

## Focus on Numicon Pegs and Baseboard

Seeing pattern and structure in numbers is a key part of mathematical thinking. The Numicon approach plays to children's strong sense of pattern and the activities that feature the Baseboard and Pegs engage children in a range of playful tasks, which help them explore the number relationships represented by Numicon Patterns and the cardinal value of each number. Children love to cover the board in Numicon Shapes, copy or match the Numicon patterns with the pegs, build towers of number bonds and make repeating patterns to develop their reasoning and prediction skills. This resource offers a summary of the activities from the Numicon Firm Foundations Kit and Numicon Kit 1 that feature the Pegs and the Baseboard, for more detailed information please refer to the teaching guides found in the kits.



## Firm Foundations Kit 1b

**Title:** Counting.

**Key Mathematical Ideas:** Counting

**Aim:** To learn to recite number names, to learn the cardinal values of numbers 1-10.

**Activity 2:** (in brief) Children take a handful of Pegs and count them out along a number line, then arrange the Pegs on the Baseboard in the Numicon pattern and find the relevant Numicon Shape on the display number line.

## Firm Foundations Kit 5b

**Title:** Getting to know the Numicon Shapes and Patterns.

**Key Mathematical Ideas:** Pattern

**Aim:** To copy and create arrangements and repeating patterns.

**Activity 1:** (in brief) One child creates a Numicon Pattern with Pegs on the Baseboard, the next child copies it.

**Activity 2:** (in brief) Children take it in turns to create and copy various repeating patterns with the Pegs.

Firm Foundations Kit 1b

**Key mathematical ideas:** Counting

### Counting

**Aim:** To learn to recite number names, to learn the cardinal values of numbers 1-10

**Note:** The counting activities on this card should be ongoing throughout the Foundation Stage.  
As well as displaying the Numicon Number Line, set up a counting display to help children connect each numeral with its Numicon Shape and pattern (refer to p.14 of the Teaching Guide).

**Activity 1**  
**How many is?**

- Have ready a basket of ten 1-shapes, a Baseboard and a set of Numicon Shapes 1-10.
- Children take a handful of 1-shapes and find out how many by counting them as they place them along the Number Line.
- Children then move the 1-shapes and arrange them into the Numicon Patterns on the Baseboard. Check by finding the equivalent Numicon Shape and placing it on top of the group of 1-shapes.
- When children are confident at arranging the 1-shapes into the Numicon Patterns on the Baseboard, they should arrange them on the table top.
- Find the number on the Display Number Line.

**Activity 2**  
**Count and check**

- Children take a handful of Pegs and find out how many by matching each counter to a numeral, one to one, along a number line or the number track (Photocopy Master 1).
- Children then move the Pegs and arrange them on the Baseboard into the Numicon pattern.
- Children check with the Numicon Shape and find the number on the Display Number Line.

**Language**

count, arrange, number names, how many, more, less, enough, not enough, match, find, next, before, after, too many, too few

**Outside**

hold up a numeral card for the children to respond to with e.g. 6 jumps, 7 rocks, 10s, etc.  
Have balls marked with numbers 1-10 for children to play with.

**Connecting Activities**

- Number into
- Counting collections and labelling with numerals
- Make playdough birthday cakes and match the number of candles and numerals.
- Making displays about numerals, including collections of objects for children to count.

Firm Foundations Kit 5b

**Key mathematical ideas:** Pattern

### Getting to know the Numicon Shapes and patterns

**Aim:** To copy and create arrangements and repeating patterns

**Note:** Work on repeating patterns should be ongoing throughout the Foundation Stage and beyond.  
Children should practise the activities on this card routinely until they can copy arrangements of Pegs into the patterns of all the Numicon Shapes and also devise their own repeating patterns. This is crucial to children's successful working with Numicon.

**Activity 1**  
**Copying Numicon Patterns**

- Have ready a Baseboard and baskets of Pegs.
- Make a Numicon pattern with Pegs on the Baseboard, and ask children to copy it.
- When children are confident with the patterns from 1-4, gradually extend until they can arrange Pegs into the patterns of all the Numicon Shapes.

**Using Numicon**  
Bury small objects in the sand tray, children dig for these and put them into the holes of Numicon Shapes.  
Press Numicon Shapes into playdough to show the patterns, then children can press small objects, say buttons or beads, into the patterns.

**Challenges**  
Can children continue a repeating pattern started by someone else?  
Can children devise their own repeating pattern?

**Activity 2**  
**Copying repeating patterns using Pegs**

- Have ready a Baseboard and basket of Pegs.
- Make a repeating pattern on the Baseboard for children to copy.
- Practise with different repeating patterns.

**Language**

copy, match, the same, pattern, too many, too few, enough, not enough, arrange, next, before, after

**Outside**

In PE develop patterns and sequences in movement, e.g. step, jump, skip, jinx, etc.  
Children stand in a circle and play pattern games, e.g. alternate children stand up, sit down, stand up, sit down, etc.

**Connecting Activities**

- Repeating rhymes and songs such as Old MacDonald had a Farm.
- Making patterns with small figures e.g. farm animals - sheep, horse, sheep, horse, etc.
- In music: make sound patterns, e.g. clap, tap, clap, tap, etc.
- Make repeating patterns by threading beads, using pegboards, printing shapes, etc.

## Firm Foundations Kit 6a

**Title:** Getting to know the Numicon Shapes and Patterns.

**Key Mathematical Ideas:** Pattern

**Aim:** To learn the patterns of the Shapes (working initially from 1-4 increasing gradually up to 10).

**Activity 1:** (in brief) One child creates a Numicon Pattern with the Pegs, next child finds the Numicon Shape that matches.

## Firm Foundations Kit 6b

**Title:** Giving the Shapes their number names.

**Key Mathematical Ideas:** Counting

**Aim:** To give number names to the Numicon Shapes, to count objects one to one.

**Activity 1:** (in brief) Children fill the holes in the Numicon Shapes one at a time with Pegs, then find the Shapes on the number line and say the number names.

## Firm Foundations Kit 8b

**Title:** Knowing the Shapes and Numerals.

**Key Mathematical Ideas:** Counting, Cardinal property of number

**Aim:** To be confident at recognising Numicon Shapes, patterns and numerals, using number names and counting objects one to one.

**Activity 1:** (in brief) Children spin the spinner and then make the Numicon pattern for that number with the Pegs.

**Activity 2:** (in brief) Children take a handful of pegs, lay along a number line to find out how many and then arrange them in the Numicon Patterns to check.

## Firm Foundations Kit 9a

**Title:** Using the Numicon Patterns

**Key Mathematical Ideas:** Moving beyond counting, Place value, Pattern

**Aim:** To prepare children for place value to show how patterns and grouping are more efficient ways, to find out 'how many', than counting.

**Activity 1:** (in brief) Place Pegs randomly on the baseboard and ask "how can we find out how many without counting?"

Encourage children to arrange the Pegs into a Numicon Pattern to see how many there are (without counting).

Firm Foundations Kit **6a**

**Key mathematical ideas:** Pattern

### Getting to know the Numicon Shapes and patterns

**Aim:** To learn the patterns of the Shapes (working initially from 1-4 increasing gradually up to 10)

**Activity 1**  
Find the Shape

- Have ready Shapes 1-4 in order, a Baseboard and a basket of Pegs.
- Use the Pegs to make one of the Numicon Patterns and ask children to find the corresponding Shape.
- Encourage children to check by placing the Shape on top of the Pegs.

**Activity 2**  
Make a pattern

- Pick up a Shape, ask children to look at it carefully and then to arrange Pegs on the Baseboard into the pattern of the Shape.
- Check by fitting the Shape over the Pegs.
- Repeat with other Shapes, until children can arrange Pegs into Numicon Shape patterns quickly and confidently.

Note: Some children initially find it easier to work with one colour of Peg.

**Challenge**

Show children a Shape and then hide it. Can they arrange Pegs into the Shape pattern from memory?

**Language**

Check patterns, the same, different, bigger, smaller, more, fewer.

**Outside**

Play games involving children arranging beanbags into Numicon Patterns on the playground.

**Connecting Activities**

- Matched shapes where shapes have to be matched.
- Putting the table in the table play home corner.
- Arranging Numicon shapes into a circle, into groups, etc.
- Arranging small world apparatus, e.g. furniture in the dolls' house, firm animals on a farm playmat.
- College activities.

Firm Foundations Kit **6b**

**Key mathematical ideas:** Counting

### Giving the Shapes their number names

**Aim:** To give number names to the Numicon Shapes, to count objects one to one

**Activity 1**  
Count the holes and fill the holes

- Have ready Numicon Shapes 1-10, Pegs and other objects to be counted. You will need to refer to the Display Number Line.
- Children choose Shapes, count the holes, say the number, and then find it on the Number Line.
- Ask children to choose a Shape and count one Peg at a time into each hole.
- Ask children to find the Shape on the Number Line and say the number name.
- Repeat this activity often using other objects as well as Pegs.

**Challenge**

Ask children to estimate how many objects they need to fill the Shape.

**Activity 2**  
It's 1, one, what's that? Giving the Shapes number names

- Ask children to put Shapes 1-10 in order, starting with the smallest.
- Point to the 1-shape and say "If this is 1, what is this?" (pointing to the 2-shape).

**Using Numicon**

Children count out collections of small objects and check their count by putting them into the holes in the corresponding Numicon Shape.

Ask children to compare two Shapes saying which has more holes and which has fewer holes.

Create displays about different numbers, including Numicon Shapes.

Sing the number songs from Numicon of the Seaside and do the activities accompanying each number.

**Language**

How many, more, number names, enough, less, fewer, not enough, reach, find.

**Outside**

Using Numicon Shapes pointed on the playground, encourage children to count equipment onto the Shapes, e.g. 3 bean bags onto the 3-shape, etc.

**Connecting Activities**

- Find opportunities to count every day, remembering to find the last number in first count on the Numicon Display Number Line.
- Have many children and here today! How many participants do we need? Make the Activity Cards to and to for ideas.
- Get counting songs and rhymes.
- Look at counting books, read counting stories.

Firm Foundations Kit **8b**

**Key mathematical ideas:** Counting, Cardinal property of number

### Knowing the Shapes and Numerals

**Aim:** To be confident at recognising Numicon Shapes, patterns and numerals, using number names and counting objects one to one

**Activity 1**  
Picture the pattern 1

- Have ready two Spinners with Overlay 1-5 and 6-10 (Photocopy Master 2), Baseboard and Pegs.
- Children take turns to spin a number and say it out loud.
- Children arrange Pegs on the Baseboard to make the Numicon pattern for that number, and find it on the Display Number Line.

**Activity 2**  
Count and check

- Have ready a basket of Pegs, Baseboards and number track (Photocopy Master 1).
- Children take a handful of Pegs and find out how many by matching each counter to a numeral, one to one, along a number track or number line.
- Children then move the Pegs and arrange them on the Baseboard into the Numicon pattern.
- Children check with the Numicon Shape and find the number on the Display Number Line.

**Activity 3**  
Picture the pattern 2

- Have ready baskets containing different sets of small 'counters' (e.g. shells, counters, bricks, small cars), Spinners with Overlay 1-5 and 6-10 (Photocopy Master 2).
- Children take turns to spin a number and read it out loud.
- Children arrange 'counters' to make the Numicon Patterns, and find the number on the Display Number Line.

**Using Numicon**

Throw a numeral dice, collect that number of objects and arrange them into Numicon Patterns.

If you have plastic numerals children can generate numbers by taking them one at a time from the Feely Bag.

**Language**

number names, match, choose, find, pattern, how many, see in your hand

**Outside**

A game for up to 4 children

- Prepare 4 bags red, blue, yellow, green, 4 baskets containing bean bags of each of the 4 colours, make large Numicon Shapes.
- Caller turns card and shouts numeral.
- Children take the appropriate number of bean bags from their basket, run to their matching hoop and arrange bean bags into the corresponding Numicon pattern.

**Connecting Activities**

- Make connections between Numicon Patterns and other arrangements, e.g. towers of blocks, Numicon rods.
- Give children a number of counters to put into different arrangements.
- Make a Big Number Book with a page about each number.
- Memory games such as Kim's game, I went shopping and I bought... Note: Kim's game relies on visual memory, whereas, I went shopping relies on auditory memory so can be more difficult for some.

Firm Foundations Kit **9a**

**Key mathematical ideas:** Moving beyond counting, Place value, Pattern

### Using the Numicon Patterns

**Aim:** To prepare children for place value to show how patterns and grouping are more efficient ways to find out 'how many', than counting

**Activity 1**  
How many without counting

Stage 1 - Working with quantities that are less than or equal to 10.

- Have ready Numicon Shapes and Numeral Cards 1-10 (Photocopy Master 4) in order, and a Baseboard.
- Place some Pegs randomly on the Baseboard and ask children "How can we find out how many there are, without counting?"
- Next, children collect all the Pegs and group them into Numicon Patterns on the Baseboard without wrapping paper to count. Ask children put one Peg on each picture.
- Children say how many there are and find the numeral on the Display Number Line.

Stage 2 - Working with quantities greater than 10.

Repeat Stage 1, initially with numbers 10-20 and extend when children are ready.

**Challenge**

Can children make realistic estimates?

**Activity 2**  
Wrapping paper

- Have ready a sheet of wrapping paper and a basket with Pegs.
- Help children to choose which pictures on the patterned wrapping paper to count. Ask children put one Peg on each picture.
- Next, children collect all the Pegs and group them into Numicon Patterns on the Baseboard without wrapping paper to count. Ask children put one Peg on each picture.
- Children say how many there are and find the numeral on the Display Number Line.

**Challenge**

Can children do Activity 2 using counters and arranging them on the table top (more difficult than using the more structured Pegs and Baseboard)?

**Using Numicon**

Count collections of different objects by grouping into Numicon Shapes (that grouping in tens, then the remaining objects).

**Language**

estimate, guess, how many, arrange, patterns, groups of tens

**Outside**

Children collect leaves, pebbles, sticks, shells, etc. and find out how many there are in a group by arranging them into Numicon Patterns.

**Connecting Activities**

Whenever counting opportunities arise, remind children that an efficient way to find how many there are is to group objects into Numicon Patterns.

## Firm Foundations Kit 9b

**Title:** Using the Numicon Patterns

**Key Mathematical Ideas:** Pattern, Moving beyond counting, Order

**Aim:** To use mental imagery of the Numicon Patterns, to develop strategic thinking.

**Activity 1:** (in brief) Arrange all the Pegs of one colour into the Numicon Patterns 1-7. Ask children to close their eyes and remove a Peg from any pattern. Children try to explain what has happened.

**Activity 2:** (in brief) This time remove the peg and place it within another of the Patterns and ask children to find where the pegs has been placed.

## Firm Foundations Kit 10a

**Title:** Addition

**Key Mathematical Ideas:** Addition

**Aim:** To relate addition to combining two or more Shapes, to use the language of addition.

**Activity 1:** (in brief) Using Numicon Shapes and Pegs, children build 'towers' of different number combinations. A tower is complete when all the combinations have been made.

## Firm Foundations Kit 12b

**Title:** Subtraction

**Key Mathematical Ideas:** Subtraction as decrease

**Aim:** To find one less than any number from 1-10.

**Activity 1:** (in brief) Arrange the Pegs in to the Numicon Patterns 1-10, have a set of shuffled numeral cards to hand. One child turns a card over and points to the pattern. Next child takes a Peg away from the pattern and says what is left.

## Kit 1, Numbers and the Number System 3a

**Title:** Finding how many without counting  
**Key Mathematical Ideas:** Counting, Place value, Pattern

**Aim:** To reinforce understanding that arranging objects into patterns and groups is an efficient way to find out 'how many' without counting.

**Activities 1 & 2:** These reinforce the ideas introduced on Firm Foundations Card 9a.

**Key mathematical ideas:** Pattern, Moving beyond counting, Order Firm Foundations Kit 9b

### Using the Numicon Patterns

**Aim:** To use mental imagery of the Numicon Patterns, to develop strategic thinking

**Activity 1**  
The lost peg

- Have ready two Baseboards side by side, with Pegs of one colour arranged in Numicon Patterns 1-7.
- Ask children to close their eyes and then remove one Peg from any pattern.
- Children open their eyes, explain what has happened and return the Peg to its original place.

**Challenge**  
Can children play with the whole range of Numicon Patterns from 1-8 arranged on the table top?  
Can children find the missing Pegs when two are removed from two different patterns, or when two are removed from one pattern?

**Activity 2**  
Hunt the peg

- Have ready two Baseboards side by side, with Pegs of one colour arranged in Numicon Patterns 1-7.
- Asks children to close their eyes, then take away one Peg from the top of one pattern and place it within one of the other patterns.
- Children open their eyes, explain what has happened and return the Peg to its original place.

**Challenge**  
Can children play with whole range 1-10?  
Can children play Activity 2 when the patterns are arranged using mixed colours of Pegs?

**Language**

remember, look, think, changed, imagine, pattern, left, less, taken away from, more, added to, describe

**Connecting Activities**

Illustrate repeating patterns, using two and then three colours of pegs in many different combinations with opportunities for copying patterns, identifying patterns, and creating patterns. 'Spot the difference' games. 'What's missing?' pictures.

**Key mathematical ideas:** Addition Firm Foundations Kit 10a

### Addition

**Aim:** To relate addition to combining two or more Shapes, to use the language of addition

**Activity 1**  
Numicon towers

- Have ready Baseboard, Addition Fact Overlay, Numicon Shapes and Pegs.
- Put an Overlay on the Baseboard and ask the children what they notice about it.
- Children match Shapes on to the Overlay, thus making different combinations of the number featured.
- Children fill the Shape, showing the whole number with Pegs and place one of the combinations on top. Children continue to build the tower with Pegs and Shapes until all the combinations are used.
- Ask children to describe each combination used for each layer of the tower, e.g. for the 4-tower 'two and two', 'three and one', 'one and one and one and one', etc.

**Activity 2**  
Feed and make

- Have ready Shapes and Numeral Cards 1-10 Photocopy Master 4 in order and a Feely Bag containing two each of Shapes 1-5.

**Challenge**  
Can the children say from looking at a combination of two or more Shapes what number has been made?  
**Using Numicon**  
Use opportunities to encourage children to connect addition situations and their work with Numicon, e.g. three children are listening to a story, another child joins them, illustrate by combining the 3-shape and 1-shape. Ask questions such as 'If we had four biscuits and five more biscuits, how many would we have altogether?' Encourage children to solve this using Numicon Shapes. Make up addition stories and illustrate these with Numicon Shapes.

**Language**

same, was, different, way, find, make, same number, the same as, talk about, explain, put together

**Outside**

Draw a large flat concrete circle on the playground, each circle divided with Numicon Shapes 1-5. Children have two spoons each to throw of the sugar and then calculate their score. Place Numicon Shapes to hand so if children need to they can physically combine these to work out their scores.

**Key mathematical ideas:** Subtraction as decrease Firm Foundations Kit 12b

### Subtraction

**Aim:** To find one less than any number from 1-10

**Activity 1**  
Take away 1

Have ready Shapes and Numeral Cards 0-10 in order.

- Cover one hole of the 10-shape into the 9-pattern can be seen, and ask, 'What can you see?' When children have answered, model the correct language saying 'Yes, ten take away one leaves equals nine'. The children can pick up the 9-shape to check.
- Continue to take away 1 from all the Shapes in turn, each time asking 'What have we made?' and encouraging children to use the correct language.

**Challenge**  
Can children explain what happens when 1 is taken away?

**Activity 2**  
Pick and take one

A game for two children.

Have ready Pegs arranged in the Numicon Patterns 1-10 with the Numeral Card under each pattern and another set of shuffled Numeral Cards 1-10 in a pile face down.

- First child turns a Card and points to the pattern.

**Activity 3**  
Hide one - what's left?

A game for 2-4 children.

- Have ready a basket of Shapes. One child chooses a Shape, hides it behind her back and e.g. says 'I have 9, take away 1. What's left?'
- The child chooses someone to answer, then reveals the Shape and all the children check by picking up the appropriate Shape.

**Using Numicon**

Using the Display Number Line can children answer 'one less' questions? Songs that involve decrease e.g. Five Little Ducks... As the children sing, hold up the Shapes.

Play games to practise subtracting 1. Take a Numicon Shape out of the Feely Bag and take away 1. There is a numeral dice and take away 1.

Play 'The lost peg' and 'hunt the peg' (Card 9a) focusing on the language of subtraction and addition.

**Language**

before, less, next, smaller than, the same as, equal to, point to, check, explain, arrange, one less, take away one

**Connecting Activities**

Play games using number lines drawn on the playground. Children throw a beanbag onto a number, run to it and then jump to the number that is one less.

Children make up their own stories about taking away one.

Build towers using number rods and talk about the decreasing pattern that can be seen and how it is like going down stairs.

**Key mathematical idea:** Counting, Place value, Pattern Numbers and the Number System 3a

### Finding how many without counting

**Context**

**Aims**

- To reinforce understanding that arranging counters into patterns and groups is an efficient way to find out 'how many' without counting.
- To extend counting range.
- To introduce place value.

**Language**

count, how many, number names, arrange, pattern, check, estimate

**Assessment**

Record of Progress, Numbers and the Number System 4b, 4c

**The Activities**

**Activity 1**

Have ready Numicon Shapes 1-10 in order, a basket with 20 Pegs, Baseboard.

**Step 1**

Ask children to close their eyes and put some Pegs from the basket over the Baseboard.

**Step 2**

- Children open their eyes. Ask them to rearrange the Pegs into the 10-pattern and the pattern for 'whatever is left' without counting.
- Children say how many Pegs there are from looking at the patterns.

**Step 3**

- Children check the answer is correct by using the equivalent Shapes on top of the Pegs.
- Ask children to find the number on a number line (marking the Shapes to the Display Number Line if necessary).

**Independent practice**

**Working in pairs**

- Children practise the above activity. Have ready baskets of 20 objects.
- Children take out a handful of objects and find out how many there are without counting, by arranging them into Numicon patterns.

**Key questions**

- Can children arrange objects into Numicon patterns without using the Baseboard?
- From looking at the patterns, can children say how many tens there are in the number they have made?

## Kit 1, Numbers and the Number System 3b

**Title:** Counting by grouping in tens.

**Key Mathematical Idea:** Counting, Place value, Pattern

**Aim:** To reinforce understanding that arranging objects into patterns and groups is an efficient way to find out 'how many' without counting.

**Activities 1 & 2:** These reinforce the ideas introduced on Firm Foundations Card 9a and Kit 1 Card 3a.

## Kit 1, Calculating 10a

**Title:** Additions of three digits.

**Key Mathematical Idea:** Addition

**Aim:** To add three digits totalling up to 10

**Individual work:** (in brief) Child spins a number with the Numicon spinner 6-10, puts the corresponding Numicon Shape on the Baseboard and fills it with Pegs. The child then chooses three Shapes to fit on top and continues to build the tower showing different combinations of three Shapes. A tower is complete when all the combinations have been added.

Numicon Kit 1 - Activity Groups 32

Key mathematical idea: Counting and place value, Pattern Numbers and the Number System

### Counting by grouping in tens 3b

**Context**

**Aims**

- To reinforce understanding that arranging counters into patterns and groups is an efficient way to find out 'how many' without counting.
- To extend counting range.
- To begin to understand place value.

**Language**

count, how many, number names, check, estimate, tens, units

**Assessment**

Record of Progress: Numbers and the Number System 46, 48, 49, 50, 51

**The Activities**

**Activity 1**

Have ready a sheet of wrapping paper, basket of Pegs or other objects, 0-100 Number Line, tens Numerical Cards from 0-100 Pack.

**Step 1**

Show children the wrapping paper and ask them how many pictures they think there are.

**Step 2**

With children, put one Peg on each picture. [Link 1](#)

**Step 3**

Children remove Pegs and arrange them into patterns of 10.

- When one pattern of 10 is complete, ask children to put the 10 Card below the pattern. Children find 10 on the Number line. [Link 2](#)

**Step 4**

Continue to guide the children through each 10, each time putting down the next tens Number Card and finding its place on the Number line.

- When all the tens have been counted, arrange the last few Pegs into a Numicon pattern. Children can now see how many have been counted altogether.
- Children find the last number in the count on the Number line. [Link 3](#)

**Activity 2**

Have ready a sheet of wrapping paper, 1p and 10p coins, 0-100 Number Line, tens Numerical Cards from 0-100 Pack.

- Repeat Activity 1 using 1p coins as counters. Children exchange each 10 pattern for a 10p coin and then find the total. [Link 4](#)

**Extension**

- Give children frequent opportunities to count by grouping up to 100 objects into patterns.
- Give opportunities for children to estimate how many in counting situations.
- Use the patterns in data-handling situations.

**Key questions**

- Having arranged the counters, can children say how many tens there are from looking at the patterns?
- Can children make a sensible estimate?

Numicon Kit 1 - Activity Groups 30

Key mathematical idea: Addition Calculating

### Addition of three digits 10a

**Context**

**Aims**

- To add three digits totalling up to 10.

**Language**

add, digit, doubles, one more, equal, order, first, next

**Assessment**

Record of Progress: Calculating 14, 15, 27

**The Activities**

**Activity 1**

Have ready: Numicon Shapes.

**Step 1**

Show children on 8-shape and ask them to find 3 Shapes that together equal 8.

**Step 2**

Record children's addition examples. Discuss and ensure that examples include 8, 0, 0, 0 as well as 0, 0, 8. [Link 1](#)

**Step 3**

Repeat for other numbers below 10.

**Activity 2**

**Step 1**

- Write an example of three digit addition, e.g.  $3 + 1 + 4$ . Discuss with children which numbers they will add first.
- Encourage children to use their understanding of number relationships, one more and doubles.

**Step 2**

Repeat with other examples that use children's known addition facts e.g.  $3 + 1 + 2$ ,  $1 + 3 + 2$ ,  $2 + 1 + 5$ ,  $3 + 3 + 4$ ,  $5 + 4 + 3$ .

**Extension**

**Mental arithmetic**

Ask children to solve additions of three numbers.

**Independent practice**

**Working in pairs**

Have ready: Baseboard, Numicon Shapes, Cards 4-10 from the 0-100 Pack.

- Children turn a Card and find three Shapes showing different ways to make that number.

**Individual work**

Have ready: Spinner with 6-10 Overlay Photocopy Master pg 186, Numicon Shapes, Pegs, Baseboard.

- Child spins a number, puts the Shape on the board and fills it with Pegs. Child then chooses three Shapes to fit on top and continues to build a tower showing different combinations of three Shapes. [Link 2](#)

**Using and applying**

Ask children to solve a problem using three digit addition.

**Key question**

What addition facts do you know that help you to answer  $5 + 4 + 1$ ?