Year group:	2
Type of test:	End of Half Term
Term:	Autumn 1
Test content:	Reasoning
Power Maths topic:	Book 2A, Units 1–3

Q	ANSWER	MARK	INCORRECT ANSWERS AND MISCONCEPTIONS	EVIDENCE OF GREATER DEPTH
1	**23, 61, 67**	1	**Possible incorrect answer 67, 23, 61 (An answer like this may suggest children have copied the numbers already shown)** Children's understanding of place value may limit their ability to answer this question. If they lack the confidence and understanding to accurately compare the three numbers, they may just copy them as they are written. This topic is covered in Unit 1, Lesson 8.	Children can use their understanding of place value to compare and order numbers. They know to compare the 10s in numbers before comparing the 1s and can use different representations to support their reasoning.
2	**30, 35, 40**	1	**Possible incorrect answer 26, 27, 28 (An answer like this may suggest children may have counted up in 1s rather than 5s)** Through misreading, or lack of secure understanding of place value, children may revert to counting up in 1s instead of 5s. This topic is covered in Unit 1, Lesson 9.	Children can count forwards and backwards in steps of 2, 5 and 10. They can recognise patterns within their counting, using their knowledge of place value, and can show the patterns using different representations.

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Q	ANSWER	MARK	INCORRECT ANSWERS AND MISCONCEPTIONS	EVIDENCE OF GREATER DEPTH
3	**30**	1	**Possible incorrect answer 40 (An answer like this suggests children may have looked at the values in the number line and used the final value)** Children may not count up in 10s and count in 1s instead. This could lead to an incorrect total as they may lose their way whilst counting. This topic is covered in Unit 1, Lessons 1 and 9.	Children can confidently count from 0 to any number up to 100. They can use their understanding of counting in 10s and 1s to help them count efficiently and can use multiple representations to support their counting and reasoning.
4	**13 + 5 = 18** **5 + 13 = 18**	1	**Possible incorrect answers 5 + 18 = 13 (An answer like this may suggest children have misunderstood how the part-whole model functions)** Children may put the numbers the wrong way around either in the part-whole model or in the scaffold for addition calculations. Children may incorrectly interpret the part-whole model and as a result may not record a working calculation. This topic is covered in Unit 2, Lesson 1.	Children can see similarities and differences between different methods used to calculate the same answer. Children can use their knowledge of number bonds to reach an answer, and can describe the steps that are represented pictorially, or that they are completing with resources.
5	**4** and **6**	1	**Possible incorrect answers 40 and 6 (Answers like these suggest misunderstand of the value of each digit in a 2-digit number)** Children may find it difficult to associate '4 tens' with 40, instead writing '40 tens'. Children are still not sure about the value of each digit, particularly when split into 10s and 1s. This topic is covered in Unit 1, Lessons 3–5.	Children can partition any number between 0 and 100 into its 10s and 1s. They can confidently name any number between 0 and 100, when given the 10s and 1s separately.
6	**54** and **60**	1	**Possible incorrect answers 64 and 6 (Answers like these suggest misunderstand of the value of each digit in a 2-digit number)** Children may find it difficult to partition 10s and 1s and recombine. Children are still not sure about the value of each digit, particularly when split into 10s and 1s. This topic is covered in Unit 1, Lessons 1–4.	Children can confidently partition 2-digit numbers. They can record their partitioning using addition calculations.

Q	ANSWER	MARK	INCORRECT ANSWERS AND MISCONCEPTIONS	EVIDENCE OF GREATER DEPTH
7	**6** and **12**	1	**Possible incorrect answer 3 (Answers like these suggest children have read the '3 less' but not understood the pattern)** This topic is covered in Unit 1, Lesson 10.	Children can count reliably forwards and backwards in steps of 3. They can recognise patterns within their counting.
8	**23**	1	**Possible incorrect answer 14 (An answer like this suggests children have added to the 1s digit rather than the 10s digit)** Children may not yet understand the concept of finding 10 more or 10 less than a number. Children may find it difficult to recognise which digit requires changing. This topic is covered in Unit 2, Lesson 7.	Children can mentally add or subtract 10 to or from a 2-digit number (staying within 100) and can identify that only the digit in the 10s column changes during this process.
9	**9**	1	**Possible incorrect answer 27 (An answer like this suggests children have added rather than subtracted)** Children may not yet understand the vocabulary of 'The rest are' and instead focus on 'How many'. This may lead them to an addition calculation, not realising this requires subtraction. This topic is covered in Unit 2, Lesson 12.	Children can identify the number of 10s and 1s in a number and can subtract an additional number of 1s without exchange. Children can use known number bonds to calculate the answer, such as 6 + 2 = 8, rather than counting on or back in 1s.

POWER MATHS

Q	ANSWER	MARK	INCORRECT ANSWERS AND MISCONCEPTIONS	EVIDENCE OF GREATER DEPTH
10	55	1	**Possible incorrect answer 29 (An answer like this suggests children have subtracted rather than added)** Children may not recognise this as an addition calculation as there is not an image to support their understanding in the question. They are reliant on their understanding of the key vocabulary. This topic is covered in Unit 3, Lesson 1.	Children can mentally add two 2-digit numbers. Children can use pictorial representations to show their mental calculations.
11	21	1	**Possible incorrect answer 11 (An answer like this suggests children have not exchanged the 10s and 1s)** **Possible incorrect answer 22 (An answer like this suggests children have lost their place when counting up)** Children may think they have to add the numbers in order in the question, rather than a more helpful order. This topic is covered in Unit 3, Lesson 7. Not all schools will have covered this lesson by the end of this half-term.	Children can justify why they have chosen to add numbers in a specific order.
12	33	1	**Possible incorrect answer 103 (Children may use addition instead of subtraction)** Children may misunderstand the mathematical vocabulary written in the question or revert to their favoured operation while calculating. This topic is covered in Unit 3, Lessons 3–4.	Children can calculate the difference between two numbers. They can use a number line to visually represent their calculation, and carefully count on or back in jumps of 10 and 1 to find the answer.

Q	ANSWER	MARK	INCORRECT ANSWERS AND MISCONCEPTIONS	EVIDENCE OF GREATER DEPTH
13	**a) 13** **b) 23**	1 1	**Possible incorrect answer for a) 83 (Children may use addition instead of subtraction)** **Possible incorrect answer for b) 1 (Children may subtract 12 from the answer to a)** Children may misunderstand the mathematical vocabulary written in the question or revert to their favoured operation while calculating and may not have used a bar model to help them. This topic is covered in Unit 3, Lessons 3–4. Not all schools will have covered this lesson by the end of this half-term.	Children can use bar models to help them see which operation to use when completing word problems, leading to increased conceptual understanding.

Mark range	Level
0 – 3	Below
4 – 5	Towards
6 – 8	Expected
9 – 11	Secure
12	Towards greater depth
13 – 14	Greater depth