Reception Maths Medium Term Plan – Spring 2

How is Maths taught in Reception?

Self registration – children add picture to tens frames. How many children are here? How many children are away?

Date – days of the week song, count up to the date number.

Daily nursery rhymes – number links

Daily Maths lesson – Review, Teach, Practise in groups, Apply
3x Number
2x Shape, Space, Measures

Number Sense – 5 mins daily

Maths opportunities within the environment as part of continuous and enhanced provision

Mathematics					
Number					
Link the number symbol (numeral) with its cardinal number value (numbers to 10) Sequencing numbers to 10	Understand the 'one more than/one less than' relationship between consecutive numbers. (numbers to 10)	Explore the composition of numbers to 10.	Explore the composition of numbers to 10.	Explore the composition of numbers to 10. Know that a number can be partitioned into more than two numbers	Recall number bonds to 5 Conservation: knowing that the number does not change if things are rearranged (as long as none have been added or taken away)
Numerical Patterns					

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					Continuing a pattern which ends mid-unit Make their own ABB, ABBC patterns Spotting an error in an ABB pattern I can continue, copy and create repeating patterns with 2 or more objects.
Spatial Awareness					
Use positional language to describe a familiar route.	Discuss routes and locations, using words like 'in front of' and 'behind'.	Beginning to use time to sequence events	Select, rotate and manipulate shapes to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.	Use 3D shapes to make a structure, showing an understanding of basic properties (stack, roll…)	

Week	Focus Skills and Knowledge	Link to End of Year Objectives	Possible activities	Enhancements	Key vocabulary

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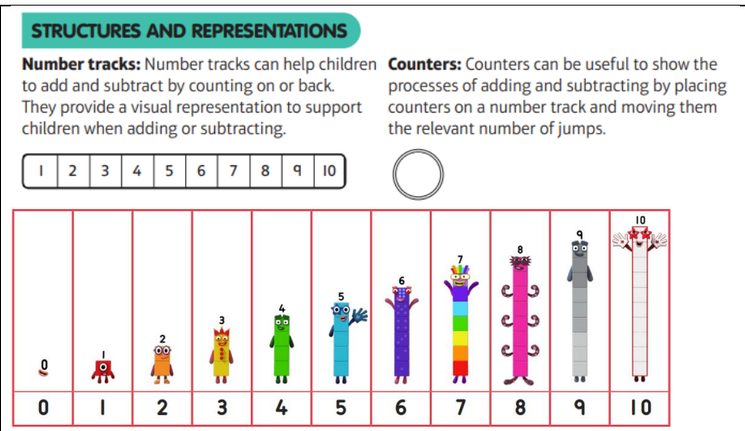
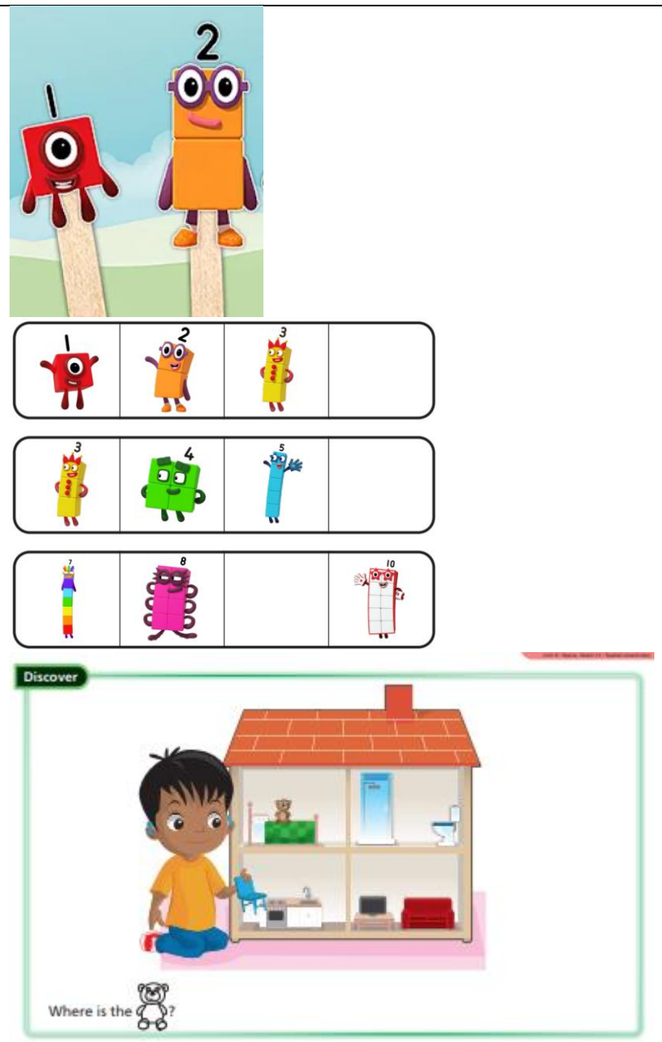
1	Link the number symbol (numeral) with its cardinal number value (numbers to 10) Sequencing numbers to 10 Use positional language to describe a familiar route.	Have a deep understanding of number to 10, including the composition of each number.	 **Power Maths Unit 6 – Space**		one, two, three, four, five, six, seven, eight, nine, ten 1,2,3,4,5,6,7,8,9,10 ten frame count how many? total altogether count forwards/backwards same, different odd one out more, fewer group in, on, below, under up, down, across difference left, right above in front of, behind, next to, forwards, backwards
2	Understand the 'one more than/one less than' relationship between consecutive numbers. (numbers to 10) Discuss routes and locations, using words	Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.	STRUCTURES AND REPRESENTATIONS **Number tracks:** Number tracks can help children to add and subtract by counting on or back. They provide a visual representation to support children when adding or subtracting. **Counters:** Counters can be useful to show the processes of adding and subtracting by placing counters on a number track and moving them the relevant number of jumps. 1 2 3 4 5 6 7 8 9 10 **Power Maths Unit 6 – Space**		one, two, three, four, five, six, seven, eight, nine, ten 1,2,3,4,5,6,7,8,9,10 ten frame count how many? total

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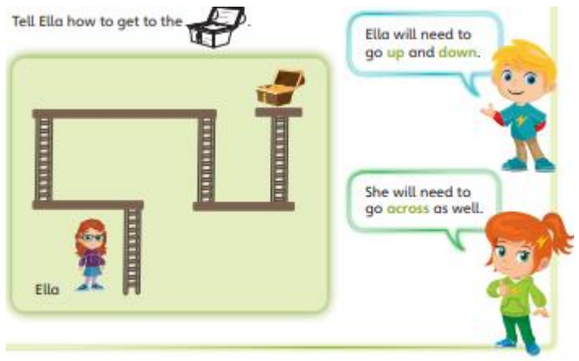
	like 'in front of' and 'behind'.		 Draw what teddy can see. 		altogether count forwards/backwards same, different odd one out more, fewer group in, on, below, under up, down, across difference left, right above in front of, behind, next to, forwards, backwards

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3	Explore the composition of numbers to 10. Beginning to use time to sequence events	Have a deep understanding of number to 10, including the composition of each number.	**Power Maths Unit 11 – Number bonds to 10** **Bonds to 10** **Guidance** The children explore number bonds to 10 using real objects in different contexts. E.g. There are 10 apples. How many in the tree and how many on the ground? 10 frames or egg boxes (with 10 holes) can be partially filled with objects and the children asked How many more do we need to make a full ten?  Other manipulatives such as fingers, bead strings and number shapes are also useful for exploring bonds to 10 **Other Resources** Number Bond Rhymes 5 Eggs and 5 Eggs Chuck, Chuck, Chuck Mr Willy-Nilly and Zoey's Dream – Seung-yim Bak Farmer Pete – You Tube Numberblocks - Blast Off! **Prompts for Learning** Ask the children to explore different ways of building the bonds to 10 E.g. How many ways can they find to park 10 cars in 2 car parks, place 10 fairies on 2 toadstools, 10 dinosaurs in 2 Jurassic parks.  Provide each child with a number shape. Ask them to find a partner so that their combined shapes total ten. Compare the different tens that are made.  Hold up a number shape and ask the children to find the shape which goes with yours to make 10  Ask the children to count out 10 double-sided counters or butter beans. Drop their counters onto a paper plate. How many are red? How many are yellow? Repeat. How many are red and yellow this time? Did anyone get 5 red and 5 yellow? Did anyone get all 10 red? **Night and Day** **Guidance** Children talk about night and day and order key events in their daily routines. They use language to describe when events happen e.g. day, night, morning, afternoon, before, after, today, tomorrow. Children begin to measure time in simple ways e.g. counting the number of sleeps to an important event or using timers to measure durations of events.  **Songs and Stories** Fox in the Dark – Alison Green Peace at last- Jill Murphy Kipper's Monster – Mick Inkpen Day Monkey, Night Monkey – Julia Donaldson The Dark, Dark Tale – Ruth Brown Funnybones – Janet & Allen Allberg Days of the week song **Prompts for Learning** Make a visual timetable of the important events in the school day. Order the events each day and talk about what we are doing 'now', 'next' and 'later'. Refer back to the timetable throughout the day, asking the children questions relating to it. What are we doing now? What are we going to do next? What are we doing this afternoon? Sing songs to sequence the days of the week – which days do we come to school and which do we stay at home? Use a class calendar to introduce time durations and think about 'how many sleeps' there are to important events. Use stories and non-fiction books to introduce the idea of nocturnal animals and explain that as we go to sleep, some animals are waking up and come out at night.  Use pictures to order familiar activities and stories using key language to describe the sequence e.g. making pancakes, getting ready for bed, retelling a story. **Time** **Guidance** Children continue to order and sequence important times in their day and use language such as now, before, later, soon, after, then and next to describe when events happen.. They begin to recognise that regular events happen on the same day each week and use the vocabulary 'yesterday', 'today' and 'tomorrow' to describe when events happen. Children are able to describe significant events in their lives and talk about events they are looking forward to. They learn through their own experience and the stories they read that some processes such as growing vegetables, take a longer time. **Other Resources** The Bad-Tempered Ladybird – Eric Carle Mr Wolf's Week – Colin Hawkins Jasper's Beanstalk - Nick Butterworth 5 Minutes Peace – Jill Murphy Days of the Week Song **Prompts for Learning** Look back over the year so far with the children – use pictures or learning journeys to help them remember. What have been their favourite times in Reception? What key events can they remember? Ask the children to bring in a photograph of themselves when they were small. Can the children guess whose picture is who? How have they changed? Start each day by singing the days of the week song. Read Jasper's Beanstalk. Order the days of the week and ask the children to order and match the key events in the story to the days of the week.  Challenge the children to see how many tasks they can complete in one minute. For example how many times can they write their name in one minute. How high can they count in one minute? How many star jumps can they do in one minute?	**Bonds to 10** **Carpet Games** You will need: Ten frame cards showing 7-10 (5-and-a-bit and pair structure) Memory Game: Place the cards upside down. The children take turns to turn over 2 cards. When they find a pair which add to 10, they keep the cards. The player who collects the most pairs wins. Fish: (For 3-4 players) Share out the cards. The aim is to make bonds to 10 The children take turns to ask any player for a card they need. E.g. If they have a 4, they ask one of the other players for a 6 Once they have made a bond to 10, they put that pair down. The first player to put down all of their cards wins the game. **Outdoors** Place 10 chairs into 5 rows of 2 to resemble the seats on a bus. Ask: How many passengers are there on the bus? How many more passengers could ride on the bus? How many are getting on or off at the next stop? How many are on the bus now? **Enhancements to areas of learning** **10 Hunt** Hide 10 items (rubber ducks, beanbags etc) around the outside area and chalk a large 10 frame onto the ground. As the children find the items, they put them into the 10 frame. Prompt the children to use the 10 frame to help them see how many they have found and how many are still hiding. **Night and Day** **Home Corner** Put a calendar into the home corner. Can we put everyone's birthdays onto the calendar? Whose birthday is next? Can we put other important events on to the calendar? How many sleeps is it until the next important event? **Enhancements to areas of learning** **Outdoor** Label 2 areas outside daytime and night time. Call out an activity and the children run to the day time or night time area. For example, stars appear, we put on pyjamas, we get dressed, foxes come out, we eat lunch, owls hunt etc. Encourage the children to suggest some of their own night and day activities. **Cooking Area** Make pictures for a simple recipe. Ask the children to order the pictures to help them to follow the recipe. Encourage the children to make pictures to represent the steps for their own recipes in the mud kitchen. **Water** Provide a sand timer, a fishing rod and magnetic fish in the water area. How many fish can the children catch before the sand runs out? Use the timer to measure the activity and then count the fish. **Time** **Outdoors** Provide a range of timers that measure different lengths of time. Children can choose a timer and then see what they can do in that period of time. E.g. How many star jumps can you do in 30 seconds? How many bean bags can you throw into the hoop in one minute? **Outdoors** Provide seeds, soil and plant pots. Encourage the children to plant seeds and to look after them as they grow. Have a look each week and discuss the changes you can see. Inside you can grow cress seeds or grass heads which grow more quickly. **Snack** Support the children to make toast for snack. How does the bread change when you toast it? How long do they need to toast the bread for to make nice golden toast? What happens if it is toasted for too long? What happens if it's not toasted for long enough? **Enhancements to areas of learning** **Outdoors** Set up a circuit of different activities around the outdoor area. Challenge the children to see how many of each activity they can do in one minute. E.g. How many bean bags can they throw into the hoop? How many skittles can they knock down? How many bricks can they build into the tower? Provide minute timers for the children to use.	one, two, three, four, five, six, seven, eight, nine, ten 1,2,3,4,5,6,7,8,9,10 ten frame count how many? total altogether count forwards/backwards same, different odd one out more, fewer group first, next, later, then before, after, every day time order sequence

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<table>
<tr>
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Select, rotate and manipulate shapes to develop spatial reasoning skills.

Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.</td>
<td>Have a deep understanding of number to 10, including the composition of each number.</td>
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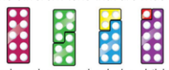
Power Maths Unit 11 – Number bonds to 10

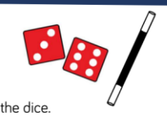
Bonds to 10
Guidance
The children explore number bonds to 10 using real objects in different contexts. E.g. There are 10 apples. How many in the tree and how many on the ground?
10 frames or egg boxes (with 10 holes) can be partially filled with objects and the children asked How many more do we need to make a full ten?

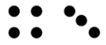
Other manipulatives such as fingers, bead strings and number shapes are also useful for exploring bonds to 10
Other Resources
Number Bond Rhymes
5 Eggs and 5 Eggs
Chuck, Chuck, Chuck
Mr Willy-Nilly and Zoey's Dream – Seung-yim Bak
Farmer Pete – You Tube
Numberblocks - Blast Off!

Prompts for Learning
Ask the children to explore different ways of building the bonds to 10 E.g. How many ways can they find to park 10 cars in 2 car parks, place 10 fairies on 2 toadstools, 10 dinosaurs in 2 Jurassic parks.

Provide each child with a number shape. Ask them to find a partner so that their combined shapes total ten. Compare the different tens that are made.

Hold up a number shape and ask the children to find the shape which goes with yours to make 10

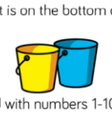
Ask the children to count out 10 double-sided counters or butter beans. Drop their counters onto a paper plate. How many are red? How many are yellow? Repeat.
How many are red and yellow this time? Did anyone get 5 red and 5 yellow? Did anyone get all 10 red?

Digging Deeper
Dice Magic

Give each child a dice.
Ask the children to roll the dice.
Explain that you have a secret way to work out what number is on the bottom of each dice without looking.
Tell the children what is on the bottom of all the dice and ask them to check.

Record the number of spots on the top and bottom.

Can anyone see a pattern?
Can anyone work out how you do the trick?

Allow the children time to take turns trying the trick themselves and then to go home and try it out on their friends and family.

Key Questions
What number did you roll?
Do you get the same number on the bottom each time you roll that number?
What do you notice about the top and bottom pairs?
Can you explain how to do the trick?
Can you tell me what is on the bottom of my dice?

Pots to 10

Provide pots labelled with numbers 1-10 and a selection of loose parts such as beads or cubes.
Ask the children to count the correct number of beads into each pot.
Can they find 2 pots which have 10 beads in total?
Is there more than one way to do it?
Can they find a way to make 10 by combining 3 pots? How can they check they have 10?
Is there more than one possible way?
Can they draw what they found?
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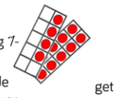
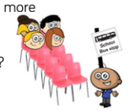
Bonds to 10
Carpet Games
You will need: Ten frame cards showing 7-10 (5-and-a-bit and pair structure)

Memory Game: Place the cards upside down. The children take turns to turn over 2 cards. When they find a pair which add to 10, they keep the cards. The player who collects the most pairs wins.

Fish: (For 3-4 players)
Share out the cards.
The aim is to make bonds to 10 The children take turns to ask any player for a card they need. E.g. If they have a 4, they ask one of the other players for a 6
Once they have made a bond to 10, they put that pair down. The first player to put down all of their cards wins the game.

Outdoors
Place 10 chairs into 5 rows of 2 to resemble the seats on a bus. Ask: How many passengers are there on the bus? How many more passengers could ride on the bus? How many are getting on or off at the next stop? How many are on the bus now?

Enhancements to areas of learning

10 Hunt

Hide 10 items (rubber ducks, beanbags etc) around the outside area and chalk a large 10 frame onto the ground. As the children find the items, they put them into the 10 frame.
Prompt the children to use the 10 frame to help them see how many they have found and how many are still hiding.
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1,2,3,4,5,6,7,8,9,10
ten frame
count
how many?
total
altogether
count forwards/backwards
same, different
odd one out
more, fewer
group

puzzle
triangle, square
fold/open
count
how many?
build
turn
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<td>Explore the composition of numbers to 10.

Know that a number can be partitioned into more than two numbers

Use 3D shapes to make a structure, showing an understanding of basic properties (stack, roll…)</td>
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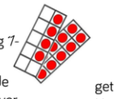
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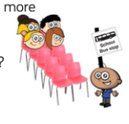
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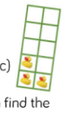
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			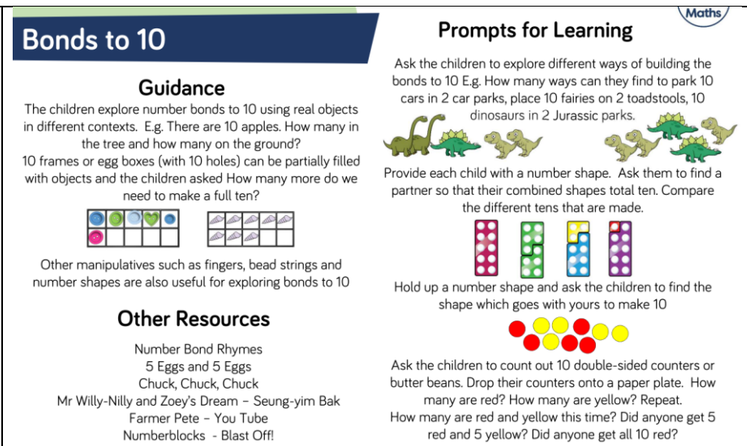		count forwards/backwards same, different odd one out more, fewer group roll, stack curved, straight, round corners, face, edge, sides square, rectangle, triangle, circle sphere, cube, cuboid, cylinder, cone big, little, flat, pointy

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6	Recall number bonds to 5 Conservation: knowing that the number does not change if things are rearranged (as long as none have been added or taken away) Continuing a pattern which ends mid-unit Make their own ABB, ABBC patterns Spotting an error in an ABB pattern I can continue, copy and create repeating patterns with 2 or more objects.	Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.	**Combining 2 Groups** **Guidance** Children begin to combine 2 groups to find how many altogether. They should be given opportunities to do this in many contexts using real objects. E.g. There are 3 frogs on the log and 4 in the pool. How many frogs altogether? Encourage the children to subitise where possible although they may need to count in ones to find how many altogether. The interactive whiteboard files can also be used to create pictorial scenes for the children to discuss. **Other Resources** WRM Interactive whiteboards Dice and board games Quack and Count by Keith Baker The Elephant and the Bad Baby – Elfrida Vipont Don't forget the Bacon – Pat Hutchins **Prompts for Learning** Tell your partner about the flowers. How many purple flowers can you see? How many blue flowers? How many flowers altogether? Spread a set of dominoes out face down. Ask the children to pick a domino and tell their partner how many spots there are on each side. Can their partner tell them how many spots on the domino altogether? What if my domino has 6 spots? How many could be on each side? Can you draw a domino with 6 spots? Can you draw more than one? Provide pictures or small world scenes which provide opportunities for combining 2 groups. What can you see in the picture? How many big fish can you see? How many small fish? How many fish altogether? I spy a group of 3 and a group of 2. What am I looking at? **Pattern (2)** **Guidance** Build on the children's earlier AB pattern work by introducing more complex patterns. The children explore patterns which use items more than once in each repeat for example ABB, AAB, AABB, AABBB. Again it is important that each pattern you model has at least three full units of repeat. The more units of repeat, the easier it is to identify and continue the pattern. Encourage the children to say each pattern aloud and to create patterns around the edge of shapes as well as in straight lines. **Other Resources** Pattern Bugs – Trudy Harris Pattern Fish – Trudy Harris Busy Busy Busy – Haneul Ddang We Will Rock You – Queen (clapping pattern) Go Noodle – Banana Banana Meatball **Prompts for Learning** Provide opportunities for the children to describe, continue and copy patterns including movement patterns along a line or around a circle: stand, sit, stand, sit, stand, sit Hands on head, hands down, hands on head, hands down Arms up, arms out, arms down, up, out, down etc. Show the children an AB pattern and a similar AAB pattern and ask them to tell you what they notice. What is the same and what is different? Repeat with a similar ABB pattern. What is different this time? Introduce patterns with a deliberate error. This could include an extra item, a missing item or a muddled unit of repeat. Can the children identify the mistake and put it right?	**Combining 2 Groups** **Maths Area** Provide simple board games and pairs of dice. The children roll 2 dice and move the required number of spaces on the board. Ask: What numbers did you roll? How many altogether? How many do you need to win the game? (1-3 dice could be used first before moving onto 1-6) **Small World** Provide a set of dominoes and a large 'parking area' with numbered garages. Ask the children to find the total amount of spots on the dominoes and park them into the correct garage! **Enhancements to areas of learning** **Finger Gym** Provide a coat hanger and a basket of pegs. Ask the children to put the pegs onto the hanger and to explore how their numbers can be partitioned in different ways and recombined to see how many altogether. **Number Shapes** Provide an assortment of 1-5 number shapes. Ask the children to choose a number shape. Next, find a friend and combine their shapes to see what number they can make altogether? Repeat by moving to different friends. **Pattern (2)** **Art** Show examples of objects, wallpaper or fabric showing patterns from different cultures or traditions. Encourage the children to discuss and recreate the patterns and then to design their own patterns in a similar style. **Enhancements to areas of learning** **Loose Parts** Provide the children with a range of loose parts such as buttons, beads, pebbles, shells, or seeds. They can use these to create a variety of different patterns. You can add variety by providing wavy lines, spirals and zig-zags for them to build their patterns along. **Outdoors** Go on a walk around the school grounds and ask the children to hunt for natural objects to make their patterns such as long sticks, short sticks, dandelions, daisies, leaves, pebbles etc. They could arrange their patterns in straight lines or around the edge of a hoop to create a circular pattern. **Dough** Use 3-D shapes to press patterns into the dough. Can their friends tell which shapes they used and copy the patterns? They can also make patterns on the dough using loose parts such as shells, stones, beads or buttons.	one, two, three, four, five, six, seven, eight, nine, ten 1,2,3,4,5,6,7,8,9,10 ten frame count how many? total altogether count forwards/backwards same, different odd one out more, fewer group next continue repeat unit of repeat cube round pattern size shape colour bigger smaller same different tall short stripes squares