

RISING  STARS

ON TRACK 

 **MATHS** 

KEY STAGE

**1**

# Teacher's Guide and Activities

A targeted approach to mathematics intervention

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# Strand: Number

DAY  
1

## Sub-strand: Counting in steps and multiples

TEACH



### ACTIVITY 1: More and less

- ▶ Place the box of loose parts in front of the children. Ask them to help you to sort the objects into groups, e.g. buttons, coins, etc.



**TIP:** This is not the main focus of the activity so do not spend too much time on this task.

- ▶ Once the objects have been sorted, ask: *Which group has the most? Which group has the least? How can we tell?* (We can tell by counting the groups of objects.)



### ACTIVITY 2: Ordering numbers using more and less

- ▶ Now work with the children to put the objects from Activity 1 onto the cards numbered from one to five. E.g., a child might put one button on number card 1, two lids on number card 2, etc.



**WATCH OUT:** The number cards should not be in order.

- ▶ Talk to the children about the numbers representing quantities. Then ask the children to put the number cards in order from one to five.
- ▶ Discuss how their knowledge of numbers is helping them. E.g.: *I know five comes after four because it is a bigger number.*
- ▶ Introduce the sticky notes and explain how the children will use these to continue the number track. Model doing this by counting out five objects and then saying: *I know that the next number will be one more. Add **one more** object and then count them to get six. Write the number on a sticky note.*
- ▶ Ask the children to continue to add in 'one more' number until they reach ten.
- ▶ Once the number tracks are complete, ask the children what would happen if they were to go down the number track. Discuss the numbers and quantities getting smaller. Each number would be **one less** than the number before.

### OBJECTIVES

- Count to and across 100, forwards and backwards, beginning with zero or one, or from any given number
- Given a number, identify one more and one less

**Rising Stars Progression Framework:** 1.1.a.1, 1.1.a.2

### RESOURCES

- Activity 1: Box of loose parts (bottle tops, coins, buttons, etc.)
- Activity 2: Sticky notes; pencils; number cards from 1 to 5; sorted piles of loose parts (from Activity 1)

## Strand: Number

## Sub-strand: Counting in steps and multiples

TEACH



## ACTIVITY 1: Finding one more and one less

- ▶ Remind the children: **More** means you are adding to the quantity and **less** means you are taking away from the quantity.
- ▶ Give each of the children a number card and ask them to count out the correct number of counters in front of them.
- ▶ Ask the children how they could find **one more** than the number they have. Then get them to add one more counter to their quantity.
- ▶ Go around the group and ask the children to explain: *I had X counters and I added one more. Now I have Y counters.*
- ▶ Shuffle the number cards and ask the children to pick one each and repeat the process. Each time ask the children to explain the number they started with, that they added one more, and how many they now have.
- ▶ Repeat the activity by asking the children to count out the number of counters on their card and to then find **one less**.
- ▶ Go around the group and ask the children to explain: *I had Y counters and I took one away. Now I have X counters.*



## ACTIVITY 2: Counting on between two numbers up to 100

- ▶ Start by introducing the puppet: *My friend is not able to count very well. Could we help him?*
  - ▶ Model **counting** as the puppet to ten and beyond. Make a mistake when counting and then correct yourself. E.g., you could say: *Oops, I forgot the number 17!*
- TIP:** This helps children to see that making mistakes is not a problem.
- ▶ Count from 0 to 20 with the children.
  - ▶ Now show the children the box with the number cards in. Ask them to take it in turns to pick out two number cards – the smallest number is the number they will start from and the largest number is the number they will count up to.
  - ▶ The whole group then joins in counting from one number to the next in steps of one.

## OBJECTIVES

- Count to and across 100, forwards and backwards, beginning with zero or one, or from any given number
- Given a number, identify one more and one less

**Rising Stars Progression Framework:** 1.1.a.1, 1.1.a.2

## RESOURCES

- Activity 1: Counters; number cards
- Activity 2: Puppet; number cards to 100 in a box

## Strand: Number

DAY  
3

## Sub-strand: Counting in steps and multiples

TEACH

**ACTIVITY 1: Finding one more or one less using a number track**

- ▶ Work with the children to make a number track from 0 to 20. You could write this on the floor with chalk or put the number tiles in the correct order. While you put the numbers in the correct order, talk to the children about the numbers getting bigger as you move up the number track.
- ▶ Work with the children to put the counters or pebbles above each number on the number track (one counter for number 1, two for number 2, etc.).
- ▶ Talk about the quantities becoming more as you move up the number track and the numbers getting bigger.
- ▶ Ask a child to stand on a number on the number track and face up the number track (to where the numbers get bigger).
- ▶ Ask the child to say which number they are standing on and which number is next on the number track. Tell them that this next number is **one more**.
- ▶ Repeat with each child in turn, finding one more by moving one space on the number track.
- ▶ Each time the children should tell you the number that is one more, e.g.: *I started on 1 and moved up a space so now I am on 2. 2 is one more than 1.*
- ▶ Repeat the activity moving down the number track (finding **one less**).

**ACTIVITY 2: One more and one less bingo!**

- ▶ Give each child one blank bingo card (from Worksheet 1) and ask them to write any six numbers onto the cards from 1 to 20.
- ▶ Explain to the children that they will have to listen carefully to you as you tell them to either find the number that is **one more or one less** than a number. This will be the number they can identify on their bingo card. When they find the number, they put a counter on top of it.
- ▶ As you play, pose the instructions in this way: *Put a counter on the number that is one more than six, or: Put a counter on the number that is one less than 12.*
- ▶ The first child with a bingo card full of counters shouts out 'Bingo!'.

**OBJECTIVES**

- Count to and across 100, forwards and backwards, beginning with zero or one, or from any given number
- Given a number, identify one more and one less

**Rising Stars Progression Framework:** 1.1.a.1, 1.1.a.2**RESOURCES**

- Activity 1: Number tiles or numbers drawn on floor with chalk; 20 pebbles or counters
- Activity 2: Worksheet 1; counters (six per child)



# Worksheet 1

Prepare the bingo cards in advance by photocopying them and then cutting them out, one for each child.

## Blank bingo cards




## Strand: Number

DAY  
4

## Sub-strand: Counting in steps and multiples

TEACH

**ACTIVITY 1: Counting on and back using two die**

- ▶ Give each pair of children two die to share between them.
- ▶ Ask the pairs to roll a dice each and write down the two-digit number they make, e.g. if the first child rolls '6' and the second child rolls '1', the two-digit number would be 61.
- ▶ Children then repeat the roll and write the next number.
- ▶ Regardless of whether the first number they made is larger or smaller, this is the number the children will start **counting** from. They should count from the first number to the second number in steps of one, working as a pair. (If they roll the same number twice, they should roll again!)
- ▶ Repeat the process a few times to give you the opportunity to listen in to the children's counting.

✓ **TIP:** When you listen in on the children's counting, remember that you are expecting the children to be confident counting to and from different numbers.

**ACTIVITY 2: Go fish! Creating a number track from 0 to 20**

- ▶ Give each child a set of number cards from 0 to 20 and work in small groups of no more than four children.
- ▶ Explain that each child's objective is to collect a full set of number cards from 0 to 20 and to place them on the table to form a number track.
- ▶ The children in each group shuffle all of their number cards together. Then give each player in the group five cards. The remaining cards are placed face down.
- ▶ Explain the rules of 'Go fish!': Player 1 asks the person to their left for a particular number card; if he or she has it they have to hand it to Player 1, and if not they say 'Go fish!'. But, rather than the traditional way of asking, Player 1 should ask for **one more than** or **one less than** a particular number to get the card they need. If Player 1 has to 'Go fish!', then he or she picks a card from the pile in the middle of the table. If a child ends up with two cards of a certain number, they should put one back, at the bottom of the pile.
- ▶ The children keep going until they get their full number track from 0 to 20 in order.

✓ **TIP:** As the children are swapping cards, check to ensure the children understand '**one more**' and '**one less**' by checking the cards they are swapping.

**OBJECTIVES**

- Count to and across 100, forwards and backwards, beginning with zero or one, or from any given number
- Given a number, identify one more and one less

**Rising Stars Progression Framework:** 1.1.a.1, 1.1.a.2

**RESOURCES**

- Activity 1: Each pair of children needs two die, paper and a pencil
- Activity 2: Sets of number cards from 0 to 20 (one set per child)



## Strand: Number

## Sub-strand: Counting in steps and multiples

ASSESS



## ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, carefully noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.
- ▶ Hand out copies of Worksheet 2 to the children and ask them to have a go at finding the answers. The main challenge is for the children to know what **more** and **less** mean and know what they have to do to find the answers to the questions.

✓ **TIP:** Allow the children to use the counters or the number tracks to find their answers. Note down any resources they used on their answer sheets. As this is not a reading challenge, feel free to read the questions to the children.

- ▶ When the children have completed the worksheet, move on to work with them one-to-one. Explain that you will be telling them a number to **count from and to**.
- ▶ Read the numbers to the children. Say: *Can you count from... to... for me please?* The numbers to use are: 17–47; 94–120; 125–118; 52–110; 27–50; 58–95; 112–89.

✓ **TIP:** Note down the children's responses. If they count to and from the numbers correctly, put a tick. If they make a mistake note it down. Some children may not stop at the number you have asked them to and some children may struggle to cross tens and hundreds boundaries. Note any issues.



## EVIDENCING SUCCESS

## Meeting expectations:

- ▶ The child can count forwards from 94 to 120 and backwards from 125.
- ▶ The child can answer correctly when asked: *I have 28 grapes and eat one of them. How many are left?*

## OBJECTIVES

- Count to and across 100, forwards and backwards, beginning with zero or one, or from any given number
- Given a number, identify one more and one less

**Rising Stars Progression Framework:** 1.1.a.1, 1.1.a.2




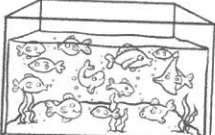



## RESOURCES

- Counters; number tracks; Worksheet 2

# Worksheet 2

Name \_\_\_\_\_ Date \_\_\_\_\_

## 1 more and 1 less

Question	Answer
<p>1. I had 28 sweets and I ate 1 of them. How many are left?</p>	
<p>2. I have 3 apples and my friend gives me 1 more. How many do I have?</p>	
<p>3. Tom has 7 dogs and 1 runs away. How many dogs are left?</p>	
<p>4. Max has 12 fish and his mum gives him 1 more. How many fish does he have?</p>	
<p>5. Ellie can do 23 press ups and Tara can do 1 more. How many can Tara do?</p>	
<p>6. Tess has 98 flowers in her garden. 1 more grows. How many does she have now?</p>	
<p>7. It is 105 steps from the door to Jack's chair. It is 1 less step from the chair to the window. How many steps from the chair to the window?</p>	



## Strand: Number

## Sub-strand: Counting in steps and multiples

TEACH



## ACTIVITY 1: Counting in twos

- ▶ Ask the children to stand up for this activity; ensure they have enough space to move around in.
- ▶ Tell the children to put their hands on their shoulders and to count up to ten in their heads. When they reach a **multiple of two** (i.e. 2, 4, 6, 8, 10) they should say the number aloud and touch their head; the rest of the time their hands remain on their shoulders and they say the numbers silently to themselves.
- ▶ Model to the children how to do this, then join in with them for the first couple of repetitions.
- ▶ The children should repeat counting using this method and sequence.

**! WATCH OUT:** Notice how the children manage this activity. Are they mouthing the odd numbers or whispering them? Are the children able to think the numbers in their heads without speaking?



## ACTIVITY 2: Counting pairs of shoes

- ▶ Ask the children to take off their shoes and put them in one group. Ask: *How could we find out how many shoes we have altogether?*
- ▶ Highlight to the children that it would be time-consuming to count them one by one. Tell them: *We could do it quicker by counting in pairs (or twos).*
- ▶ Work with the children to line the shoes up in pairs. (Make sure you have an even number of them!)
- ▶ Model counting the shoes using the 2, 4, 6, 8, 10, etc. sequence they learned earlier. As you say a number, point to a pair of shoes.
- ▶ Now ask the children to count the shoes in twos.

**! WATCH OUT:** Make sure the children are using the correct counting sequence – no odd numbers should be said through the process. Make a note if the children still need to mouth or whisper the odd numbers.

## OBJECTIVE

- Count in multiples of twos, fives and tens

**Rising Stars Progression Framework: 1.1.a.3**

## RESOURCES

- Activity 1: The children need to be able to stand up and move their arms
- Activity 2: The children take off their shoes in this activity

## Strand: Number

DAY  
2

## Sub-strand: Counting in steps and multiples



## ACTIVITY 1: Counting in fives

- ▶ Remind the children that it is sometimes more practical to count in **multiples** rather than to count in ones all of the time.
- ▶ Using a 100 square, show the children which numbers we land on when we count in **fives** and highlight them.
- ▶ Point out that when counting in fives the numbers you say either end in a **five** or a **zero**.
- ▶ Model showing the children five on your hand and then zero (using a closed fist).
- ▶ Now count in fives with the children pointing at the 100 square – each time you say a number ending in five put your hand out showing five; each time you say a number ending in zero put your hand out showing the fist. Ask the children to copy you.

**! WATCH OUT:** Make a note of children who rely on the highlighted numbers to get the pattern of the counting.



## ACTIVITY 2: Counting petals on flowers in fives

- ▶ Hand out copies of Worksheet 3. Show the children the pictures of the twelve flowers with five petals each. Say: *It would be easy to count how many flowers one by one, but to count all the petals on all the flowers would take a long time. How could we count them faster?*
- ▶ Now say: *Let's count in fives to find out how many petals we have altogether on the flowers.* Display a copy of Worksheet 3.
- ▶ As you say each number, write it in the centre of the flower on the displayed version of Worksheet 3.
- ▶ Now allow the children time to count the flowers themselves and to write the multiples of five on to their copy of Worksheet 3.

**✓ TIP:** Encourage the children to count slowly and carefully. Try to help them to see that they are counting the petals in groups of five and not counting the flowers.

TEACH

## OBJECTIVE

- Count in multiples of twos, fives and tens

## Rising Stars Progression Framework: 1.1.a.3

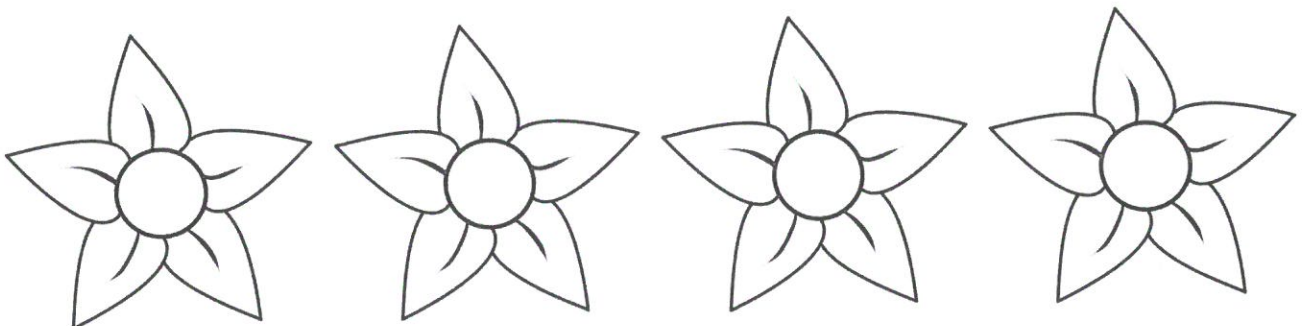
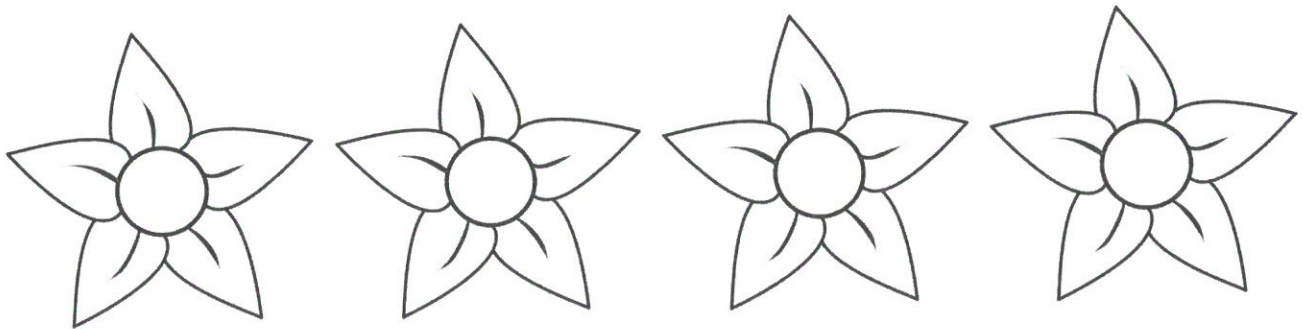
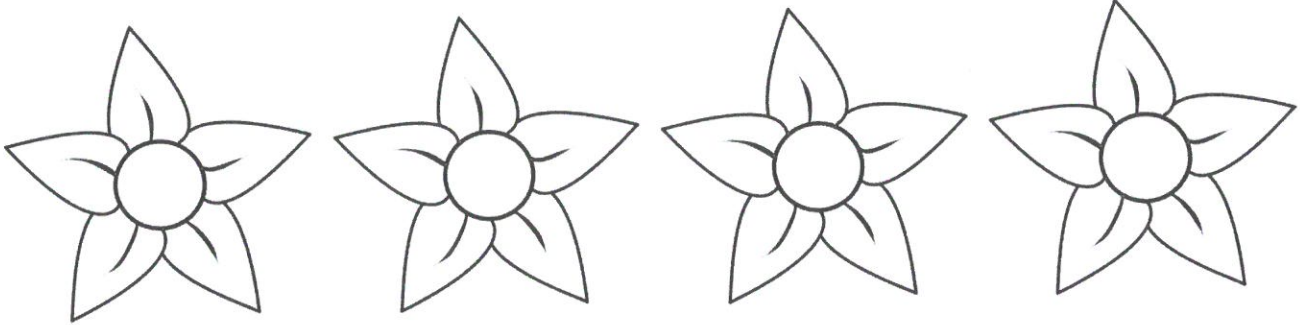
## RESOURCES

- Activity 1: Paper 100 square; highlighter pen
- Activity 2: Worksheet 3

# Worksheet 3

Name \_\_\_\_\_ Date \_\_\_\_\_

Counting petals on flowers in 5s





## Strand: Number

DAY  
3

## Sub-strand: Counting in steps and multiples

TEACH



## ACTIVITY 1: Counting in tens

- ▶ Start by looking at the 100 square with the children. Point out that there is a column of numbers that all end in zero. Explain that these are the **tens** numbers.
- ▶ Tell the children that when they count in groups of ten, they are counting down this column.
- ▶ Count down the column with the children, pointing to the numbers as you go.
- ▶ To test understanding, ask whether any of the children can now recite the sequence without looking at the 100 square.



## ACTIVITY 2: Counting boxes of cupcakes in tens

- ▶ Cut out the boxes with the cakes in them on Worksheet 4. You will need at least ten boxes of cupcakes. You could enlarge and laminate them.
- ▶ Show the children the pictures of the cupcakes in boxes. Say to them: *If we were to count out enough cupcakes for 100 people, it would take a really long time. Can anyone think of a quicker way to do this?*

✓ **TIP:** By this point in the week the children should recognise that counting in multiples would make the process easier. Can the children suggest an appropriate multiple to use?

- ▶ Ask a child to count how many cupcakes there are in each box.
- ▶ Display up to ten boxes of cupcakes on the table and ask the children to try counting out 100 cupcakes for the party.
- ▶ Repeat the task, this time asking the children to count out various **multiples of ten**.

! **WATCH OUT:** Listen to the children counting to check that they are using the correct sequence.

- ▶ If time allows, give the children the opportunity to work in pairs to test one another by picking a number of cupcakes for their partner to count out.

## OBJECTIVE

- Count in multiples of twos, fives and tens

## Rising Stars Progression Framework: 1.1.a.3

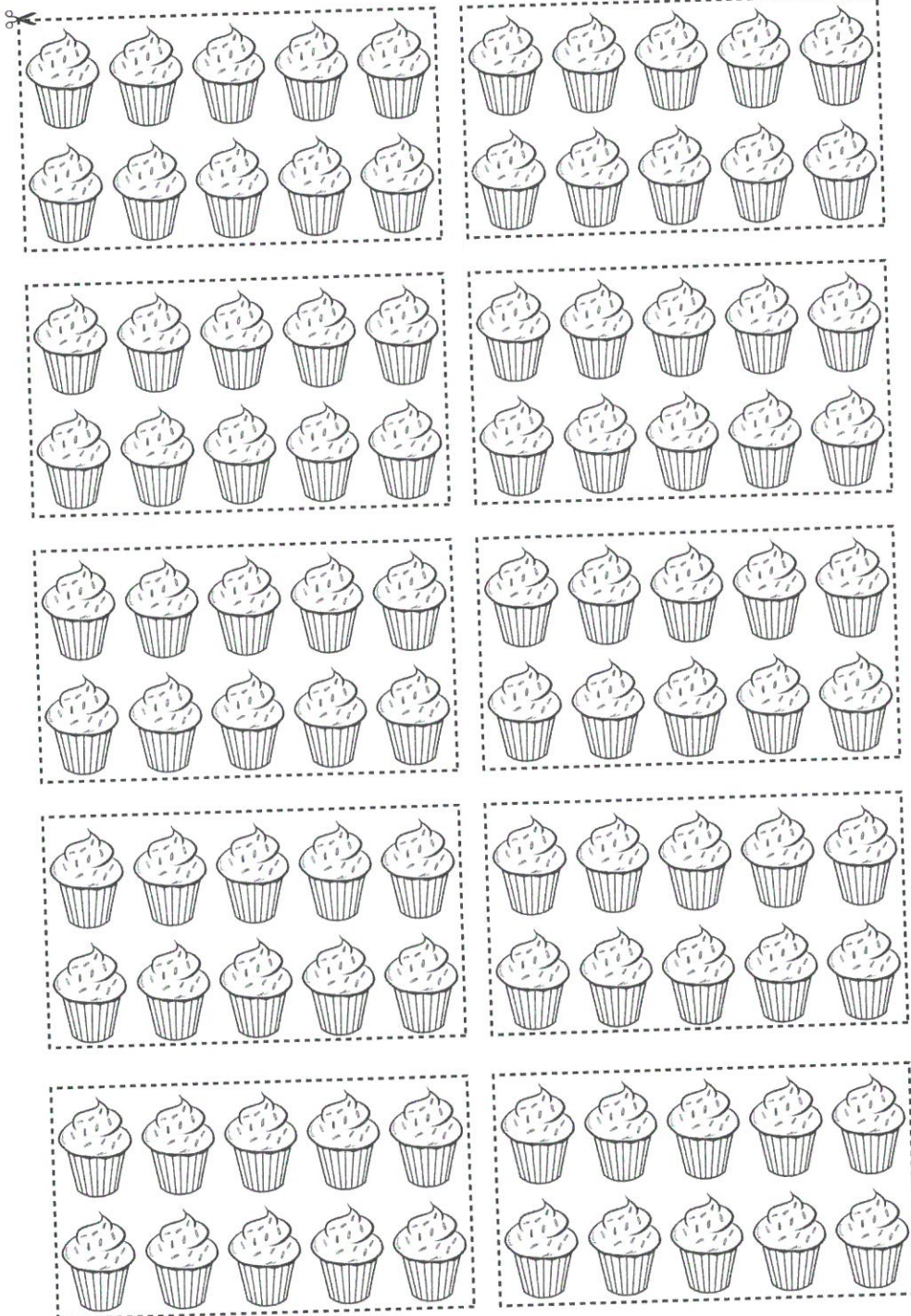
## RESOURCES

- Activity 1: 100 square
- Activity 2: Cut outs from Worksheet 4

# Worksheet 4

Photocopy the pictures of cupcakes, enlarging them if you wish. Cut them out and laminate them if desired.

## Counting cupcakes in 10s



## Strand: Number

DAY  
4

## Sub-strand: Counting in steps and multiples

TEACH

**ACTIVITY 1: Pass it on! Practise counting in twos, fives and tens**

- ▶ Seat all the children in the group in a circle.
- ▶ Explain how the game will work: tell the children which number to start from and the sequence they will be counting in (**twos, fives or tens**). As the ball/beanbag is passed around the circle, the child holding it says the next number in the sequence.
- ▶ As a 'practice go', start by counting in ones to check that the children understand the game.
- ▶ Make sure you give the children the number to start from and go to. E.g.: *Starting at five, count up to 50 in fives. Starting at four, count up to 26 in twos.*
- ▶ Each time you pass the ball/beanbag around the circle, ask the children to count up in a different multiple.
- ▶ If the children are very secure with this, you could count backwards in multiples of twos, fives and tens.

**ACTIVITY 2: Counting in rhythm with a puppet**

- ▶ Hold up the puppet and count in **multiples of five** up to 60; with each number, make a movement with the puppet, such as waving slowly or nodding its head.
- ✔ **TIP:** The puppet is an aid to help the children keep a rhythm when counting, so you can do this any way you like. An alternative method is to bang an instrument in rhythm.
- ▶ Take it in turns to give each child the puppet. Tell the children to use the puppet in whatever way they like to help them count in a rhythm using the instructions you give them. E.g.:
  - Starting at 16, count up to 40 in twos.
  - Starting at 15, count to 70 in fives.
  - Starting at 40, count up to 120 in tens.
- ! **WATCH OUT:** Make a note of whether the children are able to count to the different numbers in sequence. Do the children know the numbers in sequence? Do the children recognise when to stop counting?

**OBJECTIVE**

- Count in multiples of twos, fives and tens

**Rising Stars Progression Framework: 1.1.a.3****RESOURCES**

- Activity 1: Ball or beanbag
- Activity 2: Puppet; a simple instrument such as a triangle or drum



## Strand: Number

## Sub-strand: Counting in steps and multiples

ASSESS



## ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, carefully noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.
- ▶ Hand out copies of Worksheet 5; each child should have their own copy to complete.
- ▶ Explain to the children that they will need to count up in the **multiple** written above the number track to find the missing numbers.
- ▶ Ask the children to fill in the missing numbers on the worksheet.

✓ **TIP:** Make a note of any children who are using the counting strategies you introduced to them earlier in the week.

! **WATCH OUT:** Consider: Can the children count in the correct multiple? Can the children recognise the numbers that are missing and fill in the blanks?

- ▶ Once the children have completed the Worksheet, give them each a bowl of 30 beads.
- ▶ Ask the children to group the beads into sets of two and **count in twos** how many beads they have.
- ▶ Then ask them to put the beads back into the bowl, regroup them into sets of five and **count in fives** to check how many beads they have.
- ▶ Finally, they should repeat the activity by grouping the beads into **sets of ten**.
- ▶ Watch the children as they do this. Consider: Are they able to group the beads in different ways? Are the children able to recognise that the total number stays the same? Are the children more secure when grouping into twos, fives or tens?



## EVIDENCING SUCCESS

**Meeting expectations:**

- ▶ The child can count beads (or other manipulatives) in groups of two, five and ten.

## OBJECTIVE

- Count in multiples of twos, fives and tens

**Rising Stars Progression Framework: 1.1.a.3**

## RESOURCES

- Worksheet 5; bowl containing 30 beads (or similar resource, e.g. counters) for each child

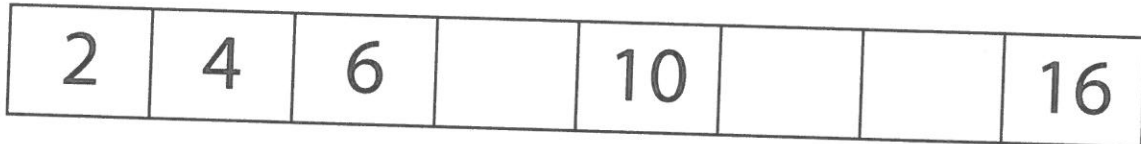
# Worksheet 5

Name \_\_\_\_\_ Date \_\_\_\_\_

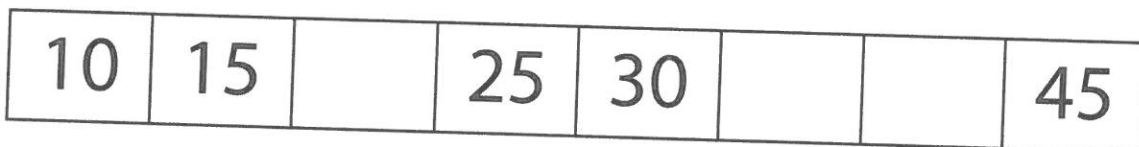
## Number tracks for counting in 2s, 5s and 10s

Write in the missing numbers in the number tracks.

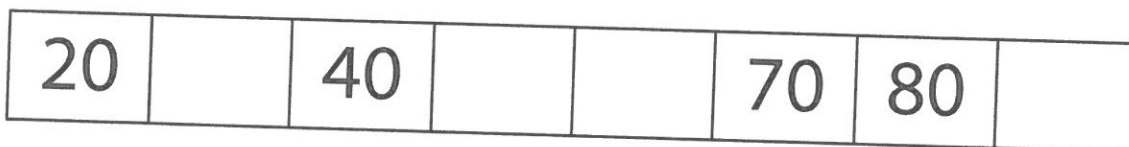
1. Count in 2s.



2. Count in 5s.



3. Count in 10s.





## Strand: Number

## Sub-strand: Representing numbers

TEACH

**ACTIVITY 1: Recognising and writing numbers 1 to 20 in digits and words**

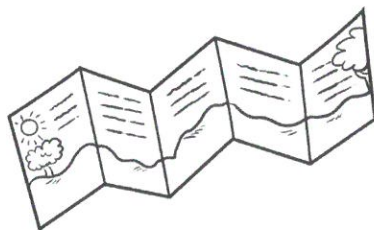
- ▶ Discuss how the **digits** are different to the **words** – they are the **numeral** that we write when recording maths.
- ▶ Run through the number flash cards with the children. Put the number cards in a pile face down on the table and then ask different children to say the number out loud as you show them the numeral.
- ▶ Now repeat the activity with the word flash cards for the words 'one' to 'twenty'.

✓ **TIP:** Note down any of the numbers the children do not yet recognise.

! **WATCH OUT:** Be sure to correct the children gently if they get any of the numbers wrong when reading the flash cards. It is important to iron out any misconceptions straight away.

**ACTIVITY 2: Tricky numbers book**

- ▶ Ask the children to identify the numbers they found tricky in Activity 1.
- ▶ Give each child a folded paper zigzag book. Each fold in the book creates a 'page' for the children to write on. On each page the children copy the tricky numeral, write the number in words and then draw the corresponding number of spots.



Zigzag books

- ▶ Allow the children to take their zigzag books home with them, to help them practise recognising and writing the numbers they are stuck on.

✓ **TIP:** Point out that the *-teen* numbers all end in 'teen' and have one ten in the tens place. Discuss 11 and 12 being different to the *-teen* numbers and highlight them as tricky numbers. It is important to address this as you would a tricky word in phonics: rather than sounding the words out letter by letter, teach the children to recognise the words as a picture by showing it to them in context regularly.

**OBJECTIVES**

- Read and write numbers from 1 to 20 in numerals and words
- Read and write numbers to 100 in numerals

**Rising Stars Progression Framework:** 1.1.b.2, 1.1.b.1

**RESOURCES**

- Activity 1: Number cards from 1 to 20; word cards from 1 to 20
- Activity 2: One A4 piece of paper, to be folded into a 'zigzag book' per child; pencils

# Strand: Number


DAY  
2

## Sub-strand: Representing numbers



### ACTIVITY 1: Matching the words and numerals

- ▶ Explain that one child will choose a word card from the bag and read out the number on it; the other children need to choose the correct number card for that word.
- ▶ Give each child a set of number cards from 1 to 20.
- ▶ Put the word cards into the feely bag and pass the bag around the group. When you call out 'stop', the child with the bag should pick out a word card.
- ▶ The children then say the number on the word card that they have picked out.
- ▶ The other children in the group decide which number card matches the number on the word card that has been read out and hold it up to show the group. The child who read out the word card then shows the group the card, to check their answer.

 **TIP:** If any child chooses an incorrect numeral, ask them which number they are holding and which number has been read out. Encourage them to have another go. If this child is still consistently finding the wrong numeral, note this down and focus on this number in subsequent sessions.



### ACTIVITY 2: Writing numbers

- ▶ Play the feely bag game again. This time put one set of number cards into the feely bag and give each child a piece of paper and a pencil.
- ▶ Pass the bag around the group. The children take it in turns to pick out a number card.
- ▶ They should read the number aloud and show the number to the group.
- ▶ Every child then writes the number down as a word on their paper.
- ▶ Pass the bag to the next child and repeat the process, until either you run out of time or all the number cards have been used.

TEACH

### OBJECTIVES

- Read and write numbers from 1 to 20 in numerals and words
- Read and write numbers to 100 in numerals

**Rising Stars Progression Framework:** 1.1.b.1, 1.1.b.2

### RESOURCES

- Activity 1: Feely bag; word cards from 1 to 20; number cards from 1 to 20 (one set per child)
- Activity 2: Feely bag; number cards from 1 to 20 (one set per child); paper and pencils



## Strand: Number

## Sub-strand: Representing numbers

TEACH



## ACTIVITY 1: Identifying numbers in words

- ▶ Spread out the word cards, face up, on the table and hide a sticker under each one.
- ▶ Now shuffle the number cards and place them as a deck face down on the table.
- ▶ Ask the children to take it in turns to pick a number card from the deck. They say the number out loud and then find the word card that says that number. If they are correct, they keep the sticker.
- ▶ For further practice, this game could be played where the children read the word and then match it to the correct number card.

✓ **TIP:** For this adapted version of the game, focus on the children's recall of the numerals and their use of phonics to read the words.



## ACTIVITY 2: Go fish! Number pairs

- ▶ This game of 'Go fish' is an adapted version of that played in Counting in steps and multiples, page 5.
- ▶ Shuffle the 20 word cards and the 20 number cards. Then give each child four cards (a mixture of numerals and words).
- ▶ Explain that the objective is to collect as many pairs as possible, e.g. a pair would be a word card showing 'two' and a number card showing '2'.
- ▶ Run through the rules of the game with the children:
  - Player 1 will ask for a number for which they have one half of the pair.
  - If the person they ask (Player 2) has the number pair (whether in word or numeral form), they have to pass it to Player 1.
  - If Player 2 does not have the number card, Player 2 says 'Go fish!' and Player 1 must pick a card from the remaining cards on the table.
  - At the end of the game the winner has the most pairs of cards.
- ▶ After the game, encourage the children to take it in turns to ask for the other half of their number pairs. When a child makes a pair, the rest of the group must check whether it is correct.

! **WATCH OUT:** Acknowledge and correct any mismatched pairs.

## OBJECTIVES

- Read and write numbers from 1 to 20 in numerals and words
- Read and write numbers to 100 in numerals

**Rising Stars Progression Framework:** 1.1.b.1, 1.1.b.2

## RESOURCES

- Activity 1: 20 small stickers (cut out individually); word cards from 1 to 20; number cards from 1 to 20
- Activity 2: Word cards from 1 to 20; number cards from 1 to 20

## Strand: Number

DAY  
4

## Sub-strand: Representing numbers

TEACH



## ACTIVITY 1: Making a 100 square

- ▶ Remind the children that they know the *-teen* numbers, which have a '1' in the tens place, and they also know the twenty numbers, which have a '2' in the tens place.
- ▶ Discuss with the children how we will know the thirty numbers and the forty numbers. Say: *We know that thirty numbers have a '3' in the tens place, so forty numbers must have what number in the tens place?*
- ▶ Now spread out the number cards from 1 to 100 on the table with the numbers showing.
- ▶ Make the first two rows of a 100 square, like this:

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

- ▶ Now ask the children to help you to put the rest of the numbers in the correct place in the 100 square. Ask the children: *How will we know which number is next? What will it look like?*

**! WATCH OUT:** The children may struggle with 30 and 50 numbers, as the *thir-* and the *fif-* are not the same words as the unit numbers 'three' and 'five'.



## ACTIVITY 2: Writing numbers as numerals

- ▶ Leave the 100 square from Activity 1 on the table for the children to look at.
- ▶ Model the activity by saying: *I am thinking of the number 51. Can you point to the number I said?* Then ask the children to have a go at writing 51 on their whiteboards.
- ▶ The children now take it in turns to pick a number from the 100 square and say it out loud. The other children write the number down on their whiteboards.
- ▶ The child who picked the number then points to the number they said aloud in the 100 square and checks whether the others in the group wrote the number down correctly.

## OBJECTIVES

- Read and write numbers from 1 to 20 in numerals and words
- Read and write numbers to 100 in numerals

**Rising Stars Progression Framework:** 1.1.b.1, 1.1.b.2

## RESOURCES

- Activities 1: Number cards from 1 to 100
- Activity 2: Number cards from 1 to 100; whiteboards and pens



## Strand: Number

## Sub-strand: Representing numbers

ASSESS



## ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, carefully noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.
- ▶ Give each child a bingo card with numbers above 20 on. (You can print and use copies of the blank bingo cards from Worksheet 1, page 4, and write the numbers on in advance.)
- ▶ To play the 'bingo' game, say a number aloud and the children then check if they have that number on their card. If they do, they put a counter over the number.
- ▶ After each number, ask the children to tell you what they are looking for. E.g.: *You said 73 so I am looking for a seven in the tens place and a three in the ones place.*

**! WATCH OUT:** The children may know what each number looks like but may not be able to explain in this manner. If they can't, model the statement to the children or ask questions such as: *How many in the tens and how many in the ones?*

- ▶ The 'winner' of the game is the first child to have a card full of counters.
- ▶ After a game with the children, note down any of the children who have struggled with the activity.
- ▶ If you have time, swap the bingo cards around and repeat the activity; otherwise move on to Worksheet 6.
- ▶ Now give each child the worksheet. Explain to the children that they need to count the number of stars in the box on the left. They should then write the numeral next to the stars and the word next to the numeral.
- ▶ Collect and mark the worksheets; they can be kept as evidence of the children's progress.



## EVIDENCING SUCCESS

## Meeting expectations:

- ▶ The child can match the numeral 13 to the word 'thirteen' and fill in the missing word or numeral for numbers 1 to 20.

## OBJECTIVES

- Read and write numbers from 1 to 20 in numerals and words
- Read and write numbers to 100 in numerals

**Rising Stars Progression Framework:** 1.1.b.1, 1.1.b.2

## RESOURCES

- Bingo cards made from Worksheet 1, page 4; counters; Worksheet 6; pencils





## Strand: Number

## Sub-strand: Representing numbers

TEACH

**ACTIVITY 1: Matching quantities and numbers**

- ▶ Hand out copies of Worksheet 7. Tell the children you will be asking them to count how many objects there are in each picture and to match it to the correct number card. E.g., if the children count ten fish, they should then match it to the number ten. They then copy the number 10 on to the worksheet.
- ▶ Enlarge, photocopy and laminate a set of picture cards using Worksheet 1. Lay the picture cards face up on the table and give the children a number card each.
- ▶ Ask the children to read their number card and then find the picture quantity card that matches it.
- ▶ Check answers together as a group, then the children write down the number next to the relevant picture on their copy of the worksheet.

**! WATCH OUT:** Note down any of the numerals the children cannot recognise or any mismatched pairs. You will be able to focus on these numbers throughout your work with the children in the week.

**ACTIVITY 2: Matching numerals and counters**

- ▶ Tell the children that in this activity they will be counting the other way round – rather than counting a quantity and choosing the number to represent it, they will find a number and have to make the quantity.
- ▶ Give each child a paper plate or bowl.
- ▶ Shuffle the number cards and place them in a pile face down on the table.
- ▶ Put the counters in a container in the middle of the table.
- ▶ Ask the children to take it in turns to choose a number card and then count out the correct number of counters into their bowls.

**✓ TIP:** Observe the children as they count out the quantities. Are they counting carefully? Are they able to recognise the numerals?

**OBJECTIVE**

- Identify and represent numbers using concrete objects and pictorial representations, including the number track

**Rising Stars Progression Framework: 1.1.b.3****RESOURCES**

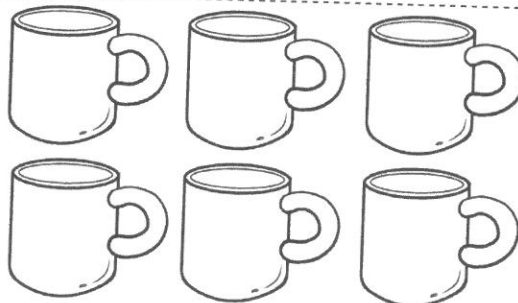
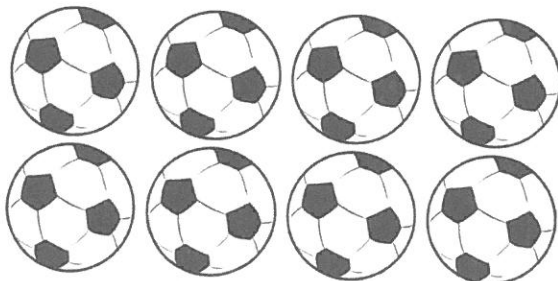
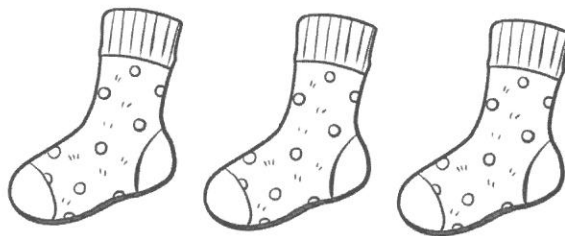
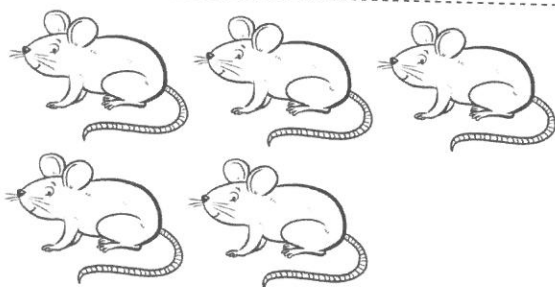
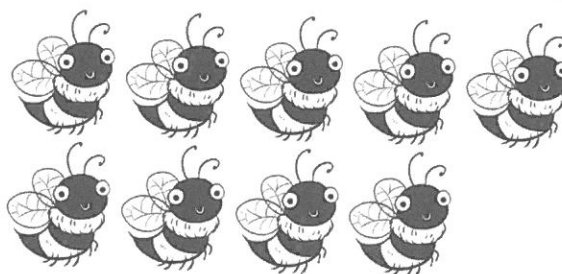
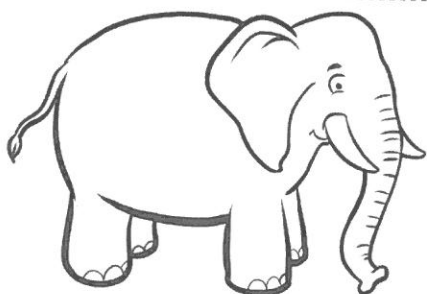
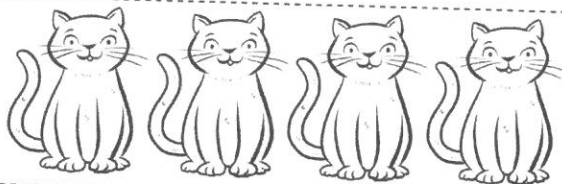
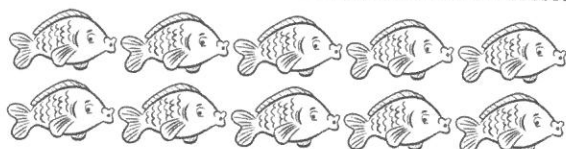
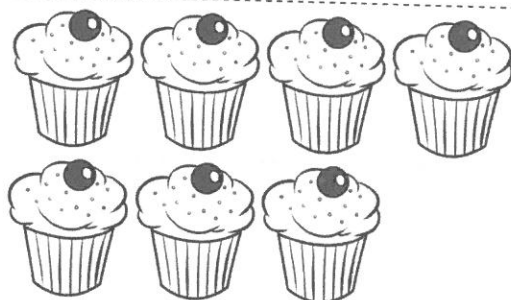
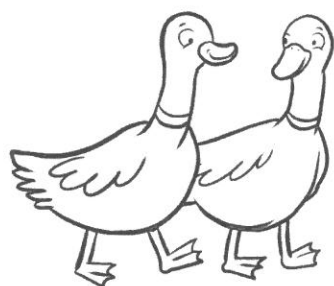
- Activity 1: Worksheet 7; picture cards made from Worksheet 7; number cards from 1 to 10
- Activity 2: Bowls or paper plates (one per child); counters (ten per child); number cards from 1 to 10

# Worksheet 7

Name \_\_\_\_\_

Date \_\_\_\_\_

## Pictures of quantities from 1-10





# Strand: Number

## Sub-strand: Representing numbers

TEACH



### ACTIVITY 1: Finding the missing numbers in a number track

- ▶ Hand out copies of Worksheet 8 (which you have pre-prepared as explained in Activity 2 below). Ask the children to try filling in the missing numbers in the number track.

**TIP:** Allow the children to choose if they would like to put the number cards into the correct place in the number track or if they would like to write the numbers in the missing boxes. Positioning the number cards gives the children who are less confident with number formation a little bit of extra support, as the activity is not focusing on the actual number formation.



### ACTIVITY 2: Numbers on dinosaurs

- ▶ The dinosaurs on Worksheet 8 should be pre-prepared. You will need to write numbers into the boxes on the dinosaur bodies before you give them out to the children.
- ▶ Say to the children: *We need to be able to **show** numbers as well as read and count numbers.*
- ▶ Ask the children to tell the group which number they have on their dinosaur.
- ▶ Explain to the children that this number tells them how many plates (scales) they have to draw on their dinosaur's back.
- ▶ To check understanding, ask the children: *So how many plates do you need to draw on the back of your dinosaur?*
- ▶ Help the children to represent their number by drawing the plates on the back of the dinosaurs.
- ▶ Ask the children to check one another's dinosaurs. *How many plates should there be on the back of this dinosaur? How do you know?*
- ▶ Give all the children time to share their completed dinosaurs with the rest of the group.

**WATCH OUT:** Take note of the children's counting skills and number recognition skills. If there is a number they check incorrectly, give them the number to try for themselves, to check there is not an issue with recognising that number.

#### OBJECTIVE

- Identify and represent numbers using concrete objects and pictorial representations, including the number track

**Rising Stars Progression Framework: 1.1.b.3**

#### RESOURCES

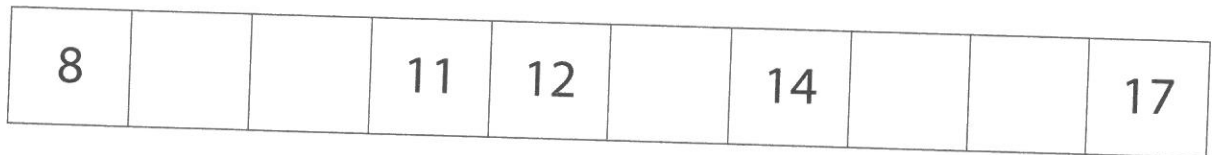
- Activity 1: Worksheet 8; pencils; number cards
- Activity 2: Worksheet 8; pencils; number cards

## Worksheet 8

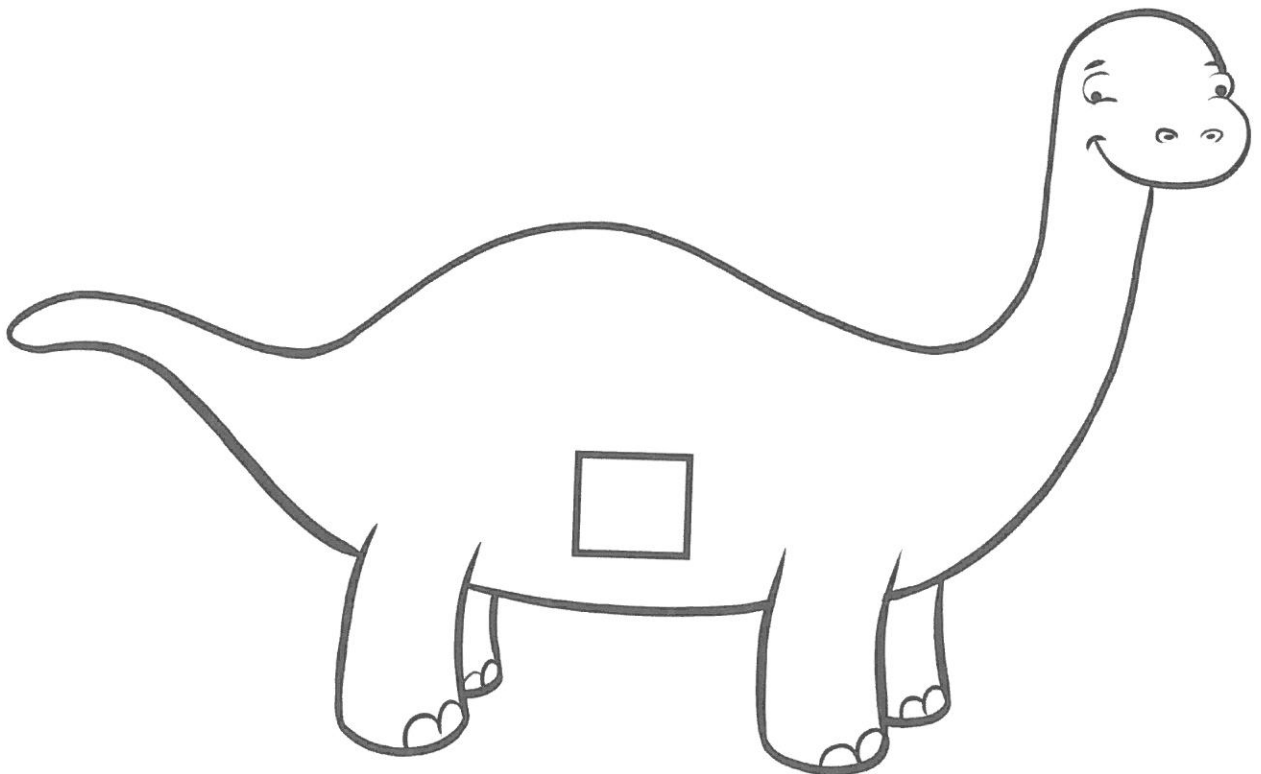
Name \_\_\_\_\_ Date \_\_\_\_\_

## Representing numbers

1. Fill in the missing numbers in the number track.



2. What number is written on your dinosaur's tummy? Now draw the same number of plates on the dinosaur's back.





## Strand: Number

## Sub-strand: Representing numbers

TEACH

**ACTIVITY 1: Building towers**

- ▶ Give the children a stack of cubes each, taking care to vary the amount.
- ▶ Ask the children to build a tower using the cubes they have been given. Then ask them to tell you how many cubes they have in their tower.
- ▶ Now hand out the number cards (1–10 for each child). Ask the children to find the number card that represents how many cubes they have in their tower.
- ▶ Check their answers and then ask the children to choose any number card from their pack.
- ▶ The children should then make a tower using the number of cubes shown on the number card they have chosen.
- ▶ Ask the children to pass their card to the person next to them to check that they have the correct number of cubes in their tower.
- ▶ The children can then repeat the activity with different numbers from their deck of cards, as time allows.

**ACTIVITY 2: Counting buttons**

- ▶ Give each child a lump of modelling clay and a teddy/animal cutter. Ask the children to make their teddy/animal.
- ▶ Put the deck of cards on the table and ask the children to each pick a number. They should look at the number but keep it to themselves.
- ▶ When the children have picked a number from the pack, they put the corresponding number of buttons on their teddy/animal.
- ▶ The children then pass their teddy/animal to someone else, who counts the buttons and says the number.
- ▶ The children then tell their partners whether they put on the correct number of buttons or not.

**! WATCH OUT:** If there is a disagreement between any of the pairs, you will need to know whether a child has put the wrong number of buttons on their teddy/animal or has counted them incorrectly.

- ▶ Repeat the activity as time allows.

**OBJECTIVE**

- Identify and represent numbers using concrete objects and pictorial representations, including the number track

**Rising Stars Progression Framework: 1.1.b.3****RESOURCES**

- Activity 1: Cubes (ten per child); number cards (1–10) for each child
- Activity 2: Modelling clay (one lump per child); teddy bear/animal cutters (one per child); buttons/beads (ten per child); number cards (1–10) to share through the group



## Strand: Number

DAY  
4

## Sub-strand: Representing numbers

TEACH

**ACTIVITY 1: Matching challenge**

- ▶ Explain to the children that you will be repeating an earlier activity (Day 1, Activity 1, page 22), but this time the children need to do it within a **time limit**.
- ▶ Show the children the sand timer and explain how it works. When you turn it upside down the children will have as long as it takes for the sand to run from the top to the bottom of the timer to complete the challenge.
- ▶ Give a set of number picture cards to each child.
- ▶ Get the children to lay the picture cards face up on the table.
- ▶ The children now read their number cards and then find the quantity card that matches each numeral.
- ▶ The children then put the number card next to the picture card as a pair.

**! WATCH OUT:** Check the children are counting using one-to-one correspondence. Are they pointing to the objects as they say a number name? Also notice whether the children can recognise the numeral they have the card for.

**ACTIVITY 2: Creating a number track against the clock**

- ▶ Give each child a set of shuffled number cards from 1 to 20.
- ▶ Explain that they will be trying to put them into order in a number track and read the numbers from their number track aloud in order. They have to get as many numbers in order as they can before the sand timer runs out.
- ▶ The children then read out their number track to the rest of the group, who listen and check that the numbers are in the correct order.
- ▶ Repeat the activity a couple of times, to help the children identify the numerals quickly.

**! WATCH OUT:** The children may have numbers in the wrong order or missing completely, so keep an eye out for this.

**OBJECTIVE**

- Identify and represent numbers using concrete objects and pictorial representations, including the number track

**Rising Stars Progression Framework: 1.1.b.3****RESOURCES**

- Activity 1: Sand timer; number pictures (cut out from Worksheet 4 on page 23, one set per child); number cards 1 to 10 (one set per child)
- Activity 2: Number cards 1 to 20 (one set per child); sand timer

## Strand: Number

## Sub-strand: Representing numbers

ASSESS



## ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, carefully noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.
  - ▶ Give each of the children a fingerprint table (Worksheet 9).
  - ▶ Encourage the children to read the numerals aloud as they come to them.
  - ▶ Ask the children to try fingerprinting the correct quantity of spots next to each number.
- ✓ **TIP:** For the finger painting, allow the children to have one colour of finger paint and a paper towel to wipe their finger. If any children are not able to use the paints, give each child a pencil crayon to draw dots into the table to represent the numbers.
- ▶ Now hand each child a copy of the pictogram question sheet (Worksheet 10).
  - ▶ Show the children the pictogram and explain that the **pictogram** is a **graph** that uses pictures to show how many of something there is.
  - ▶ Explain that you would like them to count how many of each picture there is on the pictogram. They then need to write this number below each pictogram.
- ✓ **TIP:** Encourage the children to count the pictures carefully and say the number aloud as they write the answer.

## OBJECTIVE

- Identify and represent numbers using concrete objects and pictorial representations including the number track

**Rising Stars Progression Framework: 1.1.b.3**

## RESOURCES

- Worksheet 9; finger paints; Worksheet 10; pencils



## EVIDENCING SUCCESS

**Meeting expectations:**

- ▶ The child can identify numbers and represent numbers using both objects and pictures.

# Worksheet 9

Name \_\_\_\_\_ Date \_\_\_\_\_

## Fingerprint table

Read the numbers in the table. Paint the same number of spots using your finger.

6	
5	
8	
10	
11	
12	
16	
13	
15	
9	
19	
14	

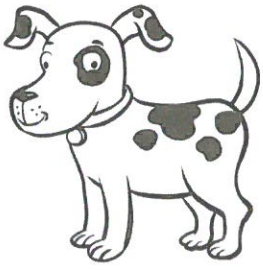

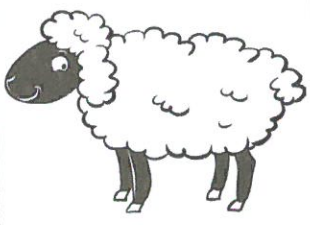


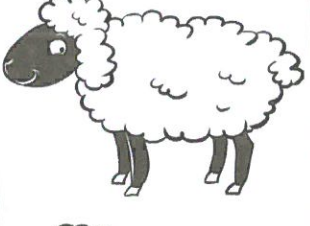


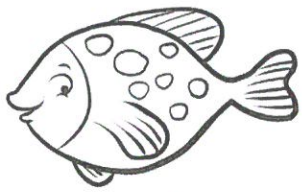
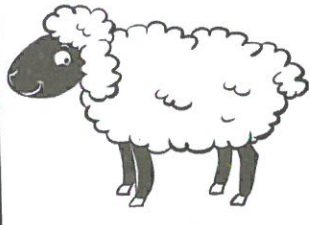


# Worksheet 10

Name \_\_\_\_\_ Date \_\_\_\_\_

## Pictogram question sheet

Count how many of each picture there is on the pictogram. Then write this number below each group of animals.

			
			
			
<input data-bbox="223 1769 375 1892" type="text"/>	<input data-bbox="526 1769 678 1892" type="text"/>	<input data-bbox="853 1758 1005 1881" type="text"/>	<input data-bbox="1189 1747 1340 1870" type="text"/>

## Strand: Number

DAY  
1

## Sub-strand: Place value

**ACTIVITY 1: Running races and ordinal numbers**

- ▶ Take the children into a large space where it is safe for them to run. Hold short running, hopping, skipping and walking races between the children.
- ▶ Say to the children: *How will we know who the winner of each race is?* Agree with them that the winner will be the person who finishes the race **first**. Then ask: *What will the person who finishes the race next be?* Agree with the children that he or she will be **second**.
- ▶ Run through the first race and ask the children to help you to describe the order using **ordinal numbers** (first, second, third, fourth, etc.)

✓ **TIP:** It is not important that the children know the term ordinal numbers at this stage, but it would be beneficial for the children to hear the term in context.

- ▶ Continue the races with the children and ask them to describe where they each came in the race.

**ACTIVITY 2: Describing counters using ordinal numbers**

- ▶ Make a line of the five different coloured counters on the table.
- ▶ Remind the children of the **ordinal numbers** you were using in the last activity then describe the line of counters in front of you using ordinals. E.g.: *First there is a red counter; second there is a blue counter; a white counter is third, etc.*
- ▶ Now ask the children to describe the line of counters to a partner, using ordinal numbers to help them.

! **WATCH OUT:** Check that the children are using the number vocabulary correctly.

- ▶ Give each child the opportunity to make a line of counters on the table for the other children to describe.

TEACH

**OBJECTIVES**

- Use the language of: equal to, more than, less than (fewer), most, least
- Use ordinal numbers in context

**Rising Stars Progression Framework: 1.1.c.1****RESOURCES**

- Activity 1: Outside space (or hall if possible)
- Activity 2: Five counters of different colours for each child



## Strand: Number

## Sub-strand: Place value

TEACH



## ACTIVITY 1: Comparing numbers of counters

✓ **TIP:** The focus in both these activities is on describing the different quantities using the vocabulary **equal to**, **more than**, **less than (fewer)**, **most**, **least**. If the children are using different words that are correct, suggest they might like to try using the words from the objective.

- ▶ Put a pile of counters in the middle of the table.
- ▶ Ask each child to take a handful of counters and count them.
- ▶ Compare the quantities of counters as a group. Ask: *Who has the **most**? Who has the **least**? Do any children have **an equal amount**?*
- ▶ Repeat the process with different handfuls of counters. Encourage the children to keep their quantities separate until they are comparing as a group.

✓ **TIP:** The children may find it helpful to lay out the counters as they are set out on a die or a domino to help them to recognise the number without having to count the counters each time.



## ACTIVITY 2: Using most and least

- ▶ Place the pile of number cards in the middle of the group.
- ▶ Turn over two number cards and read the numbers on the cards to the children.
- ▶ Count the number of counters to match with the numeral on each card.
- ▶ Look at the two groups of counters and see which one is the larger group. Say to the children: *This group has the **most** counters.* Then see which is the smaller group and say to the children: *This group has the **least** counters.*
- ▶ Each child now picks two cards from the pile and puts the corresponding number of counters on each one.
- ▶ The children then decide which number of counters is 'the most' and which is 'the least'. Ask them: *How can you tell?* They may respond with something such as: *That is a bigger group* or: *There aren't as many there.*
- ▶ Repeat the process, with the children picking different cards each time.

## OBJECTIVES

- Use the language of: equal to, more than, less than (fewer), most, least
- Use ordinal numbers in context

**Rising Stars Progression Framework: 1.1.c.1**

## RESOURCES

- Activity 1: Counters
- Activity 2: Number cards from 1 to 20; counters



## Strand: Number

DAY  
3

## Sub-strand: Place value

TEACH



## ACTIVITY 1: More than, less than

- ▶ Count out ten counters into the middle of the group. Ask the children: *How could we make this quantity **more**?* The children may respond with something similar to: *Put more counters there.*
- ▶ Add a few counters to the quantity to make it larger.
- ▶ Now ask the children to try making their own group of counters that is **more than** ten.

**! WATCH OUT:** Do the children make a quantity that is much larger than ten? Do the children count ten counters and then add more to the quantity? The children may be guessing at the quantity. Keep an eye on this throughout the rest of the activity.

- ▶ Count the children's groups and check that they have indeed got **more than** ten counters.
- ▶ Repeat with other numbers of counters up to 20.
- ▶ Now repeat the activity again but this time ask the children to find **less than** the original quantity.



## ACTIVITY 2: Comparing numbers

- ▶ Shuffle the pack of number cards and put them on the table in the middle of the group.
- ▶ Ask each child to pick three cards and read the numbers.
- ▶ Now ask the children: *Can you put those three numbers in order from smallest to largest?*
- ▶ Ask them: *How do you know which number comes where in the sequence? Which is the largest number? Which is the smallest number?*
- ▶ The children may respond with something along the lines of: *When I count up I get to this number first and then this number is next and this number is last.*
- ▶ Encourage the children to describe the numbers in the following way; e.g.: 27 is the **largest** number, 4 is the **smallest** number and 10 is in the middle because it is **less than** 27 and **more than** 4.
- ▶ Repeat with other numbers.

## OBJECTIVES

- Use the language of: equal to, more than, less than (fewer), most, least
- Use ordinal numbers in context

## Rising Stars Progression Framework: 1.1.c.1

## RESOURCES

- Activity 1: Counters
- Activity 2: Number cards 1 to 30

## Strand: Number

## Sub-strand: Place value

TEACH



## ACTIVITY 1: Matching pairs

- ▶ Cut out the quantity cards for 1 to 20 from Worksheet 11. There should be a pair of each quantity card.
- ▶ Shuffle the picture quantity cards and spread them out face down on the table.
- ▶ Ask the children to take it in turns to turn over two cards. Tell them they are aiming to find a **pair** of cards of **equal quantity**. Explain that they have to turn over one card and count the number of dots on the card and then turn over another card and see if it has the same number of dots. If it does, they are a pair.
- ▶ If a child finds a pair, they should keep both cards. If a child does not find a pair, they should put both cards back on the table face down.



## ACTIVITY 2: Bingo! More than/less than/equal to

- ▶ In this activity the children are using their knowledge of **more**, **less** and **equal** to work out the numbers they should mark off on the bingo cards.
- ▶ Give each child a blank bingo card and six counters. Ask them to write any six numbers between 1 and 30 on the bingo card.
- ▶ Call the numbers for the children to mark off with their counters. Call them as, e.g.: *one more than 17, one less than 22, a number equal to two lots of 2*, etc.
- ▶ The children will need to do the calculation to find the answer before they can put the counter on their board.
- ▶ The first child with a bingo card full of counters shouts out 'Bingo!'

**! WATCH OUT:** You will need to keep a record of the numbers you have called out to check that the children have put their counters on the correct numbers.

## OBJECTIVES

- Use the language of: equal to, more than, less than (fewer), most, least
- Use ordinal numbers in context

**Rising Stars Progression Framework: 1.1.c.1**

## RESOURCES

- Activity 1: Worksheet 11
- Activity 2: Bingo cards template (Worksheet 1, page 4); six counters per child; pen/pencil per child

# Worksheet 11

Photocopy, enlarging if desired, and cut out the set of cards.

## Quantity cards for 1-20



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## Strand: Number

## Sub-strand: Place value

ASSESS



## ASSESSMENT ACTIVITY

- ▶ The purpose of this assessment is to determine what each child can do independently, carefully noting difficulties and misconceptions. The adult will need to watch carefully to observe what the children do, any strategies used and confidence levels.
- ▶ Make sure each child has paper and a pencil, then ask them to write the number that is:
  - **one more** than 5
  - **one less** than 12
  - **equal to** 8
  - **more than** 18
  - **less than** 20
  - **equal to** 22
  - the **most** in the sequence 4, 6, 8
  - the **least** in the sequence 10, 12, 14.
- ▶ Allow the children to use counters to help them to find the answers if necessary.
- ▶ Now give each child a copy of Worksheet 12 and a pencil.
- ▶ In the assessment, the children need to identify the child in the line who is **first, second, third**, etc. They will have to count along the line of children each time, to work out which is the child they are looking for.

## OBJECTIVES

- Use the language of: equal to, more than, less than (fewer), most, least and ordinal numbers
- Use ordinal numbers in context

Rising Stars Progression  
Framework: 1.1.c.1

## RESOURCES

- Worksheet 12; paper and pencils; counters



## EVIDENCING SUCCESS

## Meeting expectations:

- ▶ The child can compare three numbers using sets of counters, making statements such as: *12 is more than 5; 27 is the number with the most counters; 5 is fewer counters than 12.*
- ▶ The child can use the language of 'first', 'second' and 'third'.

# Worksheet 12

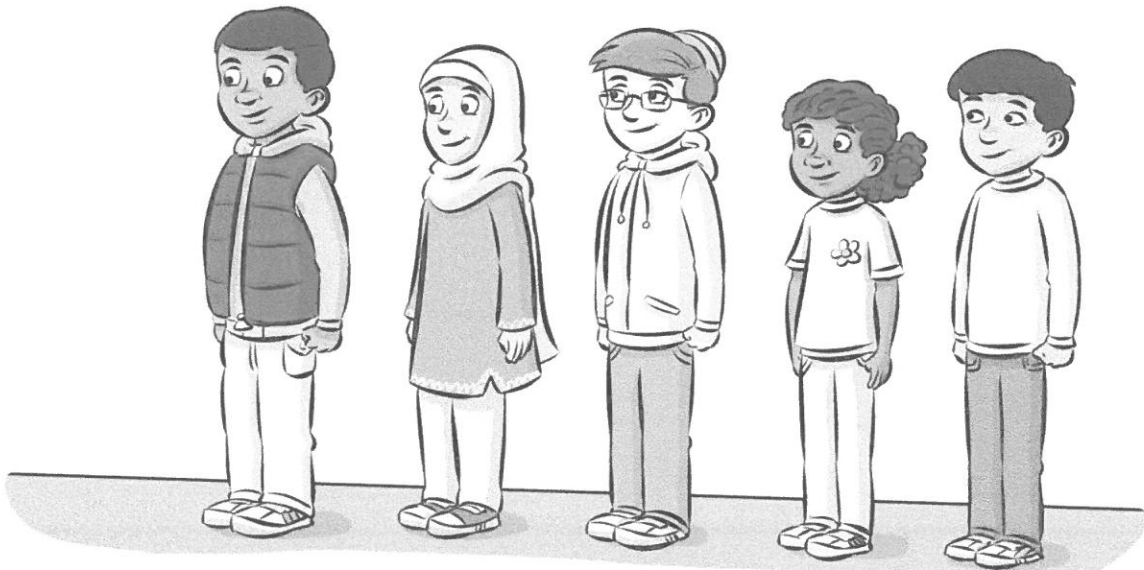
Name \_\_\_\_\_

Date \_\_\_\_\_

## Using ordinal numbers

Look at the children in the line.

1. Draw a circle around the child who is **first** in the line.
2. Draw a badge on the child who is **second** in the line.
3. Draw a line under the child who is **last** in the line.
4. Draw a cross under the child who is **third** in the line.
5. Draw a star above the child who is **fourth** in the line.





## Strand: Addition and Subtraction

DAY  
1

## Sub-strand: Mental calculation strategies

TEACH

**ACTIVITY 1: Introducing number bonds using spots on ladybirds**

- ▶ To begin, give each child a copy of Worksheet 1 (the ladybird sheet) and ten counters.
- ▶ Ask the children to put the counters onto the ladybird, but do not give any further instruction.
- ▶ Once the children have put their counters onto the ladybird, discuss with them how they have split the counters. Have they put all of the counters on one side of the line? Have they put half on each side? Ask the children to describe how they have spread the counters out onto the ladybird.
- ▶ Tell the children that they have split ten and found a **number bond** to 10 (1 and 10, or 1 and 9, or 2 and 8, etc.).
- ▶ Ask children to describe the number bond they have made.
- ▶ Repeat the activity, this time asking the children to split the counters in a different way. Again, ask the children to describe their number bond.
- ▶ Now give the children 20 counters each and repeat the activity.

**ACTIVITY 2: Finding number bonds to 10 and to 20**

- ▶ Put out the number cards of the number bonds to 10 face up.
- ▶ Tell the children that they will be using pairs of numbers to make the number bonds to 10.
- ▶ Each child takes a turn to pick a card and work out the number bond to 10 before finding the next card.
- ▶ Now repeat the activity, this time with the children making number bonds to 20 from the cards. It is important to include number bonds with zero ( $0 + 20 = 20$ ,  $20 + 0 = 20$ ).

**! WATCH OUT:** Allow the children to count on from their number to find the number bond. Make a note of whether they match the pairs from memory or not.

**✓ TIP:** Tell the children that if they can remember these number bonds they will be able to calculate much more quickly in the future.

**OBJECTIVE**

- Represent and use number bonds and related subtraction facts within 20

**Rising Stars Progression Framework:** 1.2.d.1, 1.2.a.1

**RESOURCES**

- Activity 1: Worksheet 1; 20 counters per child
- Activity 2: Number card pairs of number bonds up to 20

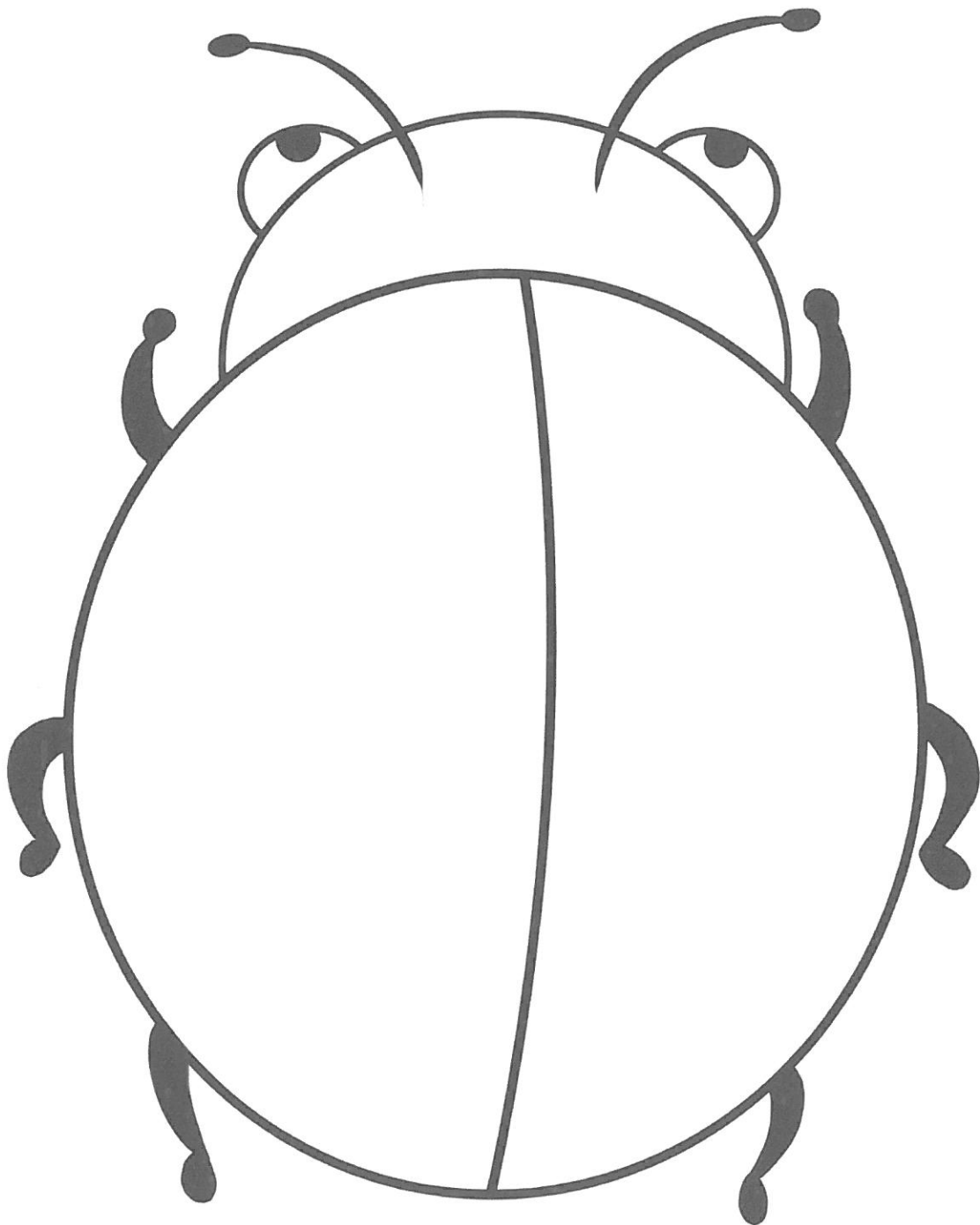


# Worksheet 1

Name \_\_\_\_\_ Date \_\_\_\_\_

## Number bonds on a ladybird

Put your counters on the ladybird.



## Strand: Addition and Subtraction

DAY  
2

## Sub-strand: Mental calculation strategies

TEACH

**ACTIVITY 1: Doing and undoing calculations on a number track**

- ▶ Write a calculation on the board, e.g.  $5 - 3 = 2$ .
- ▶ Ask the children to help you check the calculation by walking the number track. Stand on the five, move back three spaces and arrive on the answer (two).
- ▶ Discuss with the children how we can undo a calculation by moving the other way on the number track. Using the previous example, say to them: *We moved three spaces backwards on the number track so to undo the calculation we need to move three spaces forwards.*
- ▶ Write down the new calculation you have just worked out ( $2 + 3 = 5$ ) on the board next to the original calculation.

**! WATCH OUT:** The children may count the first number of their calculation as the number they are standing on (rather than moving and then counting). If this happens, remind them that they are to count the steps they are making and not the numbers they are standing on.

- ▶ Repeat the process with other calculations:  
 $12 - 5 = 7$ ;  $15 - 8 = 7$ ;  $9 + 4 = 13$ ;  $8 + 2 = 10$ .

**ACTIVITY 2: Doing and undoing calculations using counters**

- ▶ Write a calculation on the board, e.g.  $7 - 4 = 3$ .
- ▶ Ask the children to help you check the calculation using counters. Demonstrate having seven counters, taking away four and being left with three. The children should do the same with their own set of counters.
- ▶ Now discuss with the children how we can 'undo' a calculation by moving the counters the other way. Say to them: *We took four counters away so to undo the calculation we need to add four counters.*
- ▶ The children should now move the four counters back to undo the calculation.
- ▶ Write down the new calculation you have just worked out ( $3 + 4 = 7$ ) on the board next to the original calculation.
- ▶ Repeat the process with other calculations:  
 $12 + 5 = 17$ ;  $18 - 8 = 10$ ;  $19 - 4 = 15$ ;  $8 + 2 = 10$ .

**OBJECTIVE**

- Represent and use number bonds and related subtraction facts within 20

**Rising Stars Progression Framework:** 1.2.d.1, 1.2.a.1

**RESOURCES**

- Activity 1: Large number track displayed on the floor; class board (e.g. whiteboard)
- Activity 2: Counters; class board (e.g. whiteboard)

## Strand: Addition and Subtraction

DAY  
3

## Sub-strand: Mental calculation strategies

TEACH



## ACTIVITY 1: Practising doing and undoing

- ▶ Show the children a calculation made from the number and operation cards, e.g.  $10 - 3 = 7$ .
- ▶ Ask the children to show the calculation using counters.
- ▶ Now ask: *How can we **undo** the calculation? We took three counters away so what do we need to do?*
- ▶ Work with the children to come to the conclusion (using this example: *We must add three counters*).
- ▶ Now ask one of the children to make the new calculation using the number and operation cards, e.g.  $7 + 3 = 10$ .

✓ **TIP:** It's important to include calculations with zero, e.g.  $0 + 20$ ,  $15 - 0$ . Ask: *What do you notice about adding or subtracting zero? Use the counters to show that adding or subtracting zero to a number does not change that number.*

- ▶ Repeat with other calculations until you believe the children understand the way in which the calculations can be moved around to find different answers.



## ACTIVITY 2: Missing numbers calculations

- ▶ Give each of the children a copy of Worksheet 2 and draw their attention to the calculations with the missing numbers.
- ▶ Ask the children to use their understanding of how calculations can be undone to fill in the missing numbers.
- ▶ As the children are completing the calculations, ask them to explain what they are doing and why.

✓ **TIP:** It is important that the children know why they are doing what they are doing and can explain this.

## OBJECTIVE

- Represent and use number bonds and related subtraction facts within 20

**Rising Stars Progression Framework:** 1.2.d.1, 1.2.a.1

## RESOURCES

- Activity 1: Counters; number cards; operation cards
- Activity 2: Worksheet 2; pencils



## Worksheet 2

Name \_\_\_\_\_ Date \_\_\_\_\_

**Missing numbers calculations**

Use your understanding of how calculations can be undone to fill in the missing numbers.

$$8 + 4 = 12$$

$$12 + 6 = 18$$

$$6 + 4 = 10$$

$$10 + \square = 17$$

$$11 + \square = 19$$

$$7 + 9 = 16$$

$$12 - \square = 4$$

$$18 - \square = 6$$

$$10 - \square = 6$$

$$17 - 10 = 7$$

$$19 - 11 = 8$$

$$16 - \square = 7$$

# Strand: Addition and Subtraction

DAY  
4

## Sub-strand: Mental calculation strategies

TEACH



### ACTIVITY 1: Number bonds bingo

- ▶ Give each child a blank bingo card and six counters.
- ▶ Ask the children to write a number between zero and 20 in each square on their bingo card.
- ▶ Explain to the children that they will be putting a counter on the number that is the pair to the **number bond to 20**. So, if you say the number 'twelve' they would put a counter on the number 'eight'.
- ▶ Call out numbers, reminding the children that they are finding the number that is the pair to the number bond to 20 if necessary.
- ▶ The first child with a bingo card full of counters shouts out 'Bingo!'

**! WATCH OUT:** Watch the children carefully as they complete this activity. Note if they are counting on from the number you say to find the answer, or if they are recalling the number bond from memory.



### ACTIVITY 2: Number bonds quick quiz

- ▶ The purpose of this activity is to build the children's confidence in recalling the **number bonds to 20**.
- ▶ Explain to the children how the game will work – you will show the children a number card and they will say the number that is the bond of that number to 20.
- ▶ Each time you show the children a number card, ask the children to tell you the number that goes with it.
- ▶ The essence of this game is speed, so reward a point to the child who gives the correct response quickest.
- ▶ Repeat the game until all of the number bonds have been covered.

**! WATCH OUT:** Make a note of any of the number bonds the children struggle with.

### OBJECTIVE

- Represent and use number bonds and related subtraction facts within 20

**Rising Stars Progression Framework:** 1.2.d.1, 1.2.a.1

### RESOURCES

- Activity 1: Bingo cards (from Worksheet 1, Number, page 4); counters (six per child)
- Activity 2: Number cards from 1 to 20

## Strand: Addition and Subtraction

DAY  
5

## Sub-strand: Mental calculation strategies

ASSESS



## ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, carefully noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.
- ▶ Give each of the children a copy of Worksheet 3, which shows various missing number calculations.
- ▶ Ask the children to use their understanding of how calculations can be undone to fill in the missing numbers.
- ▶ As the children are completing the calculations, ask them to explain what they are doing and why.

**! WATCH OUT:** It is important that the children know why they are doing what they are doing and can explain this.

- ▶ Now give each of the children a copy of Worksheet 4, which shows the **number bonds up to 20**.
- ▶ Ask the children to use their understanding of number bonds to fill in the missing numbers and complete the worksheet.

**✓ TIP:** Watch how the children find the answers to the calculations. Praise the children if they are able to fill in the answers mentally without calculating the answer.



## EVIDENCING SUCCESS

**Meeting expectations:**

- ▶ The child can deduce from  $3 + 12 = 15$  that  $15 - 12 = 3$ .
- ▶ The child can recall number bonds to 10 and 20 and reason with them.

**OBJECTIVE**

- Represent and use number bonds and related subtraction facts within 20

**Rising Stars Progression Framework:** 1.2.d.1, 1.2.a.1

**RESOURCES**

- Worksheet 3;  
Worksheet 4; pencils