Ramp champ

Girls and boys, start your engines!

Your task is to make your toy car travel as far as it can after leaving the ramp.

How far can you make your toy car travel? How will you measure this distance?

Who will be the class ramp champ?
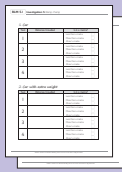

✔ **Topics**

Before you start the Investigation you need to know…

Teachers
- A comprehensive lesson plan, suggestions and resources are available in *iMaths 1 Teacher Book*.
- The BLMs for this Investigation can be downloaded from www.imathsteachers.com.au.

Materials

Internet access

BLMs 5.1–5.2

Coins or washers

Toy cars

Materials to make car ramps

Craft materials

1 Exploring ramps.

Talk about ramps. Make your own ramp and roll toy cars down it.

2 How far?

How far does your car travel after leaving the ramp? What is the best way to measure this distance? Why?

3 What will you change?

In groups, discuss what will make your car travel further after it leaves the ramp. Try some of these ideas to see what happens.

What things made your car go further? What things made your car go faster?

4 Let it rip.

Roll your car down the ramp. Make sure you don't push the car. Measure the distance it travelled after it left the ramp. Do this four times.

Use **BLM 5.1** to record your results.

Make the car heavier. Roll the car down the ramp another four times. Record your results.

Investigate what happens if you make the ramp steeper. Record your results on **BLM 5.2**.

5 Reporting back.

Describe the results of the ramp tests.

What was your group's best distance? Explain why? Was this distance more or less than a metre?

Who is the class ramp champ, and why?

weblink

Go to **imathskids.com.au** – the Investigation 5 area contains the weblinks and BLMs that you need to complete this Investigation.

BLM 5.1 | **Investigation 5:** Ramp champ

1 Car

Test	Distance travelled	Is it a metre?	
1		Less than a metre	☐
		More than a metre	☐
		About a metre	☐
2		Less than a metre	☐
		More than a metre	☐
		About a metre	☐
3		Less than a metre	☐
		More than a metre	☐
		About a metre	☐
4		Less than a metre	☐
		More than a metre	☐
		About a metre	☐

2 Car with extra weight

Test	Distance travelled	Is it a metre?	
1		Less than a metre	☐
		More than a metre	☐
		About a metre	☐
2		Less than a metre	☐
		More than a metre	☐
		About a metre	☐
3		Less than a metre	☐
		More than a metre	☐
		About a metre	☐
4		Less than a metre	☐
		More than a metre	☐
		About a metre	☐

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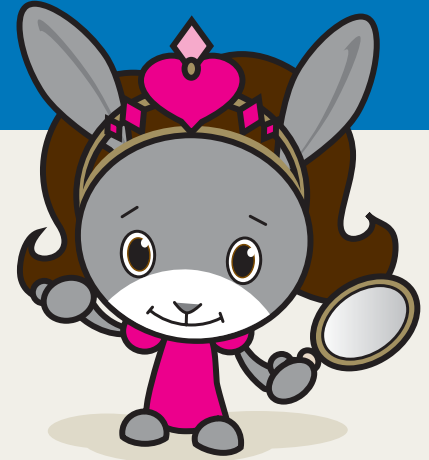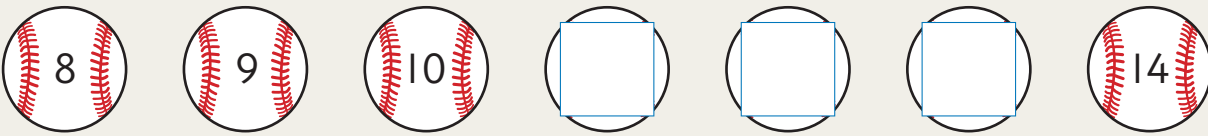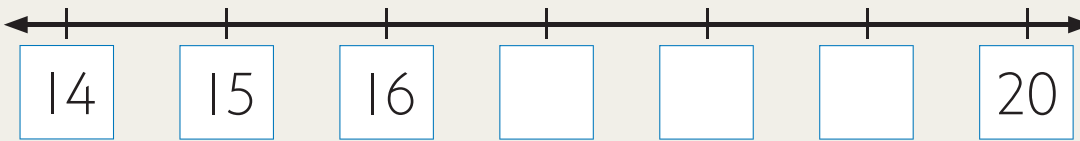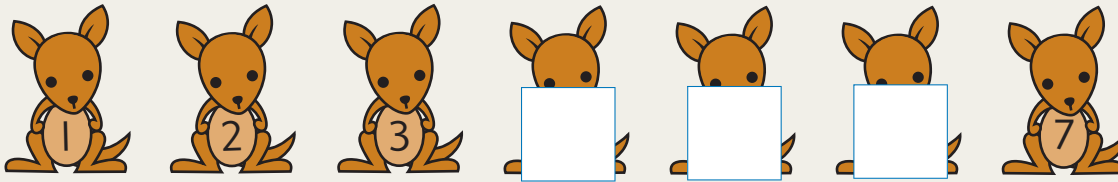
I can count in ones like this – 1, 2, 3, …
Can you start at another number like 14?
14, 15, 16, … keep going and stop at 20.

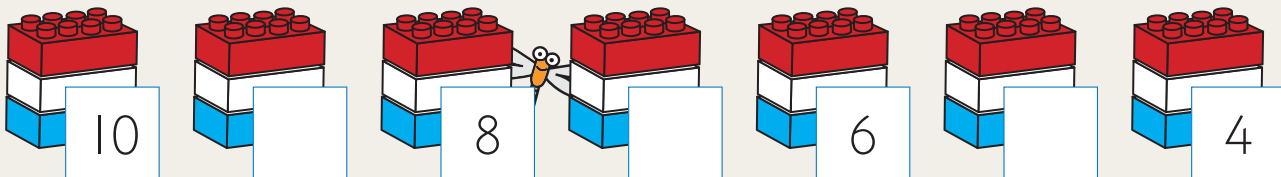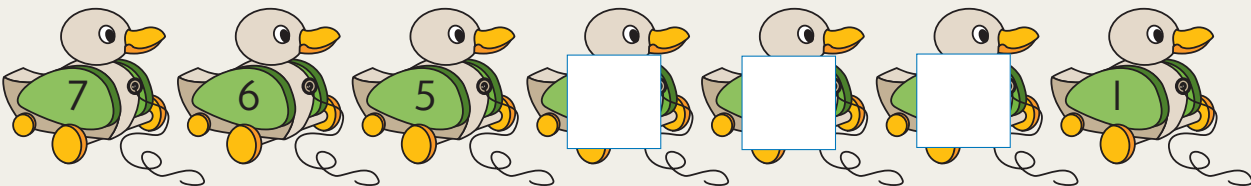**1** Count on and write the missing numbers.

1 2 3 [ ] [ ] [ ] 7

| 14 | 15 | 16 | | | | 20 |

8 9 10 [ ] [ ] [ ] 14

2 Count on one more.

4, [ ]   17, [ ]   15, [ ]   3, [ ]   9, [ ]

3 Count back one.

[ ], 3   [ ], 8   [ ], 5   [ ], 2   [ ], 10

4 Count back and write the missing numbers.

7 6 5 [ ] [ ] [ ] 1

10 [ ] 8 [ ] 6 [ ] 4

5 Write the missing numbers.

1	2		4	5	6		8		10
11	12	13			16	17			20
	22		24			27	28	29	
31		33	34		36			39	40
	42	43				47	48	49	50
51			54	55			58		
61		63			66	67			70
	72			75	76	77	78		80
		83	84		86			89	
91	92			95		97	98		

6 Count back one and count on one.

	, 27,	
	, 83,	
	, 59,	
	, 32,	
	, 40,	
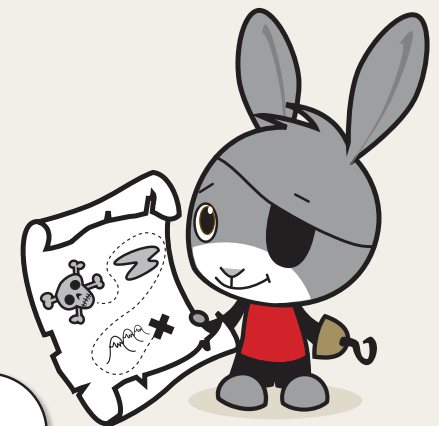
7 Write the missing numbers.

20 19 ○ ○ ○ ○ ○ 6 ○ ○ ○ ○ ○ ○ 8 ○ ○ ○ ○ 11 10
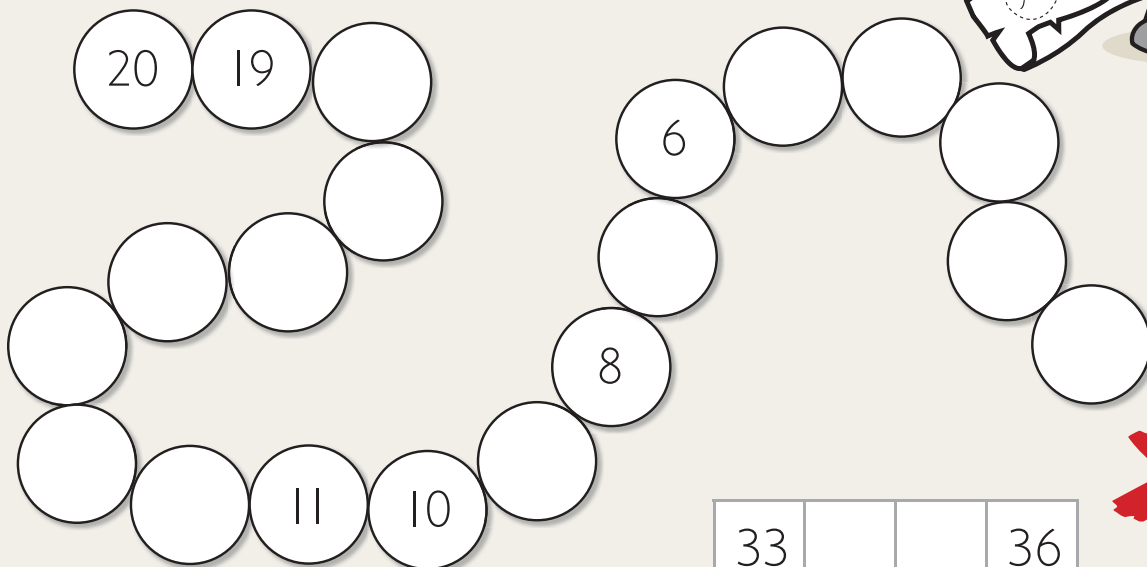
Problem solving task

Hundred board piece: Write the missing numbers from this piece of a hundred board. Use the space provided in *iMaths 1 Tracker Book* to work out your answer.
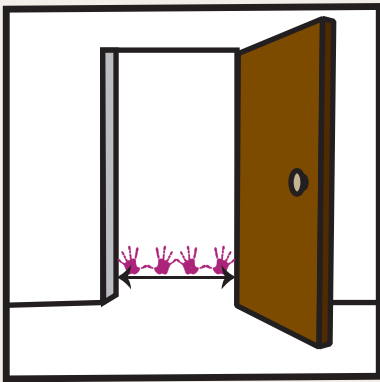
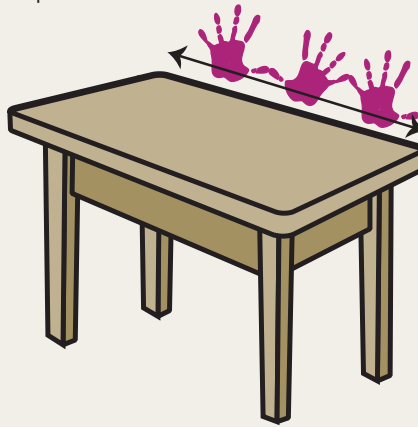| 33			36
	45		
		56	

When you open your fingers wide you make a **handspan**. You can use your **handspan** to measure things.

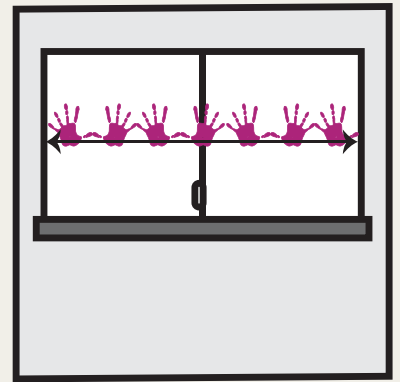**1** How many of **your** handspans?
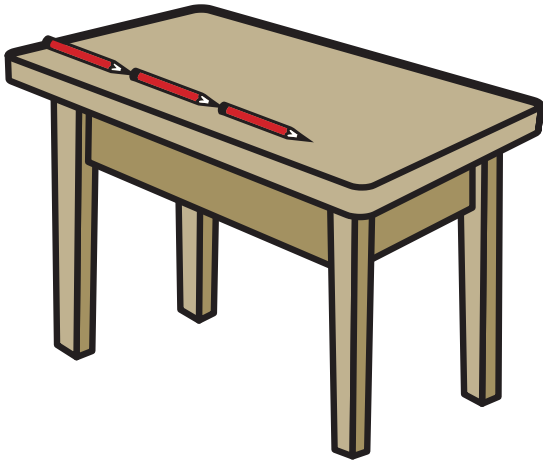
☐ handspans

☐ handspans

☐ handspans

2 Find two more things to measure with handspans.

☐ handspans

☐ handspans

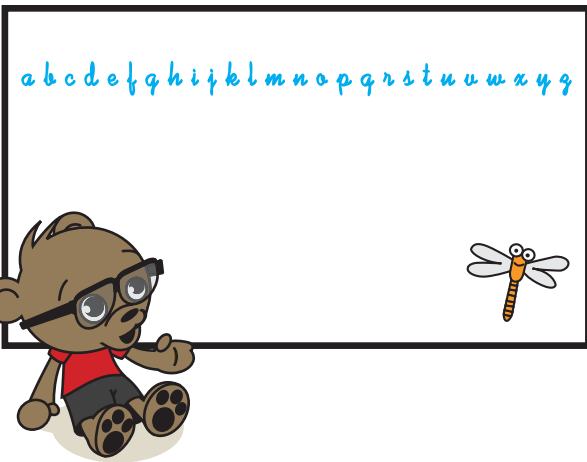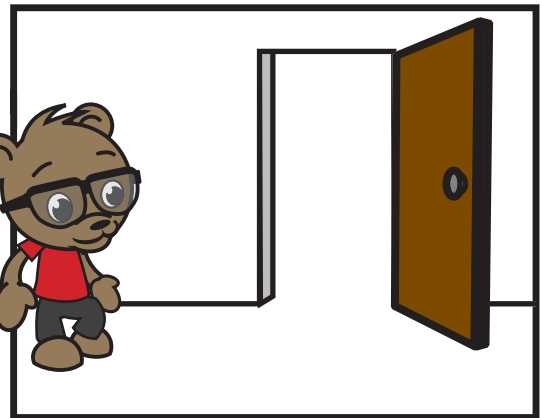**3** Use different units of length to measure these things.

Your desk

| | pencils |

Your teacher's ruler

| | shoes |

The board

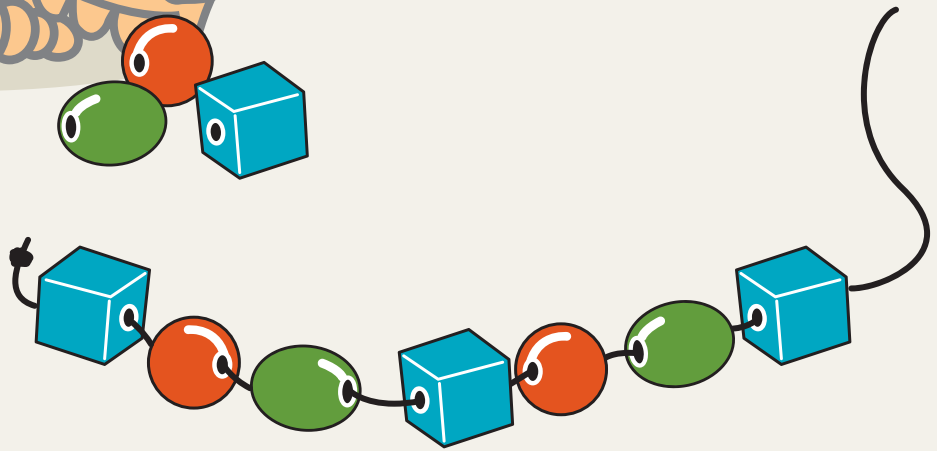| | armspans |

The distance from your desk to the door

| | steps |

The **find a pattern** strategy involves looking for repeating parts in a problem. You may be able to make a rule to explain the answer.

Share this problem

Keep the pattern going.
Which bead will be next?

Discuss the solution

The **find a pattern** strategy will be useful here.

The beads are arranged in sets of three.
The pattern of one ▢ then ● then ● repeats.

To keep this pattern going, the next bead will be a ●.

Use the **find a pattern** strategy to solve these problems.

Patterns in sounds can be shown with numbers, like this:

1	2	1
toot	shake	toot

Look at each sound pattern. Write them as a number pattern in the boxes below.

strum	toot	toot	toot	strum	toot	toot	toot

boom	boom	ting	boom	boom	ting	boom	boom	ting

shake	shake	shake	ching	shake	shake	shake	ching

Strategy 5