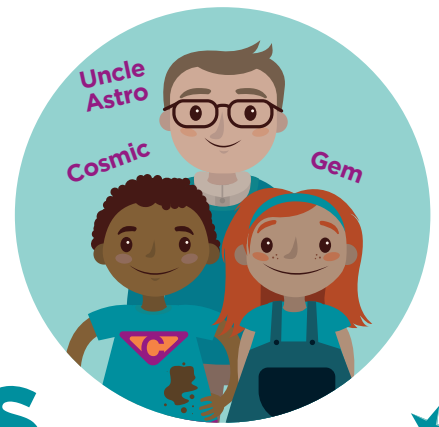




# STAR



# Confusing Cans

## Organiser's Card



## About the activity

This activity is designed to get children thinking about weights, ramps and investigation.

Gem and Cosmic want baked beans for lunch but Uncle Astro's cans don't have any labels! Gem thinks that they can roll the cans to find out what is inside them.

Through this activity you will support children to:

- Think about how to find out what is inside a can without opening it
- Conduct an experiment to find out what is inside various cans
- Record and present their results.



## Kit list

- A can of tinned tomatoes, soup, baked beans, cat food for each group, labels removed and marked with different numbers or colours
- A set of cans with labels for comparison
- Boards/trays to make the slopes plus blocks/books to support it
- Metre rulers, tape measures and other distance markers
- Can opener

## What to do

1. Introduce the activity using the story.
2. Give out activity cards and equipment to the children.
3. Explain that they will be exploring how to find out what is inside the tins without opening them.
4. Encourage children to discuss their ideas and how to carry out their investigations. Discuss how they might make the cans roll. Can they make it a fair test e.g. using the same slope or letting go of the cans rather than pushing them from the top etc.
5. Support children to conduct their investigation and make their own records of their results. Let them explore the unlabelled cans first. Then roll the labelled cans to make a comparison. Ask them to use their observations to predict which of their cans contains the beans. Talk about the distance each can rolled and what is inside it. Can they see a pattern? Let the children try rolling other things to see if they fit the pattern. You could open the chosen cans.
6. Ask the children to present their findings to the rest of the group, they can be as creative in their presentation as they want.

# Things to think about

Let children decide how to measure the distance each can has rolled. They might make accurate measurements or put down markers to compare distances.

What is inside the can will affect how far it will roll. Normally, the more solid the food, the further the can rolls.

Children might shake the cans to 'listen' to what is inside. The ones that they can 'hear' tend not to roll as far as the ones they cannot hear.

It is useful to have other labelled cans of food available for children to roll to see if they fit the pattern.

They can compare their ideas. You might open some cans. If they have chosen beans they may wish to heat and eat them. If they have chosen cat food, they won't!

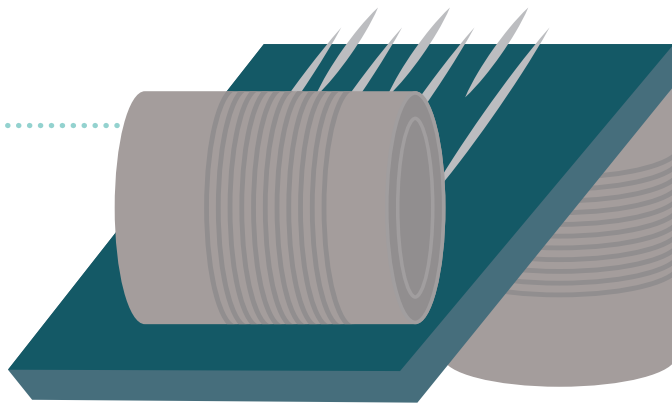
## Take it further

You can fill plastic bottles with water, freeze them (without the top) then see if there is a difference in how they roll as the water thaws (don't forget to put the top back on!).

Children can fill containers (large coffee tins or jars with lids are ideal) with different things e.g. sand (different amounts), syrup or cotton wool and see what happens.

## Keywords

- Measuring
- Testing
- Distance
- Acceleration
- Weight
- Density
- Volume



## Watch out!

Remind children not to leave cans lying on the floor for people to trip over.

Use a safety can opener. Push the can lid well inside open cans and dispose of safely after use. Opening cans and heating food should be done by adults.



STAR

# Confusing Cans

## Activity Card

It is lunchtime at Uncle Astro's house. They are going to have beans on toast. It is Cosmic's favourite.

Uncle Astro opens the cupboard doors and suddenly, CRASH, all the cans roll out. Cat food, soup, baked beans, tinned tomatoes all over the floor, and the labels have fallen off. What a disaster!

"How do we know which is the baked bean can?" asks Cosmic. "I don't want cat food or soup on toast!"

Gem picks up one of the cans. It has rolled much further than the others. Cosmic picks up another can. It is still close to the cupboard. "I wonder if the way they roll might help us to work out what is in each can?" says Gem. "Let's see if we can find out."



## Your challenge

See if rolling the cans will help Gem and Cosmic to find out what is inside.

**Gem**



I think a can of beans will roll the furthest.

**Cosmic**



I think a can of soup will roll the furthest.

**Uncle Astro**

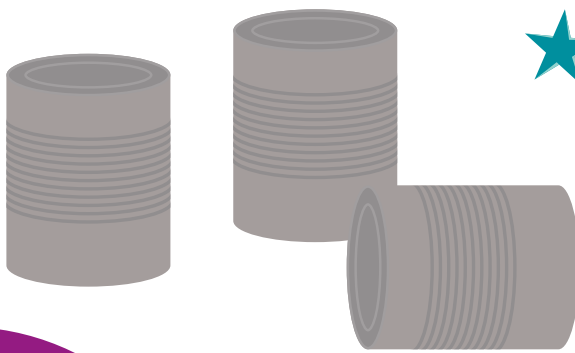
I think that what is in side of the can does not make a difference to how it rolls.



## Discuss

Have you ever dropped a can and seen it roll?

What happened?



## Getting started

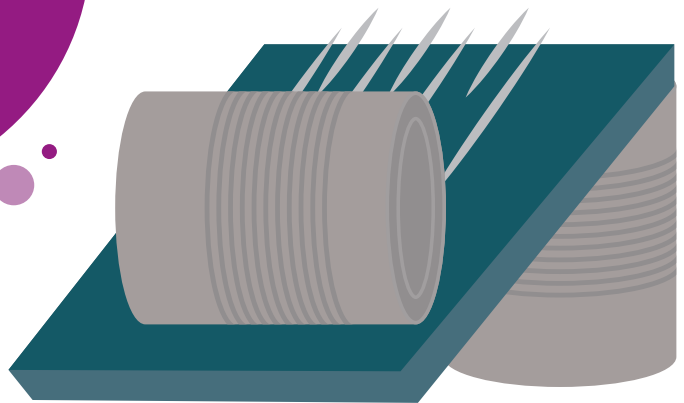
Roll each can down a slope and watch how they roll.

How high will you make the slope?

How will you make sure that you are rolling all the cans in the same way?

How will you know how far they have rolled?

Can you think of other ways to find out?



## Test your ideas

You might like to record your results in a table like this one:

	Can 1	Can 2	Can 3
Distance rolled from a 30 cm high slope			
Distance rolled from a 50 cm high slope			
Distance rolled from a 1m high slope			

## Share your ideas

Talk about which can might have beans inside it and why. Compare your cans with ones with labels to help you to decide. Open the can and see what's inside!

## Extra things to do

Find out what happens if you roll cans or plastic bottles with different things inside. There are lots of things you could use e.g. dry sand, cotton wool, water, plastic beads.