

## Number Check analysis and response

The Number Check is a short, simple diagnostic tool for informing classroom teachers how students at Year 1 are progressing in number and counting. It provides a starting point and can be used as a quick guide for teachers to assess students' current level of understanding. Further testing may be required to fully assess students' number and additive capabilities.

Importantly, the Number Check assists teachers to identify students who are progressing in line with, or exceeding, year-level expectations and those who need additional support. School leaders and teachers can then support all students to develop and strengthen their numeracy knowledge and skills as an essential building block of mathematics understanding by using aligned approaches across the school and by designing differentiated learning in classrooms.

### Whole-school planning and resourcing

Collaborative discussions, informed by data about student mathematics performance, lead to greater clarity about the strategies for explicit instruction. Developing a student's [number sense](#) in the first years of formal schooling is an important foundation. The Number Check provides some insights into a student's stage of development. Relevant strategies such as [number talks](#) and hundred charts can be used to develop a student's knowledge, skills and mathematical thinking.

Students who continue to struggle beyond Year 1 should be supported with additional explicit teaching strategies.

### Parent involvement

Results from the Number Check could be used as a starting point for further assessment. This information could then be part of school reporting processes to parents and families.

Schools could offer parent workshops and provide information to raise awareness of the important role number plays in development of mathematical knowledge and skills. Further information could include suggestions about how parents can assist their child's number and counting skills and knowledge with some simple fun activities. Refer to [Year 1 mathematics at school: What to expect](#) (PDF, 1.15MB).

### Classroom analysis and learning design

The results from the Number Check provide a starting point to evaluate students' current level of number understanding. When combined with other observation and assessment evidence, teachers will gain a more complete picture of their students' learning needs.

Analysing student errors allows teachers to see students' specific strengths and weaknesses in number learning and gives teachers a means for selecting their teaching strategies.

Teachers should carefully analyse students' responses to the Number Check and other assessments to investigate the skills and knowledge the students display so that differentiated teaching can be planned accordingly. Such teaching is designed to accommodate students with different levels of number and counting knowledge and skills by differentiating at the point of

practice and independent work. Differentiation strategies will sometimes involve the whole class and sometimes small groups or individuals.

To begin with, some students may benefit from activities that help them to recognise that a collection of objects can be made up of different arrangements. For example, 7 stickers can be arranged as 'a 4 and a 3' in a tens frame layout which may minimise the need to count. Having students compose and recompose different arrangements and representations of different collections helps them to develop mental strategies.

Students need to develop their knowledge of place value, recognising that 10 is a building block of our numeration system. Tens frames are used to illustrate numbers less than or equal to 10, and are useful devices for developing number sense within the context of 10. By creating various arrangements of counters on the tens frames and posing simple questions, teachers can prompt students to use different mental images of numbers and different mental strategies for manipulating these numbers.

After the Number Check, teachers may wish to follow up with relevant activities to develop knowledge and skills associated with each question that the student found challenging.

## Number Check: Resources to support follow-up learning

| Question                     | Video or interactive activity  | Hands-on activities   |
|------------------------------|--|---|
| 1. What is this number? [6]  | <p><a href="#">Counting beetles</a></p> <p>Select Level 1. Connect numerals and quantities. Students count the beetles on screen then select the correct number.</p> | <ul style="list-style-type: none"> <li>Have students trace with their finger the number to experience the numeral formation. Say the number name with the numeral representation.</li> <li>Have number cards, 1 to 10, and ask students to identify the number 6 card, as the numeral name is spoken.</li> </ul>          |
| 2. What is this number? [12] | <p><a href="#">Quantifying collections: paddlepop sticks 1</a></p> <p>A video for students that explores regrouping and renaming when counting up to 20.</p>         | <ul style="list-style-type: none"> <li>Have students identify the numerals of 12. Ask 'What does the 2 represent?' 'What does the 1 represent?' Draw on students' understanding of place value.</li> <li>Model teen numbers using materials such as bundling sticks to demonstrate 1 ten and the ones (units).</li> </ul> |
| 3. How many dots are there?  | <p><a href="#">Subitising: match my collection</a></p> <p>View the video <i>Subitising:- match my collection</i></p>   | <ul style="list-style-type: none"> <li>Using pasta or another uniform item, have students re-create the pattern of dots that are shown briefly.</li> <li>Have students draw the dots they see into a row or familiar array to assist with counting.</li> </ul>  |

| Question                             | Video or interactive activity  | Hands-on activities  |
|--------------------------------------|--|--|
| 4. What is the next number after 13? | <p><a href="#">Number trains</a></p> <p>Numbers 1–20 (Select Level 2)</p> <p>In this activity, students place number carriages on a track in correct order, counting by ones to complete trains with carriages. It requires some problem-solving strategies to complete the task.</p>  | <ul style="list-style-type: none"> <li>• Use number cards, a string line and pegs, have students order the number cards in correct ascending order.</li> <li>• Have students identify and place the ‘next card’ after a particular number card, such as 15, for numbers less than 20.</li> </ul>   |
| 5. What number comes just before 20? | <p><a href="#">Number trains</a></p> <p>Numbers 1-20 (Select Level 2)</p> <p>In this activity, students place number carriages on a track in correct order, counting by ones to complete trains with carriages. It requires some problem-solving strategies to complete the task.</p>  | <ul style="list-style-type: none"> <li>• Use number cards, rope and pegs, have students order number cards in correct ascending order. Focus the ordering around the tens numbers, e.g. 9, 10, 11 or 19, 20, 21.</li> <li>• Have students identify and place the ‘next card’ after a particular number card, such as 20, for numbers less than 30.</li> </ul>                  |
| 6. What number comes just before 47? | <p><a href="#">100 Square Jigsaw</a></p> <p>Use the interactive 100 Square Jigsaw, which requires students to apply their understanding of counting both forwards and backwards to help them complete the square filled with numbers in the correct sequence. This activity draws on the student’s knowledge of what number comes before a particular number (from 1-100).</p> | <ul style="list-style-type: none"> <li>• Use a hundreds chart and cover numbers with sticky notes. Have students identify the number that comes before (or after).</li> <li>• Place a group of number cards in order e.g. 42, 43, 44, 45, 46, 47 and flip them over. Have the student identify the number before (or after) as cards are individually flipped over.</li> </ul> |

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| <p>7. Start counting from 62. I'll tell you when to stop (73).</p>  | <p><a href="#">Number trains</a></p> <p>Numbers 30–50 (Select Level 3)</p> <p>In this activity, students place number carriages on a track in correct order, counting by ones to complete trains with carriages. It requires some problem-solving strategies to complete the task.</p>        | <ul style="list-style-type: none"> <li>• Use base ten blocks to explore tens and ones (units) in counting patterns, and what happens when a number such as 49 is reached.</li> <li>• Provide students with a large collection of items such as 56 icy pole sticks. Have students organise and count the objects. Then ask what is the total if I have one more object? Encourage students to count on.</li> </ul>   |
| <p>8. Count backwards from 23. I'll tell you when to stop. (16)</p> | <p><a href="#">100 Square Jigsaw</a></p> <p>Use the interactive 100 Square Jigsaw, which requires students to apply their understanding of counting both forwards and backwards to help them complete the square filled with numbers in the correct sequence.</p>                             | <ul style="list-style-type: none"> <li>• Have students create large number lines using masking tape and number cards. Have students stand on a starting number. Then ask what number comes before. Have the student move to the number. Continue to ask what number comes before establishing the number sequence.</li> <li>• Provide students with a set of number cards mixed up and have them order the cards in sequence counting backwards, counting by ones.</li> </ul> |
| <p>9. Get me 8 counters.</p>  | <p><a href="#">Investigate ten-frames</a></p> <p>Introduce ten frames for students to count and represent numbers 1 to 10.</p> <p><a href="#">Ten-frame filler</a></p> <p>View the video to see how to play a strategy game to fill as many 10 Frames as you can. The game is played with</p> | <ul style="list-style-type: none"> <li>• Provide students with 10 small objects such as counters. Have students collect a certain number of counters.</li> <li>• Provide students with a tens frame. Have them populate the template with a set number of small objects/counters.</li> </ul>  |

| Question   | Video or interactive activity   | Hands-on activities  |
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|  | <p>a dice and a sheet with ten frames. A player who completes the ten-frame (for example, rolling a three and there is a ten-frame with 7 already filled), claims it by writing their initials on top of the ten-frame. The player with the most ten-frames at the end is the winner!</p> |  |
| <p>10. How many counters are there altogether?</p> | <p><a href="#">Dot card talk 1</a></p> <p>In this video, students complete simple addition to 10 using dot cards (cards representing a number using dots). They are asked how they worked out the number.</p>   | <ul style="list-style-type: none"> <li>• Have two piles of small objects/counters e.g. 2 and 3. Have students count each pile of counters and then the total number of counters to find the total. Then have students practise counting on, by counting one pile (3) and then continue counting the rest of the counters to find the total.</li> <li>• Provide two numbers (under 5). Have students draw the matching number of objects for each number and then count to find the total.</li> </ul> |
| <p>11. How many counters are there altogether?</p> | <p><a href="#">Dot card talk 4</a></p> <p>In this video, students use tens frames to count collections of dots. They use strategies, such as adding dots from one frame to another, to make one full tens frame and one that is not full; making counting easier.</p>                     | <ul style="list-style-type: none"> <li>• Have two piles of small objects/counters one with 9 and with a number less than 5. Have students use a strategy to find the total number of objects. Point out the bridging of the ten.</li> <li>• Have students use tens frames to add numbers.</li> </ul>   |

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| 12. How many are left? | <p><a href="#">Addition and Subtraction - Block 2</a></p> <p>Introduce the language of subtraction, 'Taking away' in a range of real life contexts. Refer to the section, How many left? (pages 24-27)</p> | <ul style="list-style-type: none"><li>• Provide students with 15 small objects/counters. Have students practise taking away 5, 6, 7 and 8 from the group</li><li>• Draw chalk number lines on the ground to 20. Provide students with a starting number above 10, then have them subtract a provided number e.g. 5. Invite students to explain their thinking as they move along the number line to solve the problem.</li></ul> |