BRIGHTER MATHS

Creating a whole generation of kids that are confident in maths

BUILDING A FOUNDATION OF MATHS

PART 1 OF 3

SAMPLE - LESSON 1
TIER 1, 2 & 3

A FUN INTRODUCTION

MATHS AUSTRALIA

Lesson 1 : Number Recognition - Counting Units

Note for the educator: This lesson builds on the understanding that children learn counting best by starting with concrete objects (like blocks) and progressing to abstract symbols (numerals 0-9) in a fixed, stable order. It introduces counting from zero to nine, which is a foundational skill in our base ten decimal system. The I-CRAVE methodology supports this by ensuring students connect a physical quantity to its name and symbol, internalising that each number represents "one more" than the last, which is foundational for all future maths. To reduce cognitive load, the initial counting activities use identical units (green blocks) before moving to varied objects.

Learning Intention: We are learning to count units from zero to nine and connect them to their number symbols.

Success Criteria (I know I can...)

Count a group of up to nine green unit blocks accurately.

Show a number from zero to nine (0-9) using green unit blocks.

Draw a picture to show a number of blocks from 0 to 9.

Match numeral cards 0-9 to the correct group of blocks.

Explain that each number means "one more" than the number before it when counting.

Materials & Resources

Integer Block Kit - green unit blocks (I-blocks)

Whiteboard or large paper & markers

Individual whiteboards/paper & green pencils/crayons for students

Numeral cards 0-9

Red Level Student Workbook (Worksheets for Lesson 1)

Curriculum Alignment

Australian Curriculum (Foundation Year): **AC9MFN01** "name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals" and **AC9MFN03** "quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning”.

NSW Curriculum (Early Stage 1): **MAE-RWN-01** "demonstrates an understanding of how whole numbers indicate quantity" and **MAE-RWN-02** "reads numerals and represents whole numbers to at least 20”.

New Zealand Curriculum (Phase 1): This lesson supports the content description for Year 1 to "count forwards or backwards in 1s, 2s, and 10s from any whole number between 1 and 20, and then between 1 and 100".

Victorian Curriculum (Foundation): **VCMNA069** "Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point" and **VCMNA070** "Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond”.

Western Australia (Pre-primary): Aligns with the objective to "Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point" and to "Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond".

WA ABLEWA (Stage D): Corresponds to learning to "Use a number names in sequence to count in everyday situations, initially from one to ten" and to "Recognise number name, numerals and quantities, initially up to five and beyond”.

Early Years Learning Framework (V2.0): **Outcome 4** "Children are confident and involved learners" and **Outcome 5** "Children are effective communicators”.

Multi-Tiered System of Supports (MTSS)

Tier 1 (All Students): I-CRAVE lesson structure, explicit instruction, multisensory tools. Focus on counting principles (stable order, one-to-one correspondence).

Tier 2 (Targeted Support): Small group instruction with direct modeling and C-R-A stages practice. Increased repetition of counting sequences and numeral matching. Use error correction procedures (model, prompt, check).

Extension: Challenge students to quickly build quantities up to 9 without counting one-by-one (subitising smaller parts within).

Universal Design For Learning (UDL) considerations

Engagement: Tactile blocks, counting songs/rhymes, relate counting to everyday situations.

Representation: Concrete blocks (tactile/visual), drawings (pictorial), numerals (abstract), clear verbal explanations/modeling.

Action & Expression: Students build with blocks, draw counts, write/select numerals, verbalize counting/explanations.

Phase	Teacher Actions (Explicit Instruction)	Student Actions, Verbalisation	Assessment For Learning	UDL/MTSS Notes
Identify	Ask: "Who can count? How high can you count?" Say: "Today we are going to learn how to show our counting using special blocks."	Sing a counting song (e.g., "1, 2, 3, 4, 5, once I caught a fish alive"). Participate in song/discussion. Orally count as high as they can.	Observe participation and oral counting fluency. Note confidence levels.	**UDL:** Activate prior knowledge of oral counting. Use familiar songs for engagement. **Tier 2:** Note students who are hesitant with oral counting sequence. **Extension:** Ask students how they would show the number 'three' using their fingers.
Concrete	Say: "These are our special counting blocks. They are all the same." Model: Place one block. "This is one." Place another. "This is one more. That's two." Continue to nine, emphasising stable order and one-to-one correspondence. Say: "Let's build together. Show me three blocks." Guide students to place blocks in a line.	Touch and count blocks with the teacher. Build specified quantities (0-9) with blocks. Verbalise: "This is one block." "This is two blocks." "I have three blocks."	Observe counting accuracy (stable order, one-to one correspondence). Check if students can represent a given oral number with the correct quantity of blocks.	**UDL:** Use consistent, identical manipulatives. Provide clear physical demonstration. **Tier 2:** More guided practice with fewer numbers (e.g., 0-3 first). Focus on the physical action of one-to-one matching. **Extension:** Students build a quantity (e.g., 7) and then build the quantity that is "one more" and "one less".
Representational	Say: "Now, let's draw what we built with our blocks." Model drawing three green squares for a group of three blocks. "I had three blocks, so I draw three squares." Say: "Now it's your turn. Look at the four blocks you built. On your whiteboard, draw your four blocks."	Observe the teacher linking the physical blocks to a drawing. Draw green squares to represent the number of blocks they have in front of them. Explain the drawing: "I have four blocks, so I drew four squares."	Check if drawings match the quantity of blocks. Observe if students understand that one drawn square represents one physical block.	**UDL:** Provide green pencils/crayons. Model the drawing process clearly. **Tier 2:** Use templates with faint outlines of squares for students to trace over. **Extension:** Students draw a picture of a group of items (e.g., 5 apples) and then draw the corresponding number of block squares next to it.
Abstract	Say: "We have built numbers and drawn them. Now let's learn the secret code for them! These codes are called numerals." Introduce numeral cards 0-9. For each card (e.g., '3'), say: "This is the numeral three. It's the code for the three blocks we built and the three squares we drew." Say: "Find your drawing of four blocks. Which of these cards is the code for four?" Guide them to match the '4' card.	Listen to the concept of numerals as a 'code'. Look at the numeral cards. Match the correct numeral card to their drawing and block construction. Select the correct numeral card when asked for a quantity.	Observe accuracy in matching numerals to quantities (represented by blocks and drawings).	**UDL:** Explicitly connect the abstract symbol back to the concrete and representational models. Provide numeral cards as a clear visual support. **Tier 2:** Focus on matching numerals for a smaller set of numbers (e.g., 0-5). **Extension:** Students put the numeral cards in order from 0 to 9.
Verbal & Combined Practice	Ask questions that link all three stages. "Show me five blocks. Draw your five blocks. Now find the numeral card for five (5)." "I am pointing to the numeral 'eight (8)'. What does that mean you need to do with your blocks?" Ask: "If I have three blocks and I add one more, what number is that?"	Build, draw, and match the numeral for a given number. Explain their process: "This is the number 8, so I need to get 8 blocks and draw 8 squares." Answer "how many" questions by connecting the quantity to its name.	Listen for correct use of number names and sequence. Assess if students can move between the concrete, representational, and abstract forms for a given number.	**UDL:** Model the full C-R-A-V sequence for one example. Encourage students to explain their thinking to a partner. **Tier 2:** Work with one number at a time, completing the full C-R-A-V sequence before moving to the next number. **Extension:** A student says a number, and their partner has to build it, draw it, and find the numeral.
Explicit Instruction & Review	Say: "Today we learned to show numbers in three ways: with **blocks** (what we feel), with *drawings* (what we see), and with **numerals** (the maths code). They all mean the same thing!" Say: "Remember, when we count up, each number is one more than the one before."	Recall what they learned (e.g., "We counted blocks, drew them, and found the number card.").	Red Level Student Workbook (Worksheets for Lesson 1)	**UDL:** The final summary explicitly names the three modes of representation (C-R-A) to help students internalise the lesson's structure and purpose.

A FUN INTRODUCTION

STUDENT WORKBOOK

Metric Edition

Student's Name

By Esther White

Scope & Sequence

A FUN INTRODUCTION

Completion Checklist

Check off each lesson as you complete it.

A FUN INTRODUCTION

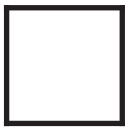
	1	2	3	4	5	6	7	8
1 - Number Recognition - Counting Units	☐	☐	☐	☐	☐	☐	☐	☐
2 - Writing Numerals - Learning The Symbols Of Maths	☐	☐	☐	☐	☐	☐	☐	☐
3 - Number Recognition - Writing Numerals	☐	☐	☐	☐	☐	☐		
4 - Number Recognition - Writing Numerals	☐	☐	☐	☐	☐	☐		
5 - Number Recognition - Writing Numerals	☐	☐	☐	☐	☐	☐		
6 - Geometric Shapes - Rectangles	☐	☐	☐	☐	☐	☐		
7 - Geometric Shapes - Circles	☐	☐	☐	☐	☐	☐		
8 - Geometric Shapes - Triangles	☐	☐	☐	☐	☐	☐		
9 - Place Value - Tens	☐	☐	☐	☐	☐	☐		
10 - Place Value - Hundreds	☐	☐	☐	☐	☐	☐		
11 - Integer Blocks	☐	☐	☐	☐	☐	☐		
12 - Addition - Introduction, Symbols (plus, equals)	☐	☐	☐	☐	☐	☐		
13 - Addition - Plus One	☐	☐	☐	☐	☐	☐		
14 - Counting To Twenty	☐	☐	☐	☐	☐	☐		
15 - Addition - Two Plus Two, Three Plus Three	☐	☐	☐	☐	☐	☐		
16 - Addition - Four Plus Four, Five Plus Five	☐	☐	☐	☐	☐	☐		
17 - Addition - Tens	☐	☐	☐	☐	☐	☐		
18 - Addition - Hundreds	☐	☐	☐	☐	☐	☐		
19 - Addition - Making Ten	☐	☐	☐	☐	☐	☐		
20 - Skip Counting By Two	☐	☐	☐	☐	☐	☐		
21 - Skip Counting By Ten	☐	☐	☐	☐	☐	☐		
22 - Skip Counting By Five	☐	☐	☐	☐	☐	☐		
23 - Tally Marks	☐	☐	☐	☐	☐	☐		
24 - Skip Count To Find Area	☐	☐	☐	☐	☐	☐		
25 - Telling Time - Minutes Only	☐	☐	☐	☐	☐	☐		
26 - Telling Time - Hours Only	☐	☐	☐	☐	☐	☐		
27 - Telling Time - Hours And Minutes Combined	☐	☐	☐	☐	☐	☐		
28 - Solving For An Unknown	☐	☐	☐	☐	☐	☐		
29 - Introducing Subtraction - Blocks, Symbols	☐	☐	☐	☐	☐	☐		
30 - Subtraction - Minus Zero, Minus One	☐	☐	☐	☐	☐	☐		

Number Recognition - Counting Units

Place unit blocks on the squares, then count them out loud as you colour them green. Draw a line to the correct number and circle it.

Example:

0 1 2 3 4 5 6 7 8 9



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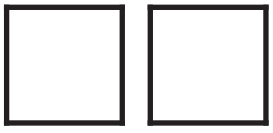

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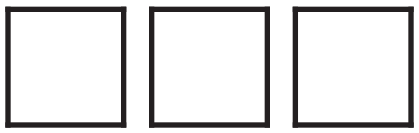

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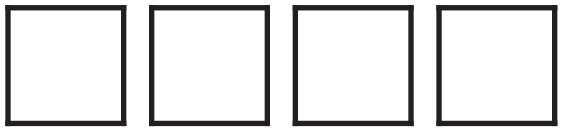
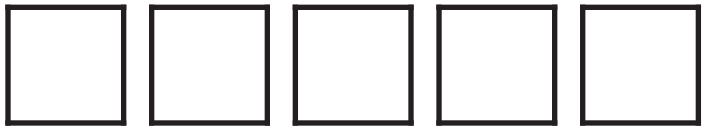
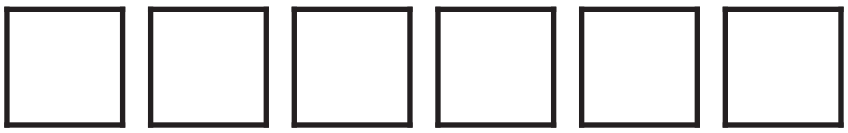


0 1 2 3 4 5 6 7 8 9



0 1 2 3 4 5 6 7 8 9

Place unit blocks on the squares, then count them out loud as you colour them green. Draw a line to the correct number and circle it.



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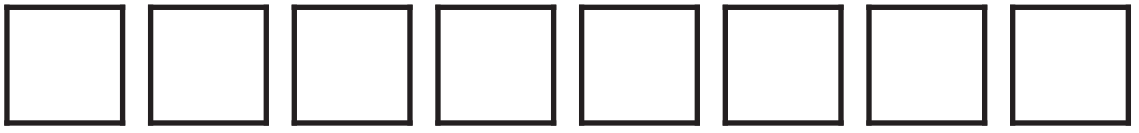
0 1 2 3 4 5 6 7 8 9



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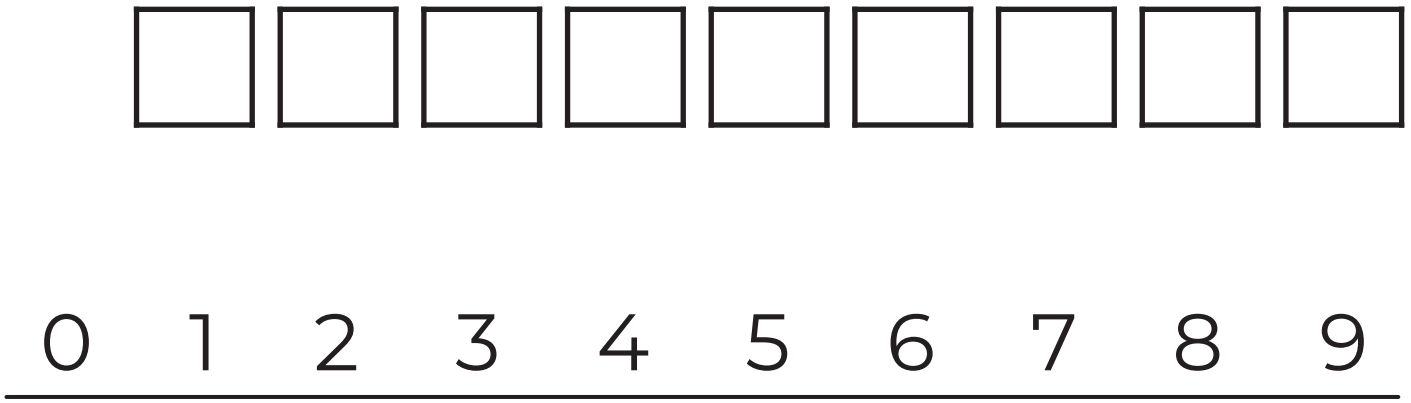

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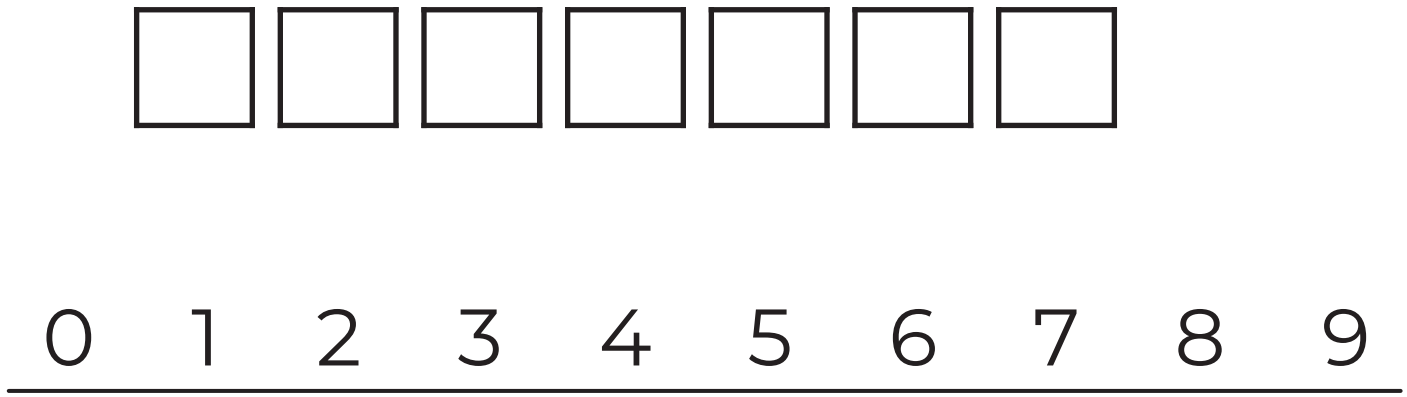

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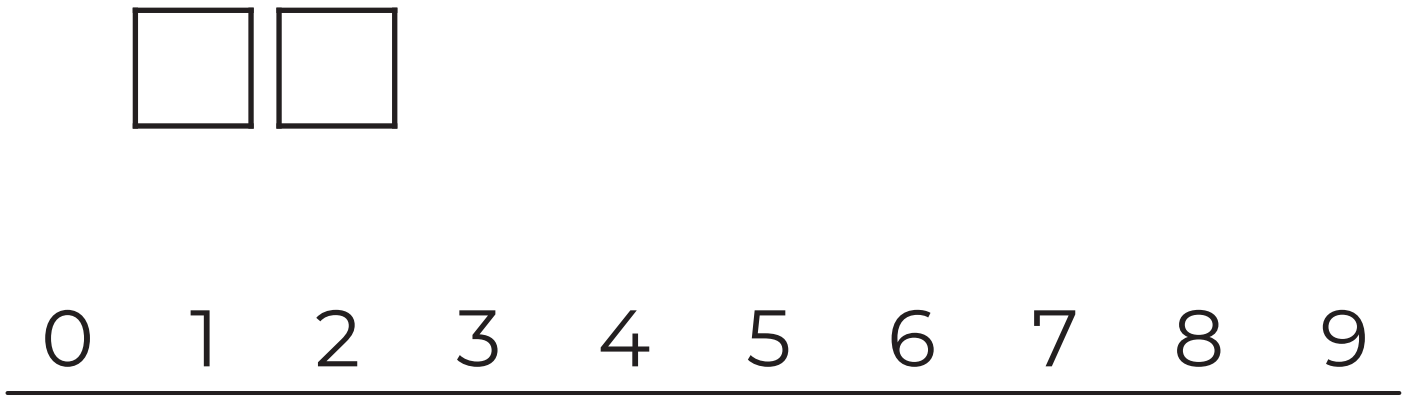


0 1 2 3 4 5 6 7 8 9

Number Recognition - Counting Units

Count the number of ‘units’ and circle the correct number.

Example:

How many spoons?

0 1 2 3 4 5 6 7 8 9

How many birds?

0 1 2 3 4 5 6 7 8 9

How many pencils?

0 1 2 3 4 5 6 7 8 9

How many arrows?

0 1 2 3 4 5 6 7 8 9

How many cats?

0 1 2 3 4 5 6 7 8 9

How many bicycles?

0 1 2 3 4 5 6 7 8 9

Number Recognition - Counting Units

Count the number of ‘units’ and circle the correct number.

How many dogs?

0 1 2 3 4 5 6 7 8 9

How many trees?

0 1 2 3 4 5 6 7 8 9

How many bananas?

0 1 2 3 4 5 6 7 8 9

How many ducks?

0 1 2 3 4 5 6 7 8 9

How many apples?

0 1 2 3 4 5 6 7 8 9

How many balls?

0 1 2 3 4 5 6 7 8 9

Number Recognition - Counting Units

Build and then draw the number of units you can see with the maths symbol and colour them green.

Example:

3

0

1

2

3

4

Number Recognition - Counting Units

Build and draw the number of units you can see with the maths symbol. Colour them green.

2

4

7

0

5

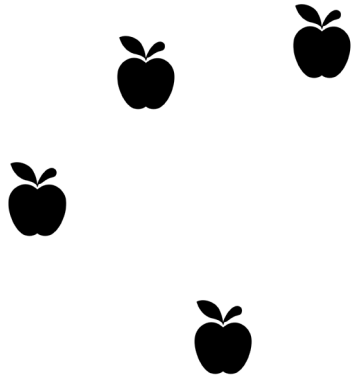
4

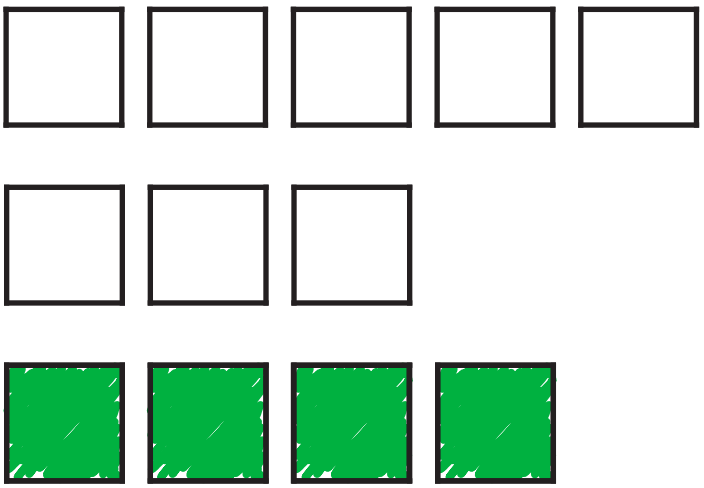
Number Recognition - Counting Units

Count and see how many units we have. Identify the row that shows the correct number of blocks and colour them green.

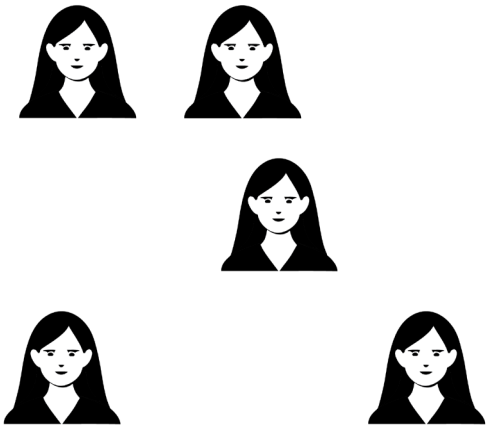
Example:

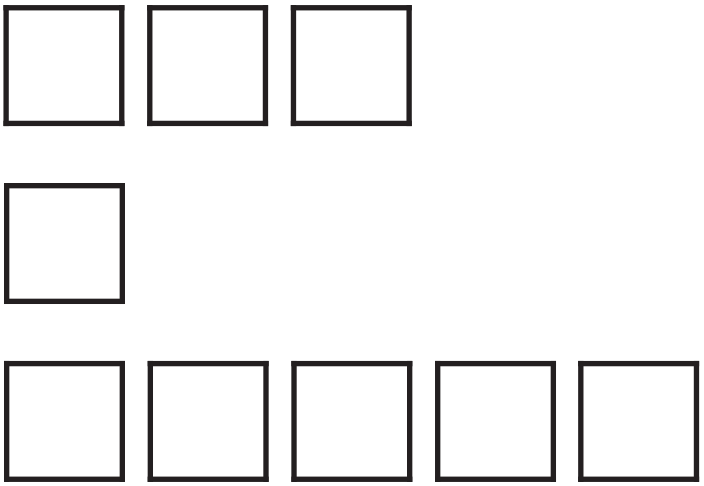
How many apples?



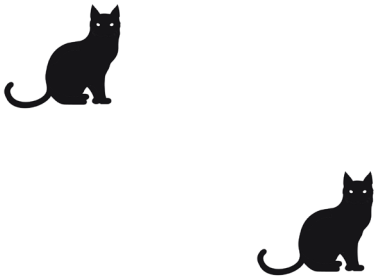


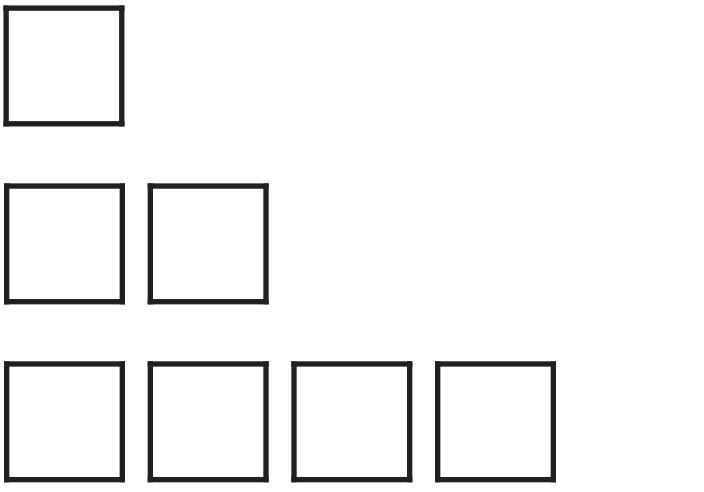
How many people?



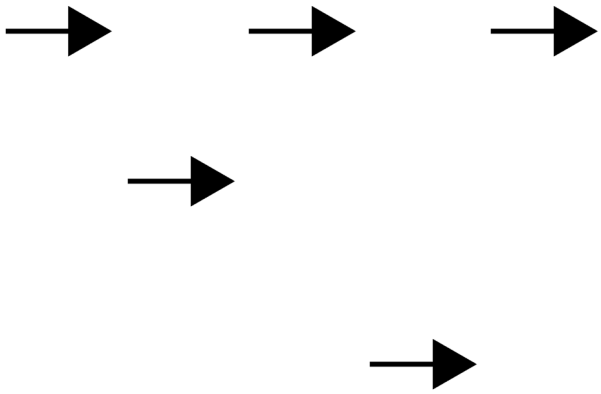


How many cats?

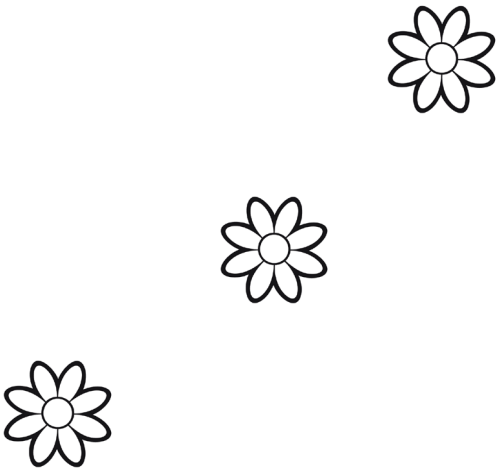




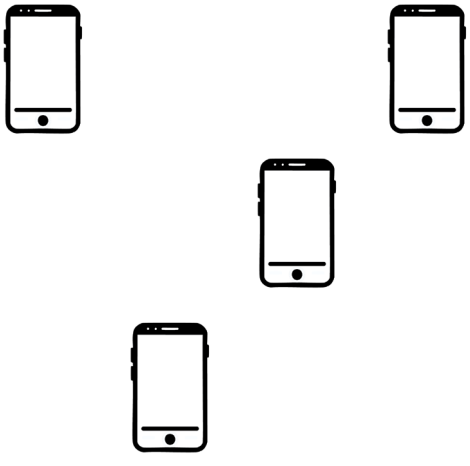
How many arrows?



How many flowers?



How many phones?



Number Recognition - Counting Units

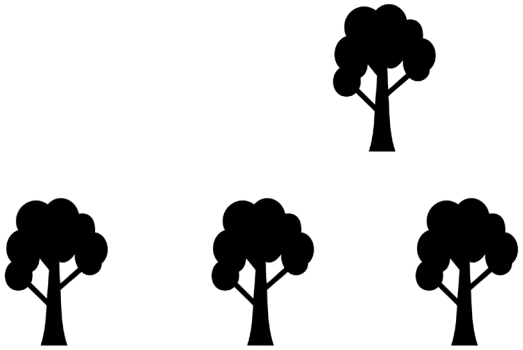
Count and see how many units we have. Identify the row that shows the correct number of blocks and colour them green.

How many houses?

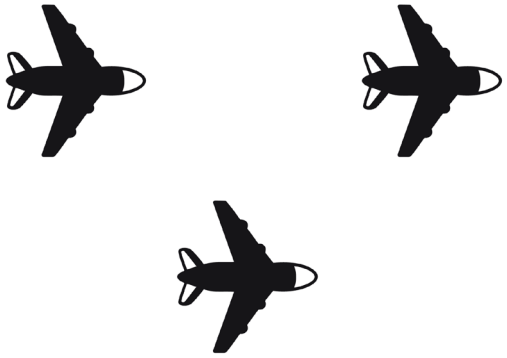
How many bicycles?

How many mugs?

How many trees?



How many planes?



How many dogs?

BRIGHTER MATHS

Creating a whole generation of kids that are confident in maths

A FUN INTRODUCTION

Pre-requisite: The student is expressing an interest in learning about numbers.

- **Counting**
- **Number Recognition**
- **Writing Numerals**
- **Relationships**
- **Place Value**
- **Geometric Shapes**
- **Addition**
- **Skip Counting: 2s, 5s, 10s**
- **Solving for an Unknown**
- **Tally Marks**
- **Telling Time**
- **Introduction to Subtraction**

The ***Maths Australia*** strategy involves three components:

Video and written instruction for the teacher and student, hands-on manipulatives to make abstract maths concepts understandable, and student workbooks to provide practice and review.

Watch the video until you understand the new topic, read the instruction material to reinforce your own learning, then use the manipulatives to teach understanding. Relate the lesson content to real life questions, have the student draw accurate representations, and only then move to the abstract squiggles on the piece of paper.

The Student Workbook will enable you to ensure mastery before you progress your student to the next lesson, confident of what they have learnt.

We look forward to your student's outstanding success as you teach them the way they learn!

MATHS AUSTRALIA

A FUN INTRODUCTION Student Workbook

Printed in Australia