

Medium-term planning

The medium-term planning chart provides the recommended order for the Activity Cards.

Activity Cards	
Activity Card 1 Introducing the Numicon Shapes SSM focus. Comparing sizes	
Activities with Numicon structured manipulatives 1. Covering the Numicon Baseboard 2. Matching the Numicon Shapes 3. Naming the Shapes by colour 4. Matching Numicon Shapes to Picture Overlays 5. Comparing Numicon Shapes – bigger and smaller 6. Comparing Shapes – biggest, smallest and in-between 7. Matching Shapes to the Numicon Number Line	Learning opportunities • To chant the count sequence in order. • To count objects using one number name for each object counted. • To become familiar with the Numicon Shapes and their colour names. • To cover the whole Numicon Baseboard with Numicon Shapes by matching and manipulating them to fill the available spaces. • To notice the size order of Numicon Shapes. • To use the language of size and make simple size comparisons, e.g. big and small.
Activity Card 2 Ordering Numicon Shapes SSM focus. Comparing height and length of other objects and putting them in order	
Activities with Numicon structured manipulatives 1. Ordering the Numicon Shapes and using the Numicon Number Line 2. Jumbled Shapes 3. Swaps 4. Fill the gap 5. Making a Numicon Shape ‘washing line’ 6. Making repeating patterns	Learning opportunities • To chant the count sequence in order. • To count objects using one number name for each object counted. • To compare and order Numicon Shapes by size. • To describe the positions of ordered Numicon Shapes in relation to each other. • To recognize that the number idea 1 can be represented in many different ways. • To compare and order three or more objects or amounts of different sizes, including by height. • To learn to copy, continue and devise simple repeating patterns.
Activity Card 3 Introducing Numicon Shape patterns and number rods SSM focus. 2D and 3D geometric shapes	
Activities with Numicon structured manipulatives 1. Matching Numicon Shape patterns and Shapes 2. Copying Numicon Shape patterns 3. More matching Shapes and patterns 4. Making Numicon Shape patterns 5. Exploring number rods	Learning opportunities • To recite and extend the count sequence and count collections of objects accurately (increasing in number towards 10). • To build and recognize Numicon Shape patterns, matching them to Numicon Shapes. • To recognize that the number idea 2 can be represented in many different ways. • To use the names of simple 2D geometric shapes. • To notice and describe some parts and properties of simple 2D and 3D geometric shapes.

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Activity Cards

Activity Card 4 Linking Numicon Shapes with number ideas and numerals

SSM focus. Exploring capacity of various containers

Activities with Numicon structured manipulatives

1. Counting the holes in Numicon Shapes
2. Building towers with Numicon Shapes and Pegs
3. Matching Numicon Shapes with numerals

Learning opportunities

- To count up to 10 objects accurately.
- To join in counting to find 'how many ...?'
- To begin to compare outcomes of counts, saying which represents more and which fewer.
- To give number names to Numicon Shapes.
- To label Numicon Shapes with numerals.
- To recognize that the number idea 3 can be represented in many different ways.
- To begin to compare and order number rods by length.
- To compare the capacities of different containers.
- To use ordering and sorting to organize classroom play resources.

Activity Card 5 Linking numerals with Numicon Shapes, and ordering number rods

SSM focus. 2D and 3D geometric shapes

Activities with Numicon structured manipulatives

1. Read the numeral, find the Shape
2. Visualizing Numicon Shape patterns
3. Finding 'how many?' with Numicon Shape patterns
4. Building Numicon Shape patterns
5. Exploring rods

Learning opportunities

- To make links between Numicon Shapes, Numicon Shape patterns, numerals and numbers.
- To find how many objects there are by counting accurately and by making and/or recognizing Numicon Shape patterns.
- To recognize that the number idea 4 can be represented in many different ways.
- To compare and order rods by height.
- To use informal positional language, e.g. next to, between.
- To describe parts and properties of cuboids and cylinders.

Activity Card 6 Finding how many by grouping, and teen numbers

SSM focus. Length

Activities with Numicon structured manipulatives

1. Checking estimates with Numicon Shape patterns
2. Finding how many pictures on gift wrap
3. Comparing and ordering rods

Learning opportunities

- To use Numicon Shapes, Numicon Shape patterns, numerals and number names confidently to represent number ideas.
- To begin to group objects into Numicon Shape patterns as an efficient way of finding out how many there are.
- To begin to represent numbers greater than 10 with Numicon Shapes and Numicon Shape patterns.
- To recognize that the number idea 5 can be represented in many different ways.
- To put number rods in order of size.
- To compare lengths in a range of different situations.
- To sort objects into sets.
- To create repeating patterns.

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Activity Cards

Activity Card 7 Adding with Numicon Shapes

SSM focus. Weight

Activities with Numicon structured manipulatives

1. Putting Numicon Shapes together
2. Spin for and add two Numicon Shapes
3. Adding more
4. Combining rods to fill the gap

Learning opportunities

- To begin to know that we add when we need to find out 'how many?'.
- To find the total number of items by combining Numicon Shapes.
- To find totals in 'adding more' situations by adding on one Numicon Shape to another.
- To recognize that the number idea 6 can be represented in many different ways.
- To become confident with describing the relative lengths of number rods.
- To explore things that feel heavy or light and begin to compare the weights of objects.
- To experience that weight is not always related to size.

Activity Card 8 Adding 1 more

SSM focus. Time

Activities with Numicon structured manipulatives

1. Finding 1 more with Numicon Shapes
2. Finding 1 more – game
3. Finding 1 more with numerals
4. Exploring rod trains

Learning opportunities

- To find 1 more on a number line and notice that when 1 is added to any number the result is the next number.
- To add 1 and find 1 more using Numicon Shapes and Shape patterns.
- To understand that adding includes increase.
- To find 1 more than a given number, starting with 1–9 and extending to 19.
- To solve '1 more' problems and make up '1 more' stories.
- To recognize that the number idea 7 can be represented in many different ways.
- To sequence everyday events and explain the order using appropriate language.

Activity Card 9 Subtracting – finding the difference

SSM focus. Money, comparing data on simple class pictogram

Activities with Numicon structured manipulatives

1. See the difference between Numicon Shapes
2. Comparing numbers using Spinners
3. Making trains with white rods
4. Combining two or more rods to fit another rod

Learning opportunities

- To find the difference between whole numbers, without counting, using Numicon Shapes.
- To find the differences in size between collections of objects.
- To compare everyday quantities and begin to find differences between them.
- To begin to use the terms 'odd' and 'even' using Numicon Shapes.
- To recognize that the number idea 8 can be represented in many different ways.
- To begin to give number names to rods.
- To recognize coins and sort them in different ways.
- To use everyday language to talk about money.
- To begin to appreciate that shopping involves exchange.

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Activity Cards

Activity Card 10 Subtracting – taking away

SSM focus. 3D geometric shapes, sorting

Activities with Numicon structured manipulatives

1. Subtracting with Numicon Shapes
2. Subtracting from 10
3. Subtracting from 5, then from other numbers to 10
4. Using number names for rods
5. Matching rods with numerals

Learning opportunities

- To recognize the taking away structure of subtracting as removing a part from a whole or an amount.
- To use the language of subtraction.
- To show 'taking away' by covering holes in Numicon Shapes.
- To recognize that the number idea 9 can be represented in many different ways.
- To consolidate the correspondences between number rods, number names and numerals.
- To sort geometric shapes.
- To create repeating patterns with objects.
- To experience fair sharing as each person having an equal amount.

Activity Card 11 Doubling and halving

SSM focus. Exploring mirror symmetry

Activities with Numicon structured manipulatives

1. Finding doubles with Numicon Shapes
2. Feeling for pairs of Numicon Shapes
3. Doubling game
4. Connecting doubling and halving using Numicon Shapes
5. Finding half of a collection
6. Building a doubles staircase

Learning opportunities

- To see and learn 'doubles' as special combinations of two numbers.
- To begin to see inverse connections between doubling and halving.
- To recognize that the number idea 10 can be represented in many different ways.
- To notice and discuss mirror symmetry.
- To create simple symmetrical patterns.
- To begin to learn to count in steps of two and ten.

Activity Card 12 Subtracting 1, connecting increase and decrease

SSM focus. Noticing opposites when making comparisons

Activities with Numicon structured manipulatives

1. Taking away 1 from a Numicon Shape pattern
2. Hiding 1 hole – what is left?
3. Taking away 1 from a Numicon Shape
4. Spotting the Peg that has been moved
5. Adding 1 more to number rods
6. Taking away 1 from number rods

Learning opportunities

- To identify each previous number from 10 to 1 (inverse of the successor relationship), using ordered Numicon Shapes or number rods.
- To show 1 fewer by removing an object from a Numicon Shape pattern.
- To find 1 fewer than any number from 1 to 10 (extending to 20).
- To begin to describe 'nothing' with the word 'zero'.
- To solve '1 fewer' and 'one less' problems.
- To generalize that when 1 is taken away from a number, the result is always the previous number.

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Activity Cards

Activity Card 13 Halving and sharing

SSM focus. Finding half by weighing, sharing liquids, cutting shapes in half.

Activities with Numicon structured manipulatives

1. Halving collections
2. Sharing Pegs from Numicon Shape patterns
3. Sharing collections
4. Identical rod trains

Learning opportunities

- To create shares and equal shares of a whole.
- To understand that a whole can be made up of different-sized parts or parts that are the same size.
- To identify and create two equal parts of a whole and know that each part is called a 'half'.
- To begin to realize that a whole shape can be halved in different ways.
- To halve collections of up to 10 objects accurately.
- To find 'half' of Numicon Shapes.
- To find two identical number rods that are equal in length to one larger rod.

Activity Card 14 How many more, how many fewer?

SSM focus. Money

Activities with Numicon structured manipulatives

1. How many more?
2. How many fewer?
3. How many more and how many fewer?
4. How many more (with rods)?
5. Finding the hidden number rod

Learning opportunities

- To understand subtracting as how many more, how many fewer or how much less.
- To find 'how many more?' or 'how many fewer?' without counting, using Numicon Shapes or number rods.
- To solve 'how many more?' / 'how many fewer?' / 'how much less?' problems in a data-handling situation.
- To experience that there are several different ways of making 10 with two numbers.
- To experience constructing pictograms.
- To use money in role-play.

Activity Card 15 Adding parts and wholes

SSM focus. Weight

Activities with Numicon structured manipulatives

1. Numicon Shape towers
2. Make that number
3. Turn it over
4. Working efficiently with Numicon Shape patterns
5. Adding number rods

Learning opportunities

- To use Numicon Shapes or number rods to add whole numbers.
- To note that a whole can be made up of parts that are either the same or different sizes.
- To begin to realize that a whole is larger than any of its parts.
- To begin to understand that adding two numbers can be done in any order.
- To understand that weight is not necessarily related to size.

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Activity Cards

Activity Card 16 Subtracting – parts and wholes

SSM focus. Position and direction

Activities with Numicon structured manipulatives

1. Using subtracting covers when taking away
2. Taking away using Numicon Shape patterns
3. More taking away
4. Taking away a rod

Learning opportunities

- To use Numicon Shapes or number rods to subtract whole numbers.
- To note that a whole can be made of parts that are either the same or different sizes.
- To begin to realize that a whole is larger than any of its parts.
- To begin to notice the pattern when counting aloud in fives.

Activity Card 17 Connecting adding, subtracting and number lines

SSM focus. Length and distance

Activities with Numicon structured manipulatives

1. Connecting adding and subtracting in number stories
2. Connecting adding and subtracting with Numicon Shapes
3. Connecting moving along a number line, adding and subtracting with Numicon Shapes
4. Increase and decrease
5. Connecting adding and subtracting

Learning opportunities

- To connect moving forwards along a number line with increase and adding.
- To connect moving backwards along a number line with decrease and subtracting.
- To begin to be aware of the inverse relationship between adding and subtracting.
- To compare lengths.
- To notice and describe distances between objects and places, and distances travelled.

Activity Card 18 More teen numbers, adding and subtracting facts

SSM focus. Length and time

Activities with Numicon structured manipulatives

1. Making a Numicon Shape in different ways
2. Finding equivalent combinations of Shapes
3. Finding equivalent combinations of rods
4. Matching Shapes and teen numbers
5. How many 2-rods? Exploring the twos sequence
6. Connecting Numicon Shapes and number rods

Learning opportunities

- To notice equivalences.
- To use adding and subtracting facts and structured manipulatives in solving problems.
- To use comparative language effectively.