SMUPS Maths Learning Organiser
Reception

Scheme of learning

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Number	Cardinality and Counting	1:1 Counting Match and Sort	Representing 1,2 and 3 Comparing 1,2 and 3	Introducing zero Comparing Numbers to 5	Combining two groups 9 and 10	Building Numbers beyond 10 Counting patterns Beyond 10	Doubling Sharing and Grouping
	Comparison	Compare Amounts			Comparing Numbers to 10		Even and Odd
	Composition		Composition of 1,2 and 3 Representing numbers to 5 One more and less	Composition of 4 and 5, 6,7 and 8 Making Pairs	Bonds to 10	Adding More Taking Away	Deepening Understanding Patterns and Relationships
Measure, Shape and Spatial	Measure	Compare Size, Mass and Capacity	Circles and Triangles	Length and height	3D Shape	Time	Comparing Mass and Capacity
	Shape and Space	Positional Language	Shapes with four sides		Pattern	Spatial Reasoning: Match, Rotate, Manipulate/Compose and decompose	Spatial Reasoning: Visualise and Build/Mapping
	Pattern	Time					

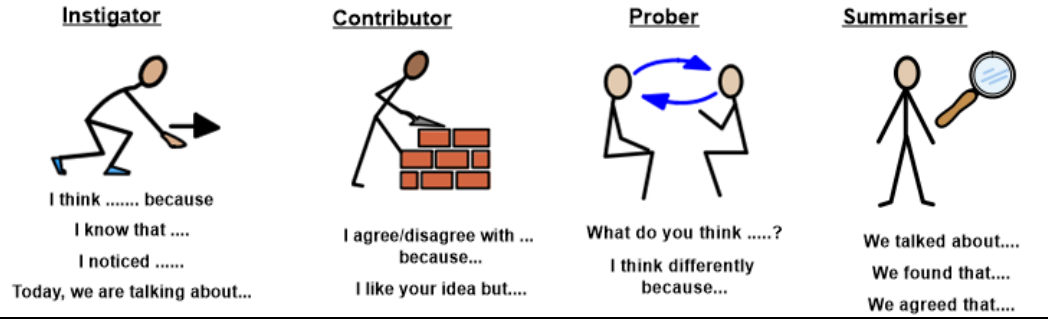
Home Learning

To find out home to access the Home Learning section from, please watch our YouTube video link.

Home learning lessons follow the White Rose, Lesson by Lesson Progression like in school. Please click below to see,
https://whiterosemaths.com/resources/primary-resources/primary-sols/

For weekly home learning please click the link below, and then chose the correct unit of work for the week
Maths home learning | Home learning | White Rose Maths

Number Talk



Facts for free- making links between number facts and number bonds.
Draw on simple conclusions from understanding of work.
Predict what might come next.
Use manipulatives and images to explain and give reasons.
Justify using work examples.

Number: Cardinality and Counting

EYFS: Development Matters-3-4

*Recite numbers past 5.
*Say one number for each item in order 1,2,3,4,5
*Know that the last number reached when counting a small set of objects tells you how many there are in total.
*Show 'finger numbers' up to 5.
*Link numerals and amounts up to 5.
*Experiment with their own symbols and marks as well as numerals.
*Solve real world mathematical problems with numbers up to 5.

EYFS: Development Matters-Reception

Count objects, actions and sounds.
Subitise
Link the number symbol (numeral) with it's cardinal number value.
Count beyond ten.

Early Learning Goals

Number ELG Children at the expected level of development will:
• Have a deep understanding of number to 10, including the composition of each number;
• Subitise (recognise quantities without counting) up to 5;
• 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.
Numerical Patterns ELG Children at the expected level of development will:
• Verbally count beyond 20, recognising the pattern of the counting system;

Typical Progression:

- Counting: Saying number words in sequence
- Counting: Tagging each object with one number word
- Counting: Knowing the last number counted gives the total so far
- Subitising: recognising small quantities without needing to count them all
- Numeral meanings: Match number symbol with a number of things
- Conservation: Knowing that the number does not change if things are rearranged (as long as none have been added or taken away)

Extension

I Count, You Count is a game which can be used to practise counting on from different starting points. Begin by counting as you point to yourself. When you point to the children they continue the count. This is great for creating rhythmic patterns and can be extended to more than one group of children:

4 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1

How Many is 100?

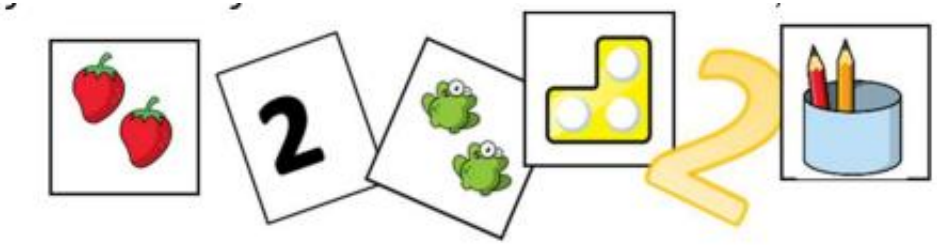
Prepare collections of objects, some with exactly 100, some with fewer and some with more.
Challenge the children to guess which sets have exactly 100 items.
Once they have made their guess, they can check by arranging the objects onto ten 10 frames. Are they surprised?
They might also like to make their own collections of 100

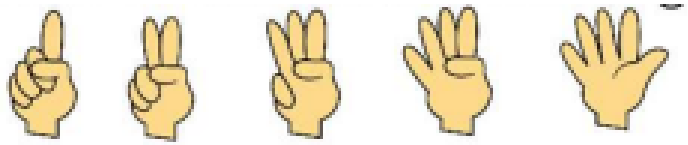
Encourage the children to investigate 100 in different ways: How far can you travel in 100 steps?

Development and Variation

- Connect to story contexts, such as dragons stealing jewels and hiding them in caskets or caves.
- Use two colours of jewels and see if children can say how many there are of each e.g. one blue and two red.
- Put groups of two or three things on plates and ask children to find plates that are the same, or make one 'odd' and ask children to find one not the same as the others.
- Pairs of children can take turns to secretly hide a small number of jewels or cubes under a dish and then lift it briefly for the other to say how many there are.
- Increase numbers to four and five. For larger numbers, see if children can estimate how many there are: who made a good guess?
- Make a number of sounds with a drum and ask children to show that many fingers.
- Challenge children to find five jewels in a sand tray, or amongst pebbles in a box, and discuss how many they have found and how many they are still looking for.
- Use large magnets on a tin tray (see the Number Talk Images website, ntimages.weebly.com)

Important Images…





Links to wider curriculum:

- Self-registration: How many acorns are here today? How many dinners/packed lunch?

Number: Composition

EYFS: Development Matters-3-4

*Fast recognition of up to 3 objects, without having to count them individually (subitise).
*Show 'finger numbers' up to 5.
*Link numerals and amounts up to 5.
*Experiment with their own symbols and marks as well as numerals.
*Solve real world mathematical problems with numbers up to 5.

EYFS: Development Matters-Reception

Compare numbers
Explore the composition of numbers to 10.

Typical Progression:

NCETM NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

- Part-whole: Identifying smaller numbers within a number (conceptual subitising- seeing groups and combining to a total)
- Inverse operations
- A number can be partitioned into different pairs of numbers
- A number can be partitioned into more than two numbers
- Number bonds: Knowing which pairs make a given number

Early Learning Goals

Number ELG Children at the expected level of development will:

• Have a deep understanding of number to 10, including the composition of each number;

• Subitise (recognise quantities without counting) up to 5;

• 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.

Numerical Patterns ELG Children at the expected level of development will:

• Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Extension

Find Half

Provide 2 teddies and plates and a selection of items for halving. Ask the children to explore which quantities will halve exactly into 2 equal groups and which will have one left over.
If you have 6, can you give both teddies the same?
What about if you start with 5?
Are these even or odd numbers? How do you know?
Encourage the children to draw pictures to record their findings.

How Many Inside?

Place 1, 2 or 3 items into a feely bag.
Ask the children to feel inside the bag and try to count how many there are without looking.
Count the items out to check.

Hidden Objects

With the children count out 1, 2 or 3 items and then use a cloth or a bowl to hide them. Can the children use their fingers to show you how many

Hidden Bonds

Show the children 2 buckets.
Explain that you have 5 pebbles hidden inside the buckets.
Ask the children how many pebbles could be in each bucket.
Could this bucket have 0 pebbles?
Could this bucket have 4 pebbles? How do you know?

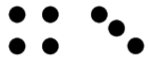
Build and Count

How many blocks are there?
Can you build them into a different shape?
Can you find another shape like yours?
Can you make a shape different to all the others?
How many shapes can you build with 3 blocks?
Are there more shapes with 4 blocks or 5 blocks?
How many different shapes do you think there will be with 6 blocks?
Can you create your own stampoline prints?

Dice Magic

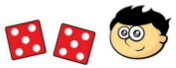
Give each child a dice.
Ask the children to roll the dice.
Explain that you have a secret way to work out what number is on the bottom of each dice without looking.
Tell the children what is on the bottom of all the dice and ask them to check.

Record the number of spots on the top and bottom.



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

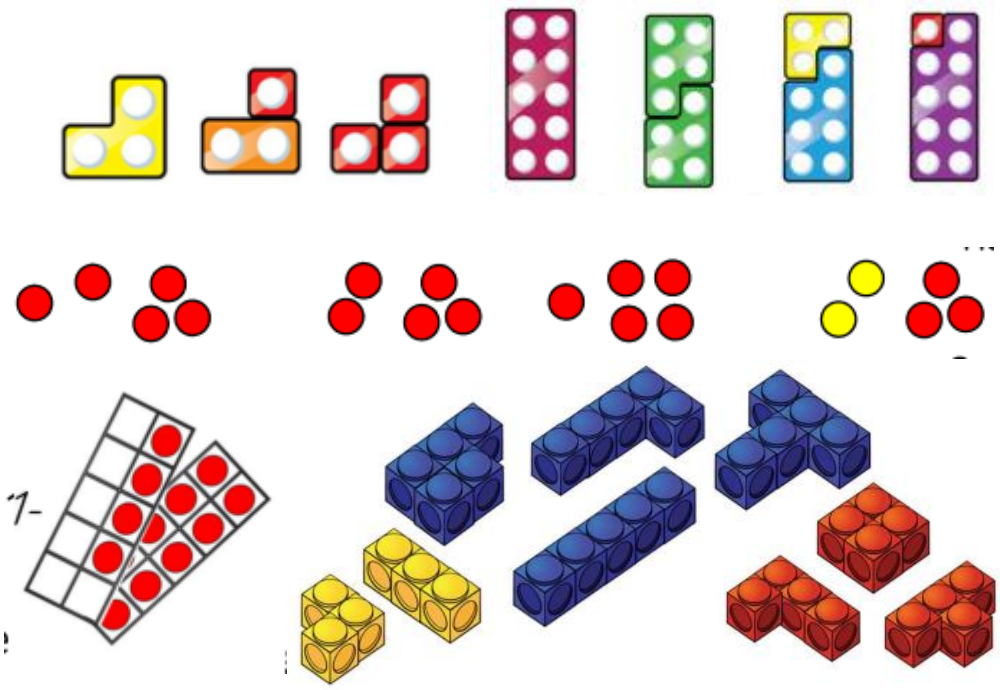
Jack rolled 2 dice and scored 10

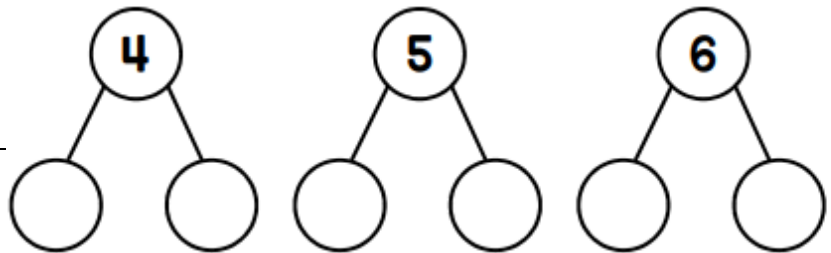


Amir scored less than Jack.
One of Amir's dice showed 5.

What other number could Amir have rolled?

Important Images...





Links to wider curriculum:

- UTW/PSE: Same or Different - Have you got a brother/sister? Do you like carrots? How many yes? No?
- UTW Signs of Spring: Five speckled frogs

Number: Comparison

EYFS: Development Matters-3-4

*Solve real world mathematical problems with numbers up to 5.
*Compare quantities saying 'more than', 'fewer than'.
*Make comparisons between objects relating to size, length, weight and capacity.

EYFS: Development Matters-Reception

Compare numbers
Understand the 'one more than/one less than' relationship between consecutive numbers.
Explore the composition of numbers to 10.
Compare length, weight and capacity.

Early Learning Goals

Number ELG Children at the expected level of development will:
• Have a deep understanding of number to 10, including the composition of each number;
• 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.
Numerical Patterns ELG Children at the expected level of development will:
• Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
• Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Typical Progression:

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- More than/less than
- Identifying groups with the same number of things
- Comparing numbers and reasoning
- Knowing the 'one more than/one less than' relationship between counting numbers

Extension:

Washing line

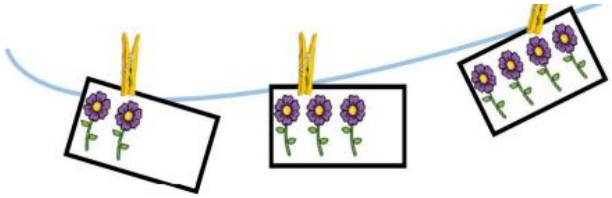
Provide children with pictures of objects to arrange on the washing line in order. As the children order the pictures encourage them to use the language of one more and one less.
What can you tell me about 3?
Prompt the children to see that 3 is one more than 2 and also one less than 4.

Hide one of the cards and ask the children to work out which number is missing.
What strategies will they use to work out which number is missing?

Pirate Treasure

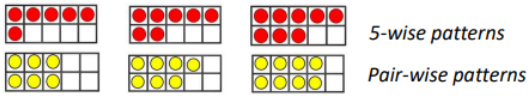
Pick a number card and count out the corresponding number of gold coins. One player covers their eyes whilst the second 'steals' some of the coins, hiding them in their hand.
The first player then has to work out how many coins have been stolen.

Important Images...



Dot Plates

Show the children 6, 7 and 8 on a ten frame or in a 10-hole egg box. Can they see how many without needing to count in ones?
Encourage the children to build 6, 7 and 8 onto the 10 frames in pairs – what do they notice?
Compare the 5-wise and pair-wise patterns for each number. What's the same and what's different?



5-wise patterns

Pair-wise patterns

Links to wider curriculum:

- UTW/PSE: Same or different

Measures

EYFS: Development Matters-3-4

*Solve real world mathematical problems with numbers up to 5.
*Compare quantities saying 'more than', 'fewer than'.
*Make comparisons between objects relating to size, length, weight and capacity.

EYFS: Development Matters-Reception

Count objects, actions and sounds.
Understand the 'one more than/one less than' relationship between consecutive numbers.
Compare length, weight and capacity.

Early Learning Goals

Numerical Patterns ELG Children at the expected level of development will:
• Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;

Typical Progression:

- Recognising attributes
- Comparing amounts of continuous quantities (longer/shorter/heavier/lighter/ more than/less than
- Showing awareness of comparison in estimating and predicting
- Comparing indirectly
- Recognising the relationship between the size and number of units
- Beginning to use units to compare things
- Beginning to use time to sequence events
- Beginning to experience specific time durations

Examples of Greater Depth…

Number Shapes Balance

Provide a set of balance scales and some number shapes. Explore how to balance a number shape for example 5 by putting the 5 piece on one side of the scale and exploring different combinations to make it balance.
How many different ways can they find to balance 5?
What other combinations of shapes balance?

How Far Can You Throw?

Give each child a small object such as a bean bag or welly.
In small groups or pairs, challenge the children to throw the object as far as they can.
Who has thrown their item the furthest?
How could we check?

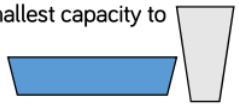
Encourage the children to discuss and try different ways to find this out.
For example they could count strides or heel-to-toe footsteps or use a trundle wheel.

Prompt them to use the language of further, nearer and

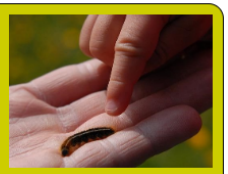
Important Images…

Which Holds More?

Provide a tall narrow container and a wide shallow one. Ask the children to predict which will hold more water? How could they check? Encourage the children to try different methods.
More containers could be added and the children asked to order them from smallest capacity to greatest.



Development and Variation
Children are often fascinated by watching caterpillars. A caterpillar hunt might be a suitable introduction to the task.



Children might also compare:

- lengths of different familiar objects such as shoes, scarves and skipping ropes
- weights of household objects and groceries such as pieces of fruit.

Story, rhyme and song links
The Very Hungry Caterpillar by Eric Carle is, of course, a popular and familiar story. It offers opportunities to make cross-curricular links and links to counting and number comparisons, as well as the order of the days of the week.

Links to wider curriculum:

- DT: Cooking (weighing ingredients)
- People and Communities: Post office (3D packages)
- TNW: Growing sunflowers. Whose is tallest/shortest? How tall is your sunflower?
- EAD: Construction. Can you make your tower taller?
- Time: How have you changed since you were a baby? Our Day: Daily use of visual timetable Measuring time: How long does it take to run around the playground? Use of sand timers e.g. swop time.
- UTW: The Very Hungry Caterpillar

Shape and Space

EYFS: Development Matters-3-4

*Talk about and explore 2D and 3D shapes using informal and mathematical language/Select shapes appropriately/Combine shapes to make new ones.
*Understand position through words like 'under'/Describe a familiar route/Discuss routes and locations using words like 'in front of', 'behind'.

EYFS: Development Matters-Reception

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.

Typical Progression:

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- Developing spatial awareness: experiencing different viewpoints
- Developing spatial vocabulary
- Shape awareness: developing shape awareness through construction
- Representing spatial relationships
- Identifying similarities between shapes
- Showing awareness of properties of shape
- Describing properties of shape
- Developing an awareness of relationships between shapes

Examples of Greater Depth…

Treasure Hunt

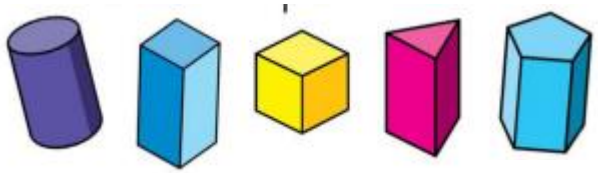
Set up a treasure hunt in your outdoor space by providing a series of pictorial clues.
As the children go to each place in the pictures, they can hunt for the next clue.
Prompt them to use positional language to explain where they need to go.
Hide some 'treasure' in the last place – this could be a special snack, a new story to read or resource

Combining Shapes

Ask the children to investigate which shapes they can make by combining squares, rectangles and triangles in different ways.

Can you build a small square, a medium square and a large square? You could draw outlines for

Important Images…



Can You Build a...

Ask the children to take photographs of their models and display them in the construction area.

Encourage the children to talk about the pictures.
What do they notice?
Which model do they like best and why?
Can they use the pictures to recreate a model?
Which pieces do they need to collect?
Could they ask the designer for help?

Odd One Out

Create a set of up to 4 objects each having one criteria which makes it different to the others. For example in the shapes above, the circle could be the one that doesn't belong because it is a different shape to the rest. The green triangle is a different colour and the small triangle is a different size.

Links to wider curriculum:

- Art: What shapes can you see? E.g. Kadinsky Printing
- DT: What shapes can you build with lollypop sticks? What shapes have you used in your painting/model?
- Geography: Mapping
- PE: Assault courses (spatial awareness)

Pattern

EYFS: Development Matters-Reception

Continue, copy and create repeating patterns.

Early Learning Goals

Numerical Patterns ELG Children at the expected level of development will:
• Verbally count beyond 20, recognising the pattern of the counting system;
• Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Typical Progression:

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

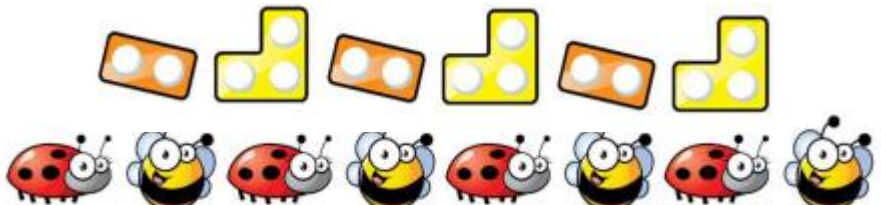
- Continuing an AB pattern
- Copying an AB pattern
- Make their own AB pattern
- Spot an error in an AB pattern
- Identify the unit of repeat
- Continuing an ABC pattern
- Continuing a pattern which ends mid-unit
- Make their own ABB, ABBC pattern
- Spotting an error in an ABB pattern
- Symbolising the unit structure
- Generalising structures to another context or mode
- Making a pattern which repeats around a circle
- Making a pattern around a border with a fixed number of spaces
- Pattern spotting around us

Examples of Greater Depth...

Development and Variation
Provide more complex repeating patterns: ABC, ABB, ABCD.
Vary the materials and media, indoors and out.
Make action or sound patterns and record them with invented symbols.
Make growing patterns, e.g. going up in ones.
Make reflecting patterns with peg boards, mirrors and constructions.

Story, rhyme and song links
The Shopping Basket by John Burningham
There Was an Old Lady Who Swallowed a Fly

Important Images...



Spot My Mistake

Show the children patterns which have a deliberate mistake. What do they notice?

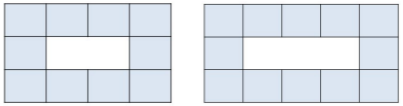
Ask the children to suggest ways to sort out the problem. They might swap the items around which means they will need to continue amending the pattern until the end of the line.

Wrapping Paper

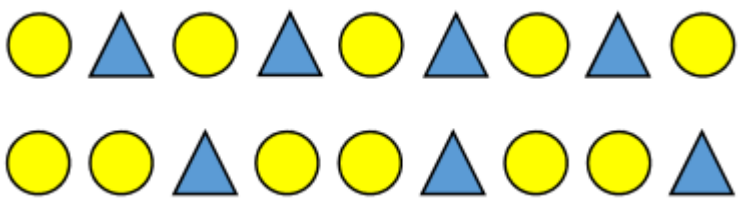
Have a look at some patterned wrapping paper. What patterns do the children notice?
Provide large sheets of paper and some items for printing and designing.
Encourage the children to use repeating patterns to design and create their own wrapping paper.

Which Patterns Fit?

Provide frames with a set number of spaces and cubes or counters in different colours.
Ask the children to build patterns around the edge putting one item in each space. Ask them to try different patterns to investigate which will fit around the frame exactly and which won't.



Which of these patterns will fit exactly around the frames?
AB, ABC, ABB, AAB, AABB, AABBC



Links to wider curriculum:

- Season walks: Collect and sort natural objects
- Music: Copy and repeat sound patterns
- Dance: Repeat and combine body actions
- People and Communities: Pattern around the world (mendhi/rangoli)

Precision Maths

- Subitise to five
- Recognise (and write) all numbers to five
- Verbally count beyond twenty
- Recognise (and write) all numbers to ten
- Know the composition of each number to ten.
- Automatically recall double facts to ten/Explore and represent double facts
- Explore and represent patterns within numbers up to 10, including evens and odds.
- Explore and represent how quantities can be distributed equally.
- Compare quantities and recognise when one quantity is greater than, less than or the same as another.
- Recognise (and write) all numbers to ten
- Know the composition of each number to ten.
- Automatically recall number bonds up to ten, including subtraction facts
- Automatically recall double facts to ten/Explore and represent double facts
- Explore and represent patterns within numbers up to 10, including evens and odds.

- Compare quantities and recognise when one quantity is greater than, less than or the same as another.