



1. Part whole model · represent & use number bonds & related subtraction facts within 20 Fluency: Part-whole model using counters: Part-whole model using numerals: Part-whole model with 3 parts: Problem solving: There are 6 animals. How many different ways can you sort the animals? Complete a part-whole model for each way. Can you partition the animals into more than 2 groups? Reasoning: 4 is the whole. How many different part-whole models can you draw to show this? Use different numbers for the parts every time. Are any the same? Why? · Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	2. The + symbol · read, write & interpret mathematical statements involving + = signs Fluency: Use cubes to solve the following calculations. Problem solving: Which of the images could help to complete the number sentence? Explain why. Reasoning: Using the numbers 0 – 9, how many ways can you fill in the boxes to make the calculation correct? You can only use each number once. How many different calculations are there? · Read, write and interpret equations containing +, - and = symbols	3. Fact families – addition facts · represent & use number bonds & related subtraction facts within 20 Fluency: Use the counters and the part-whole model to fill in the missing numbers. Problem solving: Eva has 3 number cards. She has written two number sentences. Explain what Eva has done wrong. Correct her number sentences and complete the fact families. Reasoning: What could the circle and the triangle be worth? · Develop fluency in addition and subtraction facts within 10	4. Number bonds to 10 · represent & use number bonds & related subtraction facts within 20 Fluency: Use seven double sided counters. How many different ways to make 7 can you find? Record your findings in number sentences. Problem solving: All the dots have fallen off 2 toadstools. How many different ways can you put them back on? Reasoning: Always, Sometimes, Never The greater the number, the more number bonds it has. · Develop fluency in addition and subtraction facts within 10
5. Number bonds: systematic approach · represent & use number bonds & related subtraction facts within 20 Fluency: Problem solving: Jack found the following number bonds to 8 What order would Jack have found them in if he'd have worked systematically? Reasoning: A butterfly's spots have fallen off. How many different ways can you put the spots back on? Remember to be systematic. · Develop fluency in addition and subtraction facts within 10	6. Comparing number bonds · represent & use number bonds & related subtraction facts within 20 Fluency: Use cubes to help you fill in <, > or = to make the statements correct. Problem solving: Teddy has 5 counters in his hand and some in a cup. Tommy has 3 counters in his hand and some in a cup. They each have the same number of counters in total. They each have less than 10 counters. How many counters could be in Teddy's cup? How many counters could be in Tommy's cup? Reasoning: Amir and Whitney have both created their own number bonds. Who do you agree with? Explain your answer. · Develop fluency in addition and subtraction facts within 10	7. Adding together · add and subtract 1-digit and 2-digit numbers to 20, including 0 Fluency: Complete the table to represent the owls. Problem solving: There are 8 cubes. Some are red and some are yellow. How many different ways can you make a total of 8? You should show your working out on a ten frame and a part-whole model. Reasoning: Which sentence is correct? What mistake has been made in the incorrect sentences? · Develop fluency in addition and subtraction facts within 10	8. Adding more · add and subtract 1-digit and 2-digit numbers to 20, including 0 Fluency: There are 3 aeroplanes at the airport. 5 more aeroplanes land. How many aeroplanes are there now? Now there are ___ aeroplanes altogether. How could we represent this as a number sentence? There are four pennies in a bag and I add two more. How many pennies do I have now? There are ___ pennies. Problem solving: Sid has two bean bags. He is throwing them into jars. The number on the jar shows how many points he gets for a beanbag landing in that jar. One of his beanbags lands in jar 2 What is the highest score he can get by throwing the second bean bag and adding the scores? What is the lowest score he can get by throwing the second beanbag and adding the scores? Reasoning: True or False? If I add 0 to a number, the number stays the same. Can you use a number line or counters to help you explain your answer? · Develop fluency in addition and subtraction facts within 10



9. Finding parts · represent & use number bonds & related subtraction facts within 20 Fluency: Complete the part-whole model and use it to fill in the number sentences. 5 is a part, ___ is a part, 9 is the whole. Problem solving: 1 p 6 p 4 p Eva spends 10p on a chocolate bar and something else. What else could she have bought? Explain how you know. Jack spent 9p on a banana and a muffin. How much is a muffin? Explain how you know. Rosie spent 6p on a chocolate bar and something for her brother. What did she buy for her brother? Explain how you know. Reasoning: Using the digits 0 – 9, how many ways can you complete the part-whole model? One of the parts always has to be 4 You can only use each digit once. Explain why you can't use 0 What other digits can't you use and why?	10. Subtraction: How many left? · solve one-step problems involving addition & subtraction, using concrete objects, pictorial representations & missing number problems Fluency: There were 7 birds in a tree and 3 flew away. Complete the sentences. At first there were ___ birds. Then ___ flew away. Now there are ___ birds in the tree. Problem solving: Some cakes have been eaten. There are 2 cakes left. How many cakes could there have been, and how many could have been eaten to be left with 2? At first there were 10 bananas. 7 of them were eaten. How many bananas are left? Use counters or cubes to help you solve and complete. Reasoning: How many calculations can you complete? Why can't the digits 8 or 9 be used?	11. Subtraction: Breaking apart · solve one-step problems involving addition & subtraction, using concrete objects, pictorial representations & missing number problems Fluency: How many ice creams do not have flakes? 6 – 2 = __ There are ___ ice creams that do not have flakes. Problem solving: There are 9 children in art club. 4 are girls. How many are boys? There are 7 pencils in a pot. 4 are blunt. How many are sharp? There are 10 apples in the bag. 4 are red. The rest are green. How many are green? Use a part-whole to show it. Reasoning: There are no more than 10 counters in total. How many counters could be in the bag? Why can't it be six?	12. Fact families: 8 facts! · represent & use number bonds & related subtraction facts within 20 Fluency: Using the image, how many calculations can you create? __ + __ = __ __ + __ = __ __ - __ = __ __ - __ = __ __ = __ + __ __ = __ + __ __ = __ - __ __ = __ - __ Problem solving: Amir has 5 counters in total. Each of his counters are either in a bag or a cup. How many different ways could the counters be split between the bag and the cup? Write 8 number sentences to go with each. Reasoning: Explain the mistakes that have been made. 5 + 2 = 7 7 = 5 + 2 2 + 5 = 7 7 = 2 + 5 7 – 2 = 5 7 = 5 – 2 7 – 5 = 2 7 = 2 – 5
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13. Counting back · add and subtract 1-digit and 2-digit numbers to 20, including 0 Fluency: 7 – 3 = __ 4 – 4 = __ Problem solving: Ben counts back 3. His answer is 2. Show his calculation on the number line. Jen counts 5. Her answer is 0. Show her calculation on the number line. Reasoning: Eva is calculating 7 – 2 and does this by counting backwards on a number line. She gets an answer of 6 What mistake has she made? What should the answer be?	14. Finding the difference · solve one-step problems involving addition & subtraction, using concrete objects, pictorial representations & missing number problems Fluency: How many more cakes does Whitney have than Teddy? Whitney has ___ more cakes than Teddy. What's the difference between 10 and 6? The difference between 10 and 6 is ___ 10 – 6 = __ Problem solving: Annie says, The difference in number of spots on the lady birds is 7 Write a number sentence to show why Annie is correct. Reasoning: True or False? Rosie says, The difference between 7 and 4 is 3 Can you show this in more than one way?	15. Comparing number statements · solve one-step problems involving addition & subtraction, using concrete objects, pictorial representations & missing number problems Fluency: 3 + 1 is greater than ___ 3 + 1 is greater than ___ 3 + 1 is less than ___ 3 + 1 is less than ___ One bird lays 3 eggs. Another bird lays 2 eggs. Complete the sentence using greater than, less than or equal to. 2 plus 3 is _____ 6 Problem solving: Use the digit cards to complete the sentences. __ + __ = __ + __ __ – __ = __ – __ __ – __ > __ – __ __ – __ > __ + __ Reasoning: Would you rather have 6 sweets and 2 more sweets, or 8 sweets? Explain your answer. Use cubes or draw an image to help you.	Vocabulary <table><tr><td>add</td><td>to bring 2 or more numbers together to make a total</td></tr><tr><td>altogether</td><td>the result of adding numbers together</td></tr><tr><td>compare</td><td>to look at the difference between quantities or numbers</td></tr><tr><td>count on</td><td>a method of addition, counting forwards from the first number</td></tr><tr><td>count back</td><td>a method of subtraction, counting backwards from the first number</td></tr><tr><td>difference</td><td>how much one number is different from another (the result of subtraction)</td></tr><tr><td>equal</td><td>the same as</td></tr><tr><td>fact family</td><td>a group of calculations that are created using the same three numbers</td></tr><tr><td>greater than</td><td>bigger, adding on</td></tr><tr><td>less than</td><td>smaller, subtracting</td></tr><tr><td>more</td><td>bigger, adding on</td></tr><tr><td>number bonds</td><td>a pair of numbers that always add together to make another</td></tr><tr><td>part-whole</td><td>a way of representing the relationship between a 'whole' and its component parts.</td></tr><tr><td>systematic</td><td>done in an ordered way</td></tr><tr><td>take away</td><td>subtraction where you take one number away from another</td></tr><tr><td>total</td><td>the result of adding numbers together</td></tr></table>	add	to bring 2 or more numbers together to make a total	altogether	the result of adding numbers together	compare	to look at the difference between quantities or numbers	count on	a method of addition, counting forwards from the first number	count back	a method of subtraction, counting backwards from the first number	difference	how much one number is different from another (the result of subtraction)	equal	the same as	fact family	a group of calculations that are created using the same three numbers	greater than	bigger, adding on	less than	smaller, subtracting	more	bigger, adding on	number bonds	a pair of numbers that always add together to make another	part-whole	a way of representing the relationship between a 'whole' and its component parts.	systematic	done in an ordered way	take away	subtraction where you take one number away from another	total	the result of adding numbers together
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