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LEVEL: Kindergarten	CONTENT: Number & Algebra	FOCUS: Counting and Addition
In the Classroom		
PURPOSE	- Subitise small collections of objects and explain reasoning - Count small collections of objects - Use materials (or fingers) to represent quantities - Partition numbers into smaller amounts and explain reasoning, e.g. 5 and 1 makes 6 - Combine two collections by counting on - Recall some number facts - Use materials (or fingers) to represent known facts - Listen and create addition stories to combine two small collections - Use materials (or fingers) to model addition stories	
WARM UP	**Bunny Ears Game** Teacher names a single digit number. All students must use their fingers to show that number. Initially, students can keep their hands in front of them. As students become better at the game they need to out their either above their head (hence the game's name Bunny ears) or behind their back. This is to stop children looking at their hands while they make the number. Once students have made the number, say 6, teacher asks students to say how they know they have that number, e.g. 5 and 1 makes 6. Teacher then asks all students to show and verbalise 6 another way, so 3 and 3 makes 6 and 2 and 4 makes 6. **Challenge** Ask students to stand up and with a partner make numbers – start with teen numbers and then go back to single digit numbers to check how students can partition numbers, e.g. 7 is 2, 2, 2, and 1.	
INTRODUCTION	Brief introduction to Good Mathematicians – make a list and place on the board, include teamwork, asking questions, sharing ideas, recording ideas, explaining thinking, persistence, checking work, learning from mistakes and believing in yourself.	
EXPLICIT TEACHING & LEARNING	**Making Numbers** Sit students in a circle. Have all students get 10 unifix blocks – aim for all the same colour. Call out a single digit number and ask students to make that number. Can students show it in another way, e.g. 5 and 1 makes 6, etc. Repeat this with other numbers. **Combining Numbers** Get students to break up their unifix blocks into ones. Tell students an addition story – Choose a student in the class – Josh has 6 cards (have all students make 6 with their blocks). He was given 3 more. How many cars does he have now? Ask students how they know they have the correct answer. Repeat with other problems. Challenge students to work with a partner to tell one another their own addition stories and model them with blocks.	
DISCUSSION/KEY QUESTIONS	- Show me 5 (insert other number). - How do you know you have 5? - Is there another way to show 5? - What is addition? - How can we combine two collections? - What is the story telling us? - How do we find out how many we have in total? - Can you explain how you found the solution? - How can we record our solution? Can we record it in another way?	
DELIBERATIVE PRACTICE	The focus of this activity is to discover if students can represent numbers, without the need to count from 1. If students 'trust the count' from here they will be able to use strategies to combine collections. If students do not 'trust the count' they may be able to combine two collections by counting by ones, but this is a slow and inefficient strategy.	
REFLECTION	Throughout the lesson, ask students to share how they knew how to find the total (or make the number). Challenge students to model their solution using materials. Listen to the student's own addition stories and have them save them with the whole class. Also reflect as a class on students who were a Good Mathematician and why – have students nominate one another. Remind students of list created at the beginning of the lesson.	
RESOURCES	Unifix blocks	

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Curriculum Connections	
CONTENT	**VICTORIAN CURRICULUM F-10 FOUNDATION** **Number and Place Value** Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond(VCMNA070) **Elaborations:** understand that each object must be counted only once, that the arrangement of objects does not affect how many there are, and that the last number counted answers the 'how many' question Subitise small collections of objects (VCMNA071) **Elaborations:** use subitising as the basis for ordering and comparing collections of numbers Represent practical situations to model addition and subtraction (VCMNA073) **Elaborations:** use a range of practical strategies for adding and subtracting small groups of numbers, such as visual displays or concrete materials; use Aboriginal and Torres Strait Islander methods of adding and subtracting, including spatial patterns and reasoning
WHAT CAME BEFORE	Students know some number names and will be able to model some numbers. It is important to watch students as they are modelling the number to check if they are counting by ones or can trust the count. Students may trust the count for some benchmark numbers such as 1, 5 and 10, but when asked to model say 6 they revert to counting all. We need to emphasise the importance of using prior knowledge before going back to counting all.
WHAT COMES NEXT	Students may be able to recall some known facts, e.g. 5 and 5 is 10, this does not mean that students are able to recall all known facts. It is also important to ensure that students even know they may be able to say the fact verbally, but can students model it using materials and explain what they are doing. Although students may have seen the addition symbol, the focus at this stage is on mental and verbal strategies. Encourage students to draw what they see and use terms "and" & "makes". If students bring up the word "equals" ensure they understand that it means "is the same as." To assist with develop this skill, teachers can use a bucket balance.
VOCABULARY	Counting, addition, making, total, benchmarks, combining, subitising, trust the count, check, explain, partition, break apart, count all, counting on, number facts, and, makes, equals, is the same as, more
MISCONCEPTIONS	Being able to count verbally by ones and being able to count accurately count a collection are different from truly trusting the count. During the warm-up activity you may notice that students can show 5 by holding up one hand, but when asked to show 6 they will count by ones to check. Students need to begin to trust the count, before they will be able to combine collections using the counting on strategy.
WHAT PROFICIENCIES ARE TO BE UTILISED? **Understanding** **Fluency** **Problem Solving** **Reasoning**	**Foundation (Australian Curriculum)** **Understanding** includes connecting names, numerals and quantities **Fluency** includes readily counting numbers in sequences, continuing patterns and comparing the lengths of objects **Problem-solving** includes using materials to model authentic problems, sorting objects, using familiar counting sequences to solve unfamiliar problems and discussing the reasonableness of the answer **Reasoning** includes explaining comparisons of quantities, creating patterns and explaining processes for indirect comparison of length.
ASSESSMENT	Ask students in their books to show all the different ways to make 7

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