Year 1 Number Check (20 items): analysis and response

The Year 1 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 helps teachers 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, using aligned approaches across the school and implementing differentiated learning in classrooms.

Whole-school planning and resourcing

Collaborative, data-informed discussions about students' 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 insight into a student's stage of development. Relevant strategies such as number talks and working with hundreds 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 form 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 the development of mathematical knowledge and skills. Further information could include suggestions about how parents can support 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 students display so that differentiated

© 2023 Commonwealth of Australia, unless otherwise indicated. Creative Commons Attribution 4.0, unless otherwise indicated.

teaching can be planned accordingly. 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 also 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 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 any questions that the student found challenging.

© 2023 Commonwealth of Australia, unless otherwise indicated. Creative Commons Attribution 4.0, unless otherwise indicated.

Number Check: Resources to support follow-up learning

Question	Video or interactive activity	Hands-on activities
1. What is this number? (6)	Counting beetles Connect numerals and quantities (Select Level 1) Students count the beetles on screen then select the correct number.	• Have students trace with their finger the number to experience the numeral formation. Say the number name with the numeral representation. • Have number cards, 1 to 10, and ask students to identify the number 6 card, as the numeral name is spoken.
2. What is this number? (12)	Quantifying collections – paddlepop sticks 1 A video for students that explores regrouping and renaming when counting up to 20.	• 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. • Model teen numbers using materials such as bundling sticks to demonstrate 1 ten and the ones (units).
3. How many dots are there? (5)	Subitising: match my collection View the video *Subitising: match my collection.*	• Using pasta or another uniform item, have students re-create the pattern of dots that are shown briefly. • Have students draw the dots they see into a row or familiar array to assist with counting.

. © 2023 Commonwealth of Australia, unless otherwise indicated. Creative Commons Attribution 4.0, unless otherwise indicated

Question	Video or interactive activity	Hands-on activities
4. What is the next number after 13?	Number trains Numbers 1–20 (Select Level 2) 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.	• Using number cards, a string line and pegs, have students order the number cards in correct ascending order. • Have students identify and place the 'next card' after a particular number card, such as 15, for numbers less than 20.
5. What number comes just before 20?	Number trains Numbers 1–20 (Select Level 2) 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.	• Using number cards, rope and pegs, have students order number cards in correct ascending order. Focus the ordering around the tens numbers, for example, 9, 10, 11 or 19, 20, 21. • Have students identify and place the 'next card' after a particular number card, such as 20, for numbers less than 30.
6. What number comes just before 47?	100 Square Jigsaw 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).	• Use a hundreds chart and cover numbers with sticky notes. Have students identify the number that comes before (or after). • Place a group of number cards in order, for example, 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.

© 2023 Commonwealth of Australia, unless otherwise indicated. Creative Commons Attribution 4.0, unless otherwise indicated

Question	Video or interactive activity	Hands-on activities
7. Order these numbers from smallest to largest. 31, 13, 30	Number Chart Use this interactive to compare and order numbers using a hundreds chart. Compare and order numbers with a large difference (for example, 12 and 21) as well as numbers with a small difference (for example, 40 and 41).	• Provide regular opportunities for oral counting. • Use manipulatives (such as Unifix, tens frames and counters, bead strings) to represent small sets of 2-digit numbers. Start by comparing and ordering two numbers. Then progress to three. • Provide regular opportunities to interact with numbers on a number line.
8. Start counting from 62. I'll tell you when to stop. (73)	Number trains Numbers 30–50 (Select Level 3) 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.	• Use base ten blocks to explore tens and ones (units) in counting patterns, and what happens when a number such as 49 is reached. • 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.
9. Count backwards from 23. I'll tell you when to stop. (16)	100 Square Jigsaw 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.	• 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.

© 2023 Commonwealth of Australia, unless otherwise indicated. Creative Commons Attribution 4.0, unless otherwise indicated

Question	Video or interactive activity	Hands-on activities
		• Provide students with a set of number cards mixed up and have them order the cards in sequence counting backwards, counting by ones.
10. Start counting forwards by tens from 10. I'll tell you when to stop. (120)	Counting with understanding up to 100 Use this video to review the number naming sequence when counting by tens using concrete materials and tens frames.	• Use the daily 100 days of school routine as an opportunity for oral counting by tens. For example, count the number of days attended in tens and ones, and count the number of days left until the 100-day target in tens and ones. • Provide frequent opportunities for students to locate the mistake in a number sequence that counts forwards by tens (for example, 10, 20, 30, 40, 15, 60). Invite students to reason why this is incorrect and why it might be tricky.
11. Count backwards by ten from 120. I'll tell you when to stop. (60)	Counting game (by multiples of 10) Use this video to launch a hands-on, partner game where the goal is to get to zero by counting backwards by tens from 110.	• Provide students with a 1–120 number chart and clear counters to place over each multiple of ten. Invite them to count backwards by ones starting at 120 but have them touch the counters and say out loud any multiples of ten and whisper all other numbers. • Provide frequent opportunities for students to locate the mistake in a number sequence that counts

© 2023 Commonwealth of Australia, unless otherwise indicated. Creative Commons Attribution 4.0, unless otherwise indicated

Question	Video or interactive activity	Hands-on activities
		backwards by tens (for example, 120, 110, 90, 80, 70). Invite students to reason why this is incorrect.
12. Get me 8 counters.	Investigating ten-frames Introduce ten frames for students to count and represent numbers 1 to 10. Ten-frame filler View the video to see how to play a strategy game to fill as many tens frames as you can. The game is played with a dice and a sheet with tens frames. A player who completes the tens frame (for example, rolling a three and there is a tens frame with 7 already filled), claims it by writing their initials on top of the tens frame. The player with the most tens frames at the end is the winner!	• Provide students with 10 small objects such as counters. Have students collect a certain number of counters. • Provide students with a tens frame. Have them populate the template with a set number of small objects/counters.

© 2023 Commonwealth of Australia, unless otherwise indicated. Creative Commons Attribution 4.0, unless otherwise indicated

Question	Video or interactive activity	Hands-on activities
13. How many counters are there altogether? (4 and 3 more makes 7 altogether)	Dot card talk 1 In this video, students complete simple addition to 10 using dot cards (with cards representing a number using dots). They are asked how they worked out the number.	• Have two piles of small objects/counters, amounting to quantities such as 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. • Provide two numbers (under 5). Have students draw the matching number of objects for each number and then count to find the total.
14. How many counters are there altogether? (9 and 4 more makes 13 altogether)	Dot card talk 4 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, to make counting easier.	• Have two piles of small objects or counters, one with 9 and one 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. • Have students use tens frames to add numbers.
15. How many are left? (12 take away 3 counters)	Addition and subtraction classroom talk prompts Use this resource to present a number talk about counting a collection up to 10 and applying additive thinking to solve simple addition and subtraction problems.	• Provide students with 15 small objects or counters. Have students practise taking away 5, 6, 7 and 8 from the group. • Draw chalk number lines on the ground to 20. Provide students with a starting number above 10, then have them subtract a provided number, for example, 5.

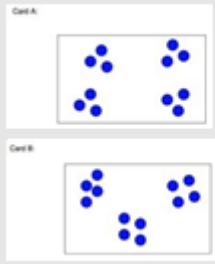
© 2023 Commonwealth of Australia, unless otherwise indicated. Creative Commons Attribution 4.0, unless otherwise indicated

Question	Video or interactive activity	Hands-on activities
		Invite students to explain their thinking as they move along the number line to solve the problem.
16. What numbers add up to make 10?	Introducing rekenreks Use this video to help students become familiar with rekenreks and explore them to consider numbers and number combinations to 10. 10 or bust game Use this video to make observations about combinations to make 10.	• Run regular number talks which involve a bridging 10 strategy. Start with very visual prompts (for example, 6 dots on a tens frame and 4 dots outside the tens frame). Invite students to work out how many and share their strategy. • Use the activities in Place Value: reSolve Garden to develop understanding, fluency and confidence with numbers to 10. • Use Lesson 1 in this Addition: partitioning sequence. Provide students with 10 two-colour counters and use the context of red and green apples to explore different combinations to ten.
17. What numbers add up to make 16?	Compare and contrast? 3 Items Use this Unifix visual to invite thinking about how the representations are the same as each other and how they are different. Highlight ideas that emerge about	• Use the activities in Number lines and bead strings to develop understanding, fluency and confidence with numbers to 20.

© 2023 Commonwealth of Australia, unless otherwise indicated. Creative Commons Attribution 4.0, unless otherwise indicated

Question	Video or interactive activity	Hands-on activities
	equivalence, part-part-whole understanding, and renaming. Pose the following questions. • How else could this number be represented in two parts? • How many different ways do you think there are? • How might we know when we have them all? • How else could this number be represented in three parts?	• Use the Representations stations activity to explore teen numbers in their parts, in a variety of different ways. • Use the game Capture 10 as an authentic context for thinking about teen numbers in their parts.
18. How many did I take away? (3)	Splat! Use this video to practise thinking about number problems where the difference is unknown. Invite different strategies to calculate how many dots are covered. Use similar examples that use larger numbers, for example, start with 11 dots, then cover 4 to leave 7 visible. How many dots are covered?	• Provide frequent opportunities to explore and share strategies for additive story problems using concrete materials. For example, there are 12 ducks and we need to put them away for the night. We can only find 5. How many are missing?
19. Can you arrange the counters so they are easier to count?	Counting with understanding up to 100 Use this video to review the number naming sequence when counting by tens using concrete materials and tens frames.	• Use Year 1 - Place value to help students think about different ways to represent two-digit numbers. Discuss ways to represent a number in different ways for example using Bundling sticks, number lines or tens frames and counters.

© 2023 Commonwealth of Australia, unless otherwise indicated. Creative Commons Attribution 4.0, unless otherwise indicated

Question	Video or interactive activity	Hands-on activities
20. Which card has more dots? Or do they have the same? Task cards A and B 	Groups interactive 1 Use this interactive visual with students to see if they can work out (without counting by ones) if there are more orange dots or more blue dots. Invite students to share how they know. Highlight ideas that emerge about subitising, equivalence and part-part-whole understanding. Groups interactive 2 Display this interactive visual and ask students to see if they can figure out (without counting by ones) if there are more orange dots or more blue dots. Invite students to share how they know.	• Watch the Eightness of Eight video and use the number 8 as an example to explore different representations. Then, ask students to choose a number—such as 12, 15, or 18—and represent it in various ways using physical materials, following the approach demonstrated in the video.

© 2023 Commonwealth of Australia, unless otherwise indicated. Creative Commons Attribution 4.0, unless otherwise indicated