Year 1

Mastery Overview
Autumn

MathsHUBS
White Rose

Year 1

SOL Overview

As well as providing term by term overviews for the new National Curriculum as a Maths Hub we are aiming to support primary schools by providing more detailed Schemes of Learning, which help teachers plan lessons on a day to day basis.

The following schemes provide exemplification for each of the objectives in our new term by term overviews, which are linked to the new National Curriculum. The schemes are broken down into fluency, reasoning and problem solving, which are the key aims of the curriculum. Each objective has with it examples of key questions, activities and resources that you can use in your classroom. These can be used in tandem with the mastery assessment materials that the NCETM have recently produced.

We hope you find them useful. If you have any comments about this document or have any ideas please do get in touch.

The White Rose Maths Hub Team

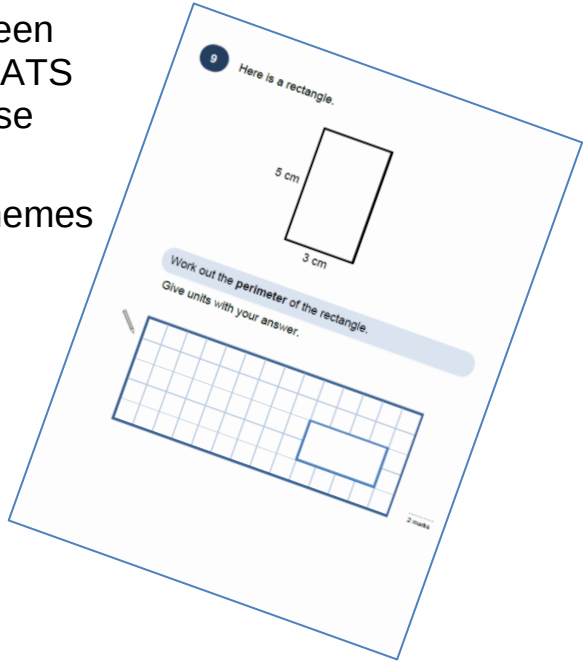
Assessment

Alongside these curriculum overviews, our aim is also to provide a free assessment for each term's plan. Each assessment will be made up of two parts:

Part 1: Fluency based arithmetic practice
Part 2: Reasoning based questions

You can use these assessments to determine gaps in your students' knowledge and use them to plan support and intervention strategies.

The assessments have been designed with new KS2 SATS in mind. The questions use strategies and methods promoted through the schemes of learning.



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Year 1

Teaching for Mastery

These overviews are designed to support a mastery approach to teaching and learning and have been designed to support the aims and objectives of the new National Curriculum.

The overviews;

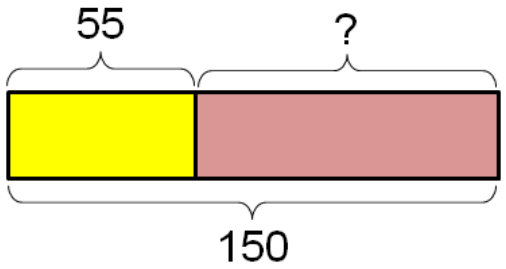
- have number at their heart. A large proportion of time is spent reinforcing number to build competency
- ensure teachers stay in the required key stage and support the ideal of depth before breadth.
- ensure students have the opportunity to stay together as they work through the schemes as a whole group
- provide plenty of time to build reasoning and problem solving elements into the curriculum.

Concrete – Pictorial – Abstract

As a hub we believe that all students, when introduced to a key new concept, should have the opportunity to build competency in this topic by taking this approach.

Concrete – students should have the opportunity to use concrete objects and manipulatives to help them understand what they are doing.

Pictorial – students should then build on this concrete approach by using pictorial representations. These representations can then be used to reason and solve problems.



An example of a bar modelling diagram used to solve problems.

Abstract – with the foundations firmly laid, students should be able to move to an abstract approach using numbers and key concepts with confidence.

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Frequently Asked Questions

We have bought one of the new Singapore textbooks. Can we use these curriculum plans?

Many schools are starting to make use of a mastery textbook used in Singapore and China, the schemes have been designed to work alongside these textbooks. There are some variations in sequencing, but this should not cause a large number of issues

If we spend so much time on number work, how can we cover the rest of the curriculum?

Students who have an excellent grasp of number make better mathematicians. Spending longer on mastering key topics will build a student's confidence and help secure understanding. This should mean that less time will need to be spent on other topics.

In addition schools that have been using these schemes already have used other subjects and topic time to teach and consolidate other areas of the mathematics curriculum.

My students have completed the assessment but they have not done well.

This is your call as a school, however our recommendation is that you would spend some time with the whole group focussing on the areas of the curriculum that they don't appear to have grasped. If a couple of students have done well then these could be given rich tasks and deeper problems to build an even deeper understanding.

Can we really move straight to this curriculum plan if our students already have so many gaps in knowledge?

The simple answer is yes. You might have to pick the correct starting point for your groups. This might not be in the relevant year group and you may have to do some consolidation work before.

These schemes work incredibly well if they are introduced from Year 1 and continued into Year 2, then into Year 3 and so on.

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Year 1

NCETM Mastery Booklets

In addition to the schemes attached the NCETM have developed a fantastic series of problems, tasks and activities that can be used to support 'Teaching for Mastery'. They have been written by experts in mathematics.

It will also give you a detailed idea of what it means to take a mastery approach across your school.
Information can be found on the link below.

https://www.ncetm.org.uk/resources/46689

Everyone Can Succeed

As a Maths Hub we believe that all students can succeed in mathematics. We don't believe that there are individuals who can do maths and those that can't. A positive teacher mindset and strong subject knowledge are key to student success in mathematics.

More Information

If you would like more information on 'Teaching for Mastery' you can contact the White Rose Maths Hub at mathshub@trinityacademyhalifax.org

We are offering courses on:

- Bar modelling
- Teaching for Mastery
- Subject specialism intensive courses – become a maths expert.

Our monthly newsletter also contains the latest initiatives we are involved with. We are looking to improve maths across our area and on a wider scale by working with the other Maths Hubs across the country.

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Term by Term Objectives

Year 1

Year 1 Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Place Value			Addition and Subtraction			Geometry: Shape	Place Value		Addition and Subtraction		
Spring	Time		Place Value		Addition and Subtraction	Length and height	Multiplication and Division		Fractions		Consolidation	
Summer	Place Value			Addition and Subtraction			Money		Weight and Volume		Consolidation	

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Term by Term Objectives

Year 1

Year Group	Y1	Term	Autumn

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Number: Place Value Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number. Count in multiples of twos. Count, read and write numbers to 10 in numerals and words. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Given a number, identify one more or one less.			Number: Addition and Subtraction Represent and use number bonds and related subtraction facts (within 10) Add and subtract one digit numbers (to 10), including zero. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.			Geometry: Shape Recognise and name common 2D and 3D shapes, including rectangles, squares, circles and triangles, cuboids, pyramids and spheres. Describe position, direction and movement, including whole, half, quarter and three quarter turns	Number: Place Value Count to twenty, forwards and backwards, beginning with 0 or 1, from any given number. Count, read and write numbers from 1 to 20 in numerals and words. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Count in multiples of twos and fives		Number: Addition and Subtraction Represent and use number bonds and related subtraction facts within 20. Add and subtract one digit and two digit numbers to 20, including zero. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7= ? – 9		

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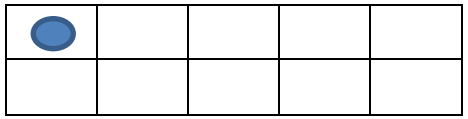
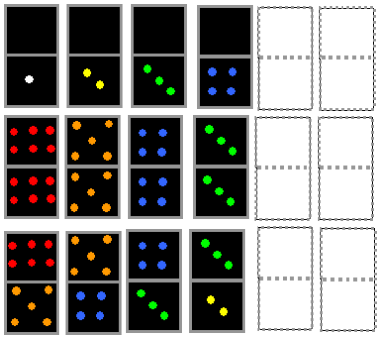
Term by Term Objectives

Year 1

	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Place value	Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number.	• Here is a ten frame. Add one counter at a time, counting as you go. When you fill the ten frame, count backwards, taking one counter away each time.  • Fill in the missing numbers: 0, 1, __, 3, 4, __, 6, 7, __,9, __ Use cubes to start from the beginning and build a tower to help you find the missing numbers. • Count forwards from 5. Count backwards from 9. • Sing number rhymes (ten green bottles, five little ducks, ten fat sausages, five little aliens, five speckled frogs etc.)	• I am going to count on from 8. Will I say the number 6? Explain your answer. • Spot the mistake: What is wrong with this sequence of numbers? 4, 5, 7, 8, 9 • I am going to count backwards from 10. How many steps will it take until I reach 4? • Close your eyes, can you count the number of pennies that I am dropping into the tin?	• What comes next in each set of dominoes?  • Sing 1,2,3,4,5 once I caught a fish alive as a class. Can the children use their fingers to match the numbers they are singing? • Read One is a Snail, Ten is a Crab by April Pulley Sayre Can we make up our own story with different animals? Draw a picture for each animal, count along the animals. Could you tell the story backwards?

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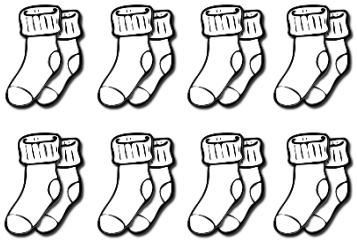
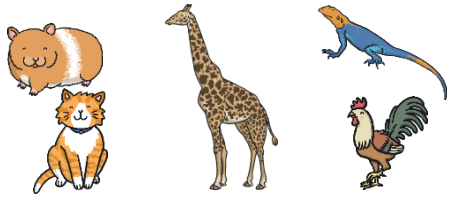
Term by Term Objectives

Year 1

	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Place value	Count in multiples of 2	• Use Numicon to count in multiples of 2. Match the shapes as you go to see how many 2's fit into each number (eg two 2's make a 4)  • Continue the pattern: 2, 4, 6, 8, __, __, __, __ • Here are some 2p pieces. How much money is there altogether?  • How many socks are there altogether? 	• **True or False?** I start at 2 and count in twos. I will say the number 9. • I am going to count on in twos from 3. Will I say an even number? Prove it. • I am going to count back in twos from 20. How many steps will it take me to reach 0? Convince me. • Fill in the missing numbers. 6 | | 10 | | | 16	• There are 2 flowers in each pot. How many flowers in 10 pots?  • In the story Noah's Ark, the animals went in 2 by 2. If there were 2 of every animal below, how many animals were there altogether?  • If there were 30 animals on the ark, how many pairs of animals were there?

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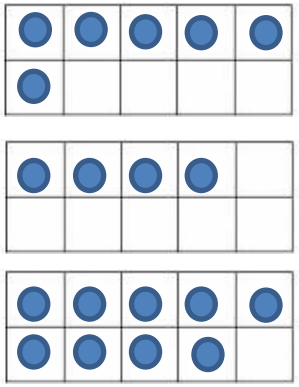
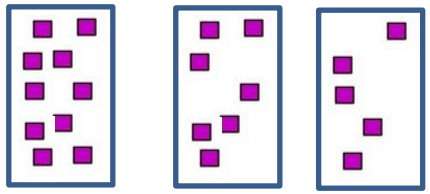
Term by Term Objectives

Year 1

	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Place value	Count, read and write numbers to 10 in numerals and words.	• Using counters, show me: 10, 8, 7 • Write the number shown on the tens frames in numerals.  • Write the number of cubes in words. 	• **True or False?** The bear is four bricks high.  • Sam says 'There are 9 stars.' Is he right?  • Fill in the gaps. Can you draw a picture to prove your answer? I have ___ fingers. I have ___ nose. I have ___ eyes.	• Find a number to match the criteria. Use the number cards. A number bigger than 8 An odd number A number smaller than 6 nine 5 seven • Can you find the numbers in words in the word search? 1, 4, 5, 9, 10 f n r t o i e o u n v n r e s e • Play a game of snap- can the children match a number, to the number name, to a group of objects. Eg two 2 

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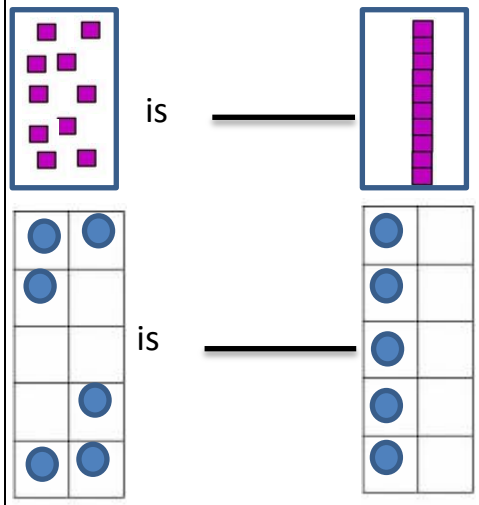
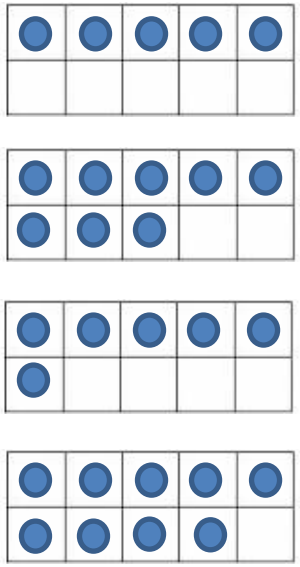
Term by Term Objectives

Year 1

	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Place value	Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than, most, least.	• Write the numbers from least to most. 71 | 5 | 18 | 19 | 40 • Write 35 in the correct place in the number grid. 22 | 23 | 24 | 25 | 26 27 | 28 | | | | | | | | | • Use **more than, less than** or **equal to** to fill the gaps below. 	• Look at the numbers below. 56 | 65 What is the same about these numbers? What's different? • **Always, sometimes, never** A number with 9 ones is bigger than a number with 6 ones. • Can you move 3 counters so all the ten frames are equal? 	• Use the number cards to make the following numbers:  - Use 2 of the number cards to make a number more than 60. - Use 2 of the number cards to make a number less than 40. - What is the smallest 2 digit number you can make? - What is the largest 2 digit number you can make? • There are 3 buckets of balls, red balls, green balls and blue balls. The red balls are equal to the blue balls. There are 2 more green balls than blue balls. There are 20 balls altogether. How many of each colour are there? Use cubes to help you solve the problem.

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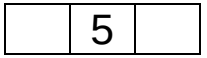
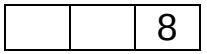
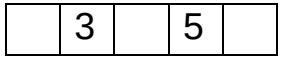
	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Place value	Given a number, identify one more or one less.	• Fill in the missing numbers. 9 → ☐ Is 1 less than 2 → ☐ Is 1 more than • How many fingers will I have up if I put one down?  • I roll the number that is one more. What number do I roll? 	• What comes next? 6+1=7 7+1=8 8+1=9 • True or False? 1 more than 7 is the same as 1 less than 9. Use the ten frame to show me.  • Harry says: 1 more is the same as adding 1 and 1 less is the same as taking away. Is he right? Prove it.	• A number line has been cut up. Can you find the missing numbers?    • Dan says; 'I am one year older than my sister. My sister is one year older than my brother. My brother is 7. How old am I? • Use number cards 0 -10. How many different ways can you complete the boxes below? ☐ → ☐ Is 1 more than

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Term by Term Objectives

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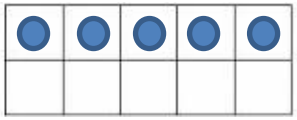
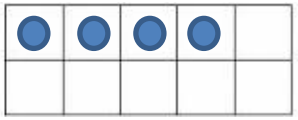
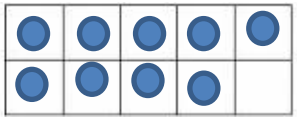
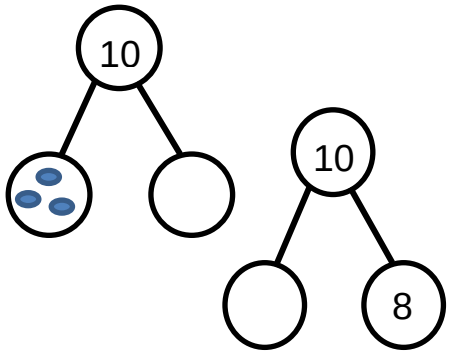
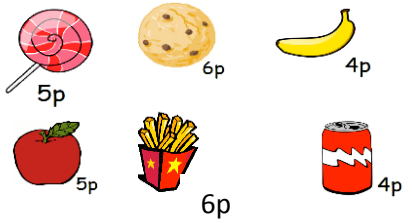
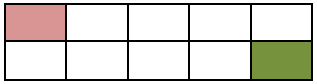
	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Addition and Subtraction	Represent and use number bonds and related subtraction facts (within 10)	• Use a ten frame to complete the number bonds to 10.  5 + ☐ = 10  ☐ + 4 = 10  10 = 9 + ☐ • Complete the part whole model to find number bonds to 10.  	• Continue the pattern 0 + 8 = 8 1 + 7 = 8 _ + 6 = 8 3 + _ = _ _ + _ = _ Can you make a similar pattern for 10? • What number goes in the missing boxes? 9 + ☐ = 10 10 - ☐ = 9 Can you prove this using your fingers? • This stick of cubes shows 8 + 1 = 9  This stick of cubes shows 1 + 8 = 9  Use cubes to find if… 7 + 3 = 3 + 7	• I have 10p to spend. Which two items could I buy? How many different ways can you do it?  • All the dots have fallen off two toad stools. How many different ways can you put them back on?  • Beth needs to colour in the boxes in two different colours. One box of each colour has been coloured. How many different ways can she colour the boxes? 

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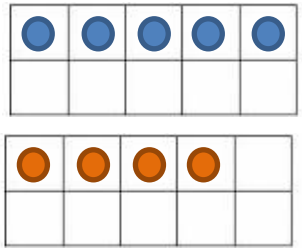
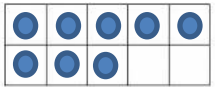
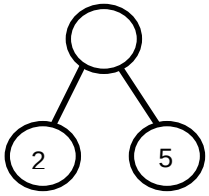
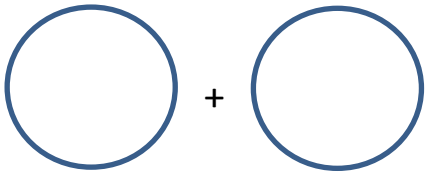
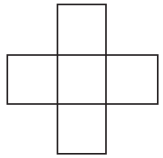
Term by Term Objectives

Year 1

Addition and Subtraction

National Curriculum Statement	All Students		
	Fluency	**Reasoning**	**Problem Solving**
Add and subtract one digit numbers (to 10), including zero.	• Here are two ten frames.  Combine the numbers to find out how many there are altogether. Write a number sentence to show your working. • Solve the subtraction. 8 – 2 =  • Complete the part whole model. The two numbers at the bottom add up to make the number at the top. 	• Here are 8 cubes.  How many ways can you use the cubes to complete this number sentence?  Place the cubes in the two circles and write the addition sentence below.  How many pairs can you find? Are you sure there aren't any more? • Maryam says 'If you add 0 to a number, the number stays the same.' Do you agree? Explain why.	• Write the numbers 1 to 5 in the squares so that each row and column add up to same number.  • Pick a pair of numbers.  Add them together. How many different totals can you make? Choose a pair of numbers and takeaway one from the other. How many totals can you make now? • Sid has two bean bags. He is throwing them into the buckets.  More than one bean bag can go in each bucket. What is the highest/ lowest score?

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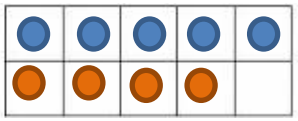
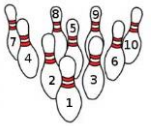
	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Addition and Subtraction	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.	• There are 5 people upstairs on the bus, there are 4 people downstairs. How many altogether? Write a number sentence to show this.  • Ben has 5 buns. He eats 2. How many are left? Write this in a number sentence.  • Write a number sentence to describe the ten frame.  Can you write a different number sentence using the same numbers?	• Write the missing symbols in these number sentences. +, - and = 7 ▢ 2 ▢ 9 8 ▢ 4 ▢ 4 • If you know this, 6 + 3 = 9 What other facts do you know? • Which four number sentences link these 3 numbers? 3 4 7	• Tom is bowling. Which pins must he knock down to score 7? How many ways can you do it?  •  Choose from these number cards to make the following numbers. 5, 6, 7, 8, 9, 10 You can use 2 or 3 number cards. Write your answers in full number sentences. • Three birds each lay an odd number of eggs. They have 9 eggs altogether. Can you think of more than one way to do it? Use cubes to help you solve the problem. Write your answer in a number sentence.

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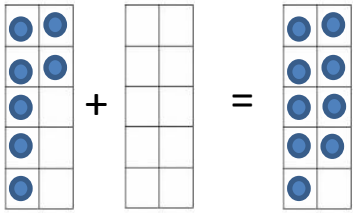
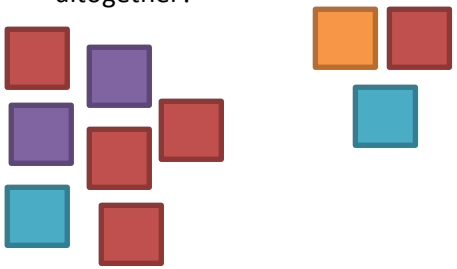
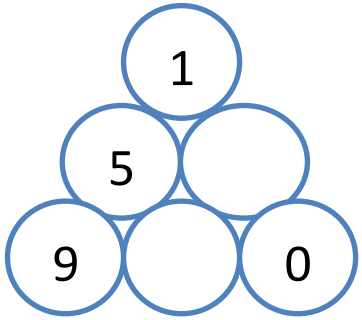
Year 1

	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Addition and Subtraction	Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.	• Find and make the missing number.  • Jim has 7 cubes. Amy has 3 cubes. How many cubes do they have altogether?  • Lila has 8 stickers. Jack has 6 stickers. How many more stickers does Jack have?	• Complete the number sentence. Use cubes to help you solve the problem. 5 + 2 = 3 + ☐ • How many different ways can you complete the empty boxes? 2 + ☐ = 9 - ☐ • Two numbers have a difference of 6. The larger number is less than 10. What could the two numbers be?	• James has two dice. He rolls them and scores 5 altogether. Which two numbers could he have rolled? Tom scores 9 altogether. Which two numbers could he have rolled? • In the triangle, the number above two numbers is the difference between the numbers. Eg 3 above 7 and 4 Find the missing numbers. Can you do it in more than one way? 

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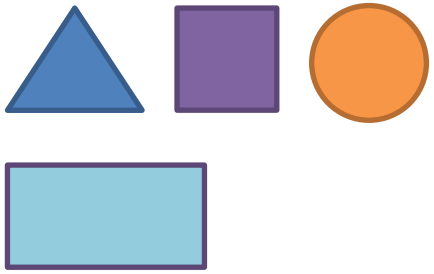
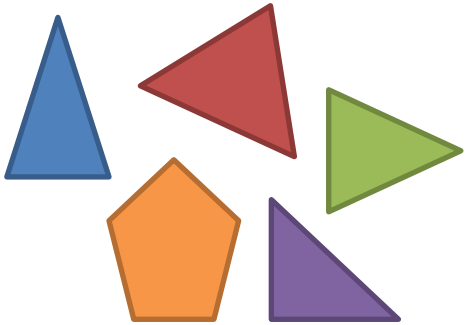
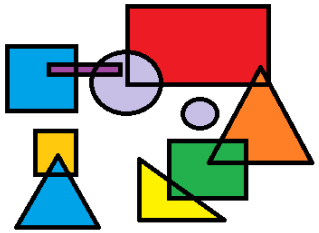
Term by Term Objectives

Year 1

	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Geometry: shape	Recognise and name common 2D and 3D shapes, including rectangles, squares, circles and triangles, cuboids, pyramids and spheres.	• Use a feely bag, put your hand in the bag, can you find the triangle? Can you feel the circle? Can you find the rectangle and the square? • Sort a range of 3D objects (boxes, balls, cans) into groups. Use their shape names to describe the groups you have put them into. • Label these shapes with their names. 	• What is the same about a square and rectangle?  What is different? • Triangle, Square, Circle  Which is the odd one out? Explain your answer. • Which of these shapes is not a triangle? How do you know? 	• Can you name all the shapes you can see? How many of each shape are there? How are the shapes different, how are they the same? Children can make their own shape picture and describe them to others.  • Use different pyramids, cubes, cuboids, cylinders, cones and spheres to attempt to build the tallest tower. Which shapes are best to build with? Which shapes could go on top?

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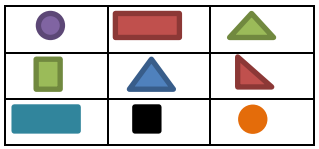
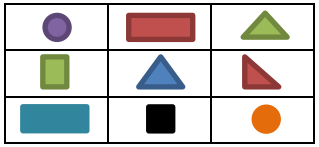
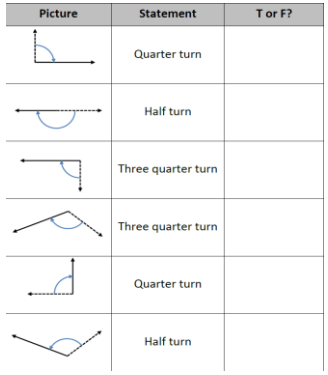
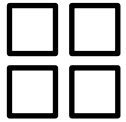
Year 1

	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Geometry: shape	Describe position, direction and movement, including whole, half, quarter and three quarter turns.	• Identify the position of each item.  Top, Middle or Bottom? Above or Below? The blue square is in the ___ row. The purple circle is ____ the green square. The black square is in the _____ row _____ the blue triangle. • Read the following stories and look out for positional language. Can we act out the stories? 1. We are going on a bear hunt by Michael Rosen 2. Rosie's Walk by Pat Hutchins 3. Naughty Bus by Janette Oke 4. Dinosaur's Day Out by Nick Sharatt	• Sarah chooses a shape from the grid.  You can ask her 4 questions to work out which shape she is thinking of. She can only answer 'Yes' or 'No'. Which 4 questions would you ask? Can you explain why? Could you ask a different set of questions? • Decide whether the statements are true or false. Explain your answers.  Picture / Statement / T or F? Quarter turn Half turn Three quarter turn Three quarter turn Quarter turn Half turn	• Use these clues to colour the four squares. Blue is above green. Red is below yellow. Yellow is to the left of blue.  • Bill built a tower using four different coloured cubes. The red cube was below the green cube. The blue cube was above the yellow cube which was above the green cube. Which cube is on top? • Five blocks have been labelled A, B, C, D and E. A is immediately to the right of B. C is to the right of D. B is in between E and D. E is immediately to the left of B. Where is D? 

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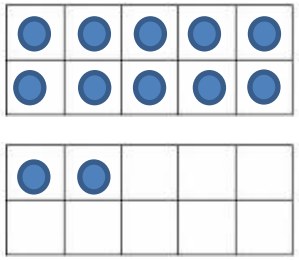
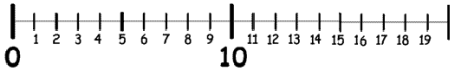
Year 1

	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Place Value	Count to twenty, forwards and backwards, beginning with 0 or 1, from any given number.	• Here are two ten frames. Start counting from 10 to see how many counters there are altogether.  How do I know there are at least 10 counters? How do I know where to start counting from? Repeat with different numbers. • Count on from 10 on a number line. When you get to 20 count back.  • Fill in the missing numbers 11 | | 13 | | | 16	• I am going to count to 20. I start at 8. Will I say 11? Convince me. • Spot the mistake: 19, 18, 16, 15, 14 What is wrong with this sequence of numbers? • I count backwards from 20 How many steps does it take me to get to 7?	• Play Get 20. You will need at least two players. Take turns to count on 1 , 2 or 3 numbers starting at 1. Count to 20. Eg Player 1: 1, 2, 3 Player 2 : 4, 5 Player 1 : 6 Player 2 : 7, 8, 9 Keep counting on. Whoever says 20 wins! • Counting backwards, put these numbers in order. 14 16 19 20 17 15 18 • In pairs, one person make a number between 10 and 20 on a ten frame. The other person has to write an addition sentence to describe it. Eg 10 + 2 = 12 Focus on counting on from 10.

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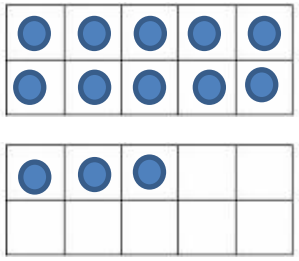
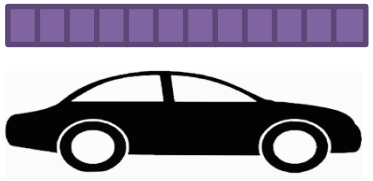
	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Place Value	Count, read and write numbers from 1 to 20 in numerals and words.	• Match the numbers to the words. seventeen — 15 twenty — 12 fifteen — 17 twelve — 20 • Write the number shown on the ten frame in numerals and words.  Using your own ten frame show me: Fourteen, 18, nine, 16,	• **True or False?** The car is eleven cubes long.  • Dan says; I can make all the numbers from eleven to twenty using the numbers 1-9 Do you agree? Explain your reasoning. • Circle the odd one out and explain what has gone wrong. 11, 12, 13, 14, 51, 16, 17	• How many numbers can you find in the word search? s e v e n t e e n t h r e e w l e i f o u r t e e n n e i g h t n v o e e n s i x t e e n t h i r t y n t o • Match each number to a sentence that describes it. A number bigger than 10. An even number. A number smaller than 15. 16 — 17 — fourteen • Use two sets of cards. One set with numerals 1 – 20, one set with words 1 – 20. Play in groups of three, take turns to pick a numeral card and word card. If they match you win the pair, if they don't match put the cards back down.

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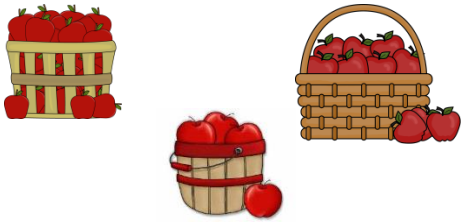
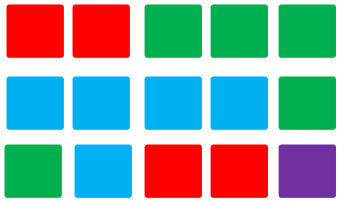
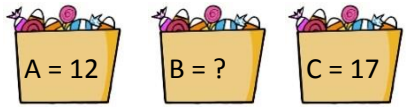
Year 1

	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Place Value	Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.	• Using two ten frames, show me a number: a) More than 12 b) Less than 20 c) Equal to 10 + 10 • Complete the sentences. A number is more than 13 but less than 17. The number could be ___. A number is less than 19 but more than 15. The number could be ___. • Look at the baskets of apples. Which has the most? Which has the least? 	• Fill the gaps: ☐ is more than 15 but less than 20. ☐ is less than eighteen but more than twelve. What numbers could go in the boxes? Explain your answer. • Look at the cubes, are there more of one colour than another? Which colour has the most? If I added two more red cubes which would have the most? Has it changed? Why?  • Tim says '13 is more than twelve but less than eleven'. Is he correct? Prove it.	• Sarah has three bags of sweets.  She says 'Bag A has the least sweets and Bag C has the most.' How many sweets might be in bag B? • Put a number line from 1-20 on the IWB. One child chooses a number. Other children then have 5 guesses to work out what their number is by asking, Is it greater than… is it less than…. Is it more than…etc. • There are three buckets, a red, blue and purple one. 20 balls are shared between the three buckets. There are 3 more balls in the red than the blue. There is one less in the purple than the red. All the buckets have more than 4 balls in them? How many balls are in each bucket? Use cubes to help you solve the problem.

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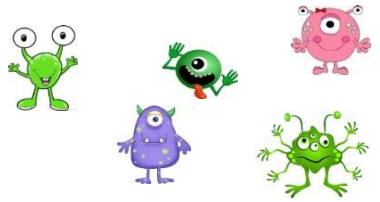
	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Place Value	Count in multiples of twos and fives	• Continue the pattern: Use cubes to build each number. 2, 4, 6, 8, __, __, __, __  5, 10, 15, 20, __, __, __ • Find the missing numbers: | 6 | 8 | | 12 | | 16 | | 30 | 25 | | | 10 | | • How many gloves are there? How many fingers are there? 	• True or False? I count in fives from 10. I say the number 45. Explain your answer. • Ben says 'If I count in 2's from 7 I will say the number 18.' Do you agree? Explain your answer. • What is wrong with this sequence of numbers? | 20 | 18 | 16 | 13 | 12 | 10 | Explain your answer.	• Jenny has made 2 biscuits. She has 20 jelly tots and 8 chocolate buttons to decorate them. She says 'I want to use jelly tots in multiples of 5 and chocolate buttons in multiples of 2.' How many ways could she decorate her biscuits? • Zig and Zag are aliens. Zig eats multiples of 2. Zag eats multiples of 5. Which numbers would they eat? Are there any numbers they would both eat? 2, 5, 8, 10, 15, 20 • Gringlygoos are monsters who have eyes that are multiples of 2 **and** fingers that are multiples of 5. Which monster below is a Gringlygoo? 

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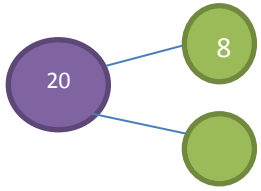
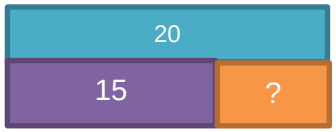
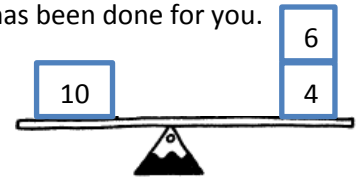
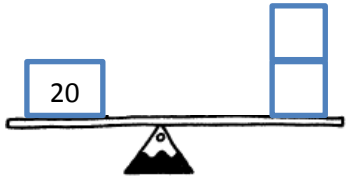
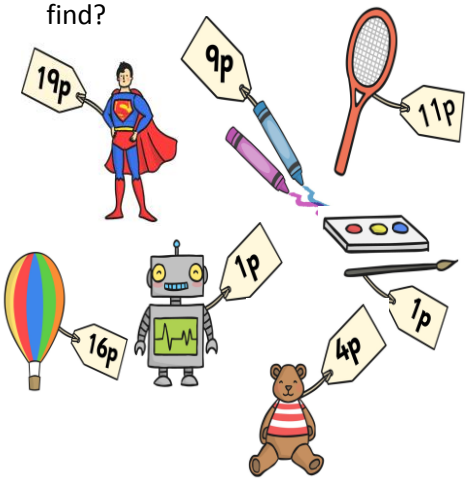
		Fluency	**Reasoning**	**Problem Solving**
Addition and Subtraction	Represent and use number bonds and related subtraction facts within 20.	• Fill in the missing numbers: □ + 11 = 20 18 + □ = 20 20 - □ = 12 • Fill in the missing bonds:  Can you make a diagram linking 17 and 20? What would the missing bond be? • Use the bar model to write 4 number sentences. 2 additions and 2 subtractions. 	• Fill in the missing numbers. 11 + □ = 20 20 - □ = 11 Can you make two more number sentences using the same three numbers? • Continue the pattern 10 + 5=15 9 + 6 =15 Can you make a similar pattern for 20? • The see-saw must balance. One has been done for you.  How many ways can you complete the see-saw? 	• I have 20p to spend, choose 2 toys that you can buy for exactly 20p. How many pairs can you find?  • Find the number bonds to 20 in the word search. They must have a + sign in between the numbers. 1 + 19 6 + 6 2 14 2 16 + 4 0 5 + 1 + 10 + 10 + 6 3 + 3 13 + 7 20 2 + 18 15 + 18 3 + 17 6 8 + 5 + 3 2 + 20 12 5 + 2 8 + 3 + + 5 + 19 + 1 4 0 8

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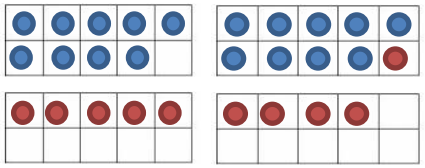
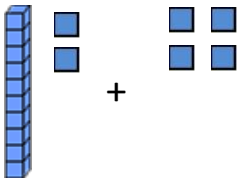
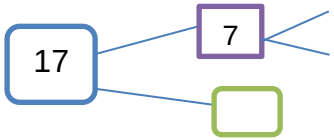
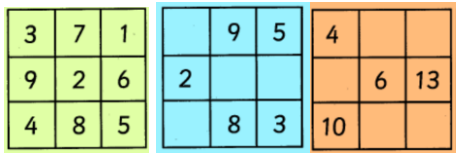
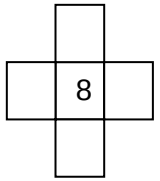
	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Addition and Subtraction	Add and subtract one digit and two digit numbers to 20, including zero.	• Use two ten frames to add numbers crossing 10. 9 + 5 = 14  Repeat for other numbers. 6 + 5 = 6 + 7 = Model to always start with the larger number and link to counting on from the larger number in your head. • Complete the addition  • There are 18 people on the bus, 7 get off at the bus stop. How many people are still on the bus? 	• Complete the diagram. Can you extend it?  • What do you notice? 20 – 12 = 8 20 – 8 = 12 Can you make up some other number sentences like this using three numbers? • I'm thinking of a number, I have subtracted 5 and the answer is 8. What number was I thinking of? Explain how you know. • I'm thinking of a number. I have added 11 and the answer is 17. What was my number? Show me how you worked it out.	• The number is the green top left corner, adds to the number in the blue top left corner to make the number in the orange top left corner. Use this rule to complete the orange square.  • Use the same rule to complete the squares below.  • Fill in the blanks so each row and column adds up to 15. Can you use 4 different numbers? How many ways can you do it? 

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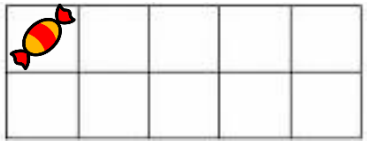
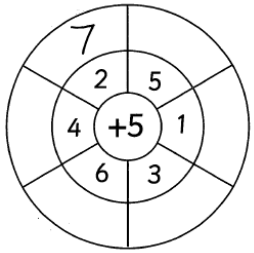
	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Addition and Subtraction	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.	• Here is a ladybird. If the ladybird lost 5 spots how many would it have left? Write a number sentence to show your working.  • Tom has 10 stickers, he gets 7 more. Can you write a number sentence to show how many stickers Tom has altogether? • Together, Sam and Matt have 15 sweets. Sam has 8 sweets. How many does Matt have? Write a number sentence to show your working. Use a ten frame to help you. 	• Can you make four number sentences using 14, 5 and 19? • 13 + 5 = 18 Can you make three other number sentences using the same three numbers? • Write the missing symbols in the following number sentences. 17 ☐ 3 ☐ 20 20 ☐ 5 ☐ 15 16 ☐ 20 ☐ 4	• Add the centre number to all the numbers surrounding it to complete the outer ring.  • Write a number story to describe the number sentence 6 + 8 = 14 Here is an example. Jane has 6 balloons. Tom has 8 balloons. Jane and Tom put their balloons together and have 14 balloons altogether. Can you draw a picture for your number story?

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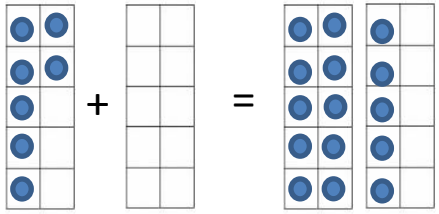
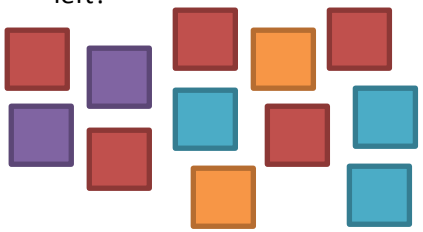
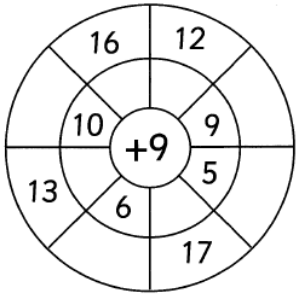
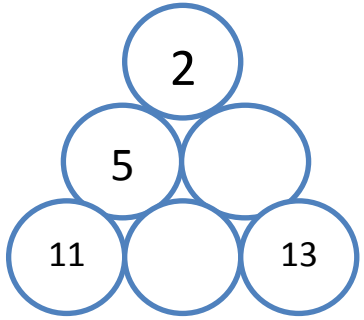
	National Curriculum Statement	All Students		
		Fluency	**Reasoning**	**Problem Solving**
Addition and Subtraction	Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7= ? – 9	• Complete the missing number.  • Dan has 12 cubes. He gives 6 to Amy. How many cubes does he have left?  • Lila has 8 stickers. Jack has 6 stickers. How many stickers do they have altogether?	• Complete the number sentence. Use cubes to help you solve the problem. 5 + 8 = 9 + ☐ • How many different ways can you complete the empty boxes? 5 + ☐ = 12 - ☐ • Sam has some biscuits. He gives 3 to his dad. Now Sam has 13 biscuits. How many did he have to start with? Draw a picture to explain how you know.	• Add the centre number to all the numbers surrounding it to complete the outer ring.  • In the triangle, the number above two numbers is the difference between the numbers. Eg 3 above 7 and 4 Find the missing numbers. Can you do it in more than one way? 

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