

Spring Block 1

Alive in 5

Teacher guidance



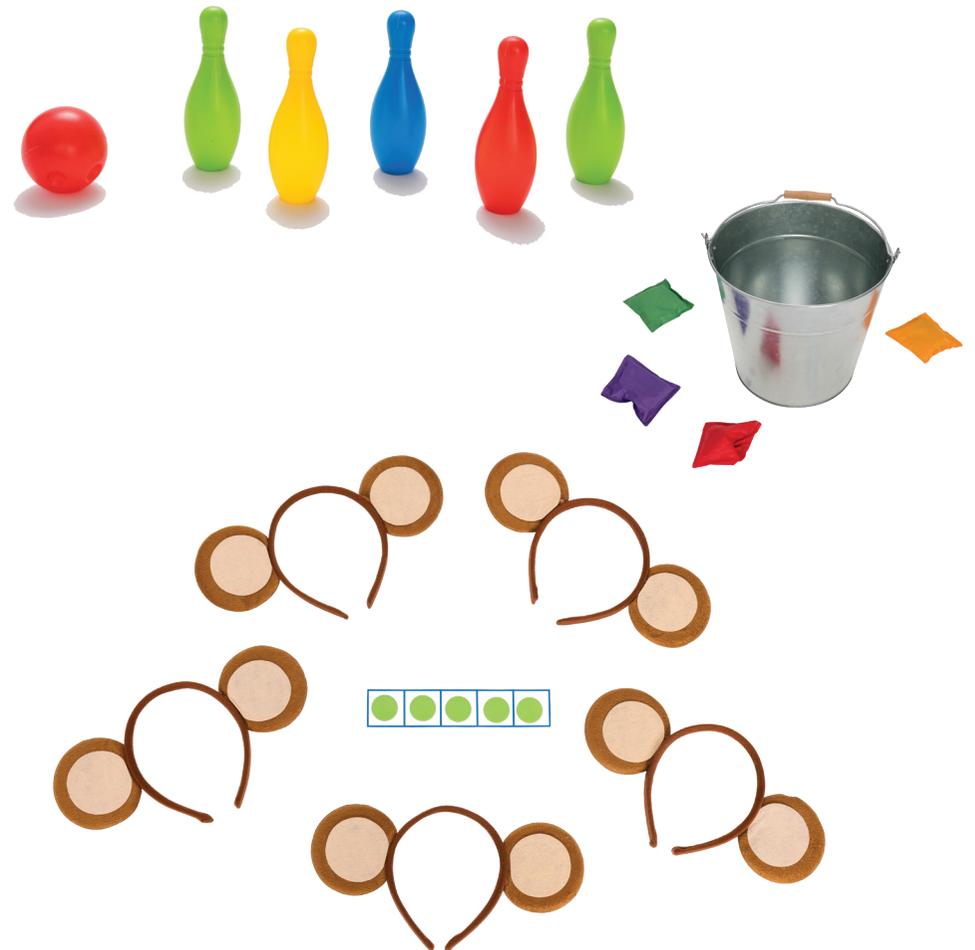
Key books

- *Zero is the Leaves on the Tree* by Betsy Franco
- *None the Number* by Oliver Jeffers
- *Anno's Counting Book* by Mitsumasa Anno
- *I Spy Numbers* by Jean Marzollo
- *The Ugly Five* by Julia Donaldson
- *Five Small Stars* by Elizabeth Matternson and Madge Bugden
- *Room on the Broom* by Julia Donaldson

Top tips

- To make a zero-to-five dice, cover up the six on the dice with masking tape.
- Take real-life photos of compositions you see indoors and outdoors to prompt number talk activities (for example, numbers of cherries growing on a stem).
- Leave blank number tracks and dice in small world provision for children to make up their own themed games linked to their interests. Think about adding well-known characters, such as superheroes, to encourage children to race along a number track.

Key resources



Small steps

Step 1

Introduce zero

Step 2

Find 0 to 5

Step 3

Subitise 0 to 5

Step 4

Represent 0 to 5

Step 5

1 more

Step 6

1 less

Step 7

Composition

Step 8

Conceptual subitising to 5

Introduce zero

Notes and guidance

In this small step, children are introduced to the concept of zero. They will already have some practical understanding of 'nothing there', 'none' or 'all gone'.

Here, they learn that the number name 'zero' and the numeral 0 can be used to represent this idea. Throughout this small step, support children to notice where they see 'zero'. For example, they may notice zero cookies on a plate or see zero leaves on a tree. They can also then be introduced to finding and recognising the numeral in the classroom and outdoor environment.

Provide frequent opportunities in planned activities, as well as in provision inside and out, to apply this understanding (for example, noticing that there are zero children playing in the sand).



Rhymes

- *Five Little Monkeys Jumping on the Bed*



Books

- *Zero is the Leaves on the Tree* by Betsy Franco

Key questions

- Where can you see zero _____?
- Where can you see the numeral zero?
- How many can you see?
- How can you make this amount into zero?

Possible sentence stems

- I can see zero _____ .
- There are zero _____ .
- I know this is zero because...
- I know this is not zero because...

Links to the curriculum

- *Development Matters* – Reception – Link the number symbol (numeral) with its cardinal number value.
- *Birth to 5 Matters* – Range 5
 - Begin to recognise numerals 0 to 10
 - Links numerals with amounts up to 5 and maybe beyond

Introduce zero

Adult-led learning



Use popular counting back songs such as *Five Little Monkeys Jumping on the Bed*. Encourage children to take on the role of the five monkeys using props such as monkey ears.



Represent each verse with counters on a five frame, displaying the numerals alongside. Emphasise that when we get to zero, there are no monkeys left to jump.



Share stories such as *Zero is the Leaves on the Tree* by Betsy Franco. Encourage children to notice where they see zero.

Children can create their own pages for a class book to represent zero in different ways.



Provide images showing familiar numbers alongside zero to support children's understanding that zero represents the absence of something.



Can children say when images show zero and not zero?



Go on a 'zero hunt' around school or in the local environment.



Prompt children to notice where they see zero. Encourage children to take photographs of the examples they find.



How many different examples of zero can they find? Where can they see the numeral '0'? Does it always mean there are zero items there?

Find 0 to 5

Notes and guidance

In this small step, children build on learning from the previous step and use their knowledge of zero to find an amount to five, including zero.

When exploring numbers to five through games, support children to recognise when zero occurs.

Include resources such as blank number cards or blank faces on a dice. Encourage children to relate these to making the correct number of moves on a track, as well as matching the same amounts.

Prompt children to notice when zero occurs in activities in the classroom as well as in daily routines. For example, there are zero people away today or there are zero apples left.



Rhymes

- *Alice the Camel*



Books

- *None the Number* by Oliver Jeffers

Key questions

- Where can you find/see _____?
- Where can you see zero?
- How many different ways can you find _____?

Possible sentence stems

- I counted _____
- There is/are _____
- I can see...

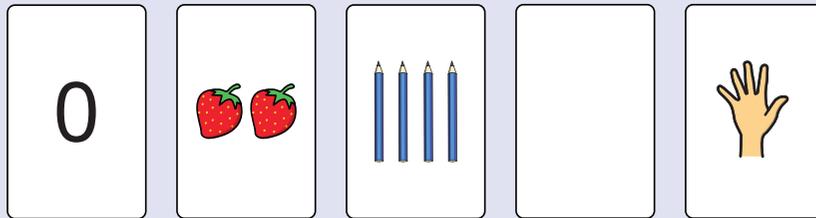
Links to the curriculum

- *Development Matters* – Reception
 - Link the number symbol (numeral) with its cardinal number value.
 - Count objects, actions and sounds.
- *Birth to 5 Matters* – Range 5
 - Begin to recognise numerals 0 to 10
 - Links numerals with amounts up to 5 and maybe beyond

Find 0 to 5

Adult-led learning

Give each child a picture card. Prompt children to find a partner with the same number or amount as themselves.

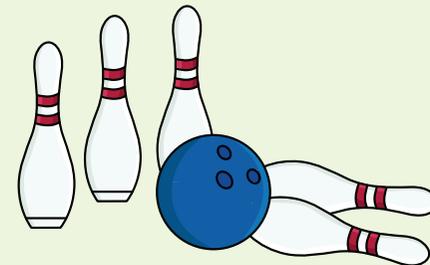


Encourage children to see if there are more than two cards that match. How does the card represent the number?



Provide equipment for throwing and rolling games such as skittles, beanbags and buckets.

Encourage children to notice when they knock over zero skittles or when zero beanbags land inside the bucket.



Prompt children to record their score.



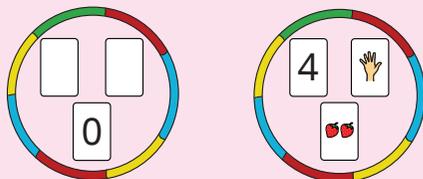
Children sit in a circle and all place five objects on a five frame.

The first child rolls a 0–3 dice. Prompt them to give that number of objects to the child on the right.

Repeat until they have given away all their objects. The first to be left with zero is the winner!



Explore sorting picture cards with different representations. Can children sort them into 'zero' and 'not zero'?



Prompt children to sort the cards and place them in the correct hoop.

Subitise 0 to 5

Notes and guidance

In this small step, children continue to develop the skill of perceptual subitising. This form of subitising refers to instantly recognising the number of objects in a group without needing to count them. In this step, the concept of subitising zero objects is introduced, as well as the instant recognition of up to five objects.

Encourage children to represent their subitising by showing the numeral '0', showing no fingers or an empty five frame.

Use images, stories and rhymes that include representations of 0–5 to embed this skill.

Further support children by including blank dot plates and zero representation cards into subitising games.



Rhymes

- *One Birthday Candle*



Books

- *Anno's Counting Book* by Mitsumasa Anno

Key questions

- How many can you see? How do you know?
- How many are there in each group?
- How can you show me _____?
- What can you see?

Possible sentence stems

- There are _____ dots altogether.
- There are _____
- I can see _____ without counting.
- I can subitise _____

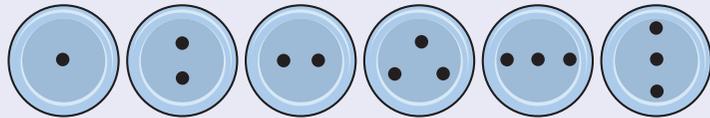
Links to the curriculum

- *Development Matters* – Reception – Subitise.
- *Birth to 5 Matters* – Range 6 – Engages in subitising numbers to four and maybe five

Subitise 0 to 5

Adult-led learning

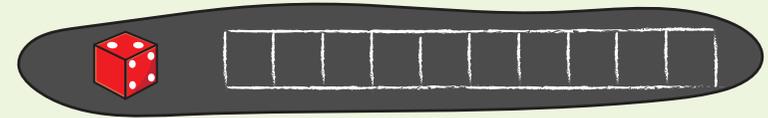
Show children different arrangements of dot plates showing 0–5



Prompt children to tell you how many they can subitise.
Children represent the amount by showing the correct number of fingers or finding the numeral on a digit card.



Chalk a blank number track on the ground.
Roll a large 0–5 dice.

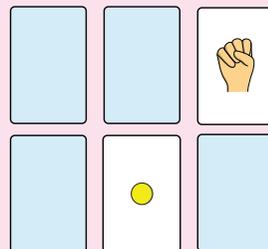


Children subitise and jump that number of spaces along the track. The winner is the first to get to the end of the track.



Place six picture cards showing 0–5 face down on the table. Children take turns to turn over two cards each.

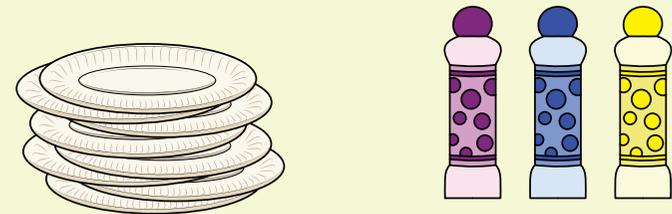
If the two cards show the same quantity, they can keep the cards. Otherwise, they turn the cards face down again.



The winner is the child with the most cards when all the cards have been taken. Once children know the rules, leave the resources out for them to play independently.



Provide blank paper plates and bingo dabbers and prompt children to use the dabbers to make their own subitising dot plates.



Encourage children to make different arrangements of 0–5

Represent 0 to 5

Notes and guidance

In this small step, children build on their understanding of numbers from zero to five. Support children to represent the numbers in many ways and in different practical contexts in order to embed their understanding.

Encourage children to use both counting and subitising skills as a way of checking their representations. Use meaningful contexts, such as number rhymes, and prompt children to represent the numbers they see on five frames.

This will consolidate their understanding that when the five frame is full, this represents 5, and when it is empty, this represents zero.



Rhymes

- *Five Little Monkeys Jumping on the Bed*



Books

- *I Spy Numbers* by Jean Marzollo

Key questions

- How many are there? How many are there now?
- How many different ways can you show _____?
- How many did you count? How do you know?

Possible sentence stems

- There is/are _____
- I counted _____

Links to the curriculum

- *Development Matters* – Reception
 - Link the number symbol (numeral) with its cardinal number value.
 - Compare numbers.
- *Birth to 5 Matters* – Range 6
 - Uses number names and symbols when comparing numbers, showing interest in large numbers
 - Matches the numeral with a group of items to show how many there are (up to 10)

Represent 0 to 5

Adult-led learning



Put together a collection of items in a feely bag that represent the numbers 0 to 5

Take each item out and discuss what amount is represented by each object. Ask children to show this amount on their fingers or on a five frame with counters.



Ask children to say why the object represents that number.



Prepare a bag containing the numerals 0 to 5

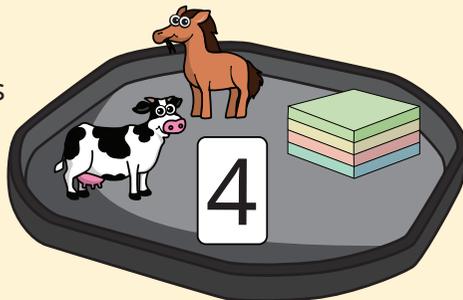
As you pull out a numeral, give children a task to do to represent that number. For example, if you pull out a 2, the children could take two giant strides, do two claps or find two pebbles and bring them back.



Share texts such as *I Spy Numbers* by Jean Marzollo.

Encourage children to make their own collections of objects that represent the numbers 0 to 5

Prompt them to explain why their objects represent the given number.



Show children rhyme books, such as *Five Little Monkeys Jumping on the Bed*, that represent numbers 5 to 0



Task children to make their own rhyme books in the art area.



What different representations can they show?

Does the rhyme start or end with zero?

1 more

Notes and guidance

In this small step, children build on their knowledge of '1 more' to work with the numbers to 5, including zero. They recognise that zero can be a starting point for counting and the number after 0 is 1

Children should be supported to further embed the stable order principle starting from zero, and to understand that the order of the numbers does not change.

Encourage children to represent the '1 more' pattern as they count and use a variety of manipulatives and contexts to model this.

Use number rhymes that ascend to encourage children to demonstrate their understanding of the pattern of numbers.



Rhymes

- *Crocodile Splash*



Books

- *The Ugly Five* by Julia Donaldson

Key questions

- How many are there?
- How many are there now?
- What is 1 more than _____?
- What is the number after _____?

Possible sentence stems

- _____ is 1 more than _____
- 1 more than _____ is _____
- The number that comes after _____ is _____

Links to the curriculum

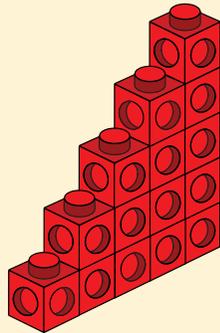
- *Development Matters* – Reception – Understand the 'one more than/one less than' relationship between consecutive numbers.
- *Birth to 5 Matters*
 - Range 5 – Beginning to recognise that each counting number is one more than the one before
 - Range 6 – In practical activities, adds one and subtracts one with numbers to 10

1 more

Adult-led learning



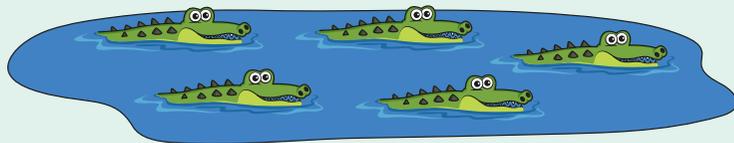
Share stories such as *The Ugly Five* by Julia Donaldson in which the number of characters increases by one each time. Represent this with children using cubes, adding 1 more each time to make towers to five.



Model rhymes such as *Crocodile Splash* with children.

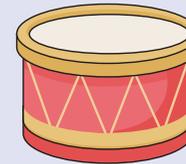


Use children and props at the front of the class to emphasise the '1 more' pattern and show that the amount increases by 1 each time.

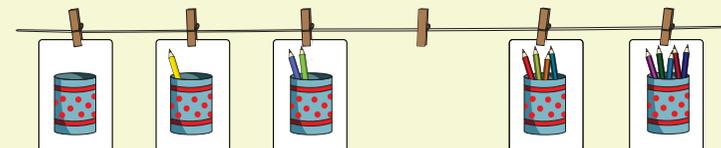


Children can then fill five frames to represent the numbers.

Drum with children and ask them to copy your beats. Remember to also represent zero beats by holding your hand over the drum without hitting it. Once children can copy it, ask them to do '1 more' beat than you with 0, 1, 2, 3 and 4 beats.



Gather a set of pictures cards numbered 0–5, muddle them up and remove one. Ask children to arrange them on a washing line in order.



Ask children which card is missing and encourage them to use the language of '1 more' to explain how they know.

1 less

Notes and guidance

In this small step, children build on their knowledge of '1 less' from 1–5 to work with the numbers to five including zero. They recognise that when counting back, we can include zero after 1

In the same way as for '1 more', children should be supported to embed the stable order of the numbers from five to zero and understand that the order of the numbers does not change.

Encourage children to represent the '1 less' pattern as they count and use a variety of manipulatives and situations to model this.

Use number rhymes that descend to encourage children to demonstrate their understanding of the pattern of numbers.



Rhymes

- *Five Little Snowmen*



Books

- *Five Small Stars* by Elizabeth Matterson and Madge Bugden

Key questions

- How many are there?
- How many are there now?
- What is 1 less than _____?
- What is the number before _____?

Possible sentence stems

- _____ is 1 less than _____
- 1 less than _____ is _____
- The number before _____ is _____

Links to the curriculum

- *Development Matters* – Reception – Understand the 'one more than/one less than' relationship between consecutive numbers.
- *Birth to 5 Matters* – Range 6 – In practical activities, adds one and subtracts one with numbers to 10

1 less

Adult-led learning



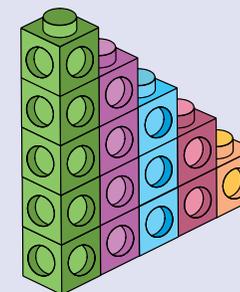
Model rhymes such as *Five Little Snowmen* with children. Use children and props at the front of the class to emphasise the '1 less' pattern and the amount decreasing.



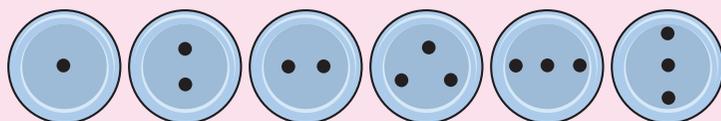
Prompt children to use five frames to represent the snowmen.

Use blocks or cubes to make staircase patterns. Encourage children to notice the 1 more and 1 less pattern.

Provide opportunities for children to build their own staircases. How many items are needed for each step? Prompt them to match them to a number track.



Spread out a range of dot plates on the floor. Show children a dot plate or picture card. Prompt children to find the dot plate that shows 1 less than the one you are holding.



Leave the dot plates out for children to re-enact the activity, taking it in turns to play the teacher's role.



With children, count up to four items into a bag.

Ask them to confirm how many there are in the bag.

Put 1 cube in or take 1 cube out. How many are there in the bag now?



Include examples of 1 less than one is zero and 1 more than zero is one. Once children are confident with predicting 1 more and 1 less, this can be extended to 2 more or 2 less.

Encourage children to use their fingers or five frames to represent the hidden objects.

Composition

Notes and guidance

In this small step, children are guided to explore the composition of numbers from zero to five.

Children will continue to develop the understanding that all numbers are made up of smaller numbers and that this can include zero. Prompt them to notice the different compositions of numbers to five by asking questions such as, “How do you see it?”

Encourage children to recognise that numbers can also be made up of more than two parts. Physically drawing around or moving objects will support children with this. Prompt them to describe both the whole and the component parts of the number.



Rhymes

- *Five Little Peas*



Books

- *Room on the Broom* by Julia Donaldson

Key questions

- What do you see? How do you see it?
- What is the whole?
- What is/are the part/parts?

Possible sentence stems

- The whole is _____
- _____ is a part and _____ is a part (and _____ is a part).
- I see _____ and _____
- There are _____ altogether.
- If _____ is a part, then the other part must be _____

Links to the curriculum

- *Development Matters* – Reception – Explore the composition of numbers to 10.
- *Birth to 5 Matters* – Range 6 – Shows awareness that numbers are made up of (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects

Composition

Adult-led learning



Show children photographs of objects showing different compositions.

Ask children to tell you what they see and how they see the number of objects in different compositions.



Share stories such as *Room on the Broom* by Julia Donaldson.

Help the witch to make a potion. Encourage children to throw five different coloured beanbag 'ingredients' into the cauldron (or bucket).

Prompt children to see how many land inside the cauldron. How many land outside the cauldron? Do we still have five ingredients? Encourage children to use mark making to record their potion ingredients.

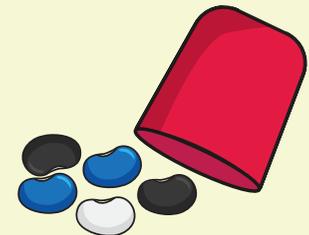


Spray paint dried butter beans so that one side is a different colour.

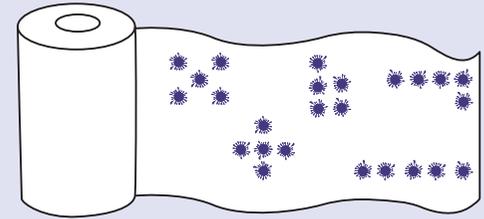
Spray some of the butter beans again so that there are three combinations.

Prompt children to shake up to five butter beans in a cup or in their hands and then drop them on the floor.

Encourage children to tell you what compositions they see.



Provide children with large pieces of paper. Represent numbers up to five in different arrangements by using bingo dabbers to dab dots.



Talk about how children see that number and prompt them to draw around the different groups to show the different compositions.

Conceptual subitising to 5

Notes and guidance

In this small step, children build on their learning of composition to five and perceptual subitising to develop their understanding of conceptual subitising. This is the ability to see sets of numbers within other sets, such as seeing the two and three in the number five, without having to count. Children are taught to recognise a whole quantity by recognising and combining these smaller quantities.

Support children to see smaller groups within the whole by using resources that include two colours, such as double-sided counters, sprayed butter beans and two-colour dot plates. Encourage them to notice the groups and subitise them in the same way as they did previously.



Rhymes

- *Five Crispy Pancakes*



Books

- *Anno's Counting Book* by Mitsumasa Anno

Key questions

- What do you see? How do you see it?
- What is the whole?
- What is/are the part/parts?

Possible sentence stems

- The whole is _____
- _____ is a part and _____ is a part (and _____ is a part).
- I see _____ and _____
- There are _____ altogether.
- If _____ is a part, then the other part must be _____

Links to the curriculum

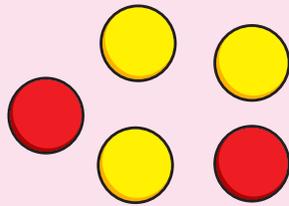
- *Development Matters* – Reception – Subitise.
- *Birth to 5 Matters* – Range 6 – Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three

Conceptual subitising to 5

Adult-led learning

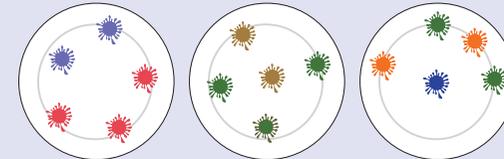


Give children five double-sided counters each. Shake them and drop them on the floor.



Prompt children to describe how many there are of each colour. How can we describe the parts when all the counters are the same colour?

Provide children with paper plates or circles of card and bingo dabbers. Encourage children to make their own two-colour or three-colour dot plate cards.



What different arrangements and compositions can they make?



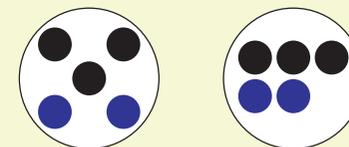
Act out rhymes such as *Five Crispy Pancakes*. Have pancakes made from card of two colours, with one colour on one side and another colour on the other side. Children flip pancakes and see how they land. How many are one colour? How many are the other colour?



Prompt children to flip the pancakes again. Does the composition change?



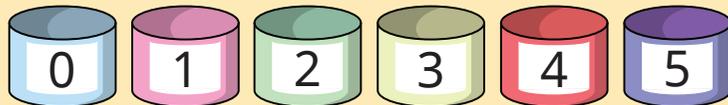
Show children dot plates with up to five dots in different colour combinations. Ask what number they see and how they see it.



Extend this by laying dot plates on the floor. In pairs, children take turns to find two dot plates with the same composition in different arrangements.

Continuous provision

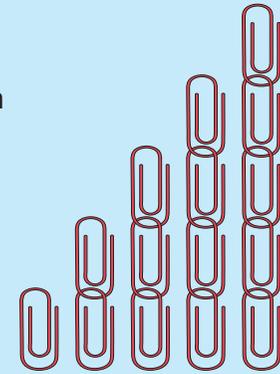
Provide a range of loose parts and pots labelled 0–5 for children to count items into. Observe to see if they count the items correctly into the corresponding pots.



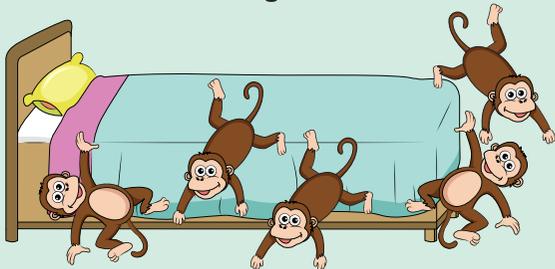
Picture cards and dot plates to represent different quantities, including zero, can also be sorted and matched to numerals.

Encourage children to make their own physical number lines using non-standard units of measure, such as paperclips, to represent the value of each number.

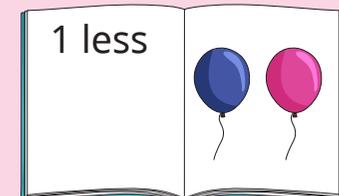
Prompt children to label their number lines with the correct numerals.



As children play, prompt them to notice where they see zero. For example, could we park zero cars in our car park? If there are five horses and two fields, how many horses could be in each field? If all five monkeys have fallen off the bed, how many are left on the bed?



Provide children with mini blank books and encourage them to make their own '1 more' and '1 less' books.

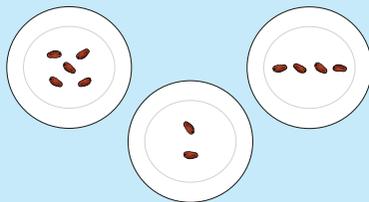


Children could then go on to design their own number books.

End of block checkpoint

Checkpoint 1

During snack time, ask children to count out a given quantity (for example, five raisins). Prompt them to use the snack to make different arrangements. Then explore what happens if they eat different amounts.

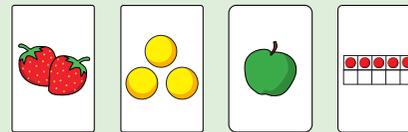


How many are left if they eat them all? How many would they have if they were given one more?

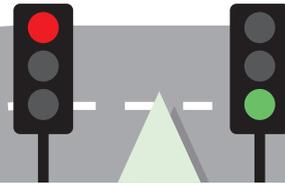


Checkpoint 2

Place dot plates or picture cards representing 0–5 on the floor.



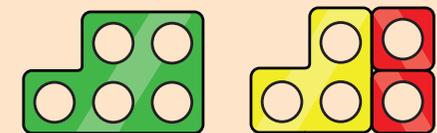
Hold up a numeral and prompt children to use a swatter to swat the correct dot plate or picture card. Encourage children to take it in turns to lead the game.



Checkpoint 3

Give children a range of 1 to 5 number shapes.

Encourage them to use two smaller numbers to make a whole. Children check by placing the two parts on top of the whole number. Is there another way they can make the number?



Can children show a number in three parts?

