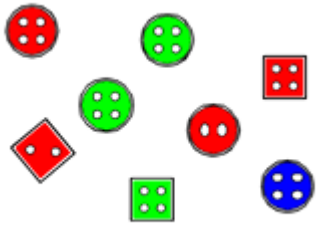
Lightmoor Village Primary School EYFS Long Term Plan

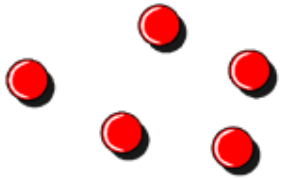
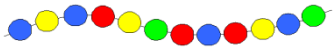
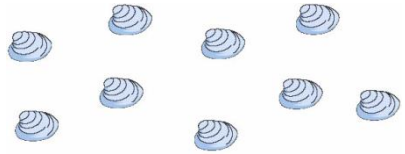
Fluency, Reasoning & Problem Solving

Number	**OBJ**	**Au**	**Sp**	**Su**
1. Estimates how many objects they can see and then counts them	1			
2. Selects correct numeral for 1-20 objects	2			
3. Counts an irregular arrangement of objects	3			
4. Records using marks they can explain	4			
5. Begins to identify own mathematical problems based on own fascinations	5			

Expected	**Exceeding**
Count these buttons.  You can move them as you count them if you wish.	Estimates a number of objects and checks quantities by counting using amounts up to 20.
find these numbers of objects	Can you open the padlocks?

Build it, Draw it, Say it & Write it

Lightmoor Village Primary School EYFS Long Term Plan

	How many red counters are there?  Pick up that number from this set of number cards. Put it with the red counters. 	See how many skips, catches, goals, circuits you can do without stopping. Can you beat yesterday's score? Can you do more than last time? Record the results on a number line.
	Use the beads. Copy this pattern. How many blue beads did you use? Continue this pattern that I have started. Look at this string of beads.  Point to the second yellow bead. What colour is the bead that lies between the fourth bead and the sixth bead?	Make a string of beads for me. First a red one, then a blue one. Carry on threading one red, one blue. What colour is the sixth bead on your string? What colour will the tenth bead be? How do you know?
	Guess how many shells there are on the table.  Now check by counting them.	How many dots on this tower guess first then count. Can you make a tower that has a larger number? Explain how you know. Rolling, stacking & counting dice

Build it, Draw it, Say it & Write it

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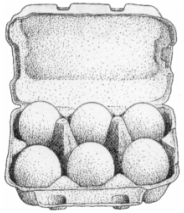
	How are the eggs arranged in the egg box?  How many eggs are there altogether in the box?	Andrew decorated 20 biscuits to take to a party. He lined them up and put icing on every second biscuit. Then he put a cherry on every third biscuit. Then he put a chocolate button on every fourth biscuit. So there was nothing on the first biscuit. How many other biscuits had no decoration? Did any biscuits get all three decorations?
	Put the right amount of sweets on each lollipop 	How many ways can you make…?

Build it, Draw it, Say it & Write it

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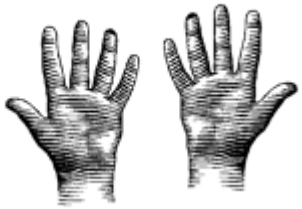
		How many ways can you make these numbers?
	How many fingers are there on two hands? 	Count fingers on lots of hands by counting in 5s or 10s. Can the children challenge themselves to find out the number of fingers and/or hands on each alien?

Resources: Coloured rods: eg Cuisenaire, Interlocking cubes, with numerals to match and sticks of ten of the same colour: eg unifix, multilink, Numicon, including number lines, Bead strings, coloured in 5s or 10s, Dice, dominoes, Games: collecting objects or track games, Calculators, Props for number rhymes, including numerals, washing lines with numerals and bead strings for different numbers, Jars filled with objects eg cotton reels, matchsticks, Outdoor score boards and timers, Counters or matchsticks and pieces of card, Place value cards (arrow cards), stones, curtain rings, leaves, clear plastic collection bags, post-it notes

Vocabulary: first, second, third, number, zero, one, two, three… to twenty and beyond, zero, ten, twenty, none, how many…? count, count (up) to, count on (from, to), count back (from, to), count in ones, twos… more, less, many, few, odd, even, every other, how many times? pattern, pair, greater, more, larger, bigger, less, fewer, smaller, greatest, most, biggest, largest, least, fewest, smallest, one more, one less, compare, order, size, first, second, third… tenth, eleventh… twentieth, last, last but one, before, after, next, between, half-way between, above, below.

Problems, games and investigations:

Number books, Incey wincey spider, shopping, tidying, dice and golden beans - http://nrich.maths.org/early-years

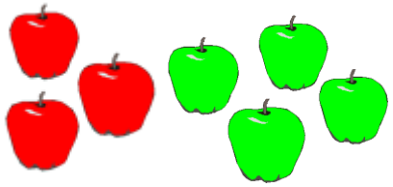
Writing digits - http://nrich.maths.org/161?time=1228319356

Build it, Draw it, Say it & Write it

Lightmoor Village Primary School EYFS Long Term Plan

Fluency, Reasoning & Problem Solving

Addition / Subtraction	OBJ	Au	Sp	Su
1. Uses the language of more and fewer to compare 2 sets of objects	1			
2. Finds the total number of 2 sets of objects by counting them all	2			
3. Place numbers in order	3			
4. Finds 1 more or less than a given number up to 20	4			
5. Using vocabulary involved with addition and subtraction	5			
6. Records using marks they can explain	6			

Expected	Exceeding
Look at the apples. Are there more green apples or more red apples? How can you find out? 	 Here are two dice. If you add up the dots on the top you'll get 7. Find two dice to roll yourself. Add the numbers that are on the top. What other totals could you get if you roll the dice again?
Choose two cards from this set. Which of your two numbers is more? Which number is less?	How many ways can you make 7? Use lots of objects including dice, abacus, Numicon, stones, leaves etc…

Build it, Draw it, Say it & Write it

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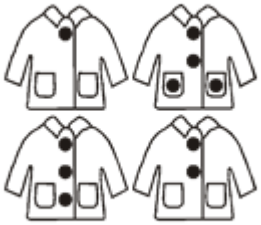
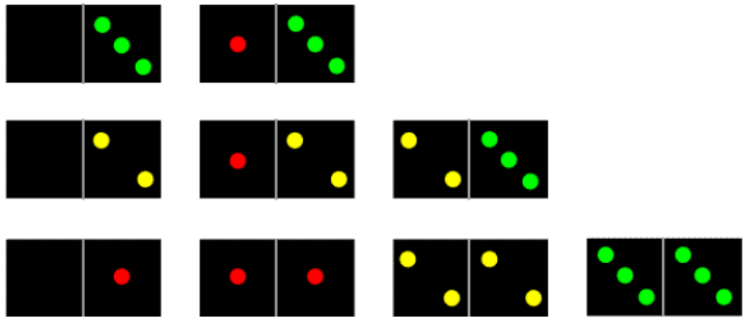
	Take away one flower from this set of 7 flowers. How many flowers are there now? I'm choosing a number for you from your set of cards. Tell me the number that is one more than the number on your card. Tell me the number that is one less than the number on your card.	I am thinking of a number. When I add 1, I get 8. What number am I thinking of? I am thinking of a number. When I take away 1, I get 7. What number am I thinking of?
	Show me five fingers. Use both hands. Show me another way to do it.	 If you have ten counters numbered 1 to 10, how many can you put into pairs that add to 10?
	[Make a set of jacket cards. Arrange them randomly on a table.]  Find two jackets that have four buttons altogether. Are there any other possibilities?	Here are some dominoes taken out of the full set:  Sort them into two groups - one group with an odd number of spots and one group with an even number of spots. Do you have any dominoes left over? Why or why not? Now put the dominoes into pairs. The number of spots on each pair of dominoes must make a total of 5. How many pairs can you make? Which dominoes are left over? Can you pair them up in any different ways so that each pair adds to 5? Which dominoes are left over now?

Build it, Draw it, Say it & Write it

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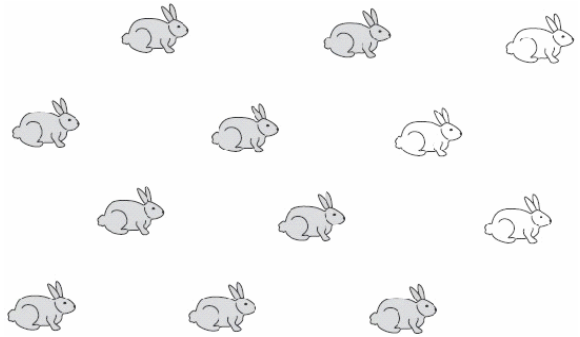
	How many grey rabbits are there? How many white rabbits are there? How many rabbits are there altogether?  What is the difference between the number of grey rabbits and the number of white rabbits?	 Make buidings with Numicon and discuss the numbers used, how much each building is worth, which building is biggest – how do you know this?
	Count 10 small toys into this cloth bag. How many objects in the bag? Now count 1 more/less small toy into the bag. How many small toys in the bag now?	Look at the butterflies and the numbers they have. The flowers also have numbers. Can you find 2 butterflies to go on each flower so that the numbers on each pair of butterflies adds to the same number as the one on the flower? Which pair of butterflies has no flower to go to?

Build it, Draw it, Say it & Write it

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Resources: bundles of straws, counting bears, fruits…, bean bags, number lines, rulers, Cuisenaire rods, Numicon, Found items outside, socks, doors, sticks, leaves, stones, clear scavenger hunt bags
Vocabulary: +, add, more, make, sum, total, altogether, score, double, one more, how many more to make…? how many more is… than…? how much more is…? –, subtract, take (away), leave, how many are left/left over? how many have gone? one less, two less, how many fewer is… than…? how much less is…? difference between, number bonds, half, halve, equals, sign, is the same as,
Problems, games and investigations: Dressing up - http://nrich.maths.org/early-years

Build it, Draw it, Say it & Write it

Lightmoor Village Primary School EYFS Long Term Plan

Fluency, Reasoning & Problem Solving

Multiplication / Division / Fractions	OBJ	Au	Sp	Su
1. Begin to solve problems involving doubling, halving and sharing	1			
2. Records using marks they can explain	2			

Expected	Exceeding
Count these pairs of socks. How many pairs are there? How many socks are there altogether? 	Solves practical problems that involve combining groups of 2s, 5s or 10s, or sharing into equal groups.
How many buttons are there on this coat? Count them in twos. Count them in fives. Count the eggs in this egg box. 	Placing objects into groups

Build it, Draw it, Say it & Write it

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	Share these pencils equally between Asif and Ben. How many pencils will each of them get. 	Here is a picnic that Petros and Michael are going to share equally. Can you tell us what each of them will have?
	How many children can have two squares each of this chocolate? 	 First make a rod of cubes then ask questions How many cubes do you need to make a rod double the length of that one? How many cubes do you need to make a rod half the length of the first one?

Resources: bundles of straws, counting bears, fruits…, bean bags, number lines, rulers, Cuisenaire rods, Numicon, Found items outside, socks, doors, sticks, leaves, stones, clear scavenger hunt bags, egg boxes, marbles, sharing games

Vocabulary: number patterns, doubling, count, answer, *number sentence, sign, operation,* halves, equal sharing, share equally, one each, two each…, group, Half, ½, Half of a length, quantity, shape, set of objects, Two equal parts, Whole, pattern, puzzle, answer, right, wrong, what could we try next? how did you work it out? count out, share out, left, left over, same number/s, different number/s, number facts, number line, number track, number square, number cards, abacus, counters, cubes, blocks, rods, die, dice, dominoes, pegs, peg board, same way, different way, best way, another way, in order, in a different order, all, every, each

Problems, games and investigations:

Number rhymes, Maths story time, Using books - http://nrich.maths.org/early-years

Share bears - http://nrich.maths.org/2358

Build it, Draw it, Say it & Write it

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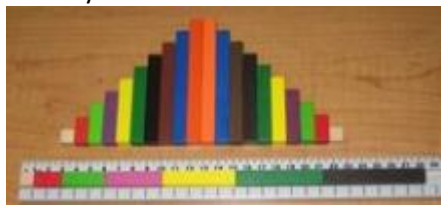
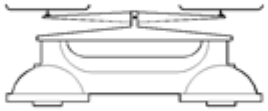
Fluency, Reasoning & Problem Solving

Measurement	OBJ	Au	Sp	Su
1. Orders 2 or 3 items by length or height	1			
2. Orders 2 items by weight or capacity	2			
3. Uses everyday language to talk about size, weight, capacity, distance, time and money to solve problems	3			
4. Orders and sequences familiar events	4			

Expected	Exceeding
Which tree in the picture is the tallest? Which is the shortest? 	Use 7 cuisenaire rods to create the shortest worm you can and the longest worm you can.  How do you know which rods to use?
Have a look at the boxes on the table. Choose any two boxes. Use the balance to find out which the lighter box.  I'll put this box on one side of the balance (scales). Find a box which is heavier than this one. Now find a box which is lighter than this one.	comparing, ordering and measuring everyday objects.

Build it, Draw it, Say it & Write it

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	weighing itemsto balance them	Oder items in order of weight.
	Guess first, then check: • how far up the wall you can reach; • how far you can throw the bean bag; • how far you can jump from this line; • if this teddy is too tall for this bed; • if the banana will balance the orange; • how full this bottle will be when I pour in this jug of water; • if all the water in the bowl will go into the bucket, or whether there is too much.	You need to find a collection of jars and bottles of different sizes and shapes, like those in the picture below: I wonder which holds the most/least liquid? Use estimation first of all. How could you find out? Explore! Can you find a way of counting how many "small container-fulls" each will hold? Can you find a better way?
	How many jumbo bricks do you need to make a tower that is as tall as you are?	Give each child a piece of plasticine and ask them to roll it to make the longest worm that they can in a minute. They then order their 'worms' from shortest to longest. The shortest worm could become a (non-standard) unit and children can estimate and measure how many worms long different things are. They could then measure the shortest to the nearest centimetre and use this to estimate the lengths of the others. Once they have estimated the 'worms' they measure them to see how close their estimates were.

Build it, Draw it, Say it & Write it

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	How many cubes high am I?	How many other ways are there to measure the length of …?
	Which do you put on first, your shoes or your socks? What will we be doing later this afternoon? At what time of the year do the leaves fall off the trees? What is your bedtime?	

Build it, Draw it, Say it & Write it

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	Find and show me the card which shows Mary eating her school lunch. Find me a card which shows what Mary does before school lunch. Find me a card which shows what Mary does after school lunch.	 Well here are five pictures showing something happening at different times of the day. You could use these pictures in many different ways. For example: 1. You could put them into an order in which you think they might happen through a day. 2. You could suggest what time these things happen in your day. 3. You could see how many hours might pass between pairs of pictures you have chosen. 4. You will have your own ideas too ...
Resources: sand timers, sticks to paint, cubes, balances (inside and outside), string, ribbon, containers, weighing scales, Cuisenaire rods, Numicon, pictures of events		
Vocabulary: measure, size, compare, guess, estimate, enough, not enough, too much, too little, too many, too few, nearly, roughly, close to, about the same as, just over, just under, 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, near, close, metre, ruler, metre stick, weigh, weighs, balances, heavy/light, heavier/lighter, heaviest/lightest, balance, scales, weight, full, half full, empty, holds, container, Money, coin, penny, pence, pound, price, cost, total, buy, sell, spend, spent, All days of the week, day, week, month, year, weekend, birthday, holiday, morning, afternoon, evening, night, midnight, bedtime, dinnertime, playtime, today, yesterday, tomorrow, 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, clock, watch, always, never, often, sometimes, usually, once, twice		
Problems, games and investigations: Making caterpillars, Long creatures, presents, timing, packing, balances, I have a box, mud kitchen, socks, cooking - http://nrich.maths.org/early-years		

Build it, Draw it, Say it & Write it

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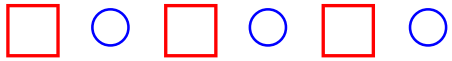
Fluency, Reasoning & Problem Solving

Shape and space	OBJ	Au	Sp	Su
1. Beginning to use everyday names for 'solid' 3D shapes and 'flat' 2D shapes	1			
2. Beginning to use everyday terms to describe shapes	2			
3. They can select a particular named shape	3			
4. They can recognise, create and describe patterns	4			
5. They can explore characteristics of everyday objects and shapes	5			
6. They can use mathematical language to describe shapes	6			

Expected	Exceeding
Copy this pattern. 	 Creates own patterns using everyday items and talks about the shapes used.
Let's say together the shapes in your pattern. *blue cube, green cone, blue cube, green cone, ...* Find the next two shapes in the pattern.	Allow the children to hunt for shapes at school. They could be given 'detective kits' (either images or simple sentences) to help with their identification. Give the children cameras to record their findings and share these with others, once back in the classroom.

Build it, Draw it, Say it & Write it

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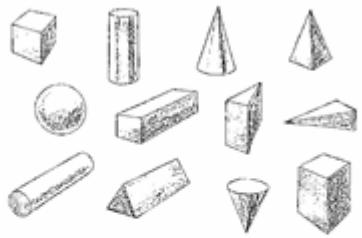
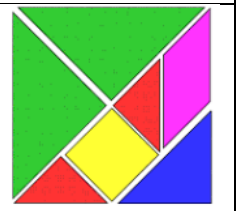
<table>
<tr>
<td></td>
<td>Look at this set of solid shapes.
 
Pick up:
• a shape with two faces that are triangles;
• a shape with six faces that are all squares;
• a shape with two faces that are circles;
• a shape with three faces that are rectangles.</td>
<td> Use shapes to build the city and discuss which shapes are best.</td>
</tr>
<tr>
<td></td>
<td>Look at this set of flat shapes.
Put all the circles inside this hoop.

Point to the smaller circle.

Which of these shapes is a square?

Pack this set of solid shapes into this box. Try to fit them all in. Tell me why this shape won't fit in the box.</td>
<td>The tangram is based on the dissection of a square into seven pieces.

Can you make other squares using some, not all, of the pieces?
Can you make five different squares?
What is the smallest square you can make?
What is the largest?
  </td>
</tr>
</table>

Build it, Draw it, Say it & Write it

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How are these shapes the same?
How are these shapes different?

Challenge children to match household objects to mathematical shapes using shape language and shape names at the same time

Challenge Table. Ch match household objects to its mathematical shape

Resources:3D shapes, 2D shapes, salt dough, boxes and containers, beads, pasta, string,

Vocabulary: shape, pattern, flat, curved, straight, round, hollow, solid, corner, point, pointed, face, side, edge, end, sort, make, build, draw, **3D Shapes** Cube, cuboid, pyramid, sphere, cone, cylinder, **2D Shapes,** circle, triangle, square, rectangle, **Patterns,** size, bigger, larger, smaller, repeating pattern, Match, differences, the same as.

Problems, games and investigations:

Shapes in the bag, tubes and tunnels, making footprints, paths, building towers, Exploring 2D shapes, wrapping parcels, baskets, making a picture, collecting - http://nrich.maths.org/early-years

Jig shapes - http://nrich.maths.org/6886

Build it, Draw it, Say it & Write it

Lightmoor Village Primary School EYFS Long Term Plan

Fluency, Reasoning & Problem Solving

Position and Direction	**OBJ**	**Au**	**Sp**	**Su**
1. To use everyday language to talk about position and distance	1			

Expected

Put your animal in the middle of the table.
Now put the pig behind the sheep.
Put the cow in front of the horse.

Stand behind the table. Now walk in a straight line to the front of the room.

Who is sitting next to, beside, in front of Ranjit?

Are the felt pens on top of, under or next to the books?

Go forwards three steps. Now go backwards two steps.

Slide the book across the table.

Roll the ball as far as you can.

Turn on the spot.

Exceeding

Five coloured interlocking rings have been the symbol of the Olympics for nearly one hundred years.

What colours can you see?

They look like this when interlocked

How would you describe the picture?

Can you design your own symbol using five coloured rings?

Other shapes could be linked in a similar way.
Have a go at linking five squares. Make them interesting colours.

Build it, Draw it, Say it & Write it

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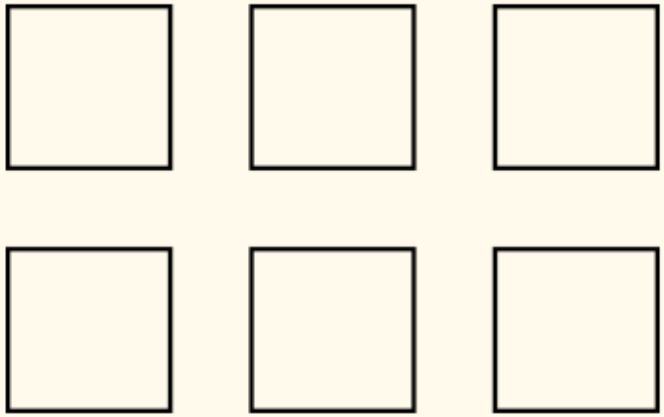
	Here are pictures of a ball, a horse, and a boat. Put the ball above the horse. Put the boat to the left of the ball. Stand in front of, behind, beside, opposite a partner. Stand between two other children. Follow my instructions to get through this obstacle course. Go over the mat, through the tunnel, climb to the top of the bars. Turn to your right and face the window. Make half a turn on the spot. Which of these shapes will roll in a straight line? Which will roll in a curved line? Follow my instructions to get through the maze. Move forwards, turn left, go straight on, turn the corner.	Use these clues to colour each shape:  • Blue is between green and red • Orange is below green • Yellow is to the left of both purple and orange
Resources: animals/toys for placing in positions, obstacle courses, chalked paths, map pictures, beebots and beebot mats		
Vocabulary: position, over, under, underneath, above, below, top, bottom, side, on, in, outside, inside, around, in front, behind, front, back, before, after, beside, next to, opposite, apart, between, edge, centre, corner, direction, journey, left, right, up, down, forwards, backwards, sideways, across, close, far, near, along, through, to, from, towards, away from, movement, slide, roll, turn, whole turn, half turn, stretch, bend		
Problems, games and investigations: Queuing, position with willies, scooters bikes and trikes, http://nrich.maths.org/early-years		

Build it, Draw it, Say it & Write it