EARLY FOUNDATIONS

CUSPA

CURRICULUM WITH UNITY SCHOOLS PARTNERSHIP

MATHS

Age 4 - 5

Autumn Block 4

Composition of 1, 2 and 3

Learning Sequence: Age 4 – 5 Block 4 Composition of 1, 2 and 3

Foundational knowledge	Use number names and language to compare; know the order of number names in relation to each other; show an awareness of composition to three including partitioning; recall number bonds to 3; recognise doubles (to 1); add one and subtract one with numbers to 3; represent mathematical problems with part-whole models; recognise one more and one less in a counting sequence	
Key mathematical language (essential vocabulary)	**Threshold vocabulary** altogether, part, whole, less, compare	**Clarification vocabulary** total, double, missing
Sentence stems	What is the total? How many do you have altogether? What do you notice? How many more? What is one less than ___?	
Resources required	number track (0 – 5) numerals to 5 (in different representations, including handwritten) paper plates with dot arrangements counting objects pupils – tens frame and double-sided counters pupils – part-whole models dominoes	
At the end of this unit, pupils will …	**Know** • the counting sequence is always the same (stable order principle) • the last number counted gives the total so far (cardinality) • the number of objects remains the same even if the arrangement changes (conservation of number). • identify smaller numbers within a larger number (conceptual subitising) • number bonds (up to three)	**Be able to** • count to three in sequence • count the number of objects and know that the last number gives the total • match a numeral with the number of objects • partition numbers and recombine to say the whole • find pairs of numbers to make a given number (up to three)
Prompting questions for thinking hard	What is the total number of ways that you can make three? Is there always one whole? What is the same and what is different?	

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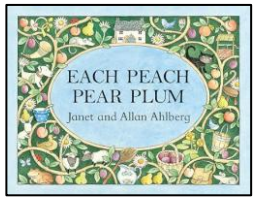
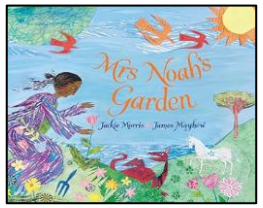
Opportunities and experiences	Outdoors	Small world	Creative play
 Images on the left-hand page provide opportunities to pose the question: how many more ____ to make three?  Images in the book provide opportunities for pupils to spot a composition of three, i.e. three carrots and opportunities to compare numbers. There are two birds. Two is one less than three.	Have three hoops, displayed as a part-whole model. Ensure that there are three in the whole. Pupils throw bean bags to complete the empty parts. How many different ways are there? **Organise the cones** Muddle cones into different colours. Challenge pupils to organise them into towers that include three parts of the same colour.	**Who can fill their bowl first?** Display a tub of small world items, dice (0 - 3) and some bowls. Pupils take it in turns to roll the dice and collect the correct amount of small world items into their bowl. **Pairs** In pairs, arrange dominoes face down. Challenge pupils: how many doubles can you find in 1 minute? If it's not a double, then how do you know?	Provide Play-Doh©. Can you use your fingers to make a pattern that shows doubling? Make your own number bond machine and then using any three small objects practise their number bonds to three.

Learning Sequence: Age 4 – 5 Block 4 Composition of 1, 2 and 3

Part 1/2					
Connect	**Vocabulary**	**Explain**	**Example**	**Attempt** (checking for understanding)	**Guided**
Lesson 1 – composition of 3					
Use an instrument to make a sound/s (0 – 3 dings). Ask pupils to point to the corresponding number on their number track to match the number of sounds you made (include 0).	Instruct the key vocabulary – *total* (x3): the last number said is the total so far.	Explain that there are different ways to make the number three.	Model placing three double-sided counters. I have two blue counters and one red one. My total is three. Repeat. Model dropping the same three counters and show on your fingers how many counters are blue and how many counters are red.	Ask pupils to hold three double-sided counters and drop them. Show me on your fingers: how many blue counters do you have? Show me on your fingers: how many red counters do you have? Show me on your fingers: what is your total?	Ask pupils to hold three double-sided counters and drop them. Model showing the number of blue counters on your fingers. Ask the pupils to show on their fingers how many red counters there are. What is the total?

Learning Sequence: Age 4 – 5 Block 4 Composition of 1, 2 and 3

Part 1/2					
Connect	**Vocabulary**	**Explain**	**Example**	**Attempt** (checking for understanding)	**Guided**
Lesson 2 – recognise number bonds to 3					
Sing Five *little speckled frogs*.	Instruct the key vocabulary – *altogether* (x3): the total amount.	Explain there are three frogs in our pond altogether. We have one lily pad. Model having one frog on the lily pad and two in the water. I have one frog on the lily pad and two frogs in the water. There are three frogs altogether in the pond (*any small world items could replace the frogs).*	Display a digit card with a numeral (0 – 3). Place the correct number of frogs to match the digit card onto the lily pad. Then put the rest of the frogs in the water. I have __ frogs on the lily pad. I have __ frogs in the water. Altogether I have three frogs in the pond. Repeat with a different digit card. Ensure that you model zero frogs on the lily pad. I have zero frogs on the lily pad and three in the water, so altogether I still have three frogs in the pond.	Display a digit card with a numeral (0 – 3). Ask pupils to place the corresponding number of frogs onto their lily pad. Ask them to put the rest in the water. Show me on one hand: how many frogs are on the lily pad? Show me on the other hand: how many frogs are in the water? How many frogs do we have in the pond altogether?	Explain that there are three frogs altogether in our pond. We have one lily pad. Model having one frog on the lily pad and two in the water. There is one frog on the lily pad and two in the water, so I have three frogs in the pond altogether. Repeat allowing pupils to place the correct number of frogs on their lily pad and in the water so that it matches the adult's. Ask pupils to say how many they have on the lily pad and how many they have in the water. How many are in the pond altogether? Repeat with two frogs on the lily pad.

Learning Sequence: Age 4 – 5 Block 4 Composition of 1, 2 and 3

Part 1/2					
Connect	**Vocabulary**	**Explain**	**Example**	**Attempt** (checking for understanding)	**Guided**
Lesson 3 – recognise number bonds to 3					
One little finger standing on its own, (Show index finger.) Two little fingers, now they're not alone. (Add middle finger.) Three little fingers, happy as can be. (Add ring finger.)	Instruct the key vocabulary – *part* (x3): a piece of something.	Explain that sometimes we can split objects into their parts. Show a tower that is made up of three cubes. Break the tower into the three cubes and place them separately in front of you. This tower has three parts.	Show a tower made up of three different coloured cubes. I have three parts to my tower. Then, break the tower into its three separate parts. One part is blue, one part is green and one part is red. Repeat with a different tower. I have three parts to my tower. Two parts are blue and one part is green.	Provide pupils with three green cubes each. Place one blue cube in front of yourself. Ask pupils to show how many green cubes they need to put on your blue cube to make a tower of three parts. Repeat by placing two blue cubes in front of you and then zero.	Show a tower of three, a tower of two and a tower of one. What do you notice? Discuss. Explain that you need to make all of them into a tower of three. Place the tower of two next to the tower of three. How many more do we need? Place the tower of one next to the tower of three. How many more do we need?
Lesson 4 – recognise number bonds to 3					
Simon says: 'clap your hands this many times, nod your head …' (Show numeral 0 – 3.) Encourage children to repeat movement and count aloud.	Instruct the key vocabulary – *whole* (x3): the whole number is the total amount. Today our whole will be three.	Show a part-whole model with the three cubes at the top – two cubes in one of the parts and one cube in the other part. Use the *Knowledge Note* to support understanding. I can see that my whole is three cubes. I can see that I have one part that is two cubes. I can see that I have one part that is one cube. My whole is three cubes.	Display a part-whole model with the three cubes at the top. Place two cubes in one of the parts. To make the whole I will place one cube in the other part.	Provide pupils with a blank part-whole model that has three cubes at the top. Provide pupils with another three cubes. Roll a (0 – 3) dice and ask pupils to put the number of cubes shown in one of the parts. Then ask: how many more cubes do you need to make your whole? Allow the pupils to add the cubes to their part-whole model. Repeat.	Provide pupils with a blank part-whole model that has three cubes at the top. Provide pupils with another three cubes. Place one cube in one part. Ask pupils: what do you see? How many cubes do we need in the empty part to make the whole? How do you know? Discuss. Repeat.

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Part 1/2					
Connect	**Vocabulary**	**Explain**	**Example**	**Attempt** (checking for understanding)	**Guided**

Lesson 5 – flexible content

The purpose of this lesson is to provide teachers with an opportunity to respond to pupil outcomes from the rest of the teaching week. This time should be used strategically to move pupils' thinking forwards. This lesson can be moved to a different position in the week to ensure it is used where and when it is needed. Although not an exhaustive list, below are some suggestions of how this time can be utilised to maximise impact.

Revisit areas in which pupils would benefit from further consolidation.

Respond to pupils' interests.

Deepen pupils' thinking about the subject matter.

Pre-teach vocabulary or background knowledge.

Learning Sequence: Age 4 – 5 Block 4 Composition of 1, 2 and 3

Part 2/2					
Connect	**Vocabulary**	**Explain**	**Example**	**Attempt** (checking for understanding)	**Guided**
Lesson 1 – recognise one less (up to 3)					
Ask children to put one finger on their number track. Put your finger on 2. What is one more than two? Put your finger on 1. What is one more than one? Put your finger on 0. What is one more than zero?	Instruct the key vocabulary – *less* (x3): a smaller amount	Show a tower that is made up of three cubes alongside a tower made up of two cubes. Point and say: this tower is made up of three parts and this tower is made up of two parts. This tower has one less part than the other tower. Let's count the parts in each tower.	Show a tower that is made up of three cubes. I need to make a tower with one less part. Count the number of cubes in the tower. Model splitting the tower into parts. I have three parts. I need one less cube (remove one cube). I now have two parts. Build the tower and then count the parts.	Show a tower that is made of two cubes. Ask pupils to show two fingers, then to use their fingers to show one less finger. What is one less than two? Show a tower that is made of three cubes. Ask pupils to show three fingers, then to use their fingers to show one less finger. What is one less than three? Show a tower of one cube. Ask pupils to show one finger, then to use their fingers to show one less finger. What is one less than one?	Ask pupils to place three counters on their tens frame. Ask them to show one less. Support those that are unsure to remove one. One less than three is two. Next, ask pupils to place two counters on their tens frame. Ask them to show one less. Support those that are unsure to remove one. One less than two is one. Finally, ask pupils to place one counter on their tens frame. Ask them to show one less. Support those that are unsure to remove one. One less than one is zero.

Learning Sequence: Age 4 – 5 Block 4 Composition of 1, 2 and 3

Part 2/2

Connect	Vocabulary	Explain	Example	Attempt (checking for understanding)	Guided
Lesson 2 – compare numbers					
Play a triangle (0 – 5 dings) and ask pupils to point to the corresponding number on their number track to match the number of dings you made.	Instruct the key vocabulary – *compare* (x3): to say what is the same and what is different.	Explain that it is useful to compare things. Use small world (bears) and make the following comparison. These bears are the same size. These bears are different colours. We can also compare numbers.	Show images with spots, i.e. dotty plates. Show a plate with two dots and a plate with three dots. Model looking at the two plates. This plate has one less spot than this plate. If pupils struggle to see the difference, count the dots on each plate. Repeat with different plates. Explore one less.	Display one of the dotty plates. Ask pupils to use their fingers to show one less than the image shows. Then ask the pupils to use their fingers to show one more than the image shows. Repeat with a different plate.	Work together to put the dotty plates in ascending order: 0, 1, 2, 3. Can you see the pattern (pointing left to right)? There is one more dot each time. Show dotty plates in descending order: 0, 1, 2, 3. Pointing left to right, ask: can you see the pattern? There is one less dot each time.
Lesson 3 - recognise doubles to 1					
Use the tens frame and double-sided counters. Place a counter on the tens frame. Show me on your fingers how many more I need to make 3.	Instruct the key vocabulary – *altogether* (x3): the total amount.	Show a tens frame vertically with one red counter on the top left and another red counter on the top right. I can see that there are two counters altogether.	Show a domino with one dot on one side and one dot on the other side. Count aloud, one, two. I can see that there are two counters altogether. Let's count the counters together. There are two counters altogether.	Give pupils a domino with one dot on one side and one dot on the other side, a dotty plate with two dots on representing two, a tens frame horizontally with one red counter on the top left and another on the bottom left. What do you notice? Ask pupils to tell their partner.	Place in the middle of the group, dotty plates representing two in different orientations. Ask pupils, what is the same and what is different? If pupils are secure with this, introduce the domino and the tens frames both horizontally and vertically and repeat the question, what is the same and what is different?

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Part 2/2					
Connect	**Vocabulary**	**Explain**	**Example**	**Attempt** (checking for understanding)	**Guided**
Lesson 4 – solve problems					
Sing the nursery rhyme, *Five little ducks.*	Instruct the key vocabulary – *less* (x3): a smaller amount.	Sometimes we can use our number knowledge to help find an answer. Prepare two groups of animals that include a group of one and a group of two. Explain that the animals must travel in twos. I can see one lion. There needs to be two. This group needs one more before they can set off. I can see three giraffes. There needs to be two. They need one less before they set off.	Prepare two groups of animals that include a group of two and a group of four. Explain that the animals must travel in threes. I can see two lions. It needs to be three. They need one more before they can set off. I can see four giraffes. It needs to be three. They need one less before they set off.	Remind pupils that the penguins must travel in threes. Show one penguin. Ask pupils to use their fingers to show how many penguins there are. On your other hand, show me: how many more penguins do we need? Prepare three elephants. Using your fingers, show me how many elephants there are. On your other hand, show me: how many more elephants do we need?	Give pupils three double-sided counters. Ensure they are all showing red. Display three red counters and count for the pupils, 1, 2, 3. Hide one counter. How many are there now? How many more do we need to make three? Repeat, hiding two counters.

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Part 2/2

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