

2019 maths curriculum and assessment for pupils working below the National Curriculum assessment standard.

Standard 1

Numbers Standard 1 Summative assessment	Curriculum; small steps to success (inc. EYFS months)	Curriculum; resources/teaching ideas	vocabulary
	SEE EYFS 22-36 months and SEND stage 4 statements		
Noticing	• To use their natural awareness of quantity and nurture their ability to notice difference between amounts. • To recognise things that are the same and different. • To recognise similarities and differences involving quantities. • To explore and test ideas, restructure thinking and create new learning.	Allow children to explore in nature. Encourage them to handle and collect objects from their surroundings. Go outside, visit new places, look at pictures in quality texts. Wonder out loud. Comment on what the student is doing and seeing.  Encourage children to develop rich, connected schemas so that they are able to create, develop and embed knowledge. Talk about whole amounts and not counting how many.	What is the same? What is different? What can you feel? What do you notice? What can you see? How do you see it?
Experience maths talk and maths across the day.	• To use/ respond to mathematical vocabulary. • To solve real life problems using mathematical thinking. • To take part in number finger rhymes. (1,2,3,4,5, hot cross buns, hickory dickory dock	Create a maths talk environment – model and extend mathematical thinking. Think out loud, I wonder? Routines: snack time, putting things away, giving things out. 5 frame self-registration, class calendar. Exploring shape, positional language, opportunities for measuring and comparing. Adults ensure they model language which highlights specific attributes.	What do you notice? What do you see? I can see... Language of size, length, weight, capacity. (for example; long, short, tall, full, empty, heavy).

		Play dough modelling and comparing (length of snakes, weight of cakes).  Putting shapes together and taking them apart e.g. junk modelling, creative area, construction. Create opportunities for comparing capacity at the sand and water play. 	What has changed? What has stayed the same? More/Less
Subitise amount to 3	- To be able to perceptually subitise to 3. - To copy an amount accurately. I can show a corresponding amount on my fingers. - To have concept images of 1, 2, 3 in a range of contexts and resources.	Low cognitive load – choose objects which are the same. Same size, same shape, same colour. Choose plain objects/ natural objects e.g. acorns, leaves, pebbles, plain blocks.  Adult modelling, label the whole amount. Use the stem sentence 'I can see...' Model using 'I do', 'You do', 'We do' method. Play: 2 Not 2, 3 Not 3. Move it to Prove it. Show it, hide it, tell, check.	Here's one, here's another one. Here's one more. I can see...

		Dot patterns e.g. counters, on a screen, cards, (revisit daily). Daily rhyme time using number rhymes - clap to the beat of the song, emphasise amounts on fingers.	
Demonstrate an understanding of the concept of transaction (e.g. by exchanging a coin for an item, or one item for another, during a role play activity)	Selects a small number of objects from a group when asked, for example, 'please give me one', 'please give me two'.	Role play shops Sing and actively engage with songs like 5 currant buns in a baker's shop 	Give me Buy Can I have?
Distinguish between 'one' and 'lots', when shown an example of a single object and a group of objects	- Begins to make comparisons between quantities. - Uses some language of quantities, such as 'more' and 'a lot'. - Knows that a group of things changes in quantity when something is added or taken away.	Picks up lots of a favourite snack rather than 1. Cooking activities Snack and meal times Water and sand play, "pour more", "there is less in this bucket, can you add more?"	Lots More A lot few
Demonstrate an understanding of the concepts of 1:1 correspondence (e.g. giving one cup to each pupil)	Begins to match using 1:1 correspondence	1:1 matching tasks Home corner play (setting up a tea party and giving everyone a cup, saucer, plate and spoon)	Same Different Match

Demonstrate an understanding of the concept of numbers up to 3	• Select or put together the right number of objects when asked. • Recites number names in sequence (1, 2, 3 or 3, 2, 1). • Creates and experiments with symbols and marks representing ideas of number. • Count in everyday context, (may skip numbers e.g., 1,2,3,5).	Singing number songs Counting objects during role play  Role play area – shop, café, etc for opportunities to record numbers Staff to count as arms are put in sleeves and coat buttons are fastened to enable children to become familiar with the counting sequence through the early experience of listening. Count groups of different objects (i.e. different animals – to see that things can be counted in any order and any combination but are still the same number) Make three in different ways using props (e.g. two friends sit on boxes one stays on the grass) When counting to three go between concrete and abstract representations of numbers (e.g. real frogs, photographs, toys, models, drawings, physical representations and the written number) Play games that relate to number order such as hopscotch and skittles	One Two Three Order
React to changes of amount in a group of up to 3 items	• See and comment on changes of amounts up to 3 • Begin to understand composition of number by recognising the values of amounts up to 3.	Subitise with amounts up to 3 (Pictures, objects, fingers etc)	

Shape and space Standard 1 Summative assessment	Curriculum; small steps to success (inc. EYFS months)	Curriculum; resources/teaching ideas	vocabulary
	SEE EYFS 22-36 months and SEND stage 4 statements		
Sorting and matching	• Begins to sort by a combination of two criteria. • Is able to sort colours or objects independently. • Sorts identical objects into two colour sets. • Matches object to picture by colour. • Sorts identical objects into sets by colour.	Sorting socks and classroom items Sorting washing during role play Sorting animals Sorting sand and water toys Matching games Matching bears 	Sort Match Same Different
	• Notices simple shapes and patterns in pictures. • Explores 2d and 3d shapes	Building blocks to help children notice patterns through sequencing  Creating shape pictures  Threading bead and peg boards Begin teaching with 3d shapes - which can roll in paint? Which can we use to make a tower?	sphere, cube, cuboid, square, circle, triangle, rectangle At this stage, expose children to the vocabulary of shape but do not expect them to use it. pattern roll

Measures Standard 1 Summative assessment	Curriculum; small steps to success (inc. EYFS months)	Curriculum; resources/teaching ideas	vocabulary
	SEE EYFS 22-36 months and SEND stage 4 statements		
Time	- Is able to follow a simple timetable of now and next. - Has an understanding that sand flowing through a timer represents a unit of time. - Understands some talk about immediate past and future, e.g 'before', 'later' or 'soon' - Anticipates specific time-based events such as mealtime or home time.	Playing with a variety of different times – stop watches, sand timers, bubble timers  Using timers to support time on an activity or time with a reward. Visual schedules in class.  	Now Next Time Before Later Soon Lunch time Home time
Shape and size	- Beginning to categorise objects according to properties such as shape or size. - Begins to use the language of size	Reading and playing with resources around stories that compare size and other measures such as Goldilocks and the three bears 	Big Small

Standard 2

Numbers Standard 2 summative assessment	Curriculum; small steps to success (inc. EYFS 22-36 months)	Curriculum; resources/teaching ideas	Vocabulary
	SEE EYFS 22-36 & 30-50 months and SEND stage 4 & 5 statements		
Say the number names to 5 in the correct order (e.g. in a song or by joining in with the teacher)	• Uses some number names and number language spontaneously. • Uses some number names accurately in play. • Realises not only objects, but anything can be counted, including steps, claps or jumps. • Beginning to represent numbers using fingers, marks on paper or pictures.	Provide props to act out counting songs and rhymes Stories e.g. Three Billy Goats Gruff Display numerals in purposeful contexts Use tactile numeral cards Provide collections of interesting things for children to sort, order, count and label. Estimate how many sandwiches to make for a picnic. Reasons to count e.g. Find three puppets for your friends, Give everyone four pieces of fruit, How many saucepans will fit on the shelf? etc. Hopscotch, stepping stones, floor number mats Sing counting songs and rhymes	Number language, one, two etc Lots Fewer How many? Count

			
Demonstrate an understanding of the concept of numbers up to 5 by putting together the right number of objects when asked.	• Know that numbers identify how many objects are in a set. • Separates a group of up to five objects in different ways, beginning to recognise that the total is still the same. • Knows that numbers identify how many objects are in a set. • Sometimes matches numeral and quantity correctly. • Shows curiosity about numbers by offering comments or asking questions. • Compares two groups of objects, saying when they have the same number. • Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same. • Shows an interest in numerals in the environment. • Shows an interest in representing numbers.	When offered a group of 5 objects can count out a given number. e.g. Give me three counters, student counts three and stops, rather than counting more. (understanding 1:1 correspondence). Lay the home corner table for a group of up to 5 with the correct number of cups, plates etc (Life skills curriculum)	

			
	To begin to understand the idea of zero and to identify groups that have zero	When looking at the daily feeling chart – How many children are sad today? 'zero'	

Shape and space	Curriculum; small steps to success	Curriculum; resources/teaching ideas	Vocabulary
Standard 2 summative assessment	(inc. EYFS 22-36 months)		
	SEE EYFS 22-36 & 30-50 months and SEND stage 4 & 5 statements		
Sort objects according to a stated characteristic (e.g. group all the small balls together, sort the shapes into triangles and circles)	● Match by recognising similarities ● Beginning to talk about the shapes of everyday objects e.g. 'round' and 'tall'		

Copy and continue simple patterns using real life materials (e.g. apple, orange, apple, orange etc.)	- Shows an interest in shape and space by playing with shapes or making arrangements with objects. - Responds appropriately to colour names	Teach pattern using blocks, beads and real life materials to support students in continuing an a b a b sequence. 	
	- Notices shapes and patterns in pictures. - Shows awareness of similarities of shapes in the environment - Shows interest in shapes in the environment	Collect pictures that illustrate the use of shapes and patterns from a variety of cultures. Explore 2d and 3d shapes	
	- Uses positional language 'in' or 'under' - Explore the position of objects e.g. placing objects in and out of containers, - Experiments through play to fit as many objects as possible in a box.	Hiding and placing games Staff encourage use of positional language when playing in sand, with water, role play and other continuous provision.	

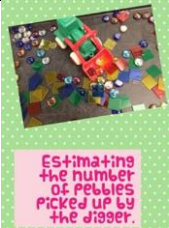
Measures	Curriculum; small steps to success	Curriculum; resources/teaching ideas	Vocabulary
Standard 2 summative assessment	(inc. EYFS 22-36 months)		
	SEE EYFS 22-36 & 30-50 months and SEND stage 4 & 5 statements		
Identify the big or small object from a selection of two	● Begin to use the language of size. ● Compare size of one object with that of another where there is a marked difference.	Use words like; big, little in everyday play situations	Big, little, small

	• Time: • Understands some talk about immediate past and future e.g. before, later, soon • Anticipates specific time-based events such as mealtimes or home time.	Provide opportunities for children to measure time (sand timer) Visual schedules	Before Later Soon now next
	• Begin to measure in play based and real life activities.	Provide opportunities to measure: Volume and capacity equipment in the sand and water play Ask questions such as: I wonder whose pot will hold the most water? Which ball is heaviest? Balance scales Visit the park to play on the see-saw Dough modelling, discuss the length of snakes or the weight of different-sized lumps.	Heavy Light Long Short Holds more than Not enough Too much

Standard 3

Numbers Standard 3 summative assessment	Curriculum; small steps to success (Inc. EYFS 40-60+ months)	Curriculum; resources/teaching ideas	Vocabulary
I can identify how many objects there are in a group of up to 10 objects, recognising smaller groups on sight and counting the objects in larger groups up to 10.	• Recognises some numbers of personal significance. • Recognises numerals 1 to 5 • Begins to write numerals 1-5 • Counts up to 3 or 4 objects by saying one number name for each item. • Counts actions or objects that cannot be moved. • Counts objects to 10 and beginning to count beyond 10. • Counts out up to 6 objects from a larger group. • Selects the correct numeral to represent 1-5, then 1-10 objects. • Counts an irregular arrangement of up to 10 objects. • Estimates how many objects they can see and checks by counting them. • Uses the language of more and fewer to compare 2 sets of objects. • Says the number that is 1 more than a given number. • Orders numbers 1-5 • Match one number name to each item in turn, making sure	Make a pictogram i.e. colour of eyes. How many children have blue eyes?  Count out 1p coins up to 10p.   	Numbers one to ten

	that they do not count any twice or miss any out.		
I can demonstrate an understanding that the last number counted represents the total number of the count.	• Finds the total number of items in 2 groups by counting all of them. • Cardinality: know that the last number in a count gives you the answer to the question "How many are there?"		
I can use real-life materials (e.g. apples or crayons to add and subtract 1 from a group of objects and indicate how many are now present.	• Find 1 more or 1 less from a group of up to 5 objects, then 10 objects. • In practical activities and discussion, beginning to use vocabulary involved in addition and subtraction. • Records using marks that they can interpret and explain. • Begins to identify own mathematical problems based on own interests and fascinations.		
	• Make tally marks to record counting (single tallies only)	Recording a count using lolly sticks  using Using tally marks to record responses to questions – e.g. how many red cars can we see on our walk?	
	• Use ordinal numbers, first, second etc. e.g. describing positions of objects or turn taking, competitions etc.		

		Story sequencing – i.e. reading Room on a Broom – which animal was 1st, 2nd, 3rd on the broomstick. Racing vehicles on a friction ramp – which was 1st, 2nd, 3rd etc. Links to literacy – what is the first sound in your name etc.	
	Estimate a small number of objects and check by counting		

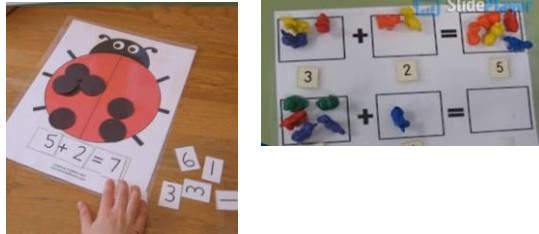
Shape and space	Curriculum; small steps to success	Curriculum; resources/teaching ideas	Vocabulary
Standard 3 summative assessment	SEE EYFS 40-60+ months and SEND stage 6 statements		
I can copy and continue more advanced patterns using real-life materials (e.g. apple, apple, orange, apple, apple, orange etc.)	- Continue, copy and create an AAB pattern. - Uses familiar objects and common shapes to create and recreate patterns and build models.		

	- Beginning to use mathematical names for 'solid' 3D and 'flat' 2D shapes and mathematical terms to describe shapes. - Select a particular named shape.	  	
	Can describe relative position, using 'in', 'on', 'inside', 'under', 'behind' and 'next to'.	 	

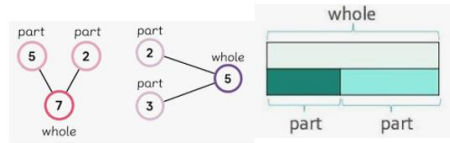
Measures	Curriculum; small steps to success	Curriculum; resources/teaching ideas	Vocabulary
Standard 3 summative assessment	(Inc. EYFS 40-60+ months)		
	SEE EYFS 40-60+ months and SEND stage 6 statements		
	Orders two items by length or height.		Long and short
	- Uses everyday language related to time. - Orders and sequences familiar events. - Measures short periods of time in simple ways. e.g. count sleeps to important events and discuss the number of sleeps getting smaller.	Use timers, digital timers etc	Day night before after next days of the week today tomorrow day after tomorrow weekend
	Orders two items by weight or capacity.	Water play, sand play Large scales	Heavy and light

		Toy shop Post office See-saw	Full and empty
	Beginning to use everyday language related to money.	Note: Money as a measure of value is too advanced to consider here. Role play in a shop, garden centre or post office Visit to a local shop Links to life skills curriculum	coin money penny/pence

Standard 4

Numbers	Curriculum; small steps to success	Curriculum; resources/teaching ideas	Vocabulary
Standard 4 summative assessment	SEE EYFS ELG		
I can read and write numbers in numerals from 0-10	• Use a range of number symbols e.g. wooden numbers, handwritten, different fonts to match to a number of things. • Can sequence numbers 0-10. • Can recognize missing numbers in a sequence 0-10. • Can count on from a number that is not 1 (i.e. 6, 7, 8, 9). • Know the number names in order forwards and backwards. • Number formation activities	Dice games Matching number pegs to objects Make a tally chart 	
I can demonstrate an understanding of the mathematical symbols of add, subtract and equal to			

		 Tell a number story	
I can solve number problems involving the addition and subtraction of single digit numbers up to 10	• count on to add two single digit numbers • count back to subtract two single digit numbers • solve problems including doubling, halving and sharing single digit numbers	 Doubling with butterfly style prints  Doubling with mirrors	
I can demonstrate an understanding of the composition of numbers to 5 and a developing ability to recall number bonds to and within 5 (e.g. $2+2=4$ and $3+1=4$)	• Composition: understanding how each number can be made in different ways. • Whole, part, part • Identify the pairs that make a total	Numicon towers; layering up Numicon pieces of the same total Make a fruit kebab with 5 pieces of fruit choosing from bowls of 2 different fruit, compare with a friends, what is the same/different Using double sided counters, throw 5, how many of each colour can be seen?	

		Arrange characters in small world play in different locations  	
I can demonstrate an understanding of commutative law (e.g. $3+2 = 5$, therefore $2+3=5$)			
I can demonstrate an understanding of inverse relationships involving addition and subtraction (e.g. if $3+2 = 5$, then $5-2 = 3$)	Opportunities to partition a number of things into 2 groups and to recognize that these groups can be recombined to make the same total	Exploring songs; e.g. Five currant buns-show that the whole is still 5 but some are in the shop and some are taken away Play skittles, how many standing, how many fallen, how many altogether?	
I can demonstrate an understanding that the total number of objects changes when objects are added or taken away			

I can demonstrate an understanding that the number of objects remains the same when they are rearranged, providing nothing has been added or taken away	Conservation: knowing the number does not change if things are rearranged	Correct a puppet who says that there are more or fewer objects now they have been spread out	
I can count to 20, demonstrating that the next number in the count is one more and the previous is one less.	- Counting: saying number words in sequence: - rote count to 20 - count objects to 20, - order numbers to 20 - say the number one more than a given number (up to 20) - comparison: support pupils in recognizing that if they add 1, they will get the next number, or if 1 is taken away they will have the previous number. - Partition numbers into tens and units	Counting backwards e.g. nursery rhymes, countdown to finish activity Number lines	

Shape and space Standard 4 summative assessment	Curriculum; small steps to success (inc. EYFS Early learning goals)	Curriculum; resources/teaching ideas	Vocabulary
Recognise some common 2-D shapes	- Matches names of shapes to the shapes (verbally or using symbols) - Given two properties will select an appropriate 2D shape - Explore characteristics of everyday objects and shapes and use mathematical	Construction with structured and unstructured materials. Make dens with varied materials. Use 2D shapes to make a 3D shape e.g. triangles and rectangles to make a tent.	Adults draw children's attention to specific properties by using specific language:

	language to describe them. • Uses familiar objects and common shapes to create and recreate patterns and build models.	Build 3D shapes with Polydron Make decorations by folding and cutting paper. Print with shapes Use a range of examples of each shape: different orientations, colour, size and material.	Curvedness Number of sides/corners Faces/vertices Equal sides Parallel sides Informal language: Fat triangle and pointy triangle
	• Recognise, create and describe patterns (ABBC).	Look at fabric patterns from different cultural traditions: discuss the patterns in terms of same and different. Design wrapping paper by creating a pattern they can describe. Use carpet tiles/ nature box/ beads/pegs etc. to create a pattern. Continue, copy and create an ABB or ABBC pattern and Spot an error in a pattern.	
	• Children use everyday language to talk about position.	Place small world characters behind, in front of, on/off, under, on top, next to, between, etc.	Positional vocabulary

		Hunt for hidden objects with positional prompts. PE lessons Give a simple robot e.g. Beebot directions to move along a route Make a complete circuit with a train track. Make a simple map.	
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Measures Standard 4 summative assessment	Curriculum; small steps to success (inc. EYFS Early learning goals)	Curriculum; resources/teaching ideas	Vocabulary
	- Children use everyday language to talk about size, weight, capacity, distance, time and money to compare quantities and objects and to solve problems. - Children estimate, measure, weigh and compare and order objects and talk about time.		
	<u>Length</u> - order two or three items by length or height - measure using cm cubes objects up to 10cm in length - find something that is shorter/ longer than a reference item	encourage children to compare different attributes in everyday situations: 'I wonder who has the longest snake? cut a piece of ribbon as long as a child's arm and encouraging them to find things in the	ensuring adults model language which highlights the specific attribute that

	Find an appropriate container for a specific item	environment that are longer, shorter or the same length find ways of seeing if the cupboard or carpet will fit in the role-play area without moving it use large bricks to measure the height of individuals use metre sticks to see if an elephant or dinosaur would fit in the room measuring the growth of a beanstalk or sunflower with interlocking centimetre cubes find things that will fit inside a matchbox.	is the focus of attention long and short thick and thin large and small narrow and wide
	<u>Weight/capacity</u> - know that some large things can be light and that some small things can be heavy - orders two to three items by weight or capacity - find something that is heavier/lighter than a reference item	Water play Sand play Balance scales encourage children to compare different attributes in everyday situations: 'I wonder whose pot will hold the most water?' 'I wonder which ball is the heaviest?'	Heavy and light Full and empty

dough modelling can provide a good opportunity to discuss the weight of different-sized lumps

provide a varied range of container shapes all containing the same amount of liquid except for one. 'Which one do you think is the odd one out? Why? How will we check? Were we right?'

using a simple spring balance to compare the weight of cargo for a toy boat

set up a 'balancing station' with interesting things to weigh and to balance, indoors and outdoors

comparing different parcels, ensuring some of the smaller parcels are heavy, and some of the larger parcels are light

pack a shopping bag, making sure the lightest items do not get squashed by heavier things.

		choose from a selection of spoons, ladles, etc, to see who can fill their pot the quickest with rice. How do you know who will be quickest? set up a 'filling station' with lots of different-sized containers to fill with beads, then comparing capacities	
	<u>Money</u> - begin to use everyday language related to money - understand the concept of needing money (from life skills curriculum)	Note: Money as a measure of value is too advanced to consider here. Role play in a shop, garden centre or post office Visit to a local shop	
	<u>Time</u> - say how old they are - orders and sequences familiar events - say/sign the days of the week - rote chant days of the week discuss what I did before an event (e.g. lunch) - discuss what I did after an event (e.g. lunch) - use terms for significant times in the school day sequence more than three pictures of daily events - measures short periods of time in simple ways - use the terms day and night	un-muddle visual timetables making picture sequences for cooking instructions describing sequences by re-telling stories discuss 'o'clock' times at registration, lunchtime, snack time, tidy-up time, etc.	before after next days of the week today tomorrow day after tomorrow weekend

	- accurately use terms yesterday and tomorrow - know that one minute is a unit of time - count actions that can be done in one minute	make their own timetable for a day – selecting activities and ordering them. events on a class calendar to count down to  timers provided for children to set and respond to challenges; e.g. 'I wonder if we can run as fast as a cheetah', 'I wonder how many hops I can do in ten seconds', 'I wonder how many times I can write my name in a minute', etc.	
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2014 Maths Programme of Study Year 1 (Revised 2019)

(Please also refer to Year 1 Teaching for Mastery; maths hub resources)

Number and Place value			
Statutory requirements	Small steps	Resources	Key Vocabulary
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.	I can join in rote counting to beyond 10. I can count and order numbers to 10. I can say say/sign numbers to at least 20. I join in counting forwards and backwards to 100.	Large floor tiles. ITP's '20' cards 1-20. Role play area idea: tickets marked 1-20, give 'customers' a ticket. Who is the first in the queue? Order the	Number words How many...? Count, count (up) to count on (from,

	I can continue to count on in 1s from the number given by the teacher. I can put 3 numbers in order. I join in counting games to 100 from any given number. I can count to 100 by myself. I can count back from 100 by myself. <i>Notes from Mastery: The language used to name numbers does not always expose the place value, for example the word 'twelve' does not make it transparent that the value of this number is ten and two. It is important that children develop secure understanding of the value of each digit.</i>	customers in a line according to their ticket. ITP Counting. ITP Bead String <i>Mastery Example: I am going to count on from 20. Will I say the number 19? Convince me.</i>	to) count back (from, to) More/less Odd/even
Count, read and write numbers to 100 in numerals.	I can count objects up to 10 physically rather than reciting numbers. I know that when a number of objects is rearranged the quantity does not change. I can match a number card to a spoken number. I can match a number card to a set of objects. I can count objects up to 20 physically rather than reciting numbers. I can count objects up to 100 physically rather than reciting numbers.	Counting objects/cubes etc. Digit cards Bead strings Use two digit cards to make a number greater than 50	Number words Count Units/tens Exchange Digit 'Teens' number The same as Equal to
Count in multiples of twos, fives and tens and use this to solve problems.	I can count in multiples of 2 to 20 I can count in multiples of 5 to 50 I can count in multiples of 10 to 100. I can count on/back in 10s from any given number. I can count back in multiples of 2. I can count back in multiples of 5. I can count back in multiples of 10.	Number rhymes, eg - 5 Little Speckled Frogs. Using 20 frogs and 4 lily pads, pupils put 5 frogs on each pad and then continue until all the pads are full. Match number cards and count out loud. Unifix, Multilink: make towers of 5/10 and count. Bundles of straws. Bead strings. Glove and Velcro numbers.	Count up/back to Count on from/to Count in ones, twos... fives ... tens...

		2p, 5p & 10p coins. 100 square ITP Number Grid ITP Bead String ITP Number Dial <i>Mastery Example: Which number is the odd one out? Why?</i>	
Given a number, identify one more and one less.	I can, when given a number, identify 1 more or one less.	Number lines. Number square; Place numerals in sand/water. Give each child a baseboard, with random numbers written on, 1-20. Children have to find the numeral in the tank that is one less than each of these numbers. Differentiate with numbers to find 10 more/less. <i>Mastery Example:</i> is 1 less than → is 1 more than →	1 more/less How many
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	I can record my work using objects, pictures or diagrams. I can use a number line to estimate and show numbers. I can use tens and units blocks to make numbers to at least 20. I can partition 2 digit numbers into tens and units.	Number tracks Number lines. Arrow cards. Base 10. Place value chart. ITP Place Value - make various 'teen' numbers. Children to make corresponding representation using tower of 10 cubes as starting point. ITP Bead Sticks. Make various 2 digit coin totals using 10p coins and 1p coins to make teens amounts.	Place value Units/tens Count on

		Tens and units materials.	
Read and write numbers from 1 to 20 in numerals and words.	I can read and write numbers 1-5 in digits. I can read and write numbers 1-10 in digits. I can place the numbers 1-20 in order. I can read and write numbers 1-20 in digits. I can read and write numbers 1-20 in words.	Set of digit cards, 1-20 for each pupil. Plastic numbers. Magnetic numbers. Washing line.	Digit Number Word Order

Notes from Mastery: thinking of part whole relationships is helpful in linking addition and subtraction. For example, where the whole is 6, and 4 and 2 are parts. This means that 4 and 2 together form the whole, which is 6 and 6 subtract 4 leaves the 2 and 6 subtract 2 leaves the 4.

Number – Addition and subtraction			
Statutory requirements	Small steps	Resources	Key Vocabulary
Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs.	I can recognise + − and =. I can use the signs in practical activities to make number sentences. I can use + − and = to record my calculations.	Digit cards and signs.	Add. Subtract/take away Equals Sum Calculation
Add and subtract TU+U and TU+/- multiples of 10.e.g. 23+5, 46-20			
Represent and use number bonds and related subtraction facts within 20.	I can find all the ways of making 10 using concrete objects. I can say/sign all the ways of making 10. I know by heart number bonds to 10. I can record number bonds to 10 as number sentences. I can say/sign all the ways of making numbers up to 20. I can use my number bonds to work out subtraction from numbers up to 20.	ITP Number Facts. ITP Number Scales. Number fans. Unifix - count out cubes, join together and establish this is a group of 10. Break up tower in different ways. Money - price list with items costing up to 20p. Which two items can I buy with a 20p coin? Give examples. Part/part/whole circles/blocks. 10 frames. <i>Mastery examples: I know that 7 and 3 is 10. How can I find 8 + 3?</i> $\begin{array}{ll} 3 + \square = 10 & 20 - \square = 13 \\ \square + 5 = 10 & 20 - \square = 15 \\ \square + \square = 10 & 20 - \square = 16 \end{array}$	Add: +, more, plus make, sum, total, altogether Double/near double One/ten more How many more to make...? How many more is... than...? How much more is...? Subtract: −, take (away), minus, leave How many are left/left over? How many have gone? One/ten less How many fewer is... than...?
Add and subtract one-digit and two-digit numbers to 20, including zero .	I can add and subtract 1 digit numbers to 20. I can add 3 single digit numbers spotting doubles and pairs to 10. I can make 'teen' numbers by adding 10.	Counters/cubes. Number lines to 20. Coins; ITP Number Line.	

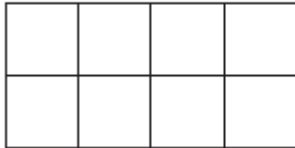
	I can add and subtract 1 and 2 digit numbers up to 20. I notice the effect of adding or subtracting zero. I add by putting the largest number first. I can subtract 10 from any 2 digit number.	ITP Difference. Number square to 100.	How much less is...? Difference between Equals, is the same as How did you work it out? Sentence Operation
Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.	I can decide whether to add or subtract to solve a problem. I can recognise missing numbers from 0-20 on a washing line. I can represent objects in word problems with cubes or fingers. I can recognise odd and even numbers.	Problems: - What do we need to find out? - What is the important information? - What operation do we need to use? - How can we write a number sentence for that calculation? Washing line and numerals Socks - using a variety of socks, count out the number chosen and put into pairs. Is there an odd sock? <i>Mastery example: Captain Conjecture says, 'If you add 0 to a number, the number stays the same.' Do you agree? Explain your reasoning.</i>	
Understand and use the language: put together, add, altogether, total, take away, distance between, difference between, more than and less than.	I can understand and use the language: put together, add, altogether, total, take away, distance between, difference between, more than and less than.	Vocabulary cards and posters. Calculations using the vocabulary. Explicit teaching.	

Number – Multiplication and division

Statutory requirements	Small steps	Resources	Key Vocabulary
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Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	I can group and share small quantities, I can double numbers to 5 using fingers. I can double single digit numbers using concrete objects. I can divide an equal number into 2. I can make arrays to show times tables such as 2x5, I can count in twos, fives and tens and see how this relates to multiplication. I can begin to say what three 5s are by counting in 5s and four 2s by counting in 2s.	Ladybird games/printing. Multilink cubes. Bun trays - make play dough buns and place in array on baking tray. Count and label. Peg boards. ITP Multiplication Array. ITP Multiplication Facts. 110 square. Number lines. <i>Mastery examples: If I start on 4 and count on in twos will I say the number 17? If I start at 10 and count on in tens will I say 100? I can see 10 wheels. How many bicycles?</i>	Lots of Groups of × Times Multiply Array Row/column Double/halve Share/share equally Group in pairs, threes... tens Equal groups of ÷ Divide Divided by/ into Left/left over
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Mastery notes: Fractions express a relationship between a whole and equal parts of the whole. Ensure children express this relationship when talking about fractions. For example, 'If the circle (where the circle is divided into four equal parts with one part shaded) is the whole, one part is one quarter of the whole circle.' Halving involves partitioning an object, shape or quantity into two equal parts. The two parts need to be equivalent in, for example, area, mass or quantity

Number - fractions			
Statutory requirements	Small steps	Resources	Key Vocabulary
Recognise, find and name a half as one of two equal parts of an object, shape or quantity.	I can find half of playdough, rice, string, pieces of fruit, a metre stick. I can cut and fold shapes into halves I can draw a line to show half on different shapes. I can recognise the symbol $\frac{1}{2}$ when written by an adult. I can reorganise 1/2s into wholes. I can find $\frac{1}{2}$ of even numbers by sharing.	Paper, playdough, string etc. ITP Fractions. <i>Mastery examples: There are 12 children in a class. Sammy says half of the class is 7. Do you agree? Explain your reasoning.</i> Shade to show half of the whole shape. 	Part Equal parts Fraction One whole One half Two halves $\frac{1}{2}$
Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	I can find quarters of playdough, rice, string, pieces of fruit, a metre stick. I can cut and fold shapes into 1/4s I can draw a line to show 1/4s on different shapes. I can recognise 1/4 when written by an adult. I can reorganise 1/4s into wholes.	Paper, playdough, string etc. ITP Fractions. <i>Mastery examples: Four children share a pizza equally. Draw a diagram to show how much pizza each child gets. What fraction of the pizza does each child eat?</i>	Part Equal parts Fraction One whole One quarter Two/three/four quarters $\frac{1}{2}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$

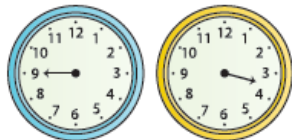
Mastery notes: Measurement is about comparison, for example measuring to find out which rope is the longest. Measurement is about equivalence, for example how many cubes are equivalent to the length of the table or the mass of the teddy? Standard units can initially be introduced through using a unit that is greater than the things being compared, for example comparing the capacity of a cup and a carton by filling each and pouring into matching bottles to compare the two. Measuring is a practical activity and the activities below should be conducted in practical contexts, using real materials.

Measures			
Statutory requirements	Small steps	Resources	Key Vocabulary

Compare, describe and solve practical problems for lengths and heights (for example, long/short, longer/shorter, tall/short, double/half).	I can use length vocabulary; longer shorter etc. I can compare 2 lengths e.g. the height of 2 children and say who is the tallest. I can compare length and put them in order. I can find objects that are longer/shorter than a metre.	Metre stick. Ruler. Tape measure. ITP Ruler <i>Mastery example:</i> Explain your reasoning. 	Length, width, height, depth Long/tall and short High and low Wide and narrow Deep and shallow Thick and thin Longer, shorter, taller Longest, shortest, tallest, highest...
Measure and begin to record lengths and heights	I can measure lengths and heights in standard units of measurements. I can begin to record length and heights	Metre sticks. Rulers. Tape measures.	
Compare, describe and solve practical problems for mass/weight (for example, heavy/light, heavier than, lighter than).	I can order 3 objects by weight. I can find objects that weigh about 1kg or 500g.	Balance scale. Scales. 1Kg & 500g weights. ITP Measuring Scales <i>Mastery example:</i> Which of these statements is true? ■ The dinosaur is lighter than the robot. ■ The robot is lighter than the dinosaur. ■ The dinosaur and robot weigh the same. 	Weigh Weighs Weight Balances Heavy/light Heavier/lighter Heaviest/lightest Balance Scales
Measure and begin to record mass/weight.	I can begin to record weight.	Scales.	
Compare, describe and solve practical problems for capacity and volume (for example, full/empty, more than, less than, half, half full, quarter).	I can order jugs by capacity. I can fill objects with cubes and order by volume. I can find objects that hold more/less than a litre.	Sets of containers labelled. Variety of containers. Rice, peas, sand or water. Funnels. Identical cups or mugs. 1 litre measuring jug.	Full Half/nearly full Empty Half/nearly empty Holds Container More and less

		<i>Mastery examples: Dave has a 1 litre and a 2 litre bottle. He pours the water from the small bottle into the large bottle. Mark where the water comes to on the large bottle.</i> Sid has a full bottle of drink. He pours it into a jug. Which has the greater capacity, the bottle or the jug? 	Litre
Measure and begin to record capacity and volume.	I can measure capacity and volume in standard units of measurements. I can begin to record capacity and volume	Measuring jugs (1 litre). Cups/beakers/bottles etc. ITP Measuring Cylinder.	
Recognise and know the value of different denominations of coins and notes.	I can recognise 1p, 2p, 5p, 10p and £1. I know how much each coin to 10p is worth. I can solve simple problems using 1p, 2p, 5p, 10p and £1 I can begin to find the total of 2 coins. I can buy items from a pretend shop using the correct coins. I can recognise all coins and notes. I can find coins to make 10p and 20p. I can give change from 10p and 20p.	Real coins. Shopping games. Shopping cards. Role play shops. Priced objects, e.g. Buy buns at 1p each. Pay and give change from 10p. Write out receipt. Increase price by 1p. Reduce price by 1p.	Money Coin Penny/pence/ pound Price Cost Buy and sell Spend/spent Pay Change Dear/costs more/dearer Cheap/costs less/cheaper Costs the same as How much?

Measure and begin to record time (hours, minutes, seconds).	I can begin to measure time in standard units of measurements (hours, minutes, seconds). I can begin to record time.	Clocks Stop watches ITP Clock <i>Mastery examples: Sam leaves for school at 8 o'clock. Jay leaves half an hour later than Sam. Circle the clock which shows when Jay leaves for school. Explain your reasoning.</i> <i>I walk to school every day. On Monday my journey takes 10 minutes. On Tuesday I walk more slowly. Does my journey take more or less time than on Monday? Explain your answer.</i>	Time Second, minute, hour, day, week, month, year, weekend O'clock, half past Hands
Compare, describe and solve practical problems for time (for example, quicker, slower, earlier, later).	I can say/sign who ran the fastest/slowest in the race. I can say/sign who arrived late for class. I can find out who can do the most jumps in a minute.	Stop watch Sand timers Online timers	Before, after, next, last, now, soon Early and late Quick, quicker, quickest, quickly Fast, faster, fastest slow, slower, slowest, slowly Old, older, oldest New, newer, newest Takes longer, Takes less time Hour, minute, o'clock, half past
Recognise and use language relating to dates, including days of the week, weeks, months and years.	I can answer questions about the order of the days of the week. I can say/sign the months of the year. I can recognise when the months are ordered incorrectly.	Rhymes for days of the week/month of the year. Pictures of seasons Calendars Clocks	Time Calendar Days of the week: Seasons

	I can say/sign the seasons. I can say/sign the number of months in a year. I know the times of key events in the day.	Sand timers Stop watch Mastery example: <table border="1"><thead><tr><th colspan="7">January</th></tr><tr><th>Sun</th><th>Mon</th><th>Tue</th><th>Weds</th><th>Thurs</th><th>Fri</th><th>Sat</th></tr></thead><tbody><tr><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr><tr><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr><tr><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td></tr><tr><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td></td></tr></tbody></table> Use the clues to identify the date that she carried out each activity. Jackie is going to a party at the weekend. This is ☐ January. She is visiting her aunty on a Tuesday. This is ☐ January.	January							Sun	Mon	Tue	Weds	Thurs	Fri	Sat				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		Second, minute, hour, day, week, month, year, weekend Birthday Holiday Morning, afternoon, evening and night Midnight Today, yesterday, tomorrow
January																																																				
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Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	I can recognise o'clock times. I can recognise half past times. I can use a clock face to show these times. NCETM advice for teaching time: (Year 1/2/3) We looked at 'past' times only, to start with. First, we only looked at the minute hand and gave the children times which were multiples of 5 (having checked they were confident in counting in 5s). Then we moved on to reading (just with these past times) to the nearest minute. Finally, we added in the hour. Once the children were confident, we learned that 'quarter past' and 'half past' were special names we use for '15 past' and '30 past'. Showing a quarter or half of the clock shaded helped them make the link . Separately, we looked at 'to' times and again learned the special name for '15 minutes to'. The final step was to put the two previous steps together with an initial question: Is it a 'past' time or a 'to' time? We looked at clocks and just answered this question without identifying the time.	Clock -large Individual clock faces Mastery example: Here are some clocks where the minute hand has broken off. Use the hour hand to work out what time it is. 	Clock Hands O'clock Half past Minute hand Hour hand																																																	

Mastery Notes: It is important for children to be familiar with a range of 2-D and 3-D shapes and not just recognise them in specific orientations. It is preferable to introduce 3-D shapes before 2-D shapes, since 2-D shapes only exist in the real world as faces of 3-D shapes. An emphasis should be placed upon identifying and describing the properties of shapes. It is important that pupils develop the correct mathematical language to do so. The development of precise language to describe position and movement is important.

Geometry			
Statutory requirements	Small steps	Resources	Key Vocabulary
Recognise and name 2-D shapes, for example, rectangles (including squares), circles and triangles.	I can name square, rectangle, circle, and triangle. I can find shapes on everyday objects. I can describe square, rectangle, circle, and triangle. I can sort shapes into sets. I can recognise common shapes in different sizes and orientation.	Variety of 2D shapes - plastic, card, Shapes from real life. Hoops for sorting into. Regular and irregular shapes. ITP Isogrid ITP Polygon Practical activities e.g. - Walk around the school looking for shapes that fit together, e.g. brickwork, tiles in hall or on carpet. - Use exercise books to cover a P.E mat. What shape are the books? Are there any gaps left? Have a range of shapes in a 'feely bag'. Can you feel for the triangle, the square, the rectangle? Explain how you know.	Shape Pattern Flat Curved Straight Corner Sort Sets Make Build Draw Circle, triangle, square, and rectangle
Recognise and name 3-D shapes, for example, cuboids (including cubes), pyramids and spheres.	I can name cube, cuboid, sphere, and pyramid. I can describe cube, cuboid, sphere, and pyramid. I can sort 3D shapes into sets. I can find 3D shapes on a shape walk around school.	Variety of plastic/wooden. Examples in everyday use, boxes, etc. <i>Mastery examples:</i> What's the same and what's different about these shapes?  Which could be the odd one out and why?	Shape Pattern Flat and curved, Straight Round Hollow Solid Corner Face Edge Sort

		<i>Provide children with a variety of 3-D shapes and ask: What's the same and what's different between these shapes?</i> <i>'My shape has 2 triangular faces and 3 rectangular faces. How many vertices does my shape have?</i>	Make Build Draw Cube, cuboid, pyramid, sphere, cone and cylinder
Make whole, half, quarter and three-quarter turns in both directions and connect turning clockwise with movement on a clock face.	I can make whole, half, quarter, and three quarter turns in both directions. I can connect turning clockwise with movement on a clock face.	Objects that turn - timers, toy cars etc. Clock faces	Position Over and under, Above and below Top and bottom, Side, on, in Outside and inside Around
Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	I can describe position, direction and movement, including whole, half, quarter and three-quarter turns.	Robots – Beebots, Roamer, wind up cars. Real life - people, cars. Online - Beebots software. Busy Things. PE activities.	In front/behind Front and back Before and after Next to Opposite Between Middle, edge centre Corner
Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside.	I can use the language of position, direction and motion (including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside).	Toys on shelves. Drawers in the classroom. PE activities. <i>Mastery example:</i>	Direction Journey Left and right Up and down Forwards and backwards, Sideways Across Far and near Along Through

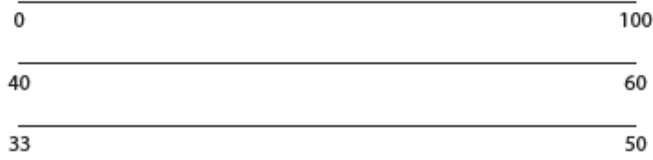
		Top, middle or bottom? First, second or third? Left or right?  The cups are in the middle row and third from the left. The shapes are in the row and from the left.	To and from, Towards and away from Turn, whole turn, half turn Stretch and bend
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2014 Maths Programme of Study Year 2 (Revised 2019)

(Please also refer to Year 2 Teaching for Mastery; Maths hub resources)

Number and Place value			
Statutory requirements	Small steps	Resources	Key Vocabulary
Count in steps of 2, 3, and 5 from 0 and in tens from any number, forward and backward.	I can count in steps of 2,3,5 forwards and backwards from and to 0. I can count forward and backward in 10s from any given number.	Unifix, Multilink: make towers of 5/10 and count. Bundles of straws. Bead strings. Glove and Velcro numbers. 2p, 5p & 10p coins. 100 square. ITP Number Grid. ITP Bead String. ITP Number Dial.	Count Count (up) to Count on (from, to) Count back (from, to) Count in ones, twos, threes, fives... Count in tens More/less Many/few Tens/units digit Pattern

		<i>Mastery example - Captain Conjecture says, 'When I count in tens from any number the units digit stays the same.' Do you agree? Explain your reasoning.</i>	
Recognise the place value of each digit in a two-digit number (tens, ones).	I know the place value of each digit in a 2 digit number.	Number tracks Number lines. Arrow cards. Base 10. Place value chart. ITP Place Value. ITP Bead Sticks. Tens and units materials. <i>Maths mastery example: Steve says, 'My number has two tens and five ones.' What is Steve's number? Amy has two more tens than Steve. What is her number? Sam says, 'My number has five tens.' What numbers can it be? What numbers can't it be?</i>	Units Tens Hundreds Digit One-, two- or three-digit number 'Teens' number Place Place value Value
Identify, represent and estimate numbers using different representations, including the number line.	I can identify, represent and estimate numbers using different representations, including the number line.	Number lines Pegs on a coat hanger Sorting objects Place value materials Groups of objects <i>Maths Mastery Examples:</i> Place these numbers on the number line: 10, 48, 30 	Guess how many, Estimate Nearly Roughly Close to About the same as Just over/under Exactly Too many Too few Enough Not enough Round Nearest Round to the nearest ten

		Place 47 on each of these empty number lines. 	
Compare and order numbers from 0 up to 100; use <, > and = signs.	I can compare and order numbers to 100. I know the meaning of the < > signs. I can use the < > and = signs in my own work.	Number tracks Number lines. Arrow cards. Base 10. Place value chart. <i>Maths Mastery examples:</i> Write all the 2-digit numbers greater than 40 using these digits.  How do you know you have them all? Prove it. Use < > and = signs to make these number sentences correct. 3 tens ☐ 30 ones 2 tens ☐ 9 ones 4 tens ☐ 33 ones	One more/less Ten more/less Compare Order Size Signs More than Less than Greater than Fewer than Equal to
Read and write numbers to at least 100 in numerals and in words.	I can read and write numbers to at least 50 in numerals and in words. I can read and write numbers to at least 100 in numerals and in words.	Set of digit cards, two 0-9 for each pupil. Plastic numbers. Magnetic numbers. Washing line. Vocabulary mats with words and numbers.	Number words Count Units/tens Exchange Digit 'Teens' number
Use place value and number facts to solve problems.	I am beginning to understand zero as a place holder. I can partition 2 digit numbers in different combinations of tens and ones, explaining thinking verbally, in pictures or using apparatus. I can use my knowledge of numbers to solve problems.	Place value chart. Arrow cards. Base 10. Place value chart. ITP Place Value ITP Bead Sticks. Use 10p coins and 1p coins to make amounts. Tens and units materials.	

Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships e.g. if $7 + 3$ is 10, $17 + 3$ is 20

Maths Mastery examples:

Steve says, 'My number has two tens and five ones.'

What is Steve's number?

Amy has two more tens than Steve. What is her number?

Sam says, 'My number has five tens.'

What numbers **can** it be?

What numbers **can't** it be?

$$23 + \square = 30$$

$$33 - \square = 30$$

$$43 + \square = 50$$

$$53 - 3 = \square$$

Notes from mastery: Understanding that addition of two or more numbers can be done in any order is important to support children's fluency. When adding two numbers it can be more efficient to put the larger number first. For example, given $3 + 8$ it is easier to calculate $8 + 3$. When adding three or more numbers it is helpful to look for pairs of numbers that are easy to add. For example, given $5 + 8 + 2$ it is easier to add $8 + 2$ first than to begin with $5 + 8$.

Number – Addition and subtraction			
Statutory requirements	Small steps	Resources	Key Vocabulary
Solve problems with addition and subtraction: - using concrete objects and pictorial representations, including those involving numbers, quantities and measures. - applying their increasing knowledge of mental and written methods.	I understand and use the terms sum and difference. I can choose the appropriate operation when solving addition and subtraction problems. I can add and subtract 1 and 2-digit numbers, bridging tens where necessary, in context using units such as pence, pounds and centimetres. I am beginning to use written methods to solve problems for addition and subtraction. Add and subtract any 2 two digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus.	Money Measuring equipment Tens and units Colour rods Problems: - What do we need to find out? - What is the important information? - What operation do we need to use? - How can we write a number sentence for that calculation? <i>Maths Mastery examples:</i> <i>Dan needs 80g of sugar for his recipe. There are 45g left in the bag. How much more does he need to get? The temperature was 26 degrees in the morning and 11 degrees colder in the evening. What was the temperature in the evening?</i>	+, add, addition, more, plus make, sum, total altogether score double, near double one more, two more... ten more... one hundred more how many more to make...? how many more is... than...? how much more is...? -, subtract, subtraction, take (away), minus leave, how many are left/left over? one less, two less... ten less... one hundred less how many fewer is... than...? how much less is...? difference between half, halve
Recall and use addition and subtraction facts to 20 fluently and	I know by heart all addition and subtraction facts to 20. I can use addition/subtraction facts to 10 to add or subtract multiples of 10 eg. $30 + 70 = 100$.	ITP Number Facts. ITP Number Scales. Number fans.	

derive and use related facts up to 100.	I can quickly find pairs of numbers with a total of 100.	Unifix - count out cubes, join together and establish this is a group of 10. Break up tower in different ways. Money - price list with items costing up to 20p. Which two items can I buy with a 20p coin? Give examples. Part/part/whole circles/blocks. 10 frames. <i>Maths Mastery examples:</i> <i>If each peg on the coat hanger has a value of 10, find three ways to partition the pegs to make the number sentences complete.</i> <i>I think of a number and I add 2. The answer is 17. What was my number? I think of a number and I subtract 5. The answer is 24. What was my number?</i>	=, equals, sign, is the same as tens boundary
Add and subtract numbers using concrete objects, pictorial representations and mentally, including: • a two-digit number and ones • a two-digit number and tens • two two-digit numbers • adding three one-digit numbers	I can add 20, 30, 40 and 50 to 2-digit numbers using a number square. I can subtract 20, 30, 40 and 50 from 2-digit numbers using a number square. I can add 11 to 2-digit numbers using a number square. I can add 9 by adding 10 and then subtracting 1. I can cross the tens boundary when adding. I can add pairs of 2-digit numbers by partitioning and recombining. I can subtract numbers by counting up and drawing own number line. I can use number facts to choose a sensible order to add 3 or more numbers.	Counters/cubes. Number lines to 20. Coins; ITP Number Line. ITP Difference. Number square to 100. Tens and units apparatus.	

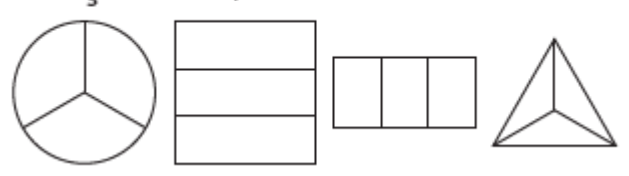
Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.	I can show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.	Maths counting equipment. Real life word problems.								
Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	I can show an addition with the answer of 20 then show a number sentence with the inverse operation. I can recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	ITP Number Facts Maths Mastery examples: <table><tr><td colspan="2">27</td></tr><tr><td>15</td><td>?</td></tr></table><table><tr><td>12</td><td>15</td></tr><tr><td colspan="2">?</td></tr></table> 76 29 47 Using the bar model complete the four number sentences. + = + = - = - =	27		15	?	12	15	?	
27										
15	?									
12	15									
?										

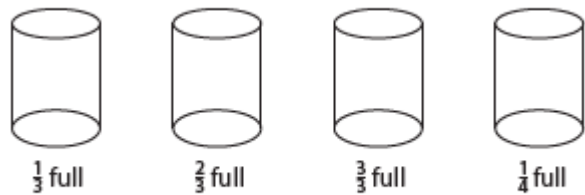
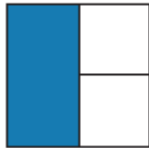
Notes from mastery: It is important that pupils both commit multiplication facts to memory and also develop an understanding of conceptual relationships. This will aid them in using known facts to work out unknown facts and in solving problems. Pupils should look for and recognise patterns within tables and connections between them (e.g. $5 \times$ is half of $10 \times$). Pupils should recognise multiplication and division as inverse operations and use this knowledge to solve problems. They should also recognise division as both grouping and sharing. The recognition of pattern in multiplication helps commit facts to memory.

Number – Multiplication and Division			
Statutory requirements	Small steps	Resources	Key Vocabulary
Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	I can recall all the facts in the 2, 5 and 10 times tables and use them to solve simple problems, demonstrating an understanding of commutativity as necessary. I can use the times table facts to solve related division problems. I can understand halving as the inverse of doubling and use this to derive $\times$ <i>and</i> $\div$ facts for the 2 times table. I can connect the 10 times table to place value. I can connect the 5 times table to the divisions on a clock face. I can recognise odd and even numbers. I can explain why you can't sort 13 objects into groups of 2.	Multilink cubes and other practical equipment. ITP Multiplication Array. ITP Multiplication Facts. 100 square. Number lines. Numicon (for odd and even numbers). <i>Maths Mastery examples:</i> <i>What is 5×4? (5 times table)</i> <i>What is 10×6? (10 times table)</i> <i>Being able to answer such questions is, of course, important, but check pupils understand the meaning of them. For example, ask them to make 5×4 and 10×6 using concrete apparatus.</i> <i>Which has the most biscuits:</i> <i>4 packets of biscuits with 5 in each packet, or</i> <i>3 packets of biscuits with 10 in each packet?</i> <i>Explain your reasoning.</i>	lots of groups of times multiply multiplied by multiple of once, twice, three times... ten times... array row, column double, halve share, share equally odd/even one each, two each, three each... group in pairs, threes... tens equal groups of „, divide, divided by, divided into left, left over
Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the	I can write division facts to go with known multiplications. I can use the $\times$ sign when recording multiplication problems. I can use the $\div$ sign when recording division problems.	Practical maths equipment. ITP Grouping.	

multiplication ($\times$), division ($\div$) and equals (=) signs.		This array represents $5 \times 3 = 15$.  Write three other multiplication or addition facts that this array shows. Write one division fact that this array shows.	
Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.	I can show that multiplication can be done in any order. I can show that division can't be done in any order.	Practical maths equipment. Arrays. ITP Grouping.	
Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts.	I can group and share concrete objects. I can make and use arrays to solve problems. I can recognise the fact that 3×5 gives the same answer as $5 + 5 + 5$. I can solve simple problems involving multiplication. I can solve simple problems involving division. I can double 2-digit numbers up to 50. I can halve even 2-digit numbers.	Practical maths equipment. <i>Maths Mastery examples:</i> <i>Sally buys 3 cinema tickets costing £5 each.</i> <i>How much does she spend?</i> <i>Write the multiplication number sentence and</i> <i>calculate the cost.</i> <i>If Sally paid with a £20 note, how much</i> <i>change would she get?</i>	

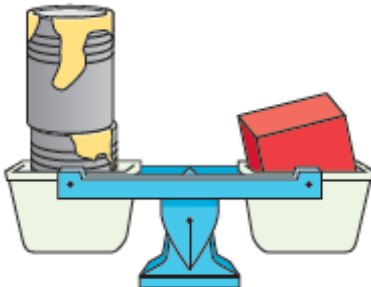
Notes from Mastery: Maths Fractions involve a relationship between a whole and parts of a whole. Ensure children express this relationship when talking about fractions. For example, 'If the bag of 12 sweets is the whole, then 4 sweets are one third of the whole.' Partitioning or 'fair share' problems when each share is less than one gives rise to fractions. Measuring where the unit is longer than the item being measured gives rise to fractions.

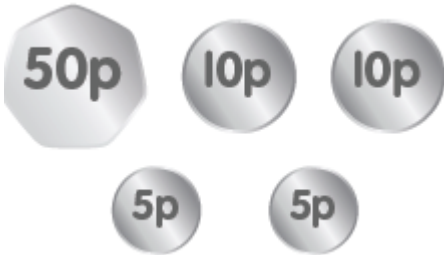
Number - Fractions			
Statutory requirements	Small steps	Resources	Key Vocabulary
Recognise, find, name and write fractions $\frac{1}{3}, \frac{1}{4}, \frac{2}{4}$ and $\frac{3}{4}$, shape,, and know that all parts must be equal parts of the whole.	I can recognise $\frac{1}{3}$ and write the fraction. I can find $\frac{1}{3}$ of a length, shape, set of objects or quantity. I can find $\frac{1}{4}$ s of a length, shape, set of objects or quantity. I can recognise $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$. Partitioning or 'fair share' problems when each share is less than one gives rise to fractions. Measuring where the unit is longer than the item being measured gives rise to fractions.	ITP Fractions. Fraction rods. Fraction games. Fraction rods. Water/sand practical play. <i>Maths Mastery examples:</i> <i>20 children are in a class and 14 are girls. How many are boys?</i> <i>Jo bought a bag of cherries.</i> <i>Jo ate half the number of cherries in the bag.</i> <i>Jo had 7 cherries left. How many cherries did Jo buy?</i> Shade $\frac{1}{3}$ of each shape. 	part equal parts fraction one whole one half two halves one quarter, two... three... four quarters problem one third two thirds three thirds

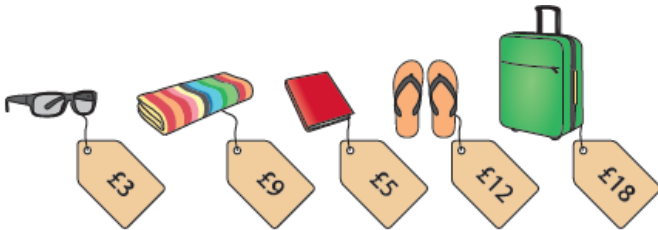
		Shade the cylinders.  $\frac{1}{3}$ full $\frac{2}{3}$ full $\frac{3}{3}$ full $\frac{1}{4}$ full <i>This may first be carried out as a practical activity.</i>	
Write simple fractions, for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	I can write simple fraction sentences for example, $\frac{1}{2}$ of 6 = 3. I recognise that $\frac{1}{2}$ and $\frac{2}{4}$ are equivalent.	ITP Fractions. Fraction rods. Fraction games. Fraction rods. <i>Maths Mastery examples:</i> <i>Half of 12 is</i> <i>2 4 of 12 is</i> <i>1 4 of 20 =</i> <i>3 4 of 20 =</i> <i>Jayne says that the shaded part of the whole square below does not show a half because there are three pieces, not two. Do you agree?</i> Explain your reasoning. 	

Mastery Notes: we need standard units of measure in order to compare things more accurately and consistently.

Measures			
Statutory requirements	Small steps	Resources	Key Vocabulary
Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$.	I can compare and order volume/capacity and record the results using $>$, $<$ and $=$. I can choose and use appropriate standard units to estimate and measure capacity (litres/ml). I can compare and order lengths and record the results using $>$, $<$ and $=$. I can compare and order mass and record the results using $>$, $<$ and $=$. I can compare and order volume/capacity and record the results using $>$, $<$ and $=$.		
Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}\text{C}$); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.	I can choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit using rulers. I can read scales accurately to the nearest division.	Metre stick. Ruler. Tape measure. ITP Ruler <i>Maths Mastery examples:</i> How long is the pencil?  The pencil is _____ cm long.	length/width/height/depth long/short/tall/high/low wide/narrow deep/shallow thick/thin longer/shorter/taller/higher... and so on longest/shortest/tallest/highest... and so on far/further/furthest/near/close metre (m) centimetre (cm) ruler metre stick tape measure
	I can choose and use appropriate standard units to estimate and measure mass (kg/g). I can read scales accurately to the nearest division.	Balance scale. Scales. Range of weights. ITP Measuring Scales.	weigh weights balances

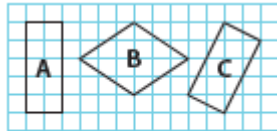
		Mastery example: This box weighs 10 kg. How much does each tin of paint weigh? 	heavy/light heavier/lighter heaviest/lightest kilogram (kg) gram (g) balance scales weight
I can choose and use appropriate standard units to estimate and measure capacity (litres/ml).	ITP Measuring Cylinder Sets of containers. Variety of containers. Rice, peas, sand or water. Funnels. Measuring jugs. Maths Mastery examples: Here is a picture of a 1 litre bottle and a 2 litre bottle both with some water in them. What's the same? What's different? 	capacity full half full empty holds contains litre (l) half-litre millilitre (ml) container	
I can choose and use appropriate standard units to estimate and measure temperature. (°c)	ITP thermometer. Child safe thermometers.	degree celsius °C thermometer	

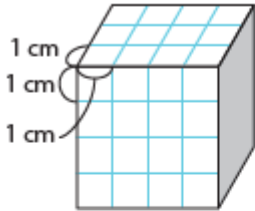
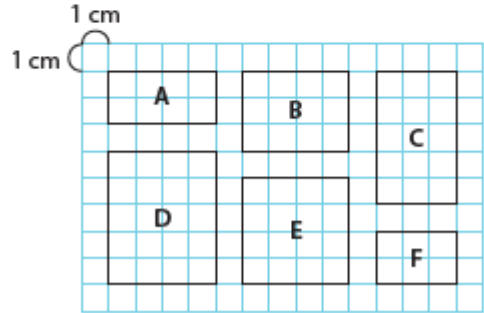
	I can read scales accurately to the nearest division.		higher/lower hotter/warmer/colder
Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.	I can say what each digit represents in a 3-digit amount of money. I can recognise and use symbols for pounds (£) and pence (p). I can combine amounts (pounds (£) and pence (p) to make a particular value.	Priced objects <i>Maths Mastery examples:</i>	money coin penny pence pound (£) price cost buy bought sell sold spend spent pay change dear costs more cheap costs less cheaper how much...? how many...? total
Find different combinations of coins that equal the same amounts of money	I can find different combinations of coins that equal the same amounts of money.	Real coins. <i>Maths Mastery examples:</i> <i>Grace uses a £1 coin to buy a can of drink which costs 80p. She is given three coins in change. What coins could she have been given?</i> <i>Look at these coins. How could you make up the same total amount using just one type of coin?</i> 	
Solve simple problems in a practical context involving addition and subtraction of money of the same	I can solve simple problems in a practical context involving addition and subtraction of money using pounds. I can solve money problems that include giving change.	Real coins. Shopping games. Shopping cards. Role play shops. Priced objects. <i>Maths Mastery examples:</i>	

unit, including giving change.		Holly uses a £1 coin to buy a pack of stickers. Here is the change she was given. 20p How much did the pack of stickers cost? Sid says, 'I have bought 2 items for my holiday. One item cost £9 more than the other.' What might Sid have bought? The _____ and the _____. 	
Compare and sequence intervals of time.	I can compare and sequence intervals of time.	Units of time	time days of the week: Monday, Tuesday... months of the year: January, February... seasons: spring, summer, autumn, winter day, week, fortnight, month, year weekend, birthday, holiday morning/afternoon/evening/night/midnight bedtime/dinnertime/playtime today/yesterday/tomorrow
Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.	Read the time on a clock to the nearest 15 minutes. I can recognise quarter past. I can recognise quarter to. I can use a clock face to show quarter past. I can use a clock face to show quarter to. I can relate the divisions on a clock face to counting in 5s and use this to read the time to 5 minutes. <i>NCETM advice for teaching time Years 1/2/3:</i> We looked at 'past' times only, to start with. First, we only looked at the minute hand and gave the children times which were multiples of 5 (having checked they were confident in counting in 5s).	Clocks Stop watches ITP Clock <i>Maths Mastery examples:</i> <i>Which of these clock faces shows a time between 5 o'clock and 7 o'clock?</i>	

	Then we moved on to reading (just with these past times) to the nearest minute. Finally, we added in the hour. Once the children were confident, we learned that 'quarter past' and 'half past' were special names we use for '15 past' and '30 past'. Showing a quarter or half of the clock shaded helped them make the link. Separately, we looked at 'to' times and again learned the special name for '15 minutes to'. The final step was to put the two previous steps together with an initial question: Is it a 'past' time or a 'to' time? We looked at clocks and just answered this question without identifying the time.		before/after next/last now/soon/early/late quick/quicker/quickest/ quickly fast/faster/fastest slow/slower/slowest/slowly old/older/oldest new/newer/newest takes longer/takes less time how long ago? how long will it be to...? how long will it take to...?
Know the number of minutes in an hour and the number of hours in a day.	I know that there are 60 minutes in an hour. I know that there are 24 hours in a day.	Number songs and rhymes	hour/minute/second o'clock/half past/quarter to/quarter past clock/watch/timer hands how often? always/never/often/sometimes/usually

Mastery Notes: It is not uncommon for pupils to say that this is a square and this is not, or that something like this is a triangle. It is important for pupils to know what the properties are that make up certain shapes, and for them not to just learn the names of typical proto looking shapes. It is helpful to think about non examples of shapes. For example, why this is not a triangle: Recognising pattern and generalising structures and relationships are key elements for laying the foundations for later work in algebra.

Geometry			
Statutory requirements	Small steps	Resources	Key Vocabulary
Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	I can describe 2D shapes using correct mathematical vocabulary. (e.g. sides, corners) I can find 1 or more lines of symmetry of common 2D shapes. I can recognise pentagons, hexagons and octagons including those that are irregular.	Variety of 2D shapes - plastic, card, Shapes from real life. Hoops for sorting into. Regular and irregular shapes. ITP Isogrid ITP Polygon <i>Maths Mastery examples:</i> <i>Carry out activities that direct pupils' attention to properties and do not just ask them to state the name of shapes in order to allow them to demonstrate mastery.</i> <i>Asking questions like 'How do you know the shape is a triangle?' can also support pupils to develop mastery of this topic.</i> <i>Captain Conjecture says, 'All of these shapes are rectangles because they have four sides.'</i> <i>Do you agree?</i>  Explain your reasoning.	2D/3D circle circular triangle triangular square rectangle rectangular star pentagon hexagon octagon cube cuboid pyramid sphere cone cylinder shape pattern flat/curved/straight round hollow/solid corner point/pointed face/side/edge sort

Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.	I can describe 3D shapes using correct mathematical vocabulary including the number of edges, vertices and faces.	Polydrons Plastic shapes <i>Maths Mastery examples:</i> <i>Jack has made a cube using 12 sticks and 8 balls of modelling clay. What shape could he make with: 6 sticks and 4 balls of clay? 4 long sticks, 8 short sticks 8 balls of clay?</i>	make/build/draw surface
Identify 2-D shapes on the surface of 3-D shapes, for example, a circle on a cylinder and a triangle on a pyramid.	I can name the shape of faces on common 3D shapes. I can begin to disassemble shapes to create a net. I can begin to build or fold nets of 3D shapes.	Polydrons Plastic shapes We are going to make a box as shown.  Which quadrilaterals shown below do we need? How many of each do we need? 	
Compare and sort common 2-D and 3-D shapes and everyday objects.	I can sort shapes using a Carroll diagram. I can sort shapes using a Venn diagram.	Sorting circles Rulers to make boxes Chalk Masking tape Online tools	
Use mathematical vocabulary to	I can recognise that a right angle is a quarter turn.		position over/under

describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).	I can follow instructions involving direction and movement. I can give instructions involving direction and movement. I can understand angles as a measure of turn. I can distinguish between clockwise and anti-clockwise.		above/below top/bottom in/inside out/outside around in front/behind front/back before/after beside/next to opposite apart between middle/edge centre corner direction journey/route left/right up/down higher/lower forwards/backwards, sideways across close/far/near along through to/from/towards/away from clockwise/anti-clockwise movement slide roll whole turn half turn quarter turn right angle straight line
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			stretch, bend
Order and arrange combinations of mathematical objects in patterns and sequences.	I can order and arrange combinations of mathematical objects in patterns and sequences. I can continue a pattern or sequence. I can explain how a simple pattern or sequence works.	Fill in the missing shape to complete the pattern.  Explain your reasoning.	size bigger/larger/smaller match pattern repeating pattern

Mastery notes: data needs to be collected with a question or purpose in mind. Tally charts are used to collect data over time (cars passing the school, birds on the bird table).

Statistics			
Statutory requirements	Small steps	Resources	Key Vocabulary
Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.	I can interpret data displayed on a simple pictogram. I can interpret data displayed on a tally chart. I can interpret data displayed on a block diagram. I can interpret data displayed on a simple table. I can construct a simple pictogram. I can construct a tally chart. I can construct a block diagram. I can record data in a simple list.	Cubes to make columns for comparison. Masking tape or metre rulers to make a pictogram/block diagram. Straws to represent tally chart. ITP Data Handling. <i>Maths Mastery examples:</i> <i>Generate data with the children on a daily basis. For example, use an IWB to identify who is having school dinner or a packed lunch. Check whether children can answer questions about the data. For example: which is most popular? Which is least popular? Children may be able to answer simple retrieval questions, but can they extend to finding the total number or finding a difference?</i> <i>Four children played racing games at break time. Each time they won a game they took a counter. Present the information in a different way to make it clearer and answer the following questions: Who won the most races? How many more races did Ally win than Sally?</i>	count tally sort vote graph block graph pictogram table represent group set same, different list, table label, title most popular, most common least popular, least common
Ask and answer simple questions by counting the number of objects in each category and sorting the	I am able to use data to respond orally to questions. I can understand, use and read vocabulary appropriate to data handling, eg. sort, represent, label, least common, most popular.	Cubes to make columns for comparison. Masking tape or metre rulers to make a pictogram/block diagram. Straws to represent tally chart. ITP Data Handling. <i>Maths Mastery examples:</i>	

categories by quantity.		Ten friends went to the fair. The picture below shows each friend's favourite activity. Fill in the number of children under each picture. Challenge children to compare different ways of representing the same information. <table><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Number of children</td><td></td><td></td><td></td><td></td></tr></table>											Number of children																				
																																	
																																	
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Ask and answer questions about totalling and comparing categorical data.	I can find the total number of objects represented in a graph or table. I can ask questions about a set of data. I can compare data represented in graphs or tables using the terms more or less.	Cubes to make columns for comparison. Masking tape or metre rulers to make a pictogram/block diagram. Straws to represent tally chart. ITP Data Handling. What's the same? What's different? <table><tr><th colspan="2">Ice creams sold in one week</th></tr><tr><td>Monday</td><td></td></tr><tr><td>Tuesday</td><td></td></tr><tr><td>Wednesday</td><td></td></tr><tr><td>Thursday</td><td></td></tr><tr><td>Friday</td><td></td></tr><tr><td>Saturday</td><td></td></tr><tr><td>Sunday</td><td></td></tr></table> <table><tr><th colspan="2">Cars in the car park on Monday at 10 o'clock</th></tr><tr><td>Red</td><td></td></tr><tr><td>Blue</td><td></td></tr><tr><td>Black</td><td></td></tr><tr><td>Silver</td><td></td></tr><tr><td>White</td><td></td></tr><tr><td>Other</td><td></td></tr></table>	Ice creams sold in one week		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Cars in the car park on Monday at 10 o'clock		Red		Blue		Black		Silver		White		Other		
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