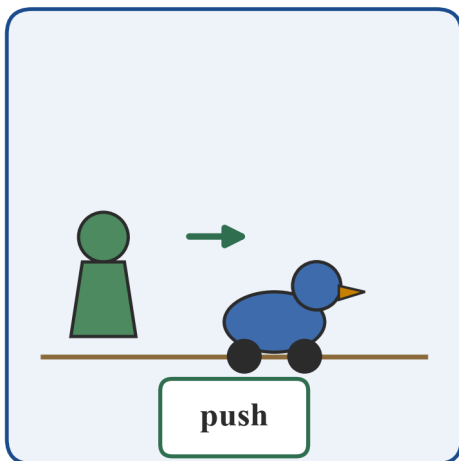
A clay model of an echidna on a mat, with a ball of clay. Word cards name the parts the model shows: spines, beak, legs.

Safety. We do not taste the clay or the dough. Wash your hands after making.

Point to the model and say the finding: *My model has spines, like the echidna.*

Showing pushes and pulls

A **push** and a **pull** move things. We can show them and say them.



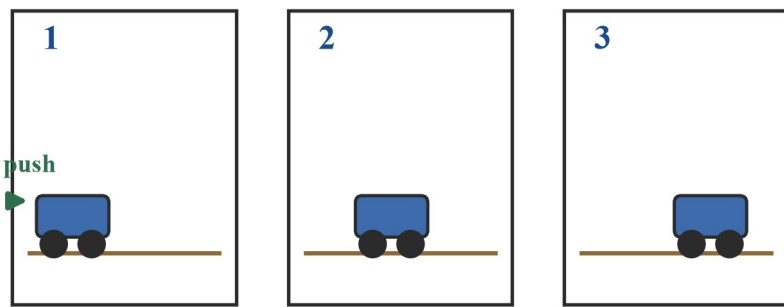
the arrow shows which way the push or pull goes

Two pictures. Push: a child pushes a toy duck on wheels and a green arrow points away from the child. Pull: a child pulls a toy duck with a string and a red arrow points to the child.

The **arrow** shows which way the push or pull goes. A push goes away from you. A pull goes to you, along the string.

We share it with labels and arrows. We put the word card *push* or *pull* by the toy, and we draw the arrow.

We share it with time-lapse pictures. Three pictures of the same toy, one after the other, show how it moves.



three pictures of the same toy, one after the other — the toy moves

Three numbered pictures of the same toy car. A push arrow in picture 1. The car is in a new place in each picture, so the car moves.

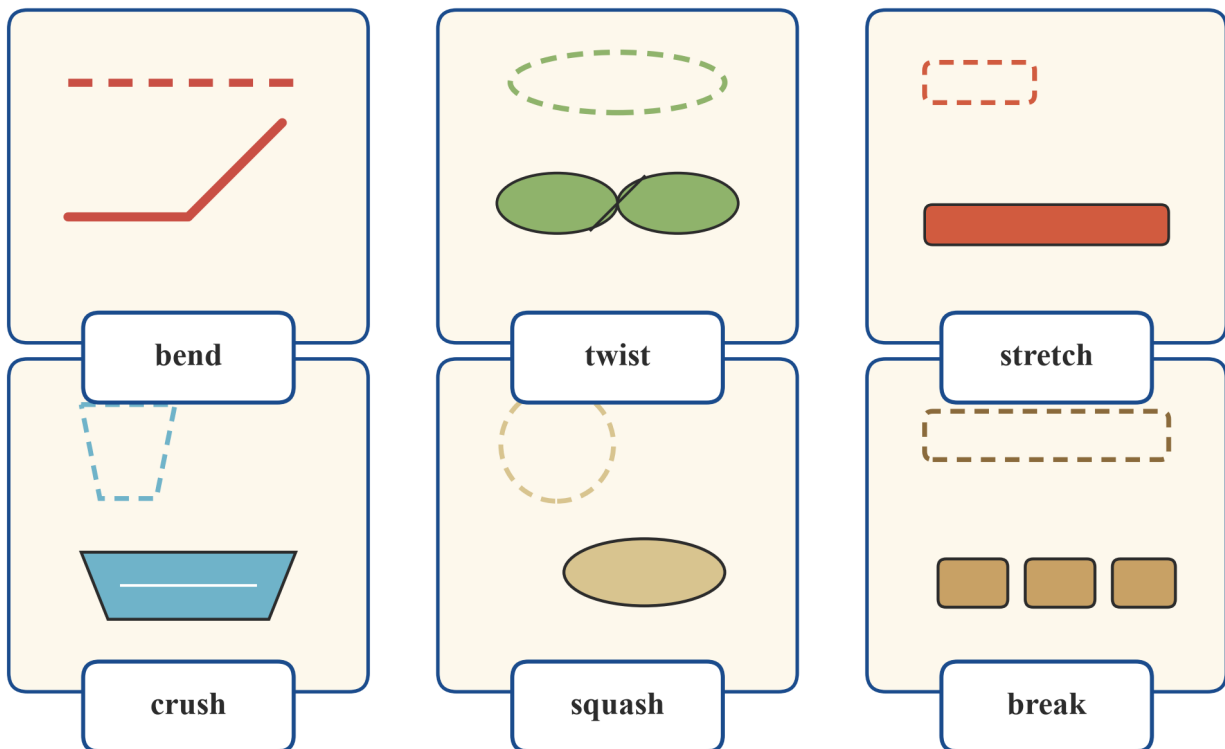
The car is in a new place in each picture. A push moved the car.

Safety. Keep the string on the floor so no one trips.

Making a collage of changes

We can change materials. We **bend**, we **twist**, we **stretch**, we **crush**, we **squash**, we **break** into small pieces.

A **collage** is lots of pictures put together on one big page. Our collage shows all the ways a material can change.



A collage of six cards. Each card shows the thing before and after the change: bend a straw, twist a cloth, stretch a band, crush a cup, squash a ball of dough, break a stick into small pieces.

Point to each card. Say the change word and the thing: *bend the straw, twist the cloth, stretch the band, crush the cup, squash the dough, break the stick.*

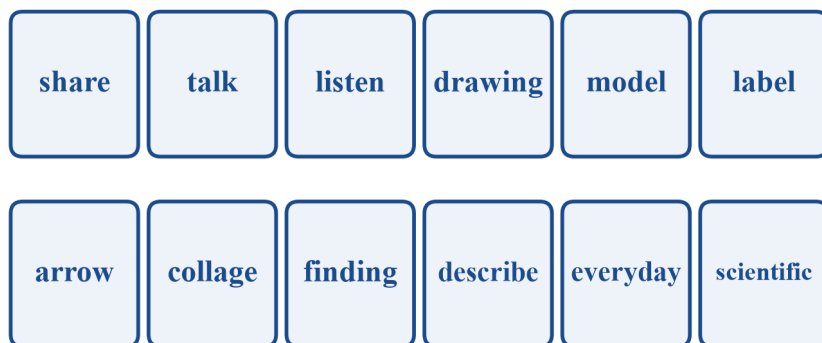
We share it with science words. The change words are science words. When we say *I crush the cup*, we share the change in science words.

Our science show

We put our work up: the drawings, the models and the collage. We sit in a circle group and we talk about them. We use everyday words and science words.

That is how we share observations, findings and ideas.

Words for this topic



Twelve word cards in two rows: share, talk, listen, drawing, model, label, arrow, collage, finding, describe, everyday, scientific.

- **share** — to tell or show, so others know too
- **talk** — to say it in words
- **listen** — to hear with care
- **drawing** — a picture you make
- **model** — a small copy of a thing
- **label** — a word card that names a part
- **arrow** — a line with a pointy end; it shows which way
- **collage** — lots of pictures put together on one page
- **finding** — what we found out
- **describe** — to say what a thing is like
- **everyday** — the words we use at home and at play
- **scientific** — to do with science

Worked examples

Do these with the teacher. Use what you can see here.

Example 1 — share the echidna finding three ways (E01)

Share what we saw at the echidna picture, in three ways.

Working

Say why

We say: *The echidna has spines.*

talk — we say it in words

We draw the echidna, and label the spines, the beak and the front paws.

draw — a picture with labels

We make an echidna with clay, with spines and a beak.

make — a model shows the parts

∴ the same finding is shared three ways: talk, draw and make.

all three share what we saw

Example 2 — everyday words and science words for a push (E02)

A child pushes the toy duck. Share it in everyday words, then in science words.

Everyday words: *It went that way.*

the words we use at play

Science words: *A push moves the duck.*

push is a science word

We draw an arrow away from the child.

the arrow shows which way

∴ both share the same thing; the science word is *push*.

everyday and science words both work

Example 3 — talk about the collage (E03)

Pick the crush card from the collage. Share the change in science words.

The card says *crush*. The thing is a cup.

read the card

Say: *I crush the cup.*

crush is a science word for the change

The cup is flat now. It is not a cup any more.

the material changed

∴ *I crush the cup* shares the change in science words.

the word tells how it changed

Practice questions

Teacher — sharing circle. Sit in a circle group for the talk questions. Have ready: clay or dough, paper and crayons, the word cards cut out, a toy on wheels with a string, and for the change tray a straw, a cloth, a rubber band, a paper cup and a ball of dough. Every answer is said, pointed, circled, drawn or done — nothing is written at length.

Q1 [F] Look at the ways we share picture. Point to *we draw*. Say the two words.

Q2 [F] Circle the science words: roll · nice · push · big

Q3 [F] Look at the circle group picture. Point to the child who talks. Say what the others do.

Q4 [F] Look at the talk rules picture. Put your finger on the tick side. Say the rule.

Q5 [L1] Look at the echidna drawing.

- Point to the spines.
- Point to the beak.
- Say one word about the beak.

Q6 [L1] Look at the plant drawing.

- Point to the flower.
- Say the word for the parts under the soil.
- Point to the leaf.

Q7 [L1] The clay model shows three parts. Circle them: spines · beak · legs · wings. Say which way of sharing a model is.

Q8 [L1] Look at the push and pull picture.

- Point to the pull arrow.
- Say the word for a move away from you.
- Say the word for a move to you.

Q9 [L1] Look at the time-lapse pictures.

- a. Circle the last picture of the car.
- b. Say what moved the car.

Q10 [L2] Look at the collage.

- a. Point to the card for *twist*. Say the thing we twist.
- b. Point to the card for *squash*. Say the thing we squash.

Q11 [L2] Pick one card from the collage. Say a phrase in science words: *I ____ the ____*.

Q12 [L2] Look at the same thing two ways picture.

- a. Circle the science words in *It rolls down the slope*.
- b. Say the sentence in everyday words.

Q13 [L2] Say your finding about the echidna. Use two words from the word cards.

Q14 [L2] *Do it*. Push a toy, then pull it with the string. Say the two science words. Draw the two arrows.

Answers

Q1. the second card; *we draw*.

Q2. roll, push.

Q3. the first child (the blue one); the others listen.

Q4. the left picture (the tick); one voice at a time.

Q5. a. the spines on the back b. the long pointy part at the front c. *long*.

Q6. a. the flower at the top b. *roots* c. the leaf on the stem.

Q7. spines, beak, legs; make.

Q8. a. the red arrow b. push c. pull.

Q9. a. picture 3 b. a push.

Q10. a. the twist card; the cloth b. the squash card; the dough.

Q11. any true card, e.g. *I bend the straw*.

Q12. a. rolls, slope b. *It went down really fast!*

Q13. any finding said with two card words, e.g. *My finding: the echidna has spines. I share it with a drawing.*

Q14. *push* and *pull*; the push arrow goes away from you, the pull arrow goes to you along the string.

Fully-worked solutions

Q1

The *we draw* card is the second card. It shows a picture and a crayon. ∴ point to the second card and say *we draw*.

Q2

Roll and *push* are science words we learn in this book. *Nice* and *big* are everyday words. ∴ circle roll and push.

Q3

The first child has the speech bubble, so that child talks. The others have no bubble; they listen. ∴ point to the first child; the others listen.

Q4

The tick picture has one voice at a time, so we can hear. The cross picture has all talking at once, so we cannot hear. ∴ finger on the left picture; the rule is one voice at a time.

Q5

- The spines are the pointy parts on the back. Point to them.
- The beak is the long pointy part at the front. Point to it.
- The beak is long. ∴ say *long*.

Q6

- The flower is at the top of the plant. Point to it.
- The parts under the soil are the roots. ∴ say *roots*.
- The leaf is on the stem. Point to it.

Q7

The model shows spines, a beak and legs, the same parts we saw. An echidna has no wings. A model is the make way of sharing. ∴ circle spines, beak, legs; say *make*.

Q8

- a. The pull arrow is the red arrow; it points to the child with the string.
- b. A push goes away from you. ∴ *push*.
- c. A pull goes to you. ∴ *pull*.

Q9

- a. The car is at the end in picture 3. Circle it.
- b. A push moved the car; the arrow is in picture 1. ∴ a push.

Q10

- a. The twist card shows the cloth; we twist the cloth.
- b. The squash card shows the dough; we squash the dough. ∴ twist → the cloth; squash → the dough.

Q11

Pick a card and say the change and the thing, e.g. the bend card: *I bend the straw*. ∴ any true card sentence is right.

Q12

- a. *Rolls* and *slope* are the science words; *it*, *down* and *the* are everyday words. Circle rolls and slope.
- b. The everyday sentence is *It went down really fast!* ∴ circle rolls, slope; say *It went down really fast!*

Q13

Say what we found out, and use two card words. E.g. *My finding: the echidna has spines. I share it with a drawing*. The card words are *finding*, *share* and *drawing*. ∴ any finding said with two card words is right.

Q14

Push the toy: the word is *push*, and the arrow goes away from you. Pull it with the string: the word is *pull*, and the arrow goes to you. ∴ the two science words are push and pull, with arrows each way.