

# Reception Sample

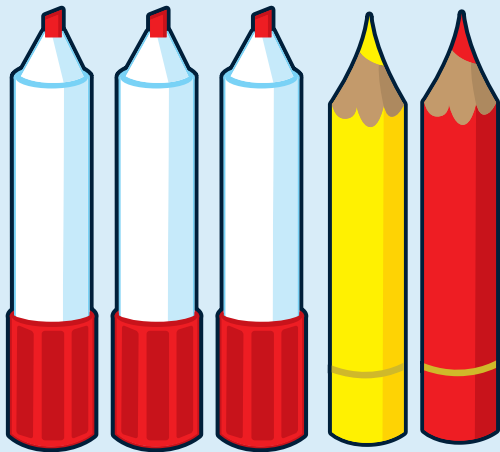


# Online Flashcard

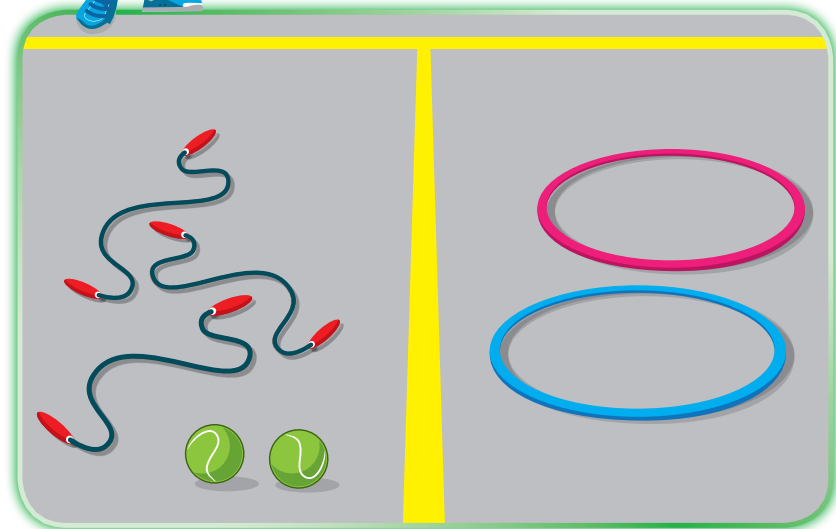
## Unit 6 Number bonds within 5



Let's sort the objects into 2 groups.



Let's look.



# Online Flashcard

Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model

## Discover

My  wants .

My  wants .



Sort the  and the  into 2 **parts**.

# Online Flashcard

Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model

Share

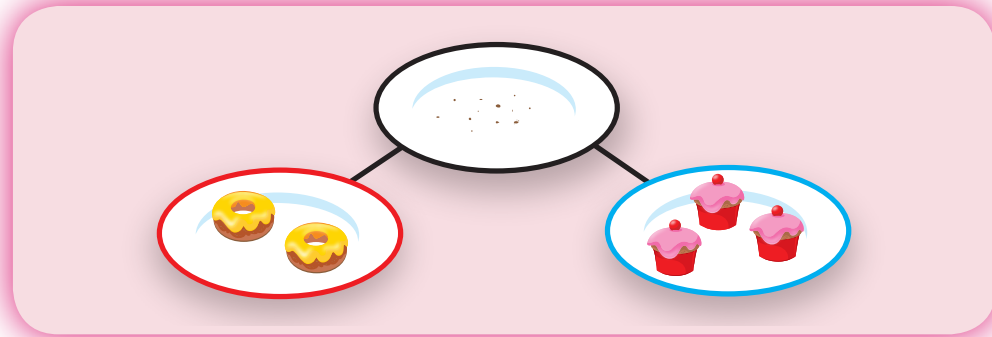
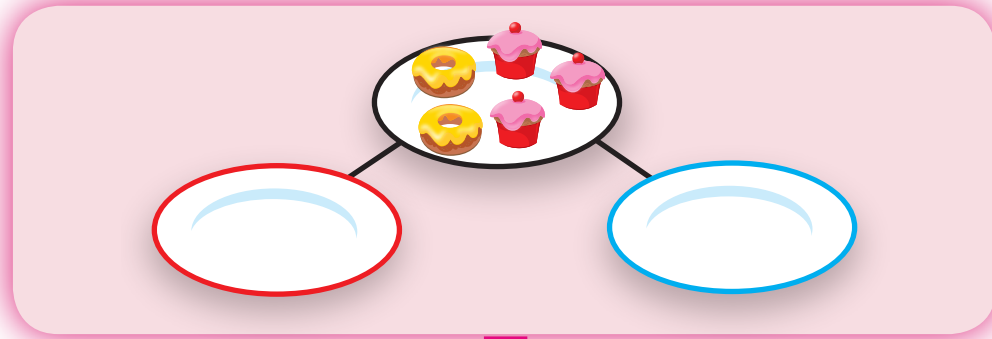
Sort the  and the   
into 2 parts.




I can see how  
to sort the  
cakes!



I can use  
numbers to  
show the parts.



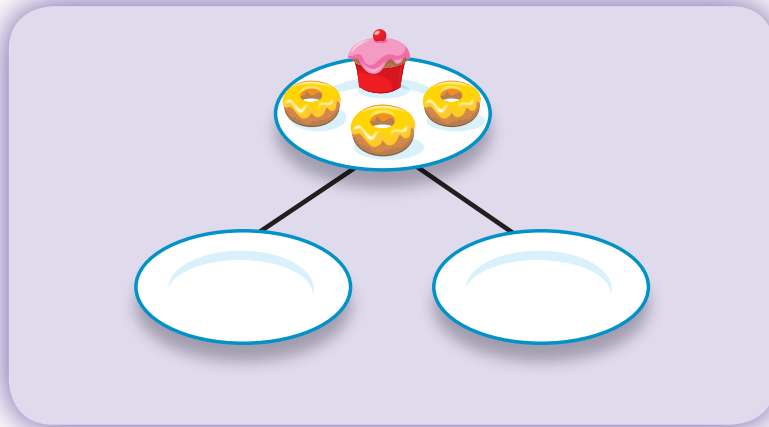
One part is the . The other part is the .


# Online Flashcard

Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model

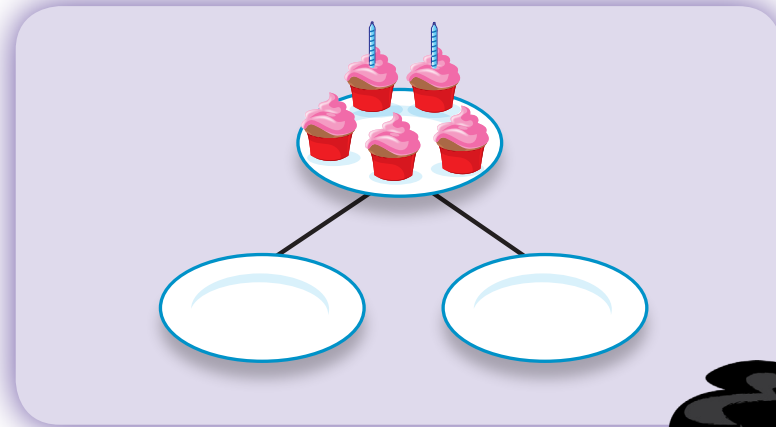
## Think together

1 Sort the **whole** into 2 parts.



I will use  to help me.

2 Sort the whole into 2 parts.



I can see how to sort them.

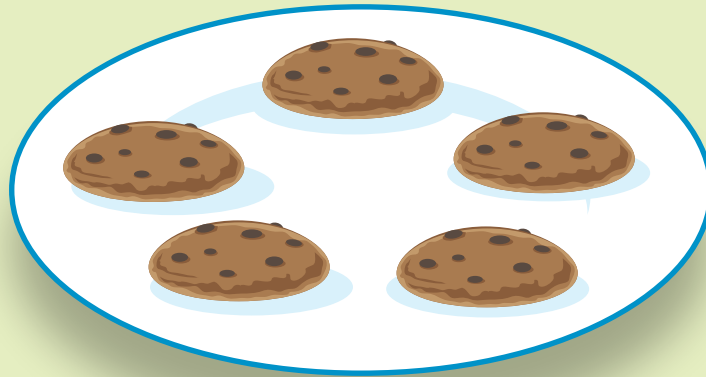


# Online Flashcard

Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model



Break the whole into parts.



I think there is more than one way to do this.



I will find all the ways to do this!

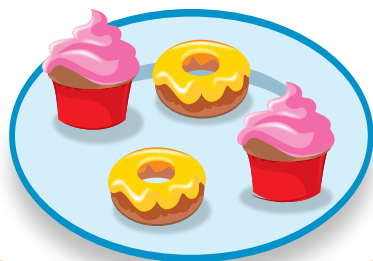


# Maths Journal

Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model

Practice

Sort the whole into 2 parts.



**ELG 12: Mathematics: Shape, space and measures** explore characteristics of everyday objects and shapes and use mathematical language to describe them

**Working towards ELG 11: Mathematics: Numbers** using quantities and objects, add 2 single-digit numbers

**Strengthen:** What is the whole? How many cakes represent the whole? How many parts are there? How could you sort the whole into the parts? Where is the first part? What could you put in the first part? Show me the second part. When you have sorted the parts, how many are left in the whole?

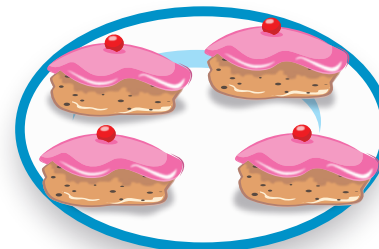
**Deepen:** Is there more than one way to sort the cakes into 2 parts? Does there have to be the same number of cakes on each plate? Can there be different types of cake on the same plate? What else could you try? Show me.

2

Reflect

Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model

Break the whole into parts.



I will use  to help me.



**Strengthen:** What is the whole? Show me with counters or cubes. How could you sort them into parts? Is there another way to sort them?

**Deepen:** Can you show me other ways to break the whole into two parts? Have you found all the ways to sort them? What if the whole was three? (For example, '3 and 1' and '1 and 3'). Are there other ways to sort the whole? Show me.

3

# Teacher Guide

Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model

## Introducing the part-whole model

### Learning focus

This week, children will consolidate and build on learning from Unit 2: Sorting. They will be introduced to the vocabulary of wholes and parts, and practise the concept of breaking a whole into parts using a part-whole model.

### Small steps

- Previous step: Time
- **This step: Introducing the part-whole model**
- Next step: Numbers to 10

### COMMON MISCONCEPTIONS

When using the vocabulary 'whole', children may confuse the meaning with the word 'hole', as in 'a hole in the ground'. Ask:

- *What is the 'whole' of the class?* [All of us.] *What are the parts of the class?* [Each child or group of children, such as those who walk to school and those who don't or the 4 year olds and 5 year olds.]

When counting the parts in a part-whole model to find the whole, children may include the whole in their count. Encourage children to count out loud, using manipulatives, such as cubes or wooden blocks to represent the whole and parts. Ask:

- *Where is the whole on this model? Where are the parts?*  
*How many parts make this whole? Do you need to count the whole as well?*

### EXPLORE

Taking every opportunity throughout the school day to build and reinforce mathematical concepts gives children's learning purpose and meaning in the wider context of their lives.

ACTIVITY	AREA	DESCRIPTION	RESOURCES
Bowling	Inside or outside space	Set up a bowling activity using up to 5 items. Ask children to partition the items that are left standing and those that fall over. Spark discussion about the whole and the parts.	Ball, bowling pins
Playdough birthday cakes	Messy play area	Make sets of up to 5 playdough cakes, decorating each cake with one candle, using two different colours of candle. Encourage children to draw or complete part-whole models to show the 2 colours.	Playdough, sets of candles in 2 colours
Bean bag throwing	Inside or outside space	Choose a small number of bean bags (up to 5). Ask children to attempt to throw all 5 bean bags into a box or hoop. Next, ask children to count how many land in the box and how many miss. Ask: <i>How many bean bags did we start with? How many landed in the box? How many missed? How can we sort the bean bags into 2 groups/parts?</i>	Bean bags, box or hoop

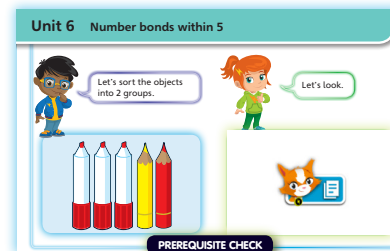
Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model

## Day 1

### Learning focus

Sorting objects into 2 groups

### Starter



**Prerequisite check:** Sorting felt tip pens and pencil crayons into 2 groups.

**WAYS OF WORKING** Whole class

Introduce this week's first day of teaching with the prerequisite check. Where possible, give children access to pens and pencils, encouraging them to physically sort them into 2 parts, and then back into a whole.

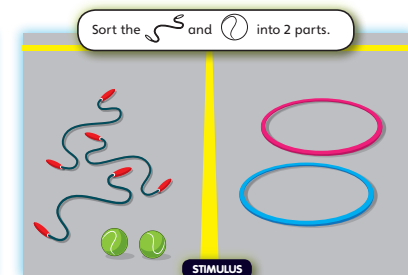
**IN FOCUS** This prerequisite check practises the Unit 2 skill of sorting using the properties of objects. Children can sort by pens and pencils (the more obvious grouping) or by colour (more difficult to spot).

#### ASK

- *Can you remember what 'sort' means?*
- *What objects are shown here?*
- *Which item are there more of, which item are there fewer of?*
- *How could you sort them into 2 groups?*
- *What colours are they? Is there another way to sort them?*

### Before you teach II

- Are all children able to count to 5 confidently?
- Can children confidently sort a small group of objects into 2 groups?
- Are children confident using sorting vocabulary such as 'more', 'fewer', 'same' and 'different'?



**Stimulus:** Picture to prompt a guided activity. Using the picture as a stimulus, sort a group into 2 parts using empty hoops as an introduction to the 'parts' in a part-whole model.

**WAYS OF WORKING** Whole class or small groups

Spark children's interest with this stimulus picture and activity, which encourages children to sort objects into hoops, anticipating the layout of a part-whole model that they will be introduced to in the **Discover** activity, [Day 2].

**IN FOCUS** The focus of the **Stimulus** is to move children towards the mathematical skill of sorting objects into hoops, a precursor to the part-whole model. Another important step here is the introduction of the language of 'parts' and 'whole'.

Encourage mastery of the concepts of parts and wholes by using every opportunity to identify a whole and its parts in everyday contexts, and how parts can go back together to make the whole, and then break up again to go back into parts. Use the Explore table on the previous page for more activity ideas to help embed today's learning.

#### ASK

- *Look at the picture, what can you see?*
- *What might the 2 parts be? Where could you put the 2 parts to make this clear?*
- [After deciding how to sort the parts], *If these are the parts, what is the whole? And if we break them up again into 2 groups, what are the parts?*

**GET ACTIVE** Use the picture to lead into a guided activity in your outside area. Lay hula hoops on the floor in the shape of a part-whole model, (1 hoop at the top, 2 hoops below). Place 3 skipping ropes and 2 tennis balls in the 'whole' hoop. Guide children towards sorting the items into the 2 'part' hoops, using the **Ask** questions above as a starting point if necessary.



# Teacher Guide

Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model

## Day 2

### Learning focus

Sorting a whole into 2 distinct parts

### Discover

**WAYS OF WORKING** Whole class or small groups

Have concrete manipulatives, such as real or toy cakes or cubes, available for children to recreate the cakes in the **Discover** artwork. Circular plates would be useful to support children's sorting of the cakes.

**IN FOCUS** The focus of this activity is to show how a whole (5 cakes) can be sorted into 2 parts (2 types of cake). Guide the discussion about how the 'whole' can be sorted into 2 parts, to consolidate the key language of 'whole' and 'parts'. Use every opportunity to embed this language, modelling stem sentences for children to copy, such as: *We sorted the cakes by moving them into 2 parts, now let's put them back together to show the whole again.*

#### ASK

- What can you see in the picture?
- What are the parts? How many cupcakes are there? How many doughnuts are there?
- How many cakes are there altogether? What is the whole?
- How many doughnuts do the first group get? How many cupcakes do the second group get?



**STRENGTHEN** Use stem sentences to support understanding of where the whole and the two parts are, for example: *The whole is... (all of the cakes) The parts are... (the 2 plates of cakes), 1 part is the plate of... (2 doughnuts) and the other part is the... (plate of 3 cupcakes).* Children can use cubes in different colours to represent the two types of cake and use real plates or hoops to physically sort them.

### Share

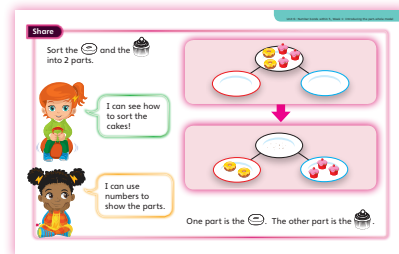
**IN FOCUS** Children can use concrete manipulatives to help sort the cakes. The part-whole model shows how the whole number of 5 cakes can be sorted and split into 2 distinct parts. The **Discover** artwork can be recreated using the online part-whole model teaching tool, using 2 colours of counters or cubes to represent the cakes. Show the items moving from the whole to the parts and back again.

#### ASK

- Where is the whole? Where are the parts? What has happened to the whole in the second picture?
- What do you think the 5 shows? What does the 3 show you? What about the 2? [Draw out the language of the 'whole' and 'parts']

**STRENGTHEN** Provide children with the opportunity to manipulate physical blocks or cubes, moving them from the whole into 2 separate parts as you work through the **Share** section. Demonstrate how the whole is empty when it has been split into the 2 parts, reinforcing how the whole becomes 2 parts.

**DEEPEN** Children can make their own teddy bears picnic using 4–6 cubes or building blocks in two different colours and two different sizes. Encourage children to split the



'cakes' up in different ways between two plates, asking them to record the results in a part-whole model using drawings or numbers.

**GET ACTIVE** Ask children to make sets of up to 5 playdough cakes, decorating each cake with one candle, using two different colours of candle. Encourage them to draw or complete part-whole models to show the 2 colours:  $5 = 2 \text{ red} + 3 \text{ blue}$ ;  $1 \text{ red} + 4 \text{ blue}$ ;  $5 \text{ red} + 0 \text{ blue}$ , etc.

Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model

## Day 3

### Learning focus

Recognising different representations of 2 parts

### Think together

**WAYS OF WORKING** Whole class or small groups

Have cubes or blocks in two different colours available for children to use to represent the cakes.

**IN FOCUS** The focus is on becoming familiar with the concept of wholes and parts. Use the **Think together** questions to spark discussion and consolidate understanding.

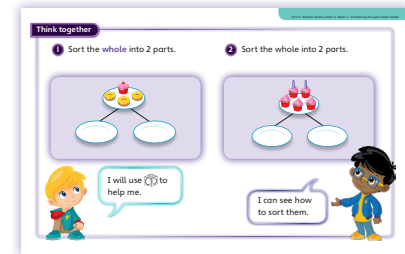
The small step of progression between the questions is moving children from sorting different items to sorting identical items, challenging them to look for different ways to sort.

#### ASK

- Question 1: What is the same and what is different? What is the whole? How many parts do you need to sort into? What could the parts be?
- Question 2: Are there any other ways to sort the cakes?

**STRENGTHEN** Children who are not yet ready to move onto concrete representations should be encouraged to use toy cakes or playdough cakes to represent the problem.

Use the part-whole model teaching tool to reinforce number bonds to 5. Move 4 counters into the whole and then move



2 counters from the whole to one of the parts. Next move the remaining 2 counters from the whole into the other part and explain to children what you are doing. Use complete sentences to model answers for children to repeat. Ask them to model their own sentences based on the number facts you display on screen.

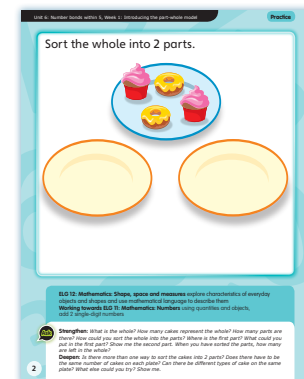
**DEEPEN** Encourage children to think more deeply about the meaning of the words 'whole' and 'parts'. Ask: *What is the whole here? Will the whole stay the same if I swap the 2 parts? Is there another way to show the parts? Can you explain your answer?*

### Practice: Journal I

**WAYS OF WORKING** Independent thinking

**IN FOCUS** The focus of this **Practice** activity is to reinforce the vocabulary of 'whole' and 'parts' and to embed understanding of these concepts, and of the part-whole model, using plates as a more familiar, natural context.

**MASTERY CHECKPOINT** Children who have mastered this concept can tell you how they know what the whole is and what the parts are, and can show you using cubes or blocks, or by drawing in their journals. When prompted, they can explore different ways of splitting the whole and they can explain that the whole doesn't change, even if we move the parts.



# Teacher Guide

Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model

## Day 4

### Learning focus

Finding different ways to sort groups into parts

### Challenge

**WAYS OF WORKING** Whole class or in pairs  
Guide children who need more support, using cubes or blocks to represent the biscuits. Prompt thinking using the questions below. Some children may find it helpful to work in pairs.

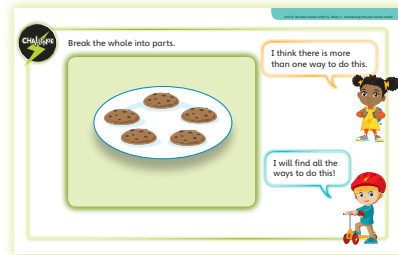
**IN FOCUS** In this **Challenge**, all the items in the picture are identical so that children have to choose how to split them without the support of having distinct groups. Without any physical differences, children must now attempt to sort the biscuits by amount, using their knowledge of number bonds to 5. Encourage children to discover for themselves that there is more than one way to sort the whole into parts, for example,  $1 + 4$ ,  $2 + 3$ , etc.

#### ASK

- What is the whole? What is the same? Can you see any differences? How else could we break the whole into parts?
- Is there more than one way to do this? How will we find out? What could we use to help us?
- How do you know that there is more than one way? Work with a partner to find all the ways.

**STRENGTHEN** Work closely with children who need more support attempting this **Challenge**, ensuring they have access to manipulatives that they can physically move to represent different number bonds to 5. Encourage children to count out loud as they work.

**DEEPEN** The **Challenge** question has purposefully not guided children to breaking the whole into a specific number of parts, but has left the number of parts to split the whole into as an open question. Children who have fully mastered the concept may be able to suggest the idea of separating the whole into more than 2 parts. Encourage them to try this, and ask questions such as: *What is the whole? What are the parts? Is there another way you could do this? What happens if we break the whole into 3 parts? Does the whole stay the same, no matter how many parts we break it into?*



Unit 6: Number bonds within 5, Week 1: Introducing the part-whole model

## Day 5

### Learning focus

Finding number bonds to 3, 4 and 5

### Practical activities

**WAYS OF WORKING** Whole class

**IN FOCUS** Today's activity builds on recognising and identifying the parts and the whole and encouraging children as much as possible to use the language 'whole' and 'parts' when describing what they are doing. Prompt children with stem sentences from the **Online Flashcard** as much as possible, for example, 'the whole is...', 'the parts are...' to reinforce the accurate use of this key language.

**GET ACTIVE** Outside or in the hall, put hula hoops on the ground laid out like a part-whole model; one hoop at the top and two hoops below. Demonstrate: ask a group of 5 children to stand in the 'whole' hoop. Ask the other children to suggest how they could be split into 2 parts (long hair / short hair, age 4 / age 5). Ask the 5 children to split their group into the 2 parts suggested. Repeat with a different group of 5 children, using a different criteria for the split. Split the class into groups of 3, 4 or 5 children. Ask them to

count how many are in their group. Prompt thought with questions, such as: *Is that the whole or the part? How can you divide your group into 2 parts? How many children is the whole for your group? Ask children to stand in the 2 hoops that represent the 2 parts of their whole. Encourage them to use stem sentences: The whole is 4; the parts are 2 and 2. Use every opportunity to describe what they are doing, to help embed this key language of whole and parts.*

### Reflect: Journal 2

**IN FOCUS** As in the **Challenge** activity, this **Reflect** activity focuses on sorting a whole when all the parts are identical, forcing children to break the iced buns using number bonds to 4. For example, 3 on one plate, 1 on the other plate, and prompting children to find all possible number bonds to 4. Children are not guided towards 2 parts, so the possibilities of ways to sort the parts are much greater, giving opportunity for broader and more creative thinking. Children may need to be told that more than 2 parts is allowed.

**MASTERY CHECKPOINT** **Children who have mastered this concept** are confident using the language of wholes and parts and can use physical differences and number bonds to 5 to split a whole into 2 parts.

**Children who have not yet mastered this concept** will need support and prompts to complete the activities.

**Children who have mastered this concept with greater depth** can show you all the ways of splitting the whole into parts (possibly including using more than 2 parts) and can explain, when prompted, how they know this.

