

## Strand: Multiplication and Division

DAY  
1

## Sub-strand: Mental calculation strategies

**ACTIVITY 1: Making calculations using number and operation signs cards**

- ▶ Cut out the cards on Worksheet 1 and show the children the three operation signs ( $\times$ ,  $+$ ,  $=$ ). Ask the children if they can tell you what each sign means.
- ▶ Each time the children tell you what the signs are, reinforce the vocabulary of **multiplication** and **division** by saying the different words for the operations:
  - multiplication: **multiply, lots of, groups of**
  - divide: **shared by**
  - equals: **is the same as, balances with, is.**
- ▶ Move on to making calculations with the number cards and operation cards. E.g.:  $7 \times 2 = 14$ ;  $12 \div 2 = 6$ ;  $18 \div 6 = 3$ ;  $5 \times 4 = 20$ . As you make each calculation using the cards, ask the children to read them aloud.

**! WATCH OUT:** Be sure to put the answer in the calculation, as answering the calculation is *not* the focus of this session.

**✓ TIP:** Make sure you use a variety of words for each sign so the children are secure in its meaning.

**ACTIVITY 2: Turning verbal statements into written calculations**

**! WATCH OUT:** The focus of this activity is to use vocabulary and signs involved in multiplication and division, not to find the answers to calculations. For this reason, the calculations given do not use number facts that the children already know.

- ▶ Give each of the children a whiteboard and a pen.
- ▶ Tell them that you will be reading out **multiplication** and **division** calculations and you would like them to write these calculations down:  
 $14 \times 6 =$ ;  $12 \times 3 =$ ;  $24 \times 6 =$ ;  $33 \times 9 =$ ;  $27 \div 3 =$ ;  $44 \div 11 =$ ;  $18 \div 3 =$ ;  $20 \div 4 =$ .
- ▶ As you read the calculations be sure to use each of the vocabulary words:
  - multiplication: **multiply, lots of, groups of**
  - divide: **shared by**
  - equals: **is the same as, balances with, is.**
- ▶ The children write the calculations down on their board. After each one, discuss with them how they knew which sign to use. E.g. you could ask: *How did you know that needed to be a multiplication sign?* (You said *lots of* and that means multiplication.)

TEACH

**OBJECTIVES**

- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals ( $=$ ) signs
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
- Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

**Rising Stars Progression Framework:** 2.2.a.3, 2.2.a.4, 2.2.c.3, 2.2.e.2

**RESOURCES**

- Activity 1: Number cards to 20; Worksheet 1 (cut into cards)
- Activity 2: Each child will need a whiteboard and a pen

# Worksheet 1

Photocopy and cut out the signs to make a set of cards.

$\times$ , = and  $\div$  signs

$\times$	=	$\div$
$\times$	=	$\div$
$\times$	=	$\div$
$\times$	=	$\div$
$\times$	=	$\div$

## Strand: Multiplication and Division

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## Sub-strand: Mental calculation strategies

TEACH

**ACTIVITY 1: Using practical resources to understand inverse operations**

- ▶ Place the division cards from Worksheet 2 face up on one side of the table and the multiplication cards face up on the other side – so they are grouped separately.
- ▶ Choose an **inverse** pair of division and multiplication cards to model the activity, e.g.  $4 \times 2 =$  and  $8 \div 4 =$ . Start by checking the answer to the division calculation. So, for  $8 \div 4 =$ , put out eight counters and split them into four groups and show that you have two counters in each group.
- ▶ Now use the same counters to model the **opposite** multiplication calculation – so,  $4 \times 2 =$ . Say to the children: *I have four groups of two counters and when I put them back together I have eight counters.*
- ▶ Next, split the same eight counters into two groups of four. *I have two groups of four counters so  $8 \div 2 = 4$ . If I put the counters back I have shown  $2 \times 4 = 8$ .*
- ▶ The children now have a go themselves: ask them to each choose a card from the division pile. They follow your model to check the answer of the division calculation. The children then recombine the counters to find the corresponding multiplication card.
- ▶ When they find a pair, ask the children to move on to the next division card.

**! WATCH OUT:** If the children struggle to find pairs of calculations, you could give them a multiplication card and two division cards. This would then give you more opportunity to support these children in practically finding the answer using the counters.

**ACTIVITY 2: Finding division facts from multiplication facts**

- ▶ Remind the children how they found the **inverse** (or **opposite**) calculation earlier in the session: *We undid our division to find the multiplication.*
- ▶ Tell the children that in this activity they will be finding the division calculation from a multiplication calculation. E.g. if  $4 \times 6 = 24$  then  $24 \div 6 = 4$ .
- ▶ Give each of the children a whiteboard and pen and ask them to write down the calculation  $8 \times 3 = 24$ . *Can you find the division calculation that undoes this multiplication calculation? Ask the children to write it down.*
- ▶ Repeat with other calculations, e.g.  $14 \div 7 = 2$ ,  $18 \div 3 = 6$ .

**✓ TIP:** Provide the children with counters so they can use their previous learning from Activity 1 to help with this activity.

**OBJECTIVES**

- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals ( $=$ ) signs
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
- Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

**Rising Stars Progression Framework:** 2.2.a.3, 2.2.a.4, 2.2.c.3, 2.2.e.2

**RESOURCES**

- Activity 1: Counters; Worksheet 2 (cut into cards)
- Activity 2: Each child will need a whiteboard and a pen; counters



## Worksheet 2

Photocopy and cut out to make a set of cards.

## Division and multiplication calculation cards

$8 \div 4 =$

$4 \times 2 =$

$12 \div 4 =$

$4 \times 3 =$

$18 \div 3 =$

$6 \times 3 =$

$16 \div 8 =$

$8 \times 2 =$

$14 \div 7 =$

$7 \times 2 =$

$20 \div 4 =$

$5 \times 4 =$

$20 \div 10 =$

$10 \times 2 =$



## Strand: Multiplication and Division

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## Sub-strand: Mental calculation strategies

TEACH



## ACTIVITY 1: Exploring the inverse

- ▶ Give each child a copy of Worksheet 3, which shows 12 petals and a flower stem. Ask the children to cut out the petals so they are movable.
- ▶ Next, give the children an oral **division** calculation starting with a number less than twelve (e.g.  $10 \div 5$ ). The children solve the division calculation by grouping the petals around the flower.
- ▶ Next, ask the children to put the groups of petals back together in one group on the table (removed from the flower) ( $5 \times 2$ ) and to find the total.

✓ **TIP:** At this point tell the children that however many groups of petals you make, putting them back together will create the original starting number.

- ▶ Repeat with different calculations, e.g.  $12 \div 4$ ,  $8 \div 2$ ,  $6 \div 3$ , etc.

! **WATCH OUT:** Make sure to keep reiterating that the division and multiplication calculations can cancel each other out.



## ACTIVITY 2: Finding pairs of inverse calculations

- ▶ Give the children a pile of **multiplication** and **division** calculation cards, cut out from Worksheet 4, and some cubes or counters to help them solve the calculations, if necessary.
- ▶ Ask the children to read the calculations and try to solve them. When they find two solved calculations with the same three numbers but in another order, they should check whether they are the **inverse** using the procedure just taught with the flowers.
- ▶ The children then match the two inverse cards together as a pair.
- ▶ The first child to find an **inverse pair** stops the group, who then checks their answer and continues to find further inverse pairs.

✓ **TIP:** Do use the term **inverse pairs** and tell the children that **inverse** means they do the **opposite** of each other or they can cancel each other out.

## OBJECTIVES

- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals ( $=$ ) signs
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- Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

**Rising Stars Progression Framework:** 2.2.a.3, 2.2.a.4, 2.2.c.3, 2.2.e.2

## RESOURCES

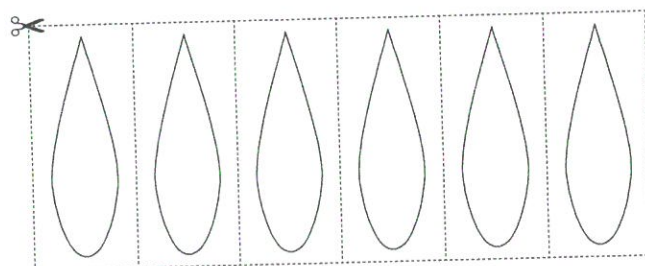
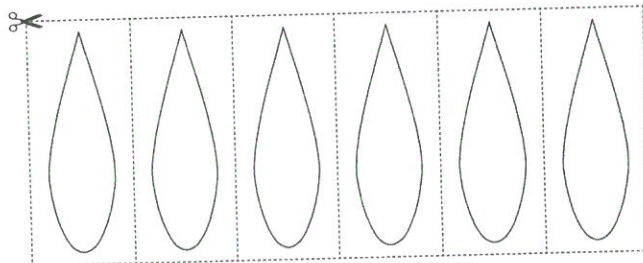
- Activity 1: Worksheet 3; scissors
- Activity 2: Worksheet 4 (cut into cards); counters or cubes

# Worksheet 3

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

## Petal power!

Cut out the petals. Use them to help you with your division and multiplication.



## Worksheet 4

Photocopy and cut into cards.

## Finding pairs of inverse calculations

$24 \div 2 =$

$2 \times 12 =$

$15 \div 3 =$

$5 \times 3 =$

$14 \div 7 =$

$7 \times 2 =$

$30 \div 3 =$

$10 \times 3 =$

$33 \div 3 =$

$11 \times 3 =$

$25 \div 5 =$

$5 \times 5 =$

$35 \div 7 =$

$7 \times 5 =$



## Strand: Multiplication and Division

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## Sub-strand: Mental calculation strategies

TEACH



## ACTIVITY 1: Commutative multiplication

- ▶ Write  $3 \times 5$  on the whiteboard. Create an array using counters to show the calculation.
  - ▶ Ask the children to find the product.
  - ▶ Write  $5 \times 3$  on the whiteboard. Create an array using counters to show this calculation.
  - ▶ Ask: *What do you notice about the two arrays?* (The number of counters in each array is the same; they are simply arranged differently.)
  - ▶ Ask the children to find the product.
  - ▶ Explain that the **multiplication is commutative**: *It doesn't matter which order you multiply in, the answer is the same.*
  - ▶ Write these numbers on the board: 2, 3, 5, 10. Give children a mini-whiteboard each.
  - ▶ Ask them to write down a multiplication calculation using the numbers you have shown (e.g.  $5 \times 10 =$ ). *Can you solve this calculation using the counters?*
- ✓ **TIP:** Some children may know the answer to their multiplication calculation as a number fact. They do not need to work out the answer using counters if this is the case.
- ▶ Ask them to swap their board with a partner. Now they should rewrite the calculation by swapping the order, e.g.  $5 \times 10$  becomes  $10 \times 5$ . Ask them to find the answer to the new calculation, again using counters. *Are your answers the same? Could you predict the answer?*



## ACTIVITY 2: Non-commutative division

- ▶ Write the calculation  $15 \div 5 =$  on the board. Show the calculation with 15 counters shared into five groups.
  - ▶ Ask children to find the quotient.
  - ▶ Write  $5 \div 15$  on the board. *Can I show this using my counters?*
- ! **WATCH OUT:** It is important that the children see they cannot share the five counters into 15 groups – they would need to cut the counters up to do so. If you explain it in this way you should avoid future misconceptions surrounding fractions.
- ▶ Explain that **division is not commutative**: *You cannot divide in any order and get the same answer.*
  - ▶ Repeat with other calculations from the multiplication tables for two, five or ten. Throughout, emphasise that the numbers in a division calculation cannot be reordered to get the same answer.

## OBJECTIVES

- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals ( $=$ ) signs
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- Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

## Rising Stars Progression

Framework: 2.2.a.3,  
2.2.a.4, 2.2.c.3, 2.2.e.2

## RESOURCES

- Activities 1 and 2: Each child needs: a whiteboard and pen, lots of counters; main whiteboard and pens

# Strand: Multiplication and Division

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## Sub-strand: Mental calculation strategies

ASSESS



### ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, 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 5 (missing numbers calculation quiz).
- ▶ Explain to the children that they need to find the missing numbers from the calculations using the counters you have provided.

**! WATCH OUT:** Observe how the children solve the problems in front of them and make a note of any misconceptions they may still have. Ask the children questions throughout the session to check their understanding: *How did you find this answer out? Which calculation did you use?*



### EVIDENCING SUCCESS

#### Meeting expectations:

- ▶ The child can demonstrate that  $8 \times 2$  is the same as  $2 \times 8$  (commutative) but that  $8 \div 2$  is not the same as  $2 \div 8$  (non-commutative), using appropriate images or manipulatives.
- ▶ The child can associate the language of grouping and sharing with division, and of combining equal groups and 'lots of' for multiplication.
- ▶ The child can solve missing number problems such as  $25 \div ? = 5$  and  $3 \times ? = 15$ .

### OBJECTIVES

- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals ( $=$ ) signs
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- Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

**Rising Stars Progression Framework:** 2.2.a.3, 2.2.a.4, 2.2.c.3, 2.2.e.2

### RESOURCES

- Each child needs: Worksheet 5, pencil, lots of counters



## Worksheet 5

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

## Missing numbers calculation quiz

$15 \div 5 = 3$

$3 \times \square = 15$

$25 \div \square = 5$

$5 \times 5 = 25$

$60 \div 10 = \square$

$6 \times 10 = 60$

$90 \div \square = 10$

$9 \times 10 = 90$

$20 \div \square = 2$

$2 \times 10 = 20$

$35 \div 5 = 7$

$5 \times \square = 35$

$45 \div 5 = 9$

$9 \times \square = 45$



## Strand: Multiplication and Division

DAY  
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## Sub-strand: Mental calculation strategies

TEACH



## ACTIVITY 1: Finding odd and even numbers

- ▶ Spread the number cards to 30 on the table face up. Ask the children to take it in turns to choose a number card and count out that number of counters.
- ▶ The child then puts the counters into two columns down the table, organising them in pairs. When they have finished, if one column is longer than the other their number is **odd**, and if both columns are the same length their number is **even**.

**! WATCH OUT:** Make sure the children are putting the counters down in pairs at a time and not trying to make one column before moving on to the next.

- ▶ When the children have identified their number as either odd or even, they write it on their whiteboard under the title 'Odd' or 'Even'.
- ▶ Allow each child a couple of goes, then ask the children whether they notice a pattern. They may notice that the even numbers always end in two, four, six, eight or zero and the odd numbers always end in one, three, five, seven or nine.



## ACTIVITY 2: Odd and even numbers on a 100 square

- ▶ Give each of the children a paper 100 square and two different coloured pencils. Ask them to use their whiteboard from the previous activity (on which they wrote numbers under the headings 'Odd' and 'Even') to colour in the numbers on their 100 square – one colour for **odd** and one colour for **even**.
- ▶ The children then swap whiteboards and colour in the numbers from their friend's whiteboards too.
- ▶ Once they have done this discuss the pattern with the children. Say to them: *If we count in ones up or down we say an odd number followed by an even number followed by odd number then an even number, and so on. What would happen if we were to count up in twos?*

**! WATCH OUT:** If the children struggle to find the pattern in the 100 square, they could swap whiteboards with yet another child in the group and colour their numbers too. This will give them more of a basis for finding the pattern.

**✓ TIP:** The next activity in tomorrow's session will focus on counting in twos and the multiplication table for two. It is therefore important that the children can refer to their 100 squares from today's activity.

## OBJECTIVE

- Recall and use multiplication and division facts for the two, five and ten multiplication tables, including recognising odd and even numbers

## Rising Stars Progression Framework: 2.2.d.2

## RESOURCES

- Activity 1: Number cards to 30; each child needs: whiteboard and pen, 30 counters
- Activity 2: Each child needs: a paper 100 square, two coloured pencils

## Strand: Multiplication and Division

DAY  
2

## Sub-strand: Mental calculation strategies

TEACH

**ACTIVITY 1: Using a 100 square to find the two multiplication table**

- ▶ Tell the children that the even numbers on their 100 square are the numbers in the **multiplication table for two**. Say to them: *If we **double** a number (multiply it by two) then the answer will always be an **even** number.*
- ▶ Get the children to count along the 100 square, saying just the even numbers in order (up to 40).
- ▶ Now model counting along the 100 square but this time say the multiplication table for two as you go: *two multiplied by one is two, two multiplied by two is four, two multiplied by three is six, and so on.*
- ▶ Then ask the children to solve a number of multiplication tables questions using their 100 square to help them; e.g.  $2 \times 8$ ,  $2 \times 5$ ,  $2 \times 4$ ,  $2 \times 11$ .

✓ **TIP:** Remind the children that multiplying a number by two is the same as **doubling** it. Can the children tell you the answer without looking at the 100 square?

**ACTIVITY 2: Division facts for the two multiplication table**

- ▶ In this activity they move on to finding answers to division questions involving the multiplication table for two.
- ▶ Remind the children that **division** is the **inverse** of multiplication – we know that multiplying by two is **doubling**, so dividing by two is **halving**.
- ▶ Ask the children to find the answer to the following division questions in their heads and to show you the answers on their number fans:  $20 \div 10 =$ ,  $16 \div 2 =$ ,  $12 \div 2 =$ ,  $18 \div 9 =$ .

✓ **TIP:** If the children struggle to find the answers to the questions mentally, allow them to use their 100 square and provide them with a little more scaffolding, such as counting along the 100 square the correct number of times (e.g. *How many times can I count to 10 before I get to 20?*) to find the answers.

**OBJECTIVE**

- Recall and use multiplication and division facts for the two, five and ten multiplication tables, including recognising odd and even numbers

**Rising Stars Progression Framework: 2.2.d.2****RESOURCES**

- Activity 1: Each child needs: their coloured-in 100 square from the previous session, whiteboard and pens
- Activity 2: Each child needs a number fan

## Strand: Multiplication and Division

DAY  
3

## Sub-strand: Mental calculation strategies

TEACH

**ACTIVITY 1: Using a 100 square to find the five multiplication table**

- ▶ Tell the children that a **multiplication table** is simply counting in steps of that number. So, the **multiplication table for five** involves counting in fives.
- ▶ Give out the 100 squares and crayons to the children. Ask them to colour in the number 5. Explain: *This is the first number in the multiplication table for five:  $5 \times 1 = 5$ .*
- ▶ Can any of the children tell you what  $5 \times 2$  will be? Remind them that they should know this from the multiplication table for two ( $2 \times 5$  is the same as  $5 \times 2$ ). Establish that they need to colour in the number 10 next, because multiplication is commutative.
- ▶ Now ask: *Which number would come next in the multiplication table for five?* The children may count up on the 100 square to find the answer, know it by heart or use the pattern that is starting to emerge on the 100 square to help them. The children then colour in the number 15.
- ▶ Continue working in this way, colouring in the numbers on the 100 square, until you have reached 60.
- ▶ Now ask the children to help you to chant the multiplication table for five. After finishing the chant, work as a group to record the multiplication table for five.

**! WATCH OUT:** Some children may struggle to chant the table from memory. In this case allow them to use their 100 square to help them. You could also teach them to use their flat hand and fist. One hand is held with the fingers spread out (to show five) and the other is a fist (to show zero). As you say the numbers in the multiplication table for five the children show the appropriate hand.

**ACTIVITY 2: Division facts for the five multiplication table**

- ▶ Remind the children that they know the **multiplication table for five** and therefore they can work out what the large number divided by five must be to find the answer to the division questions.
- ▶ Ask the children to find the answers to these questions in their heads and show you the answers on their number fans:  $40 \div 5 =$ ,  $25 \div 5 =$ ,  $30 \div 5 =$ ,  $10 \div 5 =$ . The children should be encouraged to count how many fives are in the number using their 100 square to help them, e.g. *There are four fives in 20 as you count four coloured squares to get to 20.*

**! WATCH OUT:** Should the children struggle to find the answers to the questions mentally, allow them to use their 100 square and provide them with a little more scaffolding, such as counting along the 100 square the correct number of times (e.g. *How many times can I count to five before I get to 40?*).

**OBJECTIVE**

- Recall and use multiplication and division facts for the two, five and ten multiplication tables, including recognising odd and even numbers

**Rising Stars Progression Framework: 2.2.d.2****RESOURCES**

- Activity 1: Each child needs: a paper 100 square, a coloured crayon
- Activity 2: Each child needs a number fan



## Strand: Multiplication and Division

DAY  
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## Sub-strand: Mental calculation strategies

TEACH



## ACTIVITY 1: The ten multiplication table

- ▶ Remind the children that when multiplying a number by ten they move each numeral to the left by one place and use zero as a place holder (so 10 becomes 100 and 9 becomes 90).

**! WATCH OUT:** Do not refer to 'adding a zero' as this will create misconceptions about place value. You could demonstrate this on a place-value grid to help the children to visualise the process.

- ▶ Give each of the children a set of number cards from 0 to 9 and a whiteboard and pen.
- ▶ Model the activity before asking the children to complete it independently.
- ▶ The children pick a number card from their pack and write down the multiplication calculation on their whiteboard (e.g.  $10 \times 6$ ) before finding the answer and completing the calculation.

**✓ TIP:** Occasionally ask the children to tell you how they know the answer to the questions.

- ▶ Emphasise to the children that they are used to these numbers as they are the **even** multiples of five.



## ACTIVITY 2: Division facts for the ten multiplication table

- ▶ Remind the children that they know the **multiplication table for ten** and therefore they can work out what the large number divided by ten must be to find the answer to the division questions.
- ▶ Ask the children to find the answer to the following division questions in their heads and to show you the answers on their number fans:  $40 \div 10 =$ ,  $20 \div 10 =$ ,  $30 \div 10 =$ ,  $10 \div 10 =$ .
- ▶ Remind the children that they can count the coloured squares on their 100 square to find the answer to these calculations.

**! WATCH OUT:** Some children will struggle to find the answers to the questions mentally. Allow them to use their 100 square and provide the children with a little more scaffolding, such as counting along the 100 square the correct number of times (e.g. *How many times can I count to 10 before I get to 20?*) to find the answers.

## OBJECTIVE

- Recall and use multiplication and division facts for the two, five and ten multiplication tables, including recognising odd and even numbers

## Rising Stars Progression Framework: 2.2.d.2

## RESOURCES

- Activity 1: Each child needs: a whiteboard and pen, number cards from 0 to 9
- Activity 2: Each child needs a number fan, a 100 square if needed

## Strand: Multiplication and Division

DAY  
5

## Sub-strand: Mental calculation strategies

ASSESS



## ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.

✓ **TIP:** The aim of this assessment is for the children to complete the questions in their heads. However, if the children struggle with this it is important for them to feel a sense of success, therefore allowing them to use concrete resources such as the buttons or 100 squares to complete these activities is fine.

- ▶ Once each child has a copy of Worksheet 6, ask them to have a go at answering the questions in their heads (though they need to write down the answers to the calculations on the worksheet).
- ▶ Remind the children, if necessary, of the strategies learnt this week that they can use to answer the questions:
  - counting up and down in steps of different numbers
  - using the patterns drawn or coloured on the 100 square.

! **WATCH OUT:** Do the children use their fingers or jot anything down to help them to answer the questions? If the children are confident to use jottings when finding the answer, this shows they are independently and confidently calculating. If the children take a long time to answer the direct retrieval questions from the multiplication tables, more work on reciting the tables should be done in order to boost the children's confidence (e.g. chanting them each morning before break).



## EVIDENCING SUCCESS

**Meeting expectations:**

- ▶ The child can recall or deduce  $40 \div 5 = 8$  from  $8 \times 5 = 40$  to solve problems.
- ▶ The child can use their knowledge of the multiplication tables for two, five and ten to complete simple multiplication and division calculations mentally.

## OBJECTIVE

- Recall and use multiplication and division facts for the two, five and ten multiplication tables, including recognising odd and even numbers

**Rising Stars Progression Framework: 2.2.d.2**

## RESOURCES

- Each child needs: Worksheet 6, a pencil, manipulative resources (e.g. buttons, counters, compare beads, 100 squares or cubes) if necessary

# Worksheet 6

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

## Facts for the 2, 5 and 10 multiplication tables

Answer these number questions using your knowledge of number facts.

1.  $3 \times 5 =$

2.  $9 \times 10 =$

3.  $4 \times 2 =$

4.  $12 \times 2 =$

5.  $7 \times 5 =$

6.  $30 \div 5 =$

7.  $20 \div 2 =$

8.  $40 \div 5 =$

9.  $50 \div 10 =$

10.  $18 \div 2 =$



## Strand: Fractions

DAY  
1

## Sub-strand: Recognise, order, compare and equivalence

TEACH

ACTIVITY 1: Finding  $\frac{1}{4}$  of a quantity

- ▶ Look at the **fraction**  $\frac{1}{4}$  written on the board with the children. Ask them: *What does it mean?*
- ▶ Establish with the children that  $\frac{1}{4}$  means one of the four equal parts of a whole.
- ▶ Model finding a quarter of 20 for the children. Count out 20 counters and then divide them into four groups. Explain to the children: *We count how many counters there are in one of the four groups to find  $\frac{1}{4}$ . So  $\frac{1}{4}$  of 20 is 5.*
- ▶ Highlight to the children that the groups *must be equal*.
- ▶ Now give the children a number to find  $\frac{1}{4}$  of (e.g. 8, 12, etc.).

**! WATCH OUT:** Observe the children as they find the fraction – do they remember to divide the original number into **equal groups**? Do they remember to count one of the groups to find  $\frac{1}{4}$  of the original number?

ACTIVITY 2: Finding  $\frac{1}{4}$  and  $\frac{2}{4}$  of a shape

- ▶ Before the session you will need to cut out one of each of the shapes from Worksheet 1 for each child. It is important that these are cut out neatly so the children can see that each half is exactly the same.
- ▶ Remind the children that in the previous activity they found out that  $\frac{1}{4}$  is **one of four equal parts of a whole**.
- ▶ Show the children one of the cut-out shapes from Worksheet 1. Ask them to find  $\frac{1}{4}$  of the shape. *How many parts should they split the shape into? How could they make sure that the four parts are the same?*
- ▶ Work with the children to find  $\frac{1}{4}$  of different paper shapes. When they have folded the paper into four they cut one of the pieces out to find  $\frac{1}{4}$ .
- ▶ Place two quarters alongside each other and highlight that  $\frac{2}{4}$  are equivalent to  $\frac{1}{2}$ .
- ▶ Repeat with a different shape each time.

## OBJECTIVES

- Recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape, set of objects or quantity
- Recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

## Rising Stars Progression

**Framework:** 2.3.a.1,  
2.3.a.2, 2.3.b.1

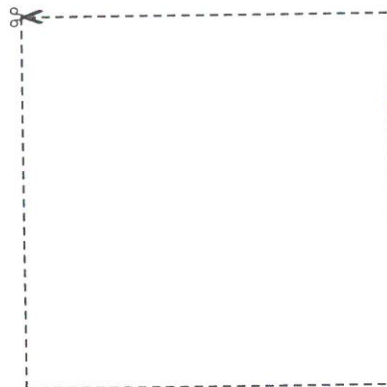
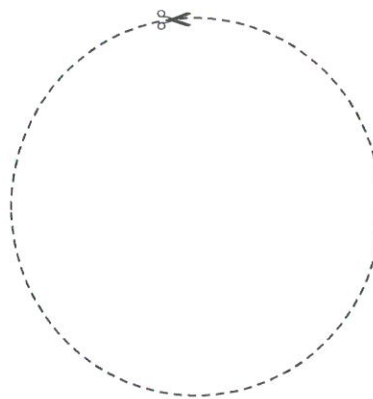
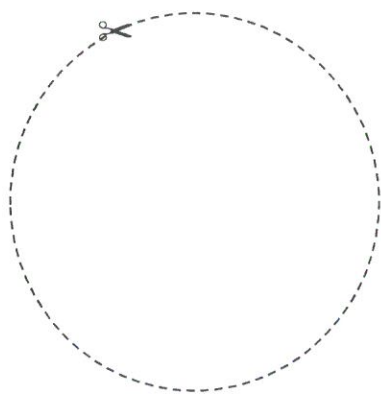
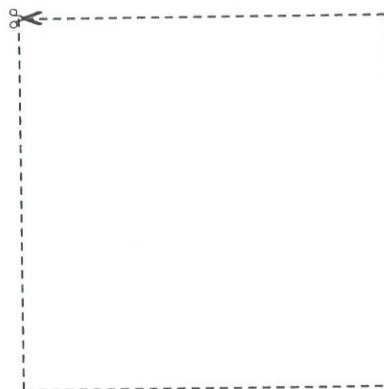
## RESOURCES

- Activity 1: Each child needs up to 20 counters; main whiteboard and pens
- Activity 2: Each child needs: cut-outs from Worksheet 1, scissors

# Worksheet 1

Photocopy and cut out the cards to make a set for each child.

## Finding a quarter of a shape



## Strand: Fractions

DAY  
2

## Sub-strand: Recognise, order, compare and equivalence

TEACH

**ACTIVITY 1: Finding  $\frac{1}{3}$  of a quantity using counters**

- ▶ Look at the **fraction**  $\frac{1}{3}$  written on the board with the children. Ask them: *What does it mean?*
- ▶ Establish with the children that  $\frac{1}{3}$  means one of the three parts of a whole.
- ▶ Model finding  $\frac{1}{3}$  of 21 for the children. Count out 21 counters and then divide them into three groups. Say to the children: *We count how many counters are in one of the three groups to find  $\frac{1}{3}$ . So  $\frac{1}{3}$  of 21 is 7.*
- ▶ Highlight to the children that the groups *must be equal*.
- ▶ Now give the children a number to find  $\frac{1}{3}$  of (e.g. 6, 9, etc.).

**ACTIVITY 2: Finding  $\frac{1}{3}$  of a length**

- ▶ You need plenty of space for this activity. Measure a distance using a metre wheel – make sure the distance is divisible by three (e.g. measure from one cone to another with a distance of 9m).
- ▶ Put a cone at either end of the distance.
- ▶ The children then count out the correct number of metre sticks for the distance they have found. These physical resources can then be used to support the children with dividing the distance into three.
- ▶ Ask the children to divide the distance into three, to find  $\frac{1}{3}$  of the distance. Say to them: *We have measured three metres across the ground. To find  $\frac{1}{3}$  of the distance we need to divide it by three.*
- ▶ Ask the children to find the answer mentally and then one child measures using the metre wheel to put a cone at the end of each third of the distance. (Each child will be able to have a turn at this step throughout the activity.)



**WATCH OUT:** It is important that the children can divide this number by three to find  $\frac{1}{3}$ . If necessary, use practical resources to help them such as metre sticks, counters, pebbles or cubes.

- ▶ Now ask the children to walk a third of the total distance they have measured.
- ▶ Repeat with other lengths, ensuring that each length is divisible by three.

**OBJECTIVES**

- Recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape, set of objects or quantity
- Recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

**Rising Stars Progression Framework:** 2.3.a.1, 2.3.a.2, 2.3.b.1

**RESOURCES**

- Activity 1: Each child needs up to 24 counters; main whiteboard and pens
- Activity 2: Metre wheel; cones for measuring distances; access to outside space/hall/corridor; metre sticks



## Strand: Fractions

DAY  
3

## Sub-strand: Recognise, order, compare and equivalence

TEACH

**ACTIVITY 1: Practising finding fractions of lengths**

- ▶ Hand out copies of Worksheet 2. Explain that the children need to start by measuring each object. They should make a line of cubes that matches the length of the object they are measuring.

✓ **TIP:** Model measuring an object on the worksheet, to start the children off.

- ▶ As the children measure each object, they write down the number of cubes that make up the length of that object.

✓ **TIP:** Support the children with measuring the length in cubes, if necessary, as this is not the focus of this activity.

- ▶ Next, the children divide the cubes for that length into as many groups as they need to find in the **fraction** written next to that object. So, e.g. if the piece of rope is nine multi-link cubes long and the children need to find a third, they would need to divide the cubes into the correct number of groups (three) before counting how many cubes are in one group (three).
- ▶ The children then write the answer in the box provided on the worksheet.

**ACTIVITY 2: Practising finding fractions of shapes**

- ▶ Give each of the children the five cut-out paper shapes from Worksheet 3.
- ▶ The children then choose one of the shapes each. Ask them to cut the shape into quarters. Before they begin, check with them: *How many parts does the shape need to be in? (Four.) How can we make sure the parts are equal? (By folding in half and half again.)*
- ▶ *We are now going to separate  $\frac{3}{4}$  of the shape. How many of our cut up parts do we need to put to one side to show  $\frac{3}{4}$  of our shapes? (Three.)*
- ▶ Ask the children to find different fractions of the shapes and cut them out.
- ▶ In each instance the children choose any shape from their pile of five shapes and you tell them a fraction ( $\frac{2}{4}, \frac{1}{2}, \frac{1}{4}, \frac{3}{4}$ ) to cut from that shape. Each time emphasise how to find the fraction (e.g. *Remember  $\frac{1}{4}$  is  $\frac{1}{2}$  and then  $\frac{1}{2}$  again,  $\frac{2}{4}$  are equivalent to  $\frac{1}{2}$  etc.*).

**OBJECTIVES**

- Recognise, find, name and write fractions  $\frac{1}{3}, \frac{1}{4}, \frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape, set of objects or quantity
- Recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

**Rising Stars Progression**

**Framework:** 2.3.a.1,  
2.3.a.2, 2.3.b.1

**RESOURCES**

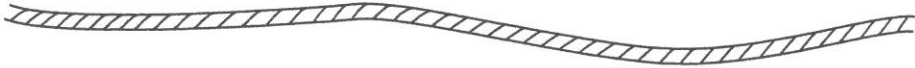


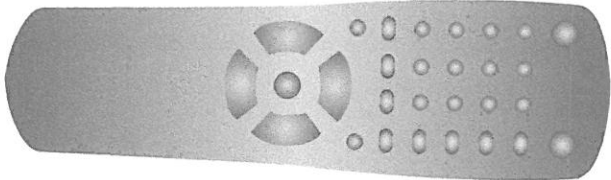
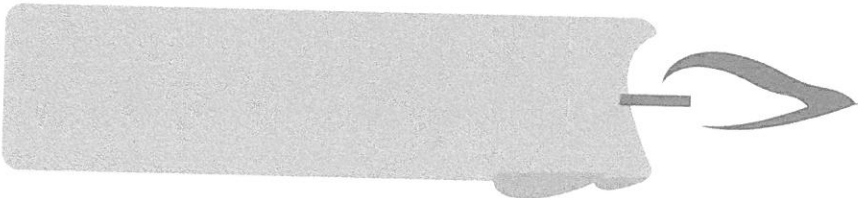
- Activity 1: Each child needs: a copy of Worksheet 2, 10 multi-link cubes, a pencil
- Activity 2: Each child needs: cut-outs from Worksheet 3, scissors

# Worksheet 2

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

## Finding fractions of lengths

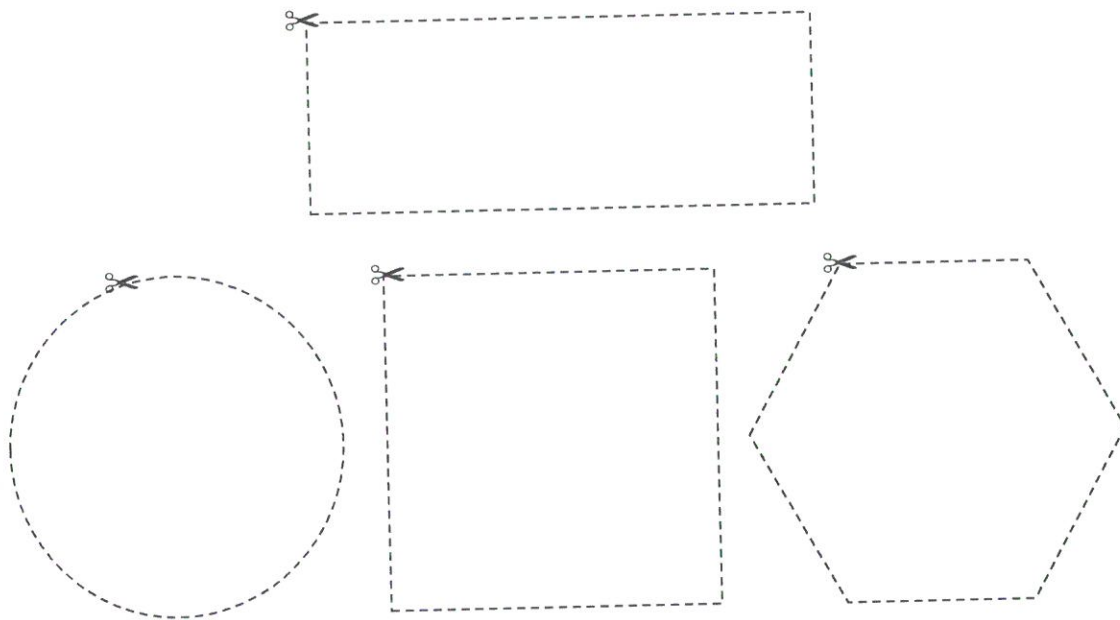
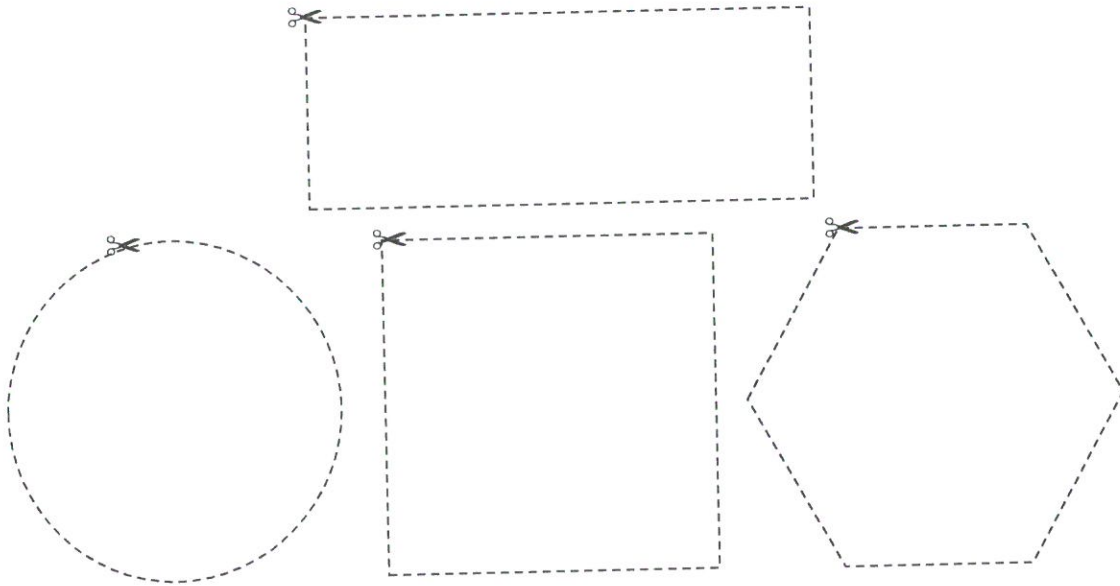
Find the fractions of the objects. Use multi-link cubes to help you.

	Answer
<p>1. Find <math>\frac{1}{3}</math> of the length of the rope.</p> 	
<p>2. Find <math>\frac{3}{4}</math> of the length of the pencil.</p> 	
<p>3. Find <math>\frac{1}{4}</math> of the length of the magic wand.</p> 	
<p>4. Find <math>\frac{1}{2}</math> of the length of the TV remote control.</p> 	
<p>5. Find <math>\frac{1}{3}</math> of the length of the candle.</p> 	

# Worksheet 3

Photocopy and cut out the shapes so that each child has a set of five shapes.

## Finding fractions of shapes





## Strand: Fractions

DAY  
4

## Sub-strand: Recognise, order, compare and equivalence



## ACTIVITY 1: Understanding written fractions

- ▶ Write each of the following **fractions** and ask the children what they are:  
 $\frac{1}{4}$ ,  $\frac{1}{3}$ ,  $\frac{1}{2}$ ,  $\frac{2}{4}$ ,  $\frac{3}{4}$
- ▶ In each instance ensure the children are using the correct fraction vocabulary (e.g. **quarter**, **third**, **half**).
- ▶ For each ask: *How many groups would the whole need to be divided into to find the answer? How many of the groups would you need to put together to find the fraction?*

**TIP:** This should be a quick verbal activity to warm up for the next, slightly longer activity.



## ACTIVITY 2: Written fractions in practice

- ▶ Show the children a written fraction, e.g.  $\frac{1}{3}$  of 9.
- ▶ Work together to find  $\frac{1}{3}$  of 9, using cubes, by counting out nine cubes and sharing them into three equal groups and then counting one of these groups to find  $\frac{1}{3}$ .
- ▶ Now tell the children that they will be finding out what more than one fraction of the whole is.
- ▶ Show the children a written fraction, e.g.  $\frac{3}{4}$  of 12.
- ▶ Ask the children to count out the correct number of cubes – remind them this is the **whole number**.
- ▶ Now ask the children to divide the whole number into the correct number of groups (the **denominator** or **bottom number** of the fraction).
- ▶ The children then combine the correct number of groups to find the fraction you are looking for (the **numerator** or **top number** of the fraction). So, using the example of  $\frac{3}{4}$  of 12, count out 12 cubes, divide them into four equal groups and combine three of these groups to find the fraction.
- ▶ Repeat with other fractions of numbers to 20: e.g.  $\frac{2}{4}$  of 8,  $\frac{2}{3}$  of 9,  $\frac{3}{4}$  of 16, etc.

**WATCH OUT:** Check that the children know what the numbers in the fraction represent. It could be that they find the wrong answer because they have used the fractions incorrectly. E.g. when finding  $\frac{2}{4}$  of 20 the children could have failed to divide 20 into four parts before multiplying by two.

TEACH

## OBJECTIVES

- Recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape, set of objects or quantity
- Recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

**Rising Stars Progression Framework:** 2.3.a.1, 2.3.a.2, 2.3.b.1

## RESOURCES

- Activity 1: Teacher needs whiteboard and pen
- Activity 2: Each child needs: 20 cubes, a whiteboard and pen

## Strand: Fractions

## Sub-strand: Recognise, order, compare and equivalence

ASSESS



## ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, 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 4.
- ▶ For the first part of the assessment, they need to colour in the fractions of each of the shapes, as instructed on the worksheet.

**! WATCH OUT:** In each instance you should check that the children are colouring the correct proportion of the shapes.

- ▶ For the second part of the assessment, give the children 24 cubes or counters each.
- ▶ Ask the children to use the cubes or counters to find the fraction of each of the totals on the worksheet.

**! WATCH OUT:** In each case make sure the children are counting out the right total of cubes before dividing it into the correct number of groups and combining these groups to find the total.

- ▶ For the final part of the assessment, ask children to colour  $\frac{1}{2}$  of each shape. As they do so, ask children to identify  $\frac{2}{4}$  of each shape. Look for children to show you that  $\frac{2}{4}$  are equivalent to  $\frac{1}{2}$ .



## EVIDENCING SUCCESS

## Meeting expectations:

- ▶ The child can identify three equal parts of a rectangle and know that each of them represents  $\frac{1}{3}$ .
- ▶ The child can identify four equal parts of a rectangle and know that two of them represent  $\frac{2}{4}$  and three of them represent  $\frac{3}{4}$ .

## OBJECTIVES

- Recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape, set of objects or quantity
- Recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$

**Rising Stars Progression Framework:** 2.3.a.1, 2.3.a.2, 2.3.b.1

## RESOURCES

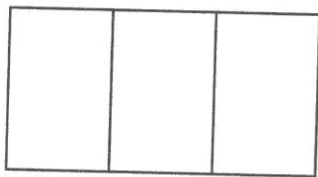
- Each child needs: a copy of Worksheet 4, colouring crayons, 24 cubes or counters

# Worksheet 4

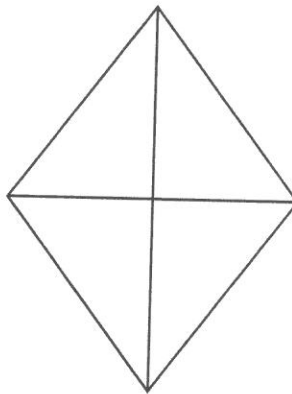
Name \_\_\_\_\_ Date \_\_\_\_\_

## Recognising, finding and writing fractions

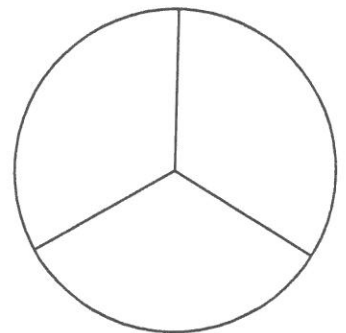
1. a) Colour  $\frac{1}{3}$ .



b) Colour  $\frac{3}{4}$ .



c) Colour  $\frac{2}{3}$ .



2. Find these fractions.

a)  $\frac{1}{4}$  of 12

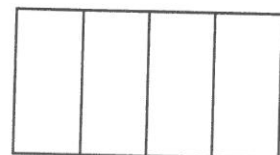
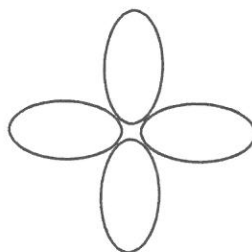
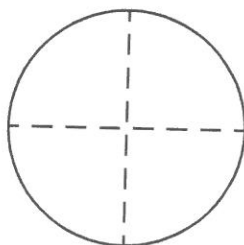
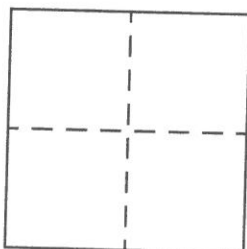
b)  $\frac{2}{4}$  of 20

c)  $\frac{3}{4}$  of 16

d)  $\frac{1}{3}$  of 6

e)  $\frac{1}{2}$  of 10

3. Colour  $\frac{1}{2}$  of these shapes.





## Strand: Fractions

## Sub-strand: Recognise, order, compare and equivalence

TEACH



## ACTIVITY 1: Finding half using counters

- ▶ Show the children a group of ten counters and count them together.
- ▶ Say to the children: *We have ten counters here. If I wanted to find half of them, how many groups would I split them into?*
- ▶ Establish with the children that they would need to split them into two groups. Physically divide the counters into two groups.
- ▶ Reinforce to the children that each one of the two groups is **half** of the original number. Count how many counters are in one half and then say: *One half of ten counters is five counters.*
- ▶ Repeat with other even number quantities to ten. Each time, model and encourage the children to use the vocabulary of halves.

**! WATCH OUT:** Remind the children that the counters must be in *two equal groups* to be split in half.



## ACTIVITY 2: Finding half using pictures

- ▶ Give each of the children a copy of Worksheet 5.
  - ▶ Ask the children to count the first quantity of pictures.
  - ▶ Now ask: *What is half of the number?* Discuss with the children that they should **divide by two** to find half of the number.
- ✓ TIP:** If the children are struggling with halving the numbers mentally, offer them manipulative resources such as counters or cubes to physically find half of the number.
- ▶ Model how to circle **one half** of the pictures. e.g. *There are two flowers and we have circled half of them, so we have circled one flower.*
  - ▶ Complete the worksheet with the children.

**! WATCH OUT:** It is important to discuss with the children *what* they are doing and *how* they are doing it using the terms **sharing, halving, dividing** and **whole**.

## OBJECTIVE

- Write simple fractions, e.g.  $\frac{1}{2}$  of 6 = 3

## Rising Stars Progression Framework: 2.3.c.1

## RESOURCES

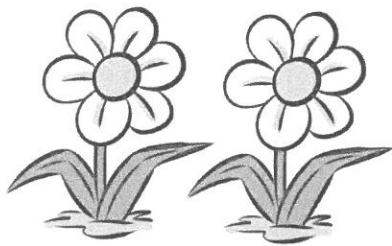
- Activity 1: 10 counters
- Activity 2: Worksheet 5 (one per child); pencils; manipulatives if needed

# Worksheet 5

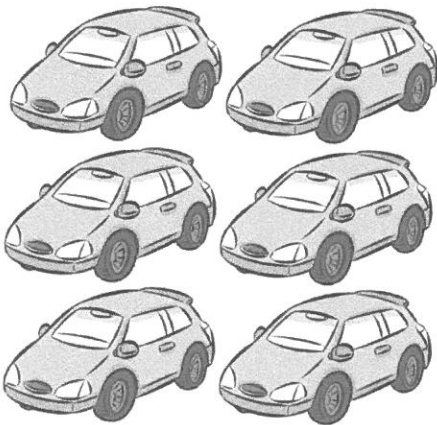
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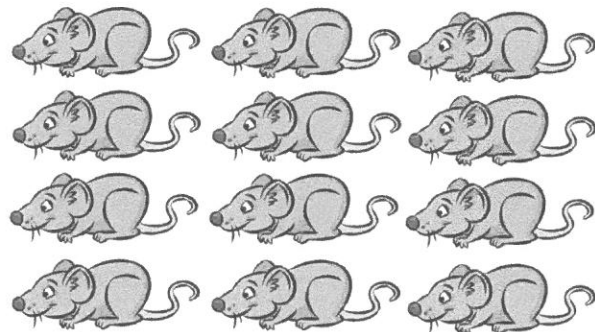
## Half the quantity

Circle half of the objects in each group. How many is one half?

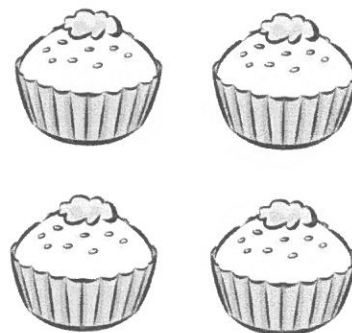














## Strand: Fractions

DAY  
2

## Sub-strand: Recognise, order, compare and equivalence

TEACH

**ACTIVITY 1: Understanding fractions using counters**

- ▶ Show the children a written **fraction**, e.g.  $\frac{1}{3}$ . Discuss how the bottom number (the **denominator**) tells us how many parts we need to divide the whole into. Say to the children: *We have one whole quantity and we will divide this into three equal parts and then count one of those parts to find  $\frac{1}{3}$  of the quantity.*
- ▶ Model this using counters.
- ▶ Now show the children  $\frac{1}{4}$  written down. Say to them: *How many parts do we need to divide the quantity into now?*
- ▶ Continue to show the children other fractions written down (e.g.  $\frac{1}{2}$ ,  $\frac{2}{4}$ ,  $\frac{3}{4}$ ). In each case ask them to identify how many parts they need to divide the whole into.
- ▶ Continue with the activity until the children can read the fractions independently.

**ACTIVITY 2: Writing fraction statements**

- ▶ Before the activity, cut out the set of fraction cards from Worksheet 6.
- ▶ Select a number card to 10 and a fraction card, cut out from Worksheet 6. Make sure the number can be divided equally into the fraction.
- ▶ Show the children the fraction card and the number card and ask them to tell you how many parts you need to split the number into, e.g. if you pick the number card '8' and the fraction card ' $\frac{1}{4}$ ', the number 8 would need to be split into four parts.
- ▶ The children then count out the correct number of counters and split it into the number of groups you identified earlier.
- ▶ Now ask the children to count the number in one fraction of the total and to write this answer on their whiteboard. So, e.g. the children would write:  $\frac{1}{4}$  of 8 = 2.
- ▶ Repeat with other fractions and totals.

**OBJECTIVE**

- Write simple fractions, e.g.  $\frac{1}{2}$  of 6 = 3

**Rising Stars Progression Framework: 2.3.c.1****RESOURCES**

- Activity 1: Whiteboard and pen for teacher to use; counters
- Activity 2: Worksheet 6 (cut into cards); number cards to 10; 10 counters per child; individual whiteboards and pens



## Worksheet 6

Photocopy and cut out the cards.

## Fraction cards



$$\frac{1}{2}$$

$$\frac{1}{2}$$

$$\frac{1}{2}$$

$$\frac{1}{3}$$

$$\frac{1}{3}$$

$$\frac{1}{3}$$

$$\frac{1}{4}$$

$$\frac{1}{4}$$

$$\frac{1}{4}$$

## Strand: Fractions

DAY  
3

## Sub-strand: Recognise, order, compare and equivalence

TEACH

**ACTIVITY 1: Understanding fractions using shapes**

- ▶ Show the children a copy of Worksheet 7 (the fraction picture sheet).
- ▶ Explain to the children that each circle has been divided into a different number of parts, and that the total number of parts tells them the **fraction** it has been divided into.
- ▶ Look at the second circle together. Ask: *How many parts is this circle divided into?* (Two parts.) Explain that one of those parts is a fraction of the total. So: *One part or piece is  $\frac{1}{2}$  of the total.*
- ▶ The children write this fraction in the box on the worksheet, next to the relevant circle.
- ▶ Now ask the children to find the fraction that the next circle has been divided into and to repeat with the other shapes on the worksheet.

**ACTIVITY 2: Writing different fractions of the same number**

- ▶ Give the children a number card each from the selection.
- ▶ They then count out that many counters for themselves.
- ▶ Now show the children a fraction card and ask the children to find that fraction of their number using the counters.
- ▶ Children write down their answers on their whiteboard, e.g.  $\frac{1}{2}$  of 8 = 4.
- ▶ Then show the children another fraction card. Ask the children to find that fraction of their total and write it down.
- ▶ Repeat with the other fraction cards; the children continue to work with the same number card.
- ▶ Children then swap number cards and whiteboards and check each other's answers by finding all of the fractions of the numbers written on the whiteboard.

**TIP:** It is important that the children can recognise where mistakes may have come from when checking each other's answers. If they find an error you should ask the children to recount the fraction of the number and correct it.

**OBJECTIVE**

- Write simple fractions, e.g.  $\frac{1}{2}$  of 6 = 3

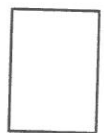
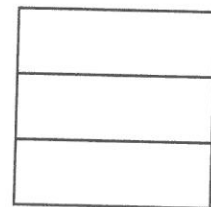
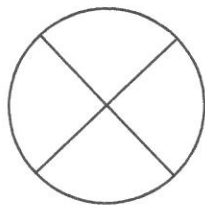
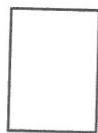
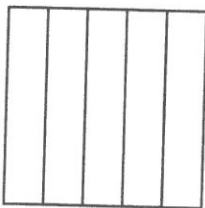
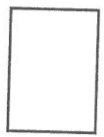
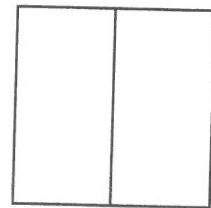
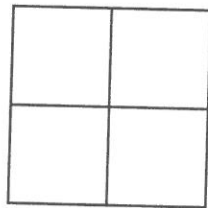
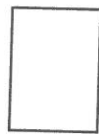
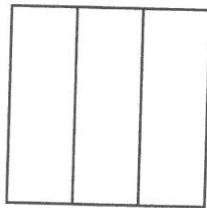
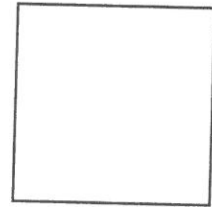
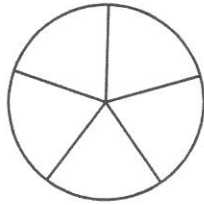
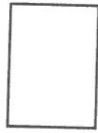
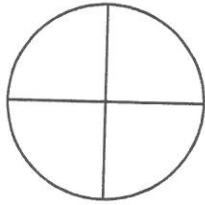
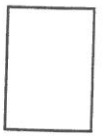
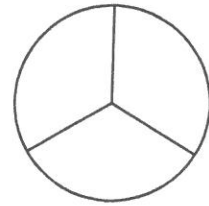
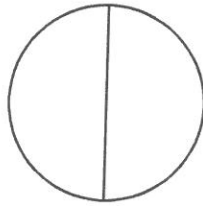
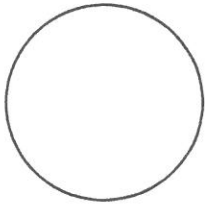
**Rising Stars Progression Framework: 2.3.c.1****RESOURCES**

- Activity 1: Each child needs: Worksheet 7, colouring pencils
- Activity 2: Fraction cards ( $\frac{1}{2}, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}$ ); number cards (4, 8, 12, 16, 20); each child needs: 20 counters, whiteboard and pen

# Worksheet 7

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

## Finding fractions using shapes





## Strand: Fractions

## Sub-strand: Recognise, order, compare and equivalence

ASSESS



## ASSESSMENT ACTIVITY 1

- ▶ The purpose of the assessment is to check what each child can do independently, 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 copy of Worksheet 8.
- ▶ The children start by reading the **fraction** and then circling that fraction of the group of objects shown.



## ASSESSMENT ACTIVITY 2

- ▶ The children then move on to the fraction calculations on Worksheet 9, for which each child will need to be given 20 counters.
- ▶ For each question, ask the children to read the **fraction** and the total and then have a go at finding the answers using the counters. They then write down the answer to complete the calculation.

**! WATCH OUT:** Observe the children carefully as they find the answers to the questions on the worksheet, to ensure they are going about it in the correct way (counting out the total and then sharing the total into the correct number of parts before counting one part of the whole). This way you will know whether any incorrect answers are because the child does not understand how to find the answer or because they counted incorrectly.

**✓ TIP:** If any children struggle to find the answers, ask them to explain their process to help you to support them to find the correct answer.



## EVIDENCING SUCCESS

**Meeting expectations:**

- ▶ The child can work out  $\frac{1}{2}$  of 8 = 4 and  $\frac{1}{3}$  of 6 = 2 using manipulatives or images, as appropriate.

## OBJECTIVE

- Write simple fractions, e.g.  $\frac{1}{2}$  of 6 = 3

**Rising Stars Progression Framework: 2.3.c.1**

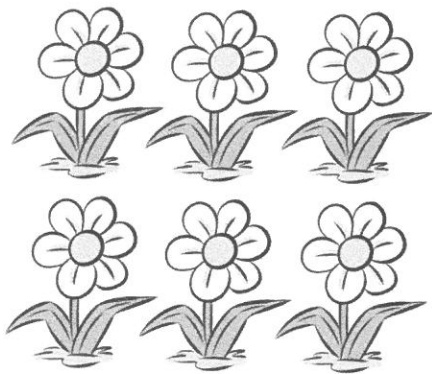
## RESOURCES

- Activity 1: Each child needs: Worksheet 8, a pencil
- Activity 2: Each child needs: Worksheet 9, a pencil, 20 counters

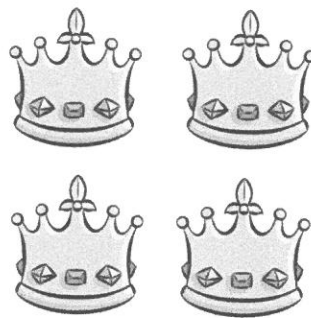
# Worksheet 8

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

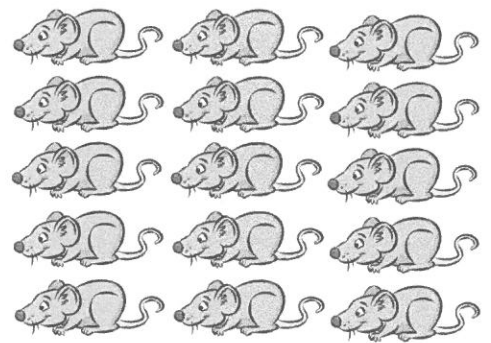
## Finding fractions of groups of objects



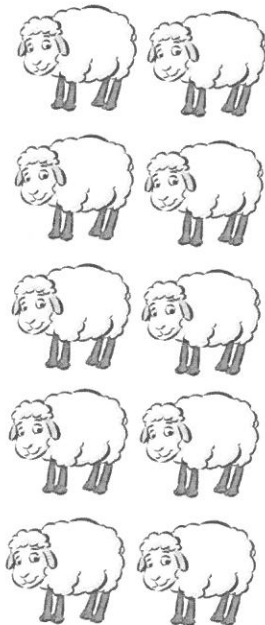
Circle  $\frac{1}{3}$



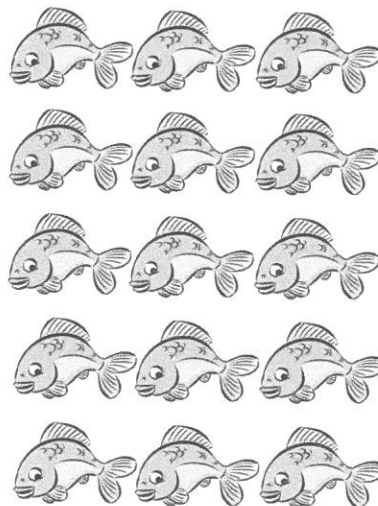
Circle  $\frac{1}{4}$



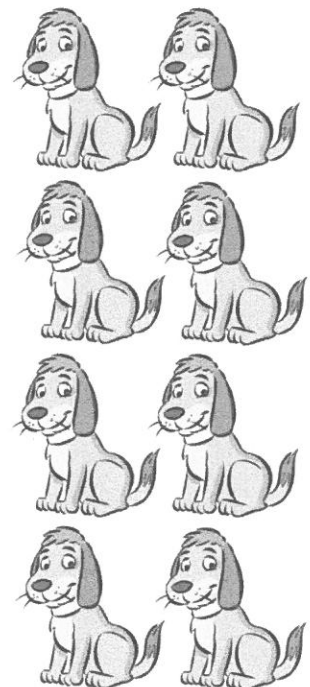
Circle  $\frac{1}{3}$



Circle  $\frac{1}{5}$



Circle  $\frac{1}{5}$



Circle  $\frac{1}{2}$

## Worksheet 9

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

**Finding fractions of numbers**

Work out the answers to these fraction questions.

1.  $\frac{1}{2}$  of 12 =

2.  $\frac{1}{3}$  of 9 =

3.  $\frac{1}{4}$  of 12 =

4.  $\frac{1}{3}$  of 12 =

5.  $\frac{1}{2}$  of 8 =

6.  $\frac{1}{2}$  of 10 =

7.  $\frac{1}{3}$  of 6 =

8.  $\frac{1}{4}$  of 8 =



## Strand: Measurement

DAY  
1

## Sub-strand: Length, mass, capacity

TEACH

**ACTIVITY 1: Choosing appropriate units for length**

- ▶ Spread out the unit cards from Worksheet 1 face upon the table, and place the items cards face down. Have the ruler and the metre stick available.
- ▶ Ask: *Which is the larger **unit of measure** here? Which is the smaller unit of measure? If measuring a length that you think will be large, which unit of measure should you use?*
- ▶ Show the children the scarf, the boot and the teabag. Ask: *How would we measure these things? Would we use the metre stick or the ruler?*
- ▶ The children now take it in turns to turn over an object card from Worksheet 2 and discuss with the group how they would choose to measure it (using centimetres or metres). Challenge them to say why: *It is metres because it is a big length or centimetres because it is small.*
- ▶ The children then put the objects on the appropriate unit card.

**ACTIVITY 2: Comparing lengths**

- ▶ Hand out the length cards from Worksheet 1. Explain to the children: *We have worked out how we would measure each of these items. We are now going to **estimate** the different lengths using what we know about a metre.*
- ▶ Look at the picture of the shoe together. Say: *We decided to measure a shoe using centimetres. How many centimetres do you think it would measure?* Share the children's thoughts and then match one of the cards to the picture of the shoe.
- ▶ Work with the children to match the length cards to the item cards (from Worksheet 2). The answers are: shoe, 20cm; football pitch, 120m; house, 19m; sail boat mast, 5m; book, 15cm; mug, 10cm.
- ▶ Discuss with the children how they chose their answers. Did they use their knowledge of the metre stick? Did they look at the ruler to help them?
- ▶ The children now work in pairs or small groups to measure the real-life objects from the selection using rulers. Explain that, although the measurements from the cards are good estimates, they are not quite right. *Can you find out what these objects really measure?*
- ▶ Ask the children to choose two items. Challenge them to **compare** their lengths using an appropriate sign:  $>$ ,  $<$  or  $=$ . *Why did you choose that sign? What does it mean?*

**! WATCH OUT:** Observe whether the children are confident in applying their understanding of inequalities signs to length. If they are not, explain that the signs work in the same way, regardless of whether we are working with numbers or measures. However, be aware that the children may have an insecure understanding of comparing numbers and inequalities signs. Be prepared to explore this concept with them further in a separate set of interventions.

**OBJECTIVES**

- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ( $^{\circ}\text{C}$ ); capacity (l/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- Compare and order lengths, mass, volume/capacity and record the results using  $>$ ,  $<$  and  $=$

**Rising Stars Progression Framework: 2.2.3, 2.3.4****RESOURCES**

- Activity 1: Worksheet 1 and Worksheet 2 (both cut into cards); centimetre ruler; metre stick; a Wellington boot; a teabag; a scarf
- Activity 2: Worksheet 1 and Worksheet 2 (both cut into cards); a mug; a book; a shoe

# Worksheet 1

Photocopy and cut into cards.

## Unit and length cards

Unit cards

metre (m)	centimetre (cm)
metre (m)	centimetre (cm)
metre (m)	centimetre (cm)

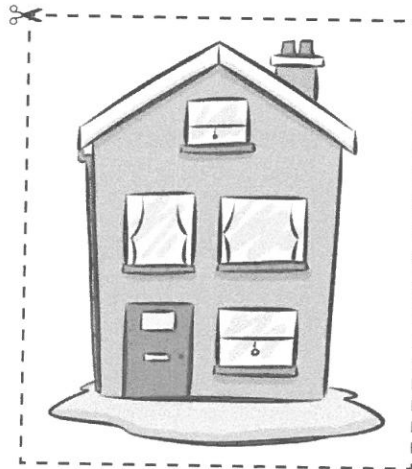
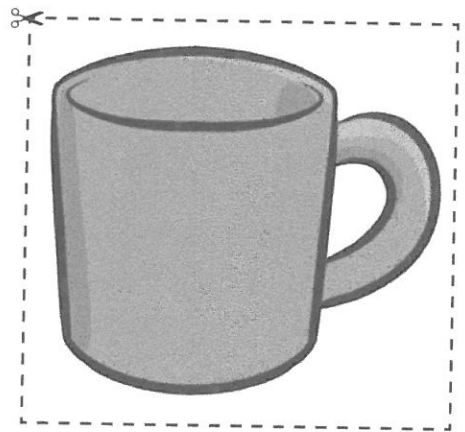
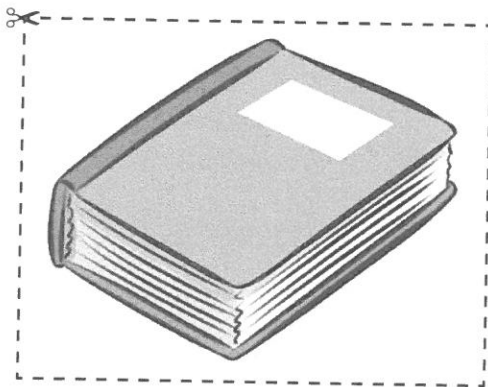
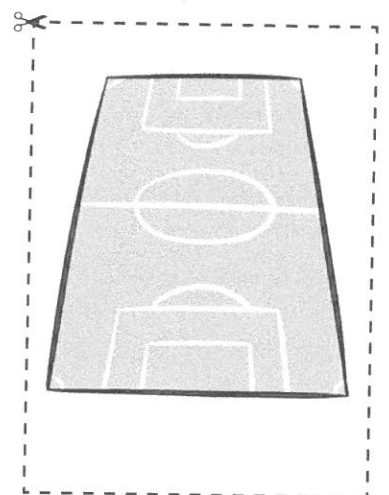
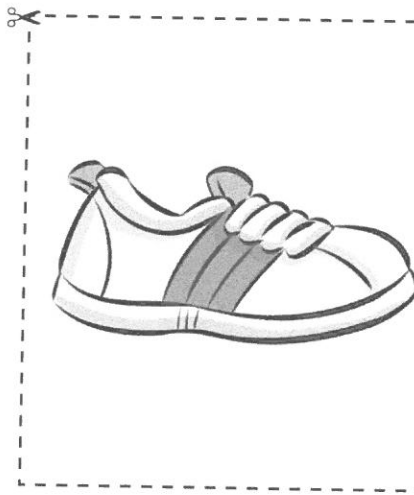
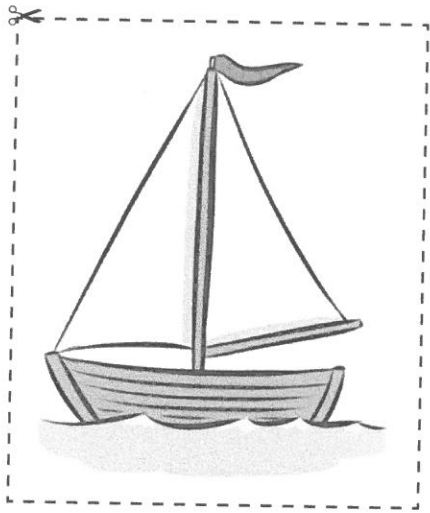
Length cards

10 cm	
15 cm	5 m
20 cm	19 m
	120 m

# Worksheet 2

Photocopy and cut into cards.

## Measuring length item cards





## Strand: Measurement

## Sub-strand: Length, mass, capacity

TEACH

**ACTIVITY 1: Choosing appropriate units for mass**

**TIP:** In Year 2 the terms **weight** and **mass** can be treated as meaning the same thing.

- ▶ Spread out the unit cards from Worksheet 3 face up and the items cards from Worksheet 4 face down. Have scales and real objects available to the children.
- ▶ Ask: *Which is the larger **unit of measure** here? Which is the smaller unit of measure?*
- ▶ The children take it in turns to turn over an object card and discuss with the group how they would choose to measure it (grams or kilograms). Each time ask them: *Why? Do you expect the item to be really heavy or light?*

**WATCH OUT:** Some children may find it difficult to decide which units to use without experiencing the mass of the objects, so allow them to hold the real-life objects to help with their estimation.

- ▶ The children then put the objects on the appropriate unit card.

**ACTIVITY 2: Comparing masses**

- ▶ Hand out the mass cards (from Worksheet 3). Explain to the children: *Now we will **estimate** how much each of the objects weighs.*
- ▶ Look at the items. Ask: *Which do you think will be the heaviest item? Which of the masses do you think is most likely to be the mass of this object?*
- ▶ Put the items in the **order of mass** the children suggest and then weigh the real-life objects that match the cards, to give a little more definition to the order. Explain to the children: *Although the masses may not match exactly, it will give us a bit more of an idea about the mass or weight of these objects.*
- ▶ Spend some time with the children matching the mass cards and pictures.

**TIP:** The children will not know the masses of these objects; we are expecting them to make a sensible estimate. The masses are: shoe: 255 g; dolphin: 200 kg; key: 4 g; rabbit: 2 kg; cake: 1 kg; person: 80 kg; mug: 264 g; book: 398 g.

- ▶ Discuss with the children how they decided on their answers and then work with them to put the items in order, from heaviest to lightest, using the masses written on the cards (and the children's knowledge of place value). Discuss their methods and understanding.
- ▶ Ask the children to choose two items. Challenge them to **compare** their mass using an appropriate sign:  $>$ ,  $<$  or  $=$ .

**OBJECTIVES**

- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ( $^{\circ}\text{C}$ ); capacity (l/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- Compare and order lengths, mass, volume/capacity and record the results using  $>$ ,  $<$  and  $=$

**Rising Stars Progression Framework: 2.2.3, 2.3.4****RESOURCES**

- Activities 1 and 2: Worksheet 3 (cut into cards); Worksheet 4 (cut into cards); bathroom scales; kitchen scales; book; shoe; mug; key

# Worksheet 3

Photocopy and cut into cards.

## Unit and weight cards

Unit cards



grams (g)	kilograms (kg)
grams (g)	kilograms (kg)
grams (g)	kilograms (kg)
grams (g)	kilograms (kg)

Mass cards



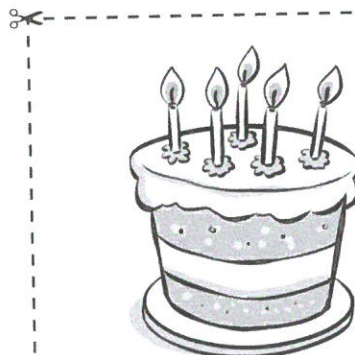
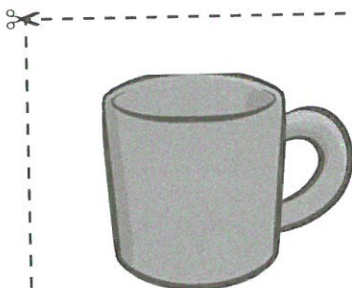
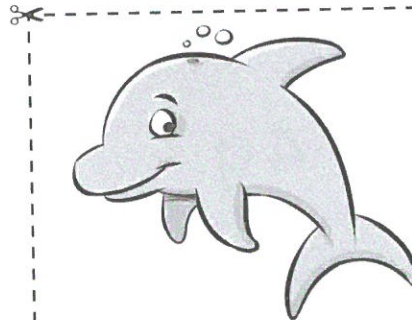
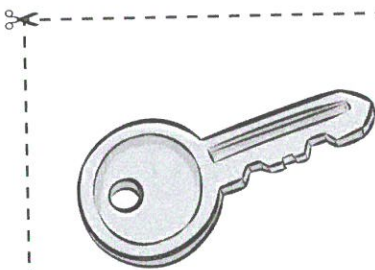
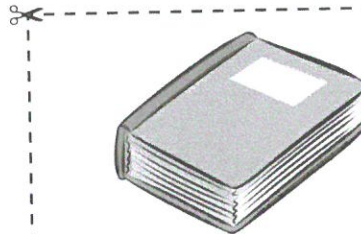
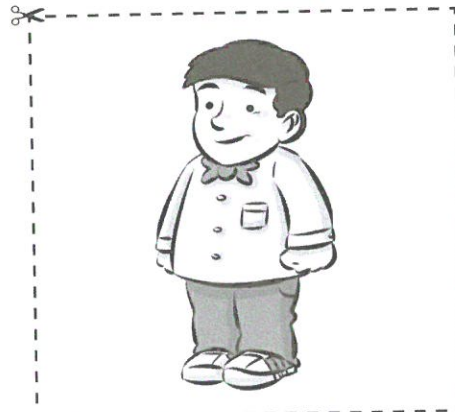
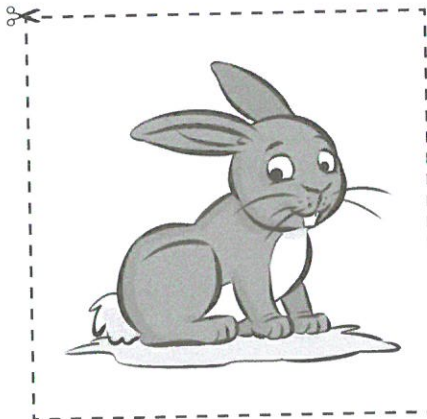
4 g	2 kg
398 g	1 kg
255 g	80 kg
264 g	200 kg



# Worksheet 4

Photocopy and cut into cards.

## Measuring weight item cards





## Strand: Measurement

DAY  
3

## Sub-strand: Length, mass, capacity

**ACTIVITY 1: Choosing appropriate units for capacity**

- ▶ Spread the object pictures from Worksheet 5 on the table and have different measuring cylinders and jugs available.
- ▶ The children discuss in pairs which jugs they might use to measure the **capacity** of (fill up) one of the objects. Share their ideas with the group.
- ▶ The children match each object picture from Worksheet 5 to a measuring cylinder or jug. Discuss their decisions: *Why did you choose that one? Was the capacity likely to be big/small so it needs a big/small measuring cylinder?*
- ▶ Look at the measurements on the sides of the cylinders – **millilitre** (ml), **litre** (l). Explain that a litre must be more than a millilitre because the litre containers have bigger capacities.



**TIP:** Encourage the children to use the vocabulary of **litre** and **millilitre** when discussing the containers, so it becomes internalised. Also encourage the children to use **capacity**, **larger** or **smaller** to describe the containers.

- ▶ Now work with the children to measure the capacity of the cake tin, mug and mixing bowl using the measuring cylinders.

**ACTIVITY 2: Comparing capacities**

- ▶ Spend a few moments working with the children to put the picture from Worksheet 5 in **order of capacity** (from 'holds the most' to 'holds the least').
- ▶ Ask them: *What do you know about this container? Which item has the largest capacity? Which is the smallest capacity?*
- ▶ Give the children the answer cards (Worksheet 6) showing how much each container would hold. Ask the children to put the cards into the correct order of capacity. *Were we right with our predictions? Are any of them of a similar capacity to one another?*
- ▶ Ask the children to choose two items. Challenge them to **compare** their capacity using an appropriate sign:  $>$ ,  $<$  or  $=$ . *Why did you choose that sign? What does it mean?*



**WATCH OUT:** Observe whether the children are confident in applying their understanding of inequalities signs to capacity. If they are not, explain that the signs work in the same way, regardless of whether we are working with numbers or measures. However, be aware that the children may have an insecure understanding of comparing numbers and inequalities signs. Be prepared to explore this concept with them further in a separate set of interventions.

TEACH

**OBJECTIVES**

- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ( $^{\circ}\text{C}$ ); capacity (l/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- Compare and order lengths, mass, volume/capacity and record the results using  $>$ ,  $<$  and  $=$

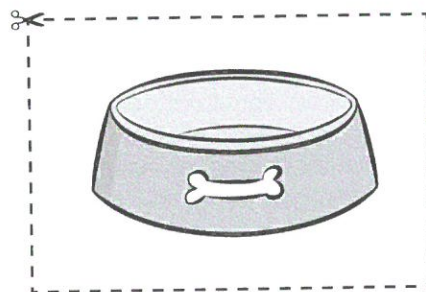
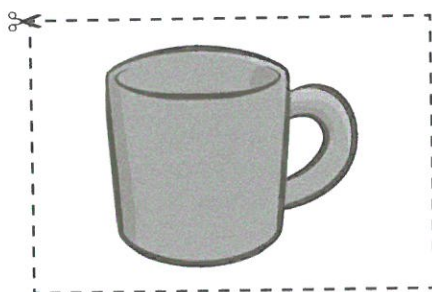
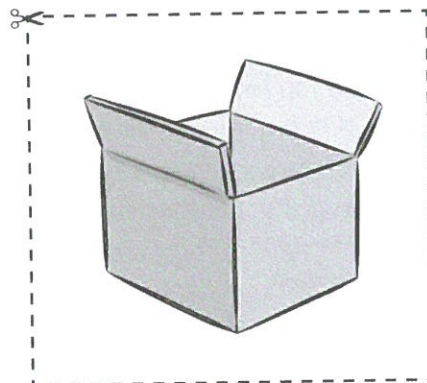
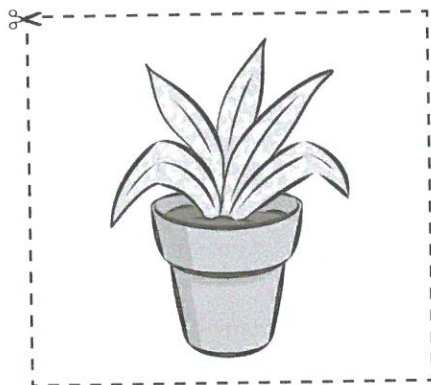
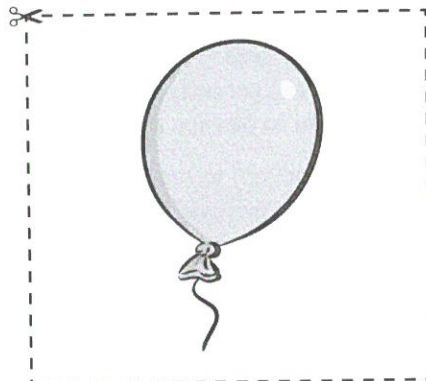
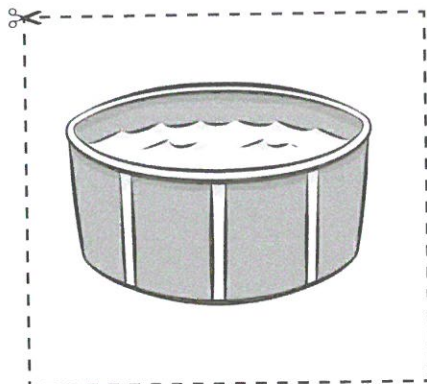
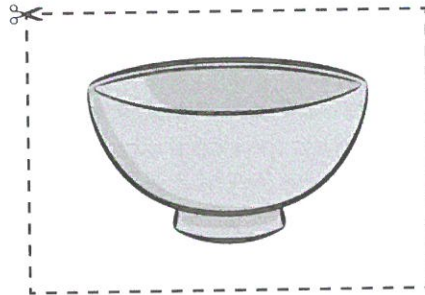
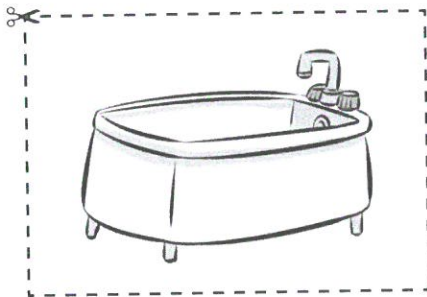
**Rising Stars Progression Framework: 2.2.3, 2.3.4****RESOURCES**

- Activity 1: Measuring cylinders and jugs of different sizes; Worksheet 5 (cut into cards); cake tin; mixing bowl; mug
- Activity 2: Worksheet 6 (cut into cards)

# Worksheet 5

Photocopy and cut into cards.

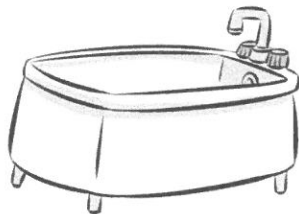
## Measuring capacity item cards



# Worksheet 6

Photocopy and cut into cards.

## Comparing capacity cards



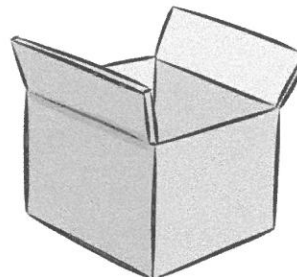
80 litres



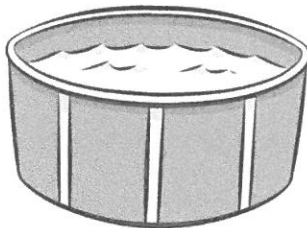
12 litres



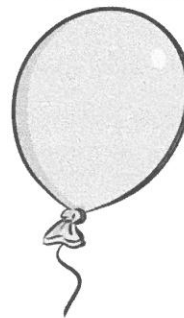
600 ml



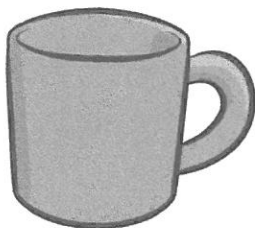
1 litre



138 litres



14 litres



350 ml



1.5 litres



## Strand: Measurement

DAY  
4

## Sub-strand: Length, mass, capacity

TEACH



## ACTIVITY 1: Reading a thermometer

- ▶ Give each child one of the pictures of a thermometer showing a different temperature, cut out from Worksheet 7.

✓ **TIP:** Differentiate these as you hand them out – give whole numbers to children who may struggle.

- ▶ Ask the children to try finding the top of the line on their thermometer and looking across at the scale on the side. Explain to them: *If we read it like a ruler we can tell how many **degrees** the temperature is.*
- ▶ Ask the children to work in a pair to tell each other what temperature their thermometer is showing and explain how they know. They should check each other's answers.

! **WATCH OUT:** If you have used the example of a ruler to show the children how to read the scale, they may think it is a length they are measuring and use the wrong units. In this case be sure to correct them and tell them they are measuring temperature in degrees.



## ACTIVITY 2: Comparing temperatures

! **WATCH OUT:** To give a range of temperature readings the children will need access to fairly hot water – this should be no hotter than a bath. This cup is best given to the child nearest to you so they can be supervised closely.

- ▶ Give each child a cup of water and a thermometer. Ask them to find the temperature of their cup of water using the thermometer.
- ✓ **TIP:** Show the children the **scale** on the side of the thermometer and highlight to them that the line of the top of the mercury is where the temperature is. Model for them how to look at the top of the mercury and across to the scale to find out the temperature.
- ▶ Once the children have found out the answer, ask them to write it on a sticky note. This can then be stuck to the side of the cup.
- ▶ Once the temperatures are on the sides of the cups, work with the children to order the cups in **temperature order** from coolest to warmest.
- ▶ Discuss the temperatures with the children using what you know about the thermometers and numbers. Ask questions such as: *Was your line on the thermometer higher up or lower down than this one?*

## OBJECTIVES

- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (l/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- Compare and order lengths, mass, volume/capacity and record the results using  $>$ ,  $<$  and  $=$

## Rising Stars Progression Framework: 2.2.3, 2.3.4

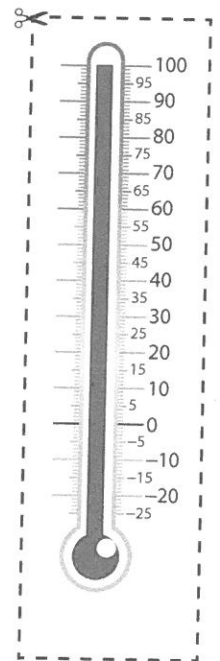
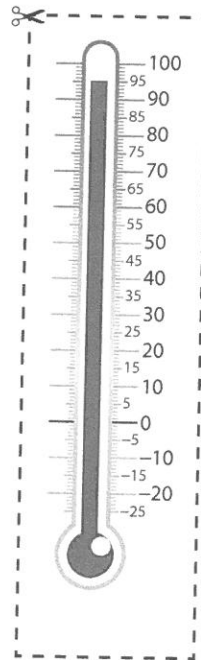
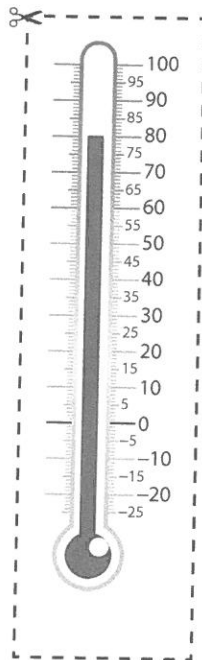
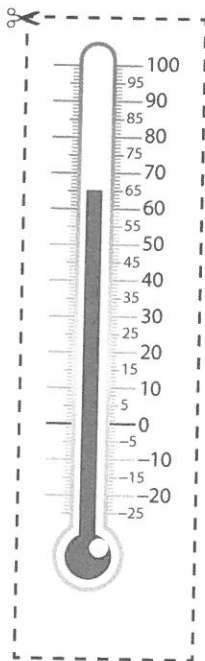
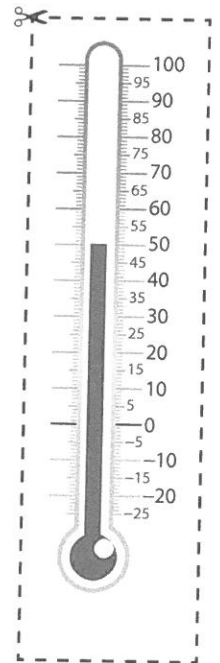
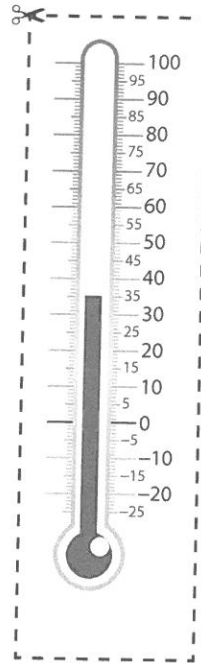
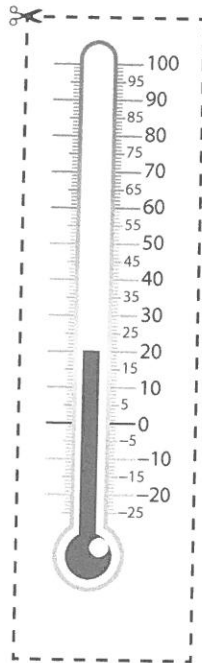
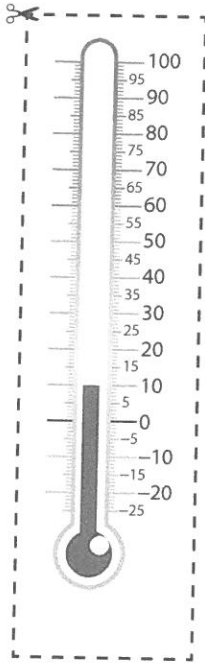
## RESOURCES

- Activity 1: Worksheet 7 (cut into cards)
- Activity 2: Each child needs: a cup of water (these should be at various temperatures), a mercury-type thermometer, a sticky note, a pencil

# Worksheet 7

Photocopy and cut into cards. Enlarge if desired.

## Reading a thermometer





## Strand: Measurement

DAY  
5

## Sub-strand: Length, mass, capacity

ASSESS



## ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.
- ▶ Combine the following assessment with the information that you gathered from the activities involving practical measurements in Days 1 to 4. Use this collective evidence in order to evaluate whether the child has met expectations.
- ▶ Give each child Worksheet 8.
- ▶ Explain to the children that they need to write the appropriate **unit of measure** for each item in the box provided.
- ▶ Make the measuring apparatus available for the children to look at, if they are unsure and require support.

✓ **TIP:** If the children are struggling to think of which unit of measure they would use, show the children the measuring apparatus and imagine the size of the objects with them to support them in their understanding.

- ▶ Give each child Worksheet 9.
- ▶ Explain that they need to **order** the objects from: smallest to largest, shortest to longest and lightest to heaviest by numbering the boxes.
- ▶ Ask the children to use inequalities signs to show:
  - *Is the capacity of the spoon smaller than, greater than or equal to the capacity of the bathtub?*
  - *Is the length of the bus smaller than, greater than or equal to the length of the river?*
  - *Is the mass of the can of soup smaller than, greater than or equal to the mass of the pencil?*



## EVIDENCING SUCCESS

## Meeting expectations:

- ▶ The child can select centimetres to measure the length of a pencil and read from the scale on a watering can that it contains 15 litres of water.
- ▶ The child can compare the capacity of two jugs saying: *One holds twice as much as the other.*

## OBJECTIVES

- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ( $^{\circ}\text{C}$ ); capacity (l/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- Compare and order lengths, mass, volume/capacity and record the results using  $>$ ,  $<$  and  $=$

**Rising Stars Progression Framework: 2.2.3, 2.3.4**

## RESOURCES

- Each child needs: Worksheet 8, Worksheet 9, a pencil; measuring apparatus from the previous sessions



# Worksheet 8

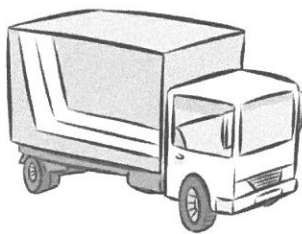
Name \_\_\_\_\_ Date \_\_\_\_\_

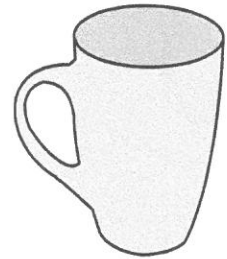
## Choosing units for length, mass and capacity

Write down the unit you would use to measure each item.

1. What unit would you use to measure the **capacity** of these?

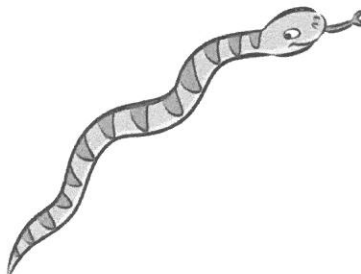


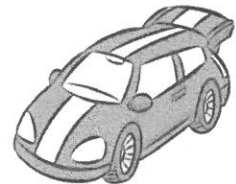




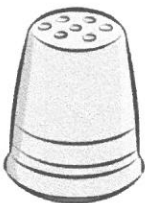

2. What unit would you use to measure the **length** of these?

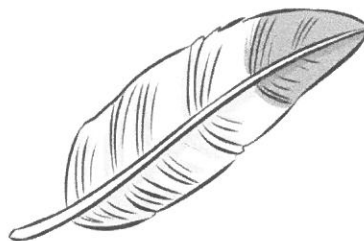







3. What unit would you use to measure the **mass** of these?







# Worksheet 9

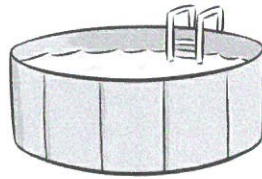
Name \_\_\_\_\_ Date \_\_\_\_\_

## Comparing length, mass and capacity

1. Order these objects from smallest to largest capacity.

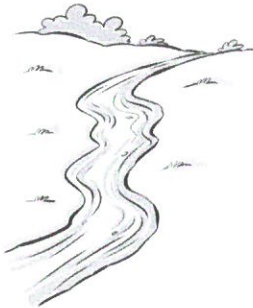









2. Order these objects from shortest to longest.



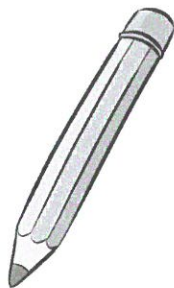


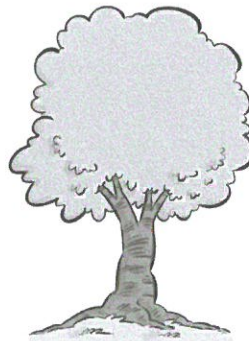





3. Order these objects from lightest to heaviest.









## Strand: Measurement

DAY  
1

## Sub-strand: Time

TEACH



## ACTIVITY 1: How many minutes in an hour?

- ▶ First give the children a challenge. They are to put their heads down and cover their eyes. When they think a **minute** has passed they put up their hand.
- ▶ You time the minute as the children count in their heads.
- ▶ Ask them: *Did anyone get really close? Did anyone think they were miles off a full minute? Did anyone think a minute had already gone by?*
- ▶ Now put the sand timer in the middle of the group. Explain: *This sand timer will measure one minute. We will be able to see it counting down.*
- ▶ Now look at the working clock. It is important that the clock is moving and the **second** hand is visible. Say to the children: *The second hand on this clock will complete one full circle to show a minute has passed.*

✓ **TIP:** Ensure you have the minutes marked individually on the clock you are using.

- ▶ When the second hand is at 12, turn over the sand timer and start counting the seconds. When you get to 60 you should notice what has happened to the minute hand – it has moved one mark around the clock.
- ▶ Count with the children how many of these marks there are on the clock face.
- ▶ Emphasise to the children that there are 60 minutes on the clock face and each time the minute hand goes around the face that is one **hour**.

! **WATCH OUT:** The children may think the numbers marked on the clock face are the minutes. If this is the case, you should watch the clock moving a minute to show the children that the numbers are further apart than a minute.



## ACTIVITY 2: How many hours in a day?

✓ **TIP:** If the children grasp this concept quickly, this can be a quick activity.

- ▶ Talk with the children about how the numbers on the clock only go up to 12. Ask: *Are there 12 hours in a day? Are there more than 12 hours in a day?*
- ▶ To emphasise that there are 24 hours in the day, talk about there being two seven o'clocks and two eight o'clocks in a day: one when we get up and one when we go to bed. Explain that every 24-hour day starts and ends at midnight, and that midday is the middle of the day (12:00).

## OBJECTIVES

- Compare and sequence intervals of time
- Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
- Know the number of minutes in an hour and the number of hours in a day

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.3.1

## RESOURCES

- Activity 1: One-minute sand timer; working analogue clock
- Activity 2: Analogue clock



## Strand: Measurement

DAY  
2


## Sub-strand: Time

TEACH



## ACTIVITY 1: Which activity takes longer?


- ▶ Place the picture cards from Worksheet 10 on the table with the picture facing upwards.
- ▶ Give the children a few minutes to discuss what the activities on the pictures are and how long they think each one would take.
- ▶ Work as a group to put the pictures in **order** – from the quickest to the slowest activity.

 **TIP:** If the children seem to be confident in ordering the activities, discuss their thoughts with them. Can the children explain to you why they think that? Can the children suggest a length of time that each activity would take?



## ACTIVITY 2: Timing activities

- ▶ Give each of the children a whiteboard and a pen and a sand timer of a different interval to each other (e.g. 20 seconds, one minute, two minutes, five minutes).
- ▶ Ask the children to look at their timer and work out how long their timer will last (this information should be labelled on the timer).

 **WATCH OUT:** If the children cannot read the time on their sand timer, you should read it to them. It is important they know how long their timer will last.

- ▶ Ask the children to write down what they think they could do in the time it takes their timer to run out. Could they write their name? Could they tie up their shoelaces?
- ▶ Give the children time to turn the sand timer over and try to do what they predicted they could do in that time.
- ▶ Afterwards, discuss with the children: *Did you manage to do what you set out to do in that time? Was the time long enough or not? Can you think of something else you could do in that time?*
- ▶ If you have time, get the children to swap whiteboards and timers with someone else in the group and have a go at predicting something else they can do in the time it takes their new sand timer to run out.

## OBJECTIVES

- Compare and sequence intervals of time
- Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
- Know the number of minutes in an hour and the number of hours in a day

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.3.1

## RESOURCES

- Activity 1: Cards cut-out from Worksheet 10
- Activity 2: Sand timers of different durations (enough for one per child); whiteboards and pens (one per child)

# Worksheet 10

Photocopy and cut into cards.

Which activity takes longer?





## Strand: Measurement

DAY  
3

## Sub-strand: Time

TEACH



## ACTIVITY 1: Reading quarter past/quarter to

- ▶ Give each child an analogue clock face cut out from Worksheet 11. Ask them to draw a line down the middle of the clock from the 12 to the six.
- ▶ The children then write **o'clock** on the 12 and **half past** on the six of their clock.
- ▶ Say to the children: *This line has split the clock face in half. To split it into quarters we need to draw another line from the three to the nine.*
- ▶ The children then draw the line from the three to the nine. Say to them: *We have now split the clock face into quarters, so we can see that quarter of the way past the hour is the three and quarter to the hour is the nine.*
- ▶ Ask the children to then write down **quarter past** on the three and **quarter to** on the nine on their clock face.
- ▶ Using this knowledge and the drawing they just made, ask the children to read these times from your analogue clock: quarter to nine, quarter past 11, quarter to 12, quarter past five, quarter to ten, quarter past four.

**! WATCH OUT:** Some children may find it hard to focus on both the minute and the hour hand. In this case you should ask them to focus on telling you whether it is quarter past or quarter to rather than worrying about where the hour hand is.



## ACTIVITY 2: Writing quarter past/quarter to

- ▶ Give each child a movable analogue clock and a clean copy of Worksheet 11.
- ▶ Recall with them which hand is the minute hand and which is the hour hand. Then ask the children to make the following **quarter past** and **quarter to** times on their movable clock using the minute hand and hour hand: quarter to eight, quarter past six, quarter to seven, quarter past two, quarter to one, quarter past 12.
- ▶ Then they should record it onto their paper clock and write the time in words underneath their clock.
- ▶ After each time is made, ask the children to check each other's answers. This is an opportunity for peer review.

## OBJECTIVES

- Compare and sequence intervals of time
- Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
- Know the number of minutes in an hour and the number of hours in a day

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.3.1

## RESOURCES

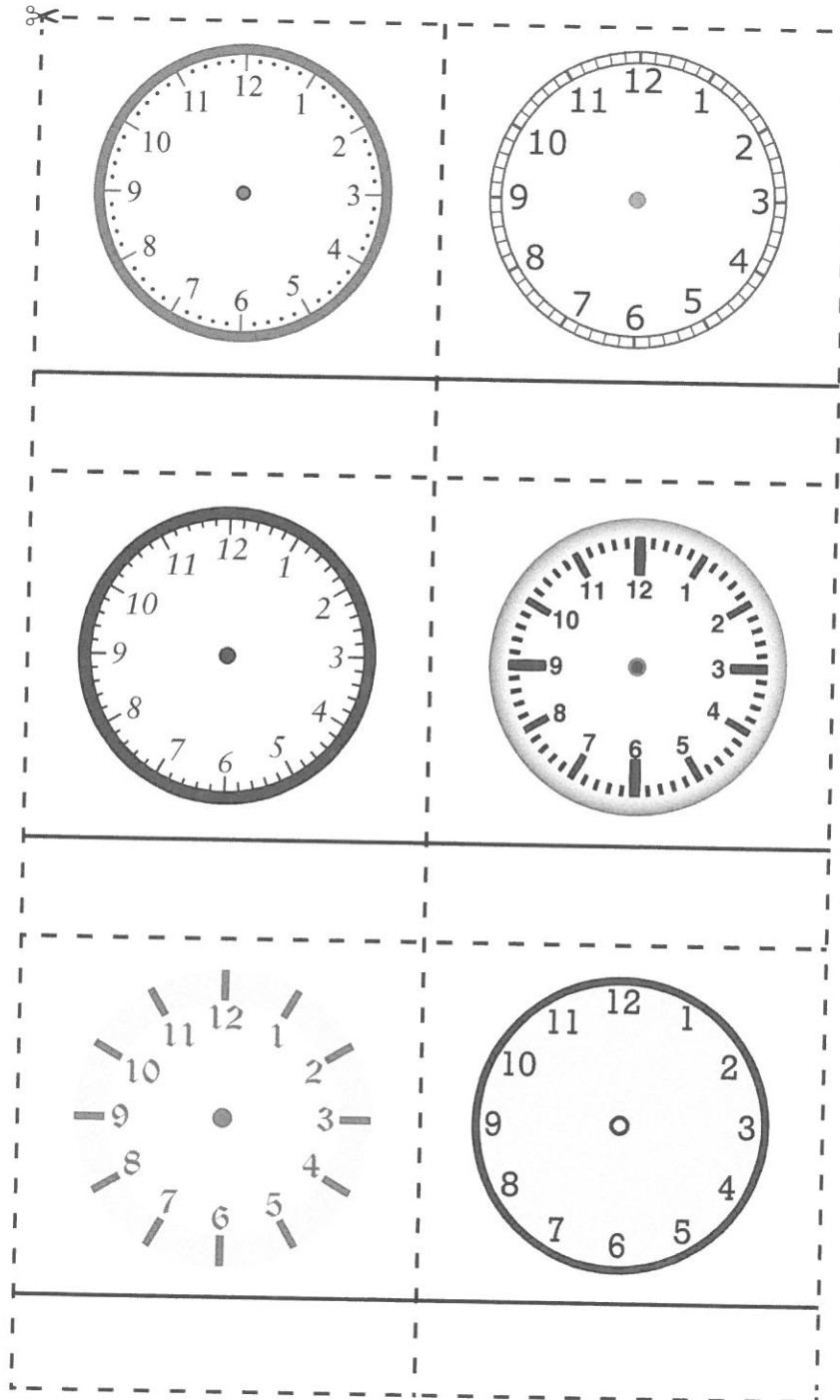
- Activity 1: Clock with movable hands; Worksheet 11 (cut into cards); pencils (one per child); rulers (one per child)
- Activity 2: Each child needs: clock with movable hands; Worksheet 11; pencils (one per child)



# Worksheet 11

Photocopy and cut into cards. Enlarge if desired.

## Analogue clock face



## Strand: Measurement


DAY  
4

## Sub-strand: Time

TEACH

**ACTIVITY 1: Tell the time in five-minute intervals**

- ▶ Revisit the children's previous learning from the first session on **minutes** (Day 1, Activity 1, page 239).
- ▶ Now look at the analogue clock face. Remind the children that the gap in between each of the numbers on the clock face is five minutes when the minute hand moves between the numbers.
- ▶ Count around the clock as a group – as you point to a number, the children count on another five, ten, etc.
- ▶ Now make different times on the clock and encourage the children to count around their clock in fives and to find out what time you are making. Suggested times to make are: 25 minutes past six, 45 minutes past 11 (quarter to 12), 10 minutes past three, 35 minutes past six, 55 minutes past eight (five to nine).

 **TIP:** When talking about the time in this way you will only be able to describe the times as so many minutes past the hour. This may confuse the children slightly and should be explained – 35 minutes past the hour is the same as 25 minutes to the hour.

**ACTIVITY 2: Make the time in five-minute intervals**

- ▶ Give each child a copy of Worksheet 11, page 243, which shows six **analogue clock** faces.
- ▶ Remembering which hand is the **minute** hand and which is the **hour** hand, ask the children to make the following times on the worksheet clocks:
  - five minutes past six
  - ten minutes past seven
  - 20 minutes past 3
  - 25 minutes past 11
  - 35 minutes past eight
  - 50 minutes past four.

**OBJECTIVES**

- Compare and sequence intervals of time
- Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
- Know the number of minutes in an hour and the number of hours in a day

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.3.1

**RESOURCES**

- Activity 1: One movable analogue clock per child
- Activity 2: Each child needs: a copy of Worksheet 11 (page 243), a pencil

## Strand: Measurement

DAY  
5

## Sub-strand: Time



## ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.
- ▶ Give out copies of Worksheet 11, page 243, and pencils.
- ▶ Ask the children: *Try drawing the times on the clocks as I read them out.*
- ▶ Read the following times to the children and ask them to write them on their clocks: quarter to five, quarter past seven, half past eight, five minutes past 11, 50 minutes past three (ten to four), 40 minutes past nine (20 to ten). The children should also write these times in words under the clocks.
- ▶ Now give out copies of Worksheet 12 and ask the children to match the times on the analogue clocks to the written times on the worksheet.

**! WATCH OUT:** Watch the children carefully – can they recognise the importance of the words **past** and **to**? Are the children drawing the correct length of hands on the clock (minutes and hours)? Do the children count in fives around the clock to find the trickier times?



## EVIDENCING SUCCESS

## Meeting expectations:

- ▶ The child can work out the time between five past and 20 past an hour and know that it is shorter than from quarter to until ten past an hour.
- ▶ The child can tell when it is ten past ten and 20 to 11. The child can draw the hands on a clock face to show quarter past three or quarter to 11.
- ▶ The child can record the time as 'quarter past three'.
- ▶ The child can work out that half an hour is 30 minutes and knows that two times 12 hours is one day because there are 24 hours in a day.
- ▶ The child can make sensible estimates of time intervals such as 'I will spend ten minutes eating my lunch'.

ASSESS

## OBJECTIVES

- Compare and sequence intervals of time
- Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
- Know the number of minutes in an hour and the number of hours in a day

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.3.1

## RESOURCES

- Each child needs: Worksheet 11 (page 243), Worksheet 12, a pencil

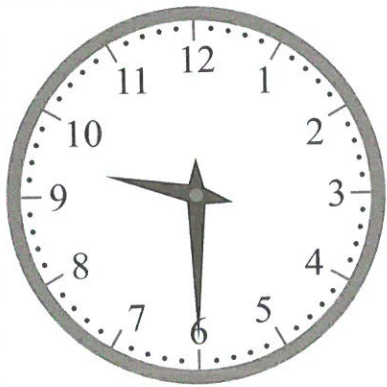


# Worksheet 12

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

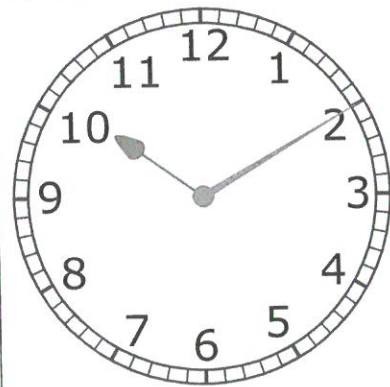
## Matching clocks with written times

Match the clocks to the written times.



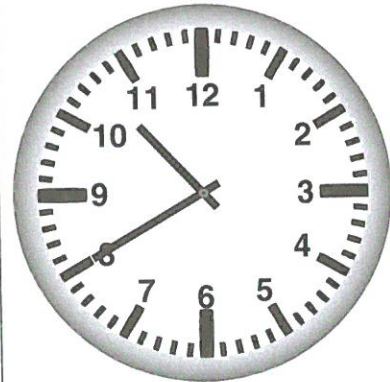
Twenty to eleven

Half past nine



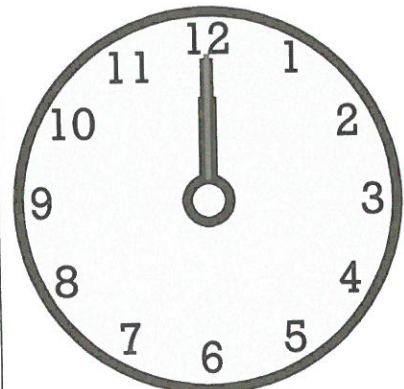
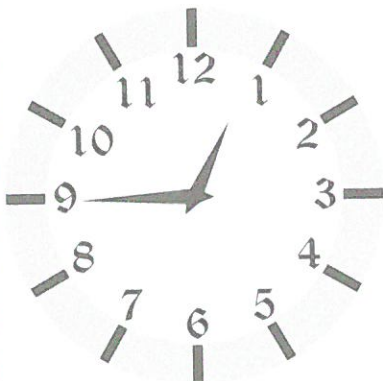
Ten past ten

Twelve o'clock



Five to two

Quarter to one



## Strand: Measurement

DAY  
1

## Sub-strand: Money

TEACH



## ACTIVITY 1: Learning coin values

- ▶ Put the coins on the table in the middle of the group. Allow the children some time to look at the coins and discuss them. Listen in to their discussions.
- ▶ Replace the coins in the middle of the group, this time in a pot.
- ▶ The children now take it in turns to close their eyes and take out a coin and identify it. They then place the coin on their own copy of the **number track** from Worksheet 13, which runs from 1p to £2, and explain to the group what they are doing, e.g. *I have 1p so I will put it at the start of my number track. I have 50p and it isn't worth the most or least money so I will put it in the middle.*
- ▶ Continue with the children taking it in turns to take out a coin, until someone has a full number track.

**! WATCH OUT:** Should a child struggle to identify the coin they have, encourage them to look at the number on the coin's face. If they continue to struggle to place the coin, discuss with the rest of the group where that coin would go.



## ACTIVITY 2: Making totals using coins

- ▶ Introduce the children to the pictures of objects with **prices** written on them on Worksheet 14.
  - ▶ Read the prices to the children and ask them to have a go at making a price using 1p coins. e.g. *It is 7p so we need how many 1p coins to make that amount?* All the children then make the total for the same card to start with using 1p coins, so you can share answers and support one another.
- ✓ TIP:** If the children manage to do that part easily then ask them to make it with other coins – can they use a 2p and/or 5p to make their total?
- ▶ Continue the activity with different totals.

## OBJECTIVES

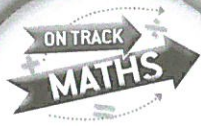
- Recognise and use the symbols for pounds (£) and pence (p); combine amounts to make a particular value
- Find different combinations of coins that equal the same amounts of money
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

**Rising Stars Progression Framework:** 2.1.3, 2.3.2, 2.3.3

## RESOURCES

- Activity 1: One of each coin (1p, 2p, 5p, 10p, 20p, 50p, £1, £2) per child: Worksheet 13
- Activity 2: Worksheet 14; lots of coins

# Worksheet 13



YEAR 2

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

## Making a coin number track


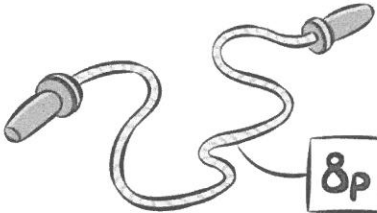
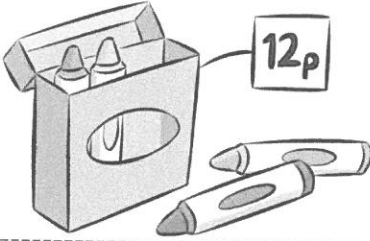
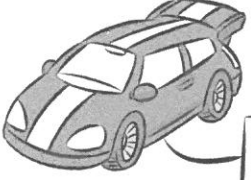


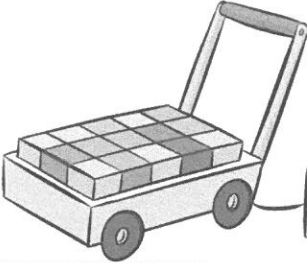



£2	£1	50p	20p	10p	5p	2p	1p
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# Worksheet 14

Photocopy and cut into cards, one set per child.

## Going toy shopping

 <p>13p</p>	 <p>8p</p>
 <p>12p</p>	 <p>14p</p>
 <p>7p</p>	 <p>20p</p>
 <p>44p</p>	 <p>19p</p>
 <p>11p</p>	 <p>10p</p>

## Strand: Measurement

DAY  
2

## Sub-strand: Money

TEACH

**ACTIVITY 1: Making and recording totals in £ and pence**

- ▶ Place the cut-out cards from Worksheet 14 (Day 1, Activity 2, page 249) on the table face down. Ask the children to take a card each and use their coins to make that total in any way.
- ▶ The children then record the total they have made and which coins they have used on their whiteboards (e.g.  $44\text{p} = 20\text{p} + 10\text{p} + 10\text{p} + 2\text{p} + 1\text{p} + 1\text{p}$ ).
- ▶ After the first amount, ask the children to swap whiteboards and check each other's working out. Do they get the same total when using those coins?
- ▶ The children then give the whiteboard back and try to make the total again using different coins and record it underneath.
- ▶ They return the amount card they have worked with and choose another card.
- ▶ The children can repeat the activity three times.
- ▶ Run through each of the children's answers. For each card, check whether they used the same coins to make the totals or **different combinations**.

**TIP:** There is opportunity here to discuss why we might choose to use fewer coins when paying for items, e.g. to make it easier/quicker to count the coins.

**ACTIVITY 2: Coin bingo**

- ▶ Give the children a bingo card each (cut out from Worksheet 15) and six counters.
- ▶ Now make an **amount in coins** for the children to see. The children count the total and look for that amount on their bingo card. If they have it, they put a counter on that amount on their bingo card.
- ▶ Repeat with other amounts of money. Ensure the amounts are a mixture of £ and p, and try to use all of the coins during the session at some point.
- ▶ The first child to cover all of their amounts shouts 'Bingo!'

**OBJECTIVES**

- Recognise and use the symbols for pounds (£) and pence (p); combine amounts to make a particular value
- Find different combinations of coins that equal the same amounts of money
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

**Rising Stars Progression Framework:** 2.1.3, 2.3.2, 2.3.3

**RESOURCES**

- Activity 1: Worksheet 14 (cut into cards); each child needs: a variety of coins, whiteboard and pen
- Activity 2: A variety of coins; each child needs: a bingo card cut out from Worksheet 15, six counters

# Worksheet 15

Photocopy and cut into cards, one card per child.

## Coin bingo

✂

27p	£1.00	15p
84p	£2.20	78p

✂

27p	£3.40	10p
6p	£2.20	78p

✂

19p	£1.10	15p
84p	£2.20	£3.40



## Strand: Measurement

DAY  
3

## Sub-strand: Money

TEACH



## ACTIVITY 1: Adding money

- ▶ Give each of the children the price list for the cafe (Worksheet 16) and a whiteboard and pen. Explain that they will listen to your order and find out how much you owe. Ask: *How will you do this? How could you add the money together?* Remind them to keep track of the amounts in the order by writing them down.
- ▶ Model how to write down the amounts for the order. E.g. *someone orders a cup of tea so I write down 20p. If they order something else I need to add this to my 20p using the + sign and then record how much I am adding on.*
- ▶ Give the children the following orders: Order 1: two pieces of toast and a cup of tea. Order 2: a jacket potato and a can of lemonade. Order 3: a cheese sandwich, a packet of crisps and a glass of orange juice.
- ▶ As you read each order, pause to give the children time to write down the price of each and then to find the **total price** by adding the amounts together.

**! WATCH OUT:** Some children may find it useful to have the coins in front of them that they are adding.

- ▶ Choose one child to be the cashier for each order; they say how much the order will be. Do the other children agree?



## ACTIVITY 2: Subtracting money

- ▶ Tell the children the amount of money you have in your purse before you go to the cafe. (£1.50) Can they work out how much money you have left in your purse after paying for each of the orders?
- ▶ Model for the children: *I have £1.50 and I buy a cup of tea for 20p. I need to take 20p away from £1.50 to find out how much I will have left. I will write  $£1.50 - 20p =$ . I know that  $50 - 20 = 30$  so I know that  $£1.50 - 20p = £1.30$ .*
- ▶ Remind the children of the cost of each order (this should be recorded on their whiteboards). The children then subtract that amount from the £1.50 to find out how much is left over.
- ▶ The children then take it in turns to report to the group how much you would have left over or how much **change** you would be given.

## OBJECTIVES

- Recognise and use the symbols for pounds (£) and pence (p); combine amounts to make a particular value
- Find different combinations of coins that equal the same amounts of money
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

**Rising Stars Progression Framework: 2.1.3, 2.3.2, 2.3.3**

## RESOURCES

- Activity 1: Each child needs: a copy of Worksheet 16, whiteboard and pen, plastic coins of various denominations
- Activity 2: Each child needs: a whiteboard and pen; a variety of coins (in case the children are struggling)

# Worksheet 16

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

## Cafe price list



Jacket potato £2.10



Cheese sandwich £1.00



Crisps 10p



Toast (1 slice) 5p



Can of drink 15p



Glass of juice 15p



Hot drinks 20p



## Strand: Measurement

DAY  
4

## Sub-strand: Money

TEACH



## ACTIVITY 1: Giving change

- ▶ Tell the children that they are the door staff at the cinema. A ticket to the cinema costs £1.46.
  - ▶ The children work in pairs to buy a cinema ticket from one another. Give them different coins each time (£1, 20p, 20p, 20p) (£1, 50p) (£2, 50p, 20p).
  - ▶ The children are to then subtract the £1.46 from the coins you have put on the table to find the **change** they would need to give.
- ✓ **TIP:** The children can use the coins to help them work out the answer or they can use jottings on their whiteboard.

! **WATCH OUT:** If the children are struggling to find the answer to the subtraction questions, this could be because they find subtraction itself the problem.



## ACTIVITY 2: What can I afford?

- ▶ Give each child a purse with different amounts of money in – the minimum amount needs to be 23p and the maximum amount should be £4.
  - ▶ Ask the children to count how much money they have in their purse – they are to add up the coins.
  - ▶ Tell the children that they need to buy a present for their friend. What present could they afford?
  - ▶ The children look at the items for sale and prices (Worksheet 17), and decide which item has a lower price than the amount they have in their purse.
  - ▶ The children then report to the group which object they can afford to buy.
- ✓ **TIP:** If you would like to stretch the children a little, ask them to find out how much change they would get if they were to purchase that item.

## OBJECTIVES

- Recognise and use the symbols for pounds (£) and pence (p); combine amounts to make a particular value
- Find different combinations of coins that equal the same amounts of money
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

**Rising Stars Progression Framework:** 2.1.3, 2.3.2, 2.3.3

## RESOURCES

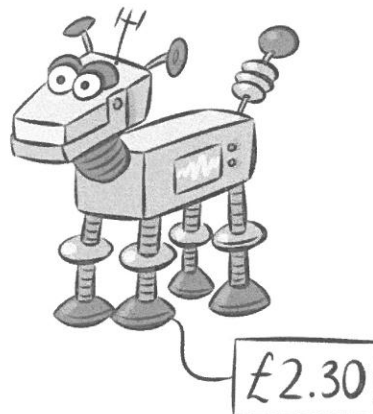
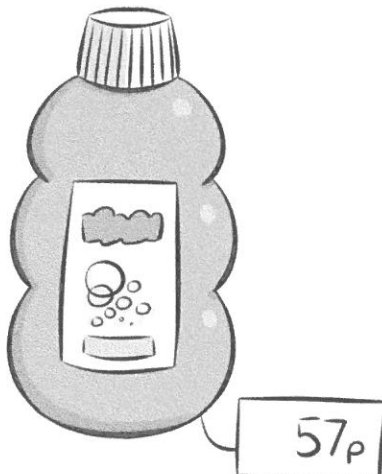
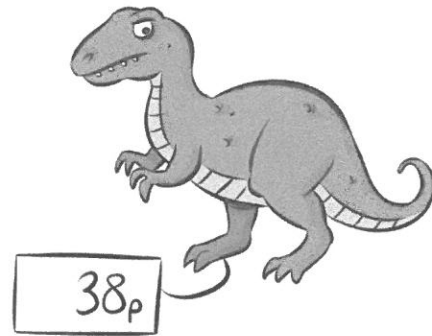
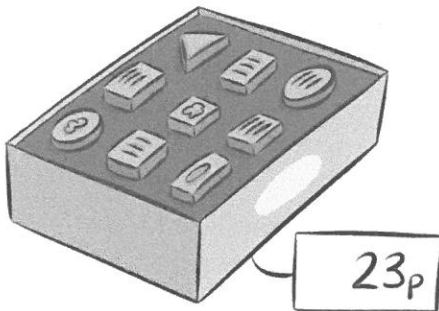
- Activity 1: Each child needs: coins, whiteboard and pen
- Activity 2: Purses with various amounts of money in (between 23p and £4), one per child; Worksheet 17



# Worksheet 17

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

## Price list for the shop



## Strand: Measurement

DAY  
5

## Sub-strand: Money

ASSESS



## ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.
- ▶ Give the children a purse full of a variety of coins each.
- ▶ Ask the children to make amounts for you by giving them a word problem. For each, ask them to make the answer with their coins in at least two different ways.
  - *Paying for the car park costs 70p.*
  - *You want to buy a toy and it costs £2.40.*
  - *A bus ticket to town costs £1.87p. A passenger gives the bus driver £2.00. What change do they receive?*
  - *A birthday card costs 43p. A customer gives the shopkeeper £1. What change do they receive?*

**! WATCH OUT:** Observe the children make these amounts and see which coins they use. Are the children able to make the amounts? Are they able to count the coins carefully? Are they able to recognise the coins?

- ▶ Collect the coins and put a known amount in each purse.
- ▶ Ask the children to count the total that is in the purse and write their answer down on a whiteboard.
- ▶ The children then swap purses and repeat the process.

**! WATCH OUT:** Observe the children closely during the activity. Are they able to recognise the coins? Are they counting carefully? Can they differentiate between pounds and pence? Can they record the amounts in numerals?



## EVIDENCING SUCCESS

## Meeting expectations:

- ▶ The child can assemble the coins to match an amount of money written using £ and p and describe an amount of money in writing using £ and p.
- ▶ The child can solve problems such as: *'It costs £1 to park a car for two hours. Show all the ways you can make up £1 using six coins.'*
- ▶ The child can solve problems such as: *'I buy a pencil for 20p and a ruler for 45p. What change do I get from £1?'*

## OBJECTIVES

- Recognise and use the symbols for pounds (£) and pence (p); combine amounts to make a particular value
- Find different combinations of coins that equal the same amounts of money
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

**Rising Stars Progression Framework:** 2.1.3, 2.3.2, 2.3.3

## RESOURCES

- Purse of coins per child, each containing a different known amount of money; whiteboard and pen each

# Strand: Geometry

DAY  
1

## Sub-strand: Properties of shapes



### ACTIVITY 1: Identifying and describing 2-D shapes

✓ **TIP:** The vocabulary to describe shapes is: **sides, vertices, vertex**. If the children are not familiar with it, explain it to them before you begin.

- ▶ Hand out copies of Worksheet 1 and look at the circle with the children. Run your finger around it and explain that this is the **side** of the shape. The circle only has one side and it is a curved side – there are no straight lines.
- ▶ Direct the children's attention to the triangle on the worksheet. Establish with them that the triangle has three sides; it also has three pointy corners. Explain that we call these pointy corners **vertices**.
- ▶ The children then choose one of the other regular shapes from the selection and describe it to a partner. Listen out for the children using the vocabulary of vertices and sides to describe their shape.
- ▶ Ask the children to continue describing shapes to their partner until you are sure they are secure in using the vocabulary of side and vertex.

✓ **TIP:** Provide plastic 2-D shapes so that children can experience their properties through touch.



### ACTIVITY 2: Completing 2-D shapes

✓ **TIP:** Allow the children access to the 2-D shapes from Worksheet 1, to help them visualise what they are drawing.

- ▶ Show the children the shape at the top of Worksheet 2. Explain: *This shape has two sides drawn as straight lines and the instruction says that one side is missing. You need to fill in the missing side.*
- ▶ Model drawing the side into the shape using the ruler to join up the two free ends. Ask: *What shape have we made? How do you know?* The children should recognise a triangle as there are **three sides** and **three vertices**.
- ▶ The children now try to complete the other shapes on Worksheet 2 using their ruler and by reading the instructions.

✓ **TIP:** While the children are filling in Worksheet 2, discuss the shapes with them to encourage them to use the vocabulary in context, e.g. *How many vertices will that shape have when it is complete?*

TEACH

### OBJECTIVES

- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- Identify 2-D shapes on the surface of 3-D shapes
- Compare and sort common 2-D and 3-D shapes and everyday objects

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.2.3

### RESOURCES

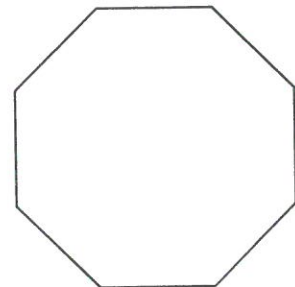
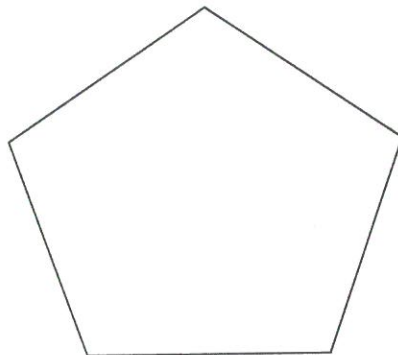
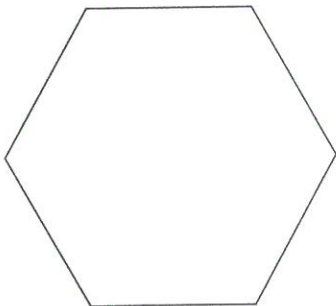
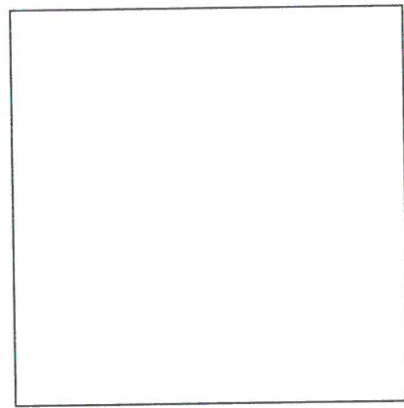
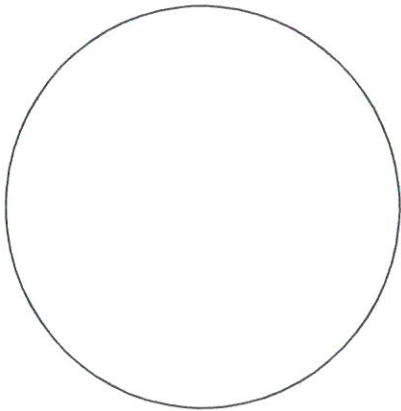
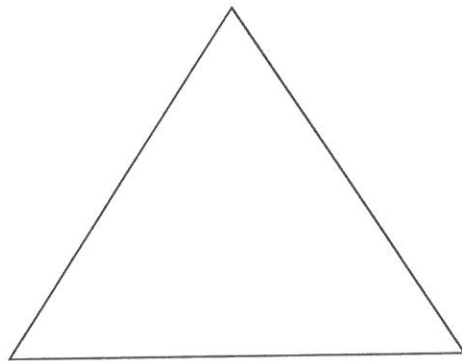
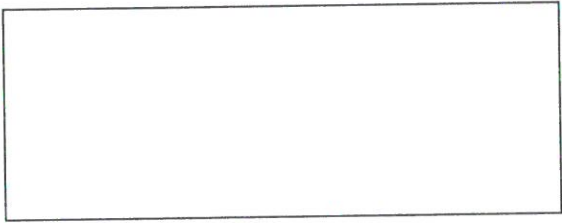
- Activity 1: Worksheet 1
- Activity 2: Worksheet 2; ruler; pencil; Worksheet 1



# Worksheet 1

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

## Identifying and describing 2-D shapes

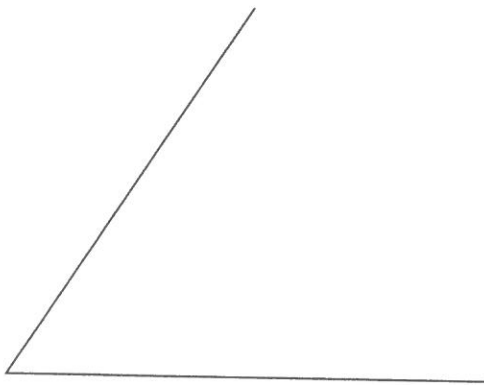


# Worksheet 2

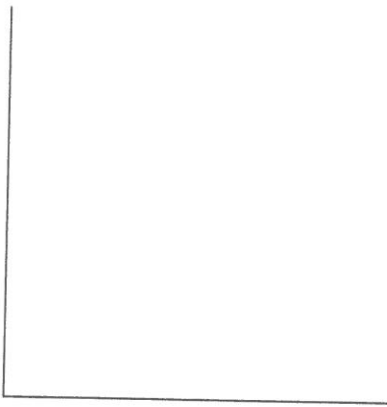
Name \_\_\_\_\_ Date \_\_\_\_\_

## 2-D shapes with edges missing

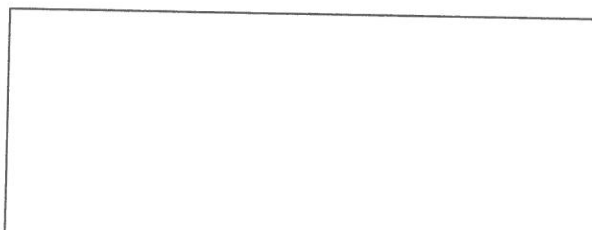
1. This shape is missing 1 side. Complete the shape.



2. This shape is missing 2 sides. Complete the shape.



3. This shape is missing 2 sides. Complete the shape.



## Strand: Geometry

DAY  
2


## Sub-strand: Properties of shapes

TEACH



## ACTIVITY 1: Lines of symmetry in 2-D shapes

- ▶ First look through the shapes with the children. Ask them to name the shapes as you hold them up.
- ▶ Now introduce the children to the word **symmetry**. (Explain that: *A shape has **line symmetry** if it can be folded along a mirror line and the two halves look exactly the same on both sides of the line.*)
- ▶ Give the children a plastic mirror and a plastic 2-D shape each. Ask them to see if they can find a place to put their mirror where, when they look into the mirror, the shape looks the same as when the mirror is not there.

 **TIP:** You may need to model how to hold the mirror on its edge and show the children an example of a line of symmetry.

- ▶ The children then spend some time investigating the shapes with the mirrors and looking for lines of symmetry.
- ▶ When the children find a line of symmetry they can share this with a partner, who then checks their answer.


 **WATCH OUT:** If the children describe the shape looking the same, you could repeat their sentence back to them using the word 'symmetry'.

- ▶ Continue the activity until all of the children have looked for and found lines of symmetry on at least three shapes.



## ACTIVITY 2: Drawing and counting lines of symmetry on 2-D shapes

- ▶ Give each child a copy of Worksheet 1, page 258, and a mirror. Explain that they need to find the lines of symmetry in the shapes and draw them onto the paper.
- ▶ Model to the children how this is done. Find a line of symmetry on a paper shape and then use the ruler to draw the line onto the shape.
- ▶ Set the children off finding the lines of symmetry.

 **WATCH OUT:** Observe the children carefully as they find the lines and draw them on. Are they lining the ruler up in the same place as the mirror on the shape? Are they able to see when the line is one of symmetry? Can they tell the shape looks the same when the mirror is on the line of symmetry?

## OBJECTIVES

- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- Identify 2-D shapes on the surface of 3-D shapes
- Compare and sort common 2-D and 3-D shapes and everyday objects

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.2.3

## RESOURCES

- Activity 1: Plastic mirrors; regular 2-D shapes (circle, square, rectangle, triangle, pentagon)
- Activity 2: Worksheet 1, page 258; plastic mirrors; pencils; rulers



## Strand: Geometry

DAY  
3

## Sub-strand: Properties of shapes



## ACTIVITY 1: Find the faces of 3-D solids

- ▶ Put the paint tray in the middle of the table with the paint in. Explain to the children that they will be printing the different **faces** of a shape onto paper and describing them to their friends.
- ▶ Give each child a piece of paper and a **3-D solid** (a different one each). The children write down the name of their 3-D solid. They dip the solid into the paint and print all of the sides onto their paper wherever they will fit.
- ▶ Once all of the children have printed the faces, ask them to describe their solid to the group. e.g. they might say: *My solid is a cone. It has two faces – one is a circle and one is a curved face that rolls on the paper.*

**! WATCH OUT:** The children with a sphere may struggle to identify the face from their solid as a curved face; discuss as a group if they are struggling. The curved face of a cylinder should show as a rectangle when rolled; this may also confuse the children.



## ACTIVITY 2: Draw the faces of 3-D solids and discuss other properties

- ▶ The children use what they know about the solid from the printing exercise and what they can see from the solid in front of them to draw each of the faces, e.g. if they have a cube they draw six square faces (these do not need to be accurately drawn); if they have a cylinder they draw two circle faces and one rectangular face, and so on.

**✓ TIP:** For this activity it doesn't matter how the faces are drawn – it's only important that the children draw the right number and shape of faces.

- ▶ The children then check their drawings of the faces against the printing of the faces and describe them to the group.
- ▶ Now hold up a cube to show the children. Point to the **vertex** (pointy corner) on the solid. Explain to the children that the point on a **3-D solid** is called a **vertex**.
- ▶ Count the vertices on the solid with the children (eight).
- ▶ Ask the children to tell someone near them how many vertices their solid has and check one another's answers by counting.
- ▶ Hold up the cube once more and this time show the children the **edge** of the solid (the place where the two faces join together). Run your finger along this edge and count how many edges your cube has (12).
- ▶ Ask the children to count how many edges there are on their solid and then tell someone near them and check each other's answers by counting.
- ▶ Finally, ask the children to write how many edges and vertices their solid has on their drawing.

TEACH

## OBJECTIVES

- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- Identify 2-D shapes on the surface of 3-D shapes
- Compare and sort common 2-D and 3-D shapes and everyday objects

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.2.3

## RESOURCES

- Activity 1: Various 3-D shapes: sphere, cylinder, square-based pyramid, cube, cuboid, cone, triangular prism; each child needs paper and pencil and access to paint in a tray
- Activity 2: Various 3-D shapes: sphere, cylinder, square-based pyramid, cube, cuboid, cone, triangular prism; each child needs paper and pencil

## Strand: Geometry

DAY  
4

## Sub-strand: Properties of shapes

TEACH



## ACTIVITY 1: Sorting 3-D solids

- ▶ Place the two sorting hoops on the table and label them – **square face**, **circular face**.
- ▶ Give each child a 3-D solid.
- ▶ Explain that they will be putting their solids in the hoop that describes the faces their 3-D solid has.
- ▶ As the children put their solid into the sorting hoop, ask them to explain what they are doing: *I have a cone. I know that the flat face is a circle so I can put it into the circular face hoop.*



**WATCH OUT:** The children may not be able to use the vocabulary of **face**, **circular** and **square**. In this case you should repeat their sentence back to them using this vocabulary.

- ▶ Give each child a turn at sorting their 3-D solid into the correct hoop. If their 3-D solid can be sorted into either hoop you should allow the child to choose the hoop and then give a reason for their choice.
- ▶ If you have time, ask the children to repeat the exercise but this time use a Carroll diagram from Worksheet 3. The 3-D solids themselves should be placed into the boxes on the Carroll diagram.



## ACTIVITY 2: Sorting everyday 3-D solids

- ▶ Repeat Activity 1 using the everyday objects you have available.
- ▶ Ask the children before you begin what the labels for the sorting hoops should be. Label the hoops.
- ▶ The children then take it in turns to sort the objects based on their faces and to explain their reasoning.

## OBJECTIVES

- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- Identify 2-D shapes on the surface of 3-D shapes
- Compare and sort common 2-D and 3-D shapes and everyday objects

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.2.3

## RESOURCES

- Activity 1: Various 3-D shapes: cube, cylinder, cone, cuboid, square-based pyramid, triangular prism; sorting hoops; Worksheet 3
- Activity 2: Everyday 3-D solids to be sorted (e.g. ball, cereal box, glue stick, dice, triangular prism box, etc.)

# Worksheet 3

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

## Carroll diagram

	Has rectangular faces	Does not have rectangular faces
Has circular faces		
Does not have circular faces		



# Strand: Geometry

DAY  
5

## Sub-strand: Properties of shapes

ASSESS



### ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.
- ▶ Ask the children to work through Worksheet 4. They need to match the description of the 2-D and 3-D shapes to the picture by drawing a line.

**! WATCH OUT:** The children may need a little help with reading the descriptions of the solids.

- ▶ The next part of the assessment, on Worksheet 5, requires the children to write the name of the solids under headings, based on their features.
- ▶ They then check the lines of symmetry on Worksheet 6 using the plastic mirror and circle the shapes with the *correct* lines of symmetry drawn on them.
- ▶ Check the children's responses to the questions in each part of the assessment, to judge whether they are now secure in these objectives.

**✓ TIP:** It is important for the children to understand the vocabulary involved in describing and visualising shapes. If they struggle with the activities, this may be due to their misunderstanding of the vocabulary. If so, work on the vocabulary in context in class time to describe everyday objects.



### EVIDENCING SUCCESS

#### Meeting expectations:

- ▶ The child can identify simple 2-D and 3-D shapes.
- ▶ The child can sort 2-D and 3-D shapes based on their properties.
- ▶ The child can describe a 2-D or 3-D shape using mathematical language (vertices, faces, edges, symmetry).

### OBJECTIVES

- Identify and describe the properties of 2-D shapes including the number of sides and line symmetry in a vertical line
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- Identify 2-D shapes on the surface of 3-D shapes
- Compare and sort common 2-D and 3-D shapes and everyday objects

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.2.3

### RESOURCES

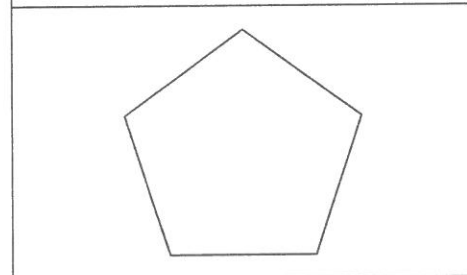
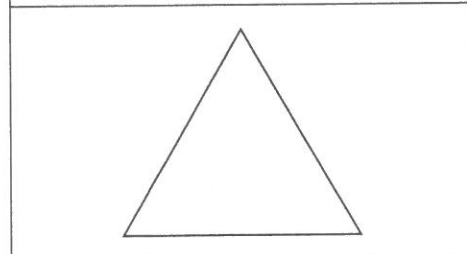
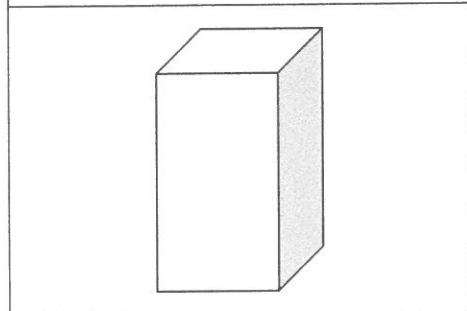
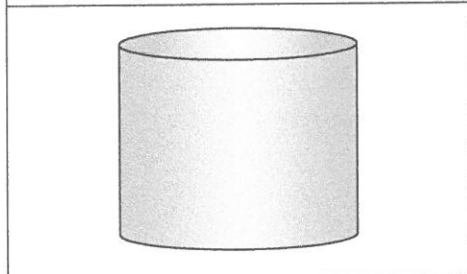
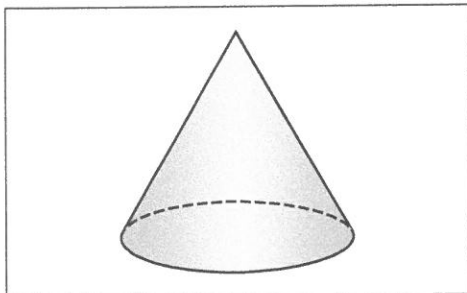
- Each child needs: Worksheet 4, Worksheet 5, Worksheet 6, a plastic mirror, a pencil

# Worksheet 4

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

## Describing 2-D and 3-D shapes

Match the description of the 2-D or 3-D shape to its picture.



This shape has 5 sides and 5 vertices.

This shape has 3 sides and 3 vertices.

This solid has 1 flat circular face and 1 curved face.

This solid has 6 faces; 2 are square and 4 are rectangular.

This solid has 2 flat circular faces and 1 curved rectangular face.

# Worksheet 5

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

## Sorting 3-D shapes

Sort the following solids into the correct boxes. Each solid could go in more than one box.

cube    cuboid    cylinder    cone

square-based pyramid    triangular-based pyramid

Triangular face	Circular face	Square face	Rectangular face

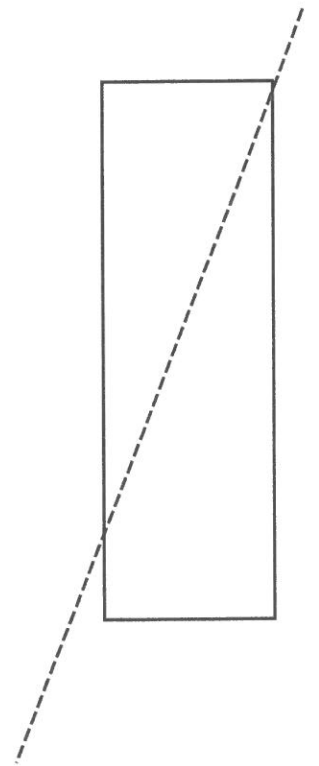
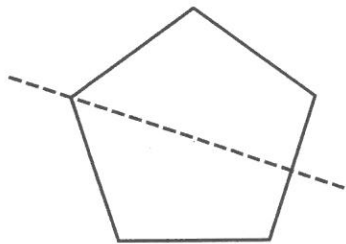
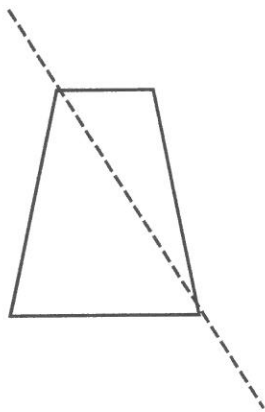
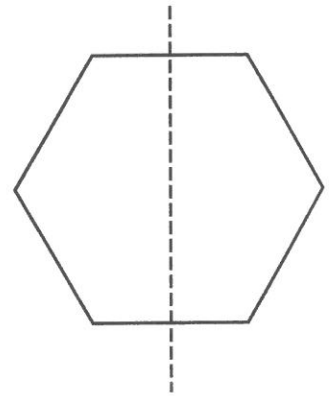
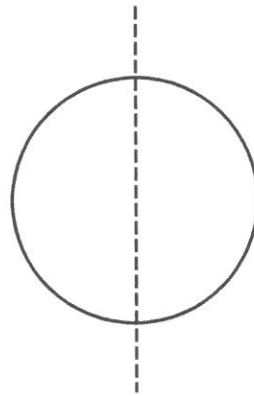
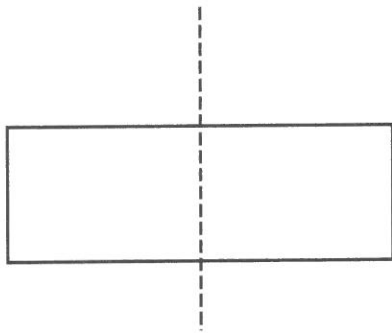


# Worksheet 6

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

## Lines of symmetry

Circle the shapes with the correct lines of symmetry drawn on them.



## Strand: Geometry

DAY  
1

## Sub-strand: Position and direction

TEACH



## ACTIVITY 1: 'I spy' using positional language

- ▶ Play a game of 'I spy' with the children. Rather than telling you what the initial letter is, the children are to tell you where the object is.
- ▶ You model the game first: *I spy with my little eye something inside the classroom. It is next to the bookcase.*
- ▶ In between each guess, give the children another clue to where the item is using positional language (e.g. **next to**, **underneath**, **behind**, **in front of**, **near**, etc.)
- ▶ When a child guesses correctly they take over the role of giving out the clues to the other children using positional language.

**! WATCH OUT:** Choose the objects for the children to describe so you can check the clues they are giving are accurate.



## ACTIVITY 2: 'Where am I?' using positional language

- ▶ Show the children the position vocabulary cards from Worksheet 7.
- ▶ Run through them with the children and discuss what they mean to check their understanding. e.g. *This card says 'next to'. What am I next to at the moment? What are you next to?*
- ▶ Play a game where you ask the children to choose somewhere to stand in the classroom (or outdoors if weather permits).
- ▶ Show them a vocabulary card. The children then tell you where they are using that vocabulary, e.g. if you choose the 'next to' card they would say: *I am next to the ...*
- ▶ Ask the children to move around, then choose another card and ask them to describe their relative position each time.

## OBJECTIVES

- Use mathematical language to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)
- Order and arrange combinations of mathematical objects in patterns and sequences

**Rising Stars Progression Framework:** 2.4.1, 2.4.2, 2.4.3

## RESOURCES

- Activity 2: Worksheet 7

# Worksheet 7

Photocopy and cut into a set of cards.

## Position vocabulary cards



next to

behind

beneath

in front of

over

to the left of

on

to the right of



# Strand: Geometry

DAY  
2

## Sub-strand: Position and direction

TEACH



### ACTIVITY 1: Describing turns around a clock face

- ▶ Before the session set out a large clock face on the floor of the room using the number cards.
- ▶ Model standing in the middle of the clock face (it may be useful to mark this position with a spot on the floor if you are able).
- ▶ Face the number 12. Explain to the children: *This is where I will start my turn.*
- ▶ Turn all of the way around to face the 12 again (in any direction). Now say: *I have turned all of the way round. I started looking at the 12 and now I am looking at the 12 again. I have turned one **full turn**.*
- ▶ Explain to the children that you can turn either **clockwise** (with the numbers going from 1 to 12) or **anticlockwise** (with the numbers going from 12 to 1).
- ▶ Turn a few full turns slowly. Ask the children to identify which way you turned.
- ▶ Now explain to the children that you do not always have to turn a full turn around. Ask the children the following questions: *Which number would I be looking at if I turned **half** of the way around clockwise?* (6); *Which number would I be looking at if I turned one **quarter** of the way around clockwise?* (3); and *Which number would I be looking at if I turned **three-quarters** of the way around clockwise?* (9)



### ACTIVITY 2: Making turns around a clock face

- ▶ Before the session set out a large clock face on the floor of the room using the number cards.
- ▶ Each child needs a cone or marker with an arrow on it; you will need to prepare these before the session.
- ▶ Each time you ask the children to do a turn, one child should model the turn on the clock and the other children should show you the turn using their marker.
- ▶ Ask the children to turn: **a full turn clockwise, half a turn clockwise, half a turn anticlockwise, quarter of a turn clockwise, quarter of a turn anti-clockwise, three-quarters of a turn clockwise, three-quarters of a turn anticlockwise.**

**! WATCH OUT:** Make sure the children always start their turns facing the 12, so you can clearly see if they have understood the direction.

### OBJECTIVES

- Use mathematical language to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)
- Order and arrange combinations of mathematical objects in patterns and sequences

**Rising Stars Progression Framework:** 2.4.1, 2.4.2, 2.4.3

### RESOURCES

- Activity 1: Number cards 1 to 12; a large space (hall or outdoors)
- Activity 2: Number cards 1 to 12; PE cones with an arrow drawn on each one in wipe clean pen; a large space (hall or outdoors)

# Strand: Geometry

## Sub-strand: Position and direction



### ACTIVITY 1: Directional language in a maze

- ▶ Before the session make a simple maze from the cones around the space.
- ▶ Walk the maze for the children talking to yourself as you go. *I am walking forwards and now I am turning to my left so I can get around this corner ...*

**TIP:** When you create the maze make sure the children need to turn both left and right to get out of it.

- ▶ Blindfold the children one at a time and stand them at the entrance to the maze. The other children take it in turns to talk the blindfolded child around the maze using what they know about directional language – **forward, backward, left, right**, e.g. *You need to go forward a couple of steps. Stop. Now you will need to turn to your right.*

**WATCH OUT:** Walk around the maze with the blindfolded child to support them. If the children giving the instructions are struggling, ask them prompting questions such as: *I have come to a dead end. Do I need to turn now?*



### ACTIVITY 2: Positioning objects

- ▶ Give the children three of each of the four coloured counters, e.g. three red counters, three green counters, three yellow counters and three blue counters.
- ▶ Ask them to put one of each in a row (red, green, yellow, blue), spacing the counters out slightly.
- ▶ Then ask the children to: *Put a green counter next to the blue counter. Put a yellow counter above the red counter. Put a blue counter on top of that yellow counter. Put a red counter next to the other red counter. Put a green counter in between the yellow and blue counter.*
- ▶ Watch the children as they place the counters and check they understand the **positional language**.

**TIP:** Have your own counters to place in the correct positions too. Then, if the children struggle with any of the instructions, you can model the positioning using a different colour, e.g. *If I put the counter here it is above the green counter, so where would I put it to make it so that it is above the red counter?*

### OBJECTIVES

- Use mathematical language to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)
- Order and arrange combinations of mathematical objects in patterns and sequences

**Rising Stars Progression Framework:** 2.4.1, 2.4.2, 2.4.3

### RESOURCES

- Activity 1: Mini cones; outdoor or open space; blindfold
- Activity 2: Coloured counters (each child needs three of each of the four colours)



# Strand: Geometry

DAY  
4

## Sub-strand: Position and direction

TEACH



### ACTIVITY 1: Creating patterns

**TIP:** Make more of the coloured counters available to the children (five of each of the four colours), as they will need these to complete the activity.

- ▶ Ask the children to make a repeating colour **pattern** using their counters. Say: *Can you make the pattern red blue, red blue, red? Who knows what colour would come next in this pattern? Put the counter you think would continue the pattern onto the end.*
- ▶ Repeat with more complex patterns, e.g. yellow yellow green, yellow yellow green; blue red red green, blue red red green, and so on.

**WATCH OUT:** Each time the children continue the pattern, watch to see if they are placing the correct counter in the next position. If not, read the pattern to them and point to each counter as you go.



### ACTIVITY 2: Continuing 2-D shape patterns

- ▶ Give the children their 2-D shapes (Worksheet 8). Say a 2-D shape **repeating pattern**, e.g. *square, circle, square, circle, square*. Ask them to make it with their shapes and then continue the pattern.
- ▶ Discuss with the children if they all put the squares so they are sitting on a flat edge. *Did anyone put a square on its corner when creating the pattern so it looks like a diamond? Is the pattern still the same if the square is on its point rather than a flat edge?* (Yes, because it is still square, circle, square, circle, etc.)
- ▶ Repeat the activity for the children with increasingly challenging patterns using the four shapes they have.

**TIP:** Emphasise the sequence must be exactly the same here, as this work on pattern lays the foundations for many of the geometrical concepts the children will learn in Key Stage 2. They need to know that they have to be precise when working with geometry.

### OBJECTIVES

- Use mathematical language to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)
- Order and arrange combinations of mathematical objects in patterns and sequences

**Rising Stars Progression Framework:** 2.4.1, 2.4.2, 2.4.3

### RESOURCES

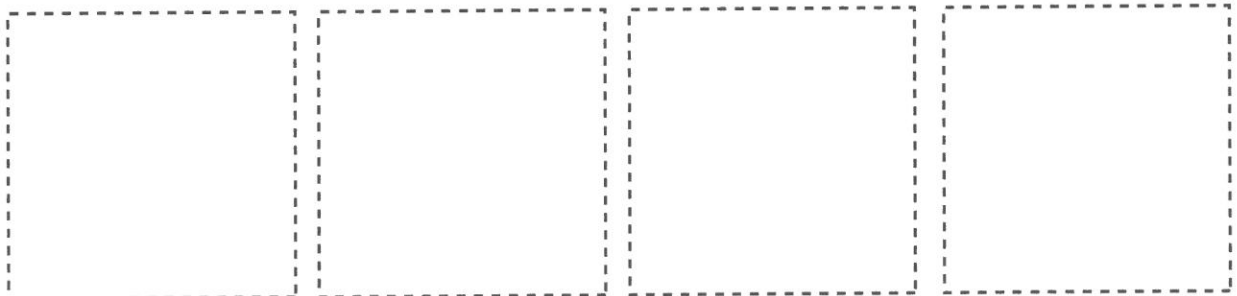
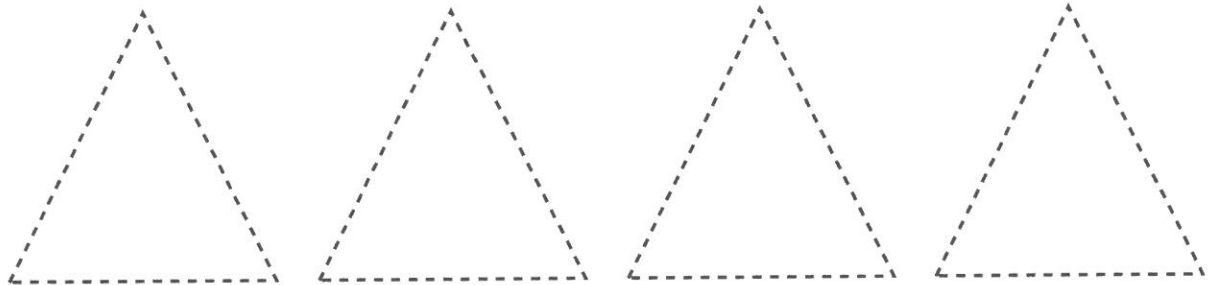
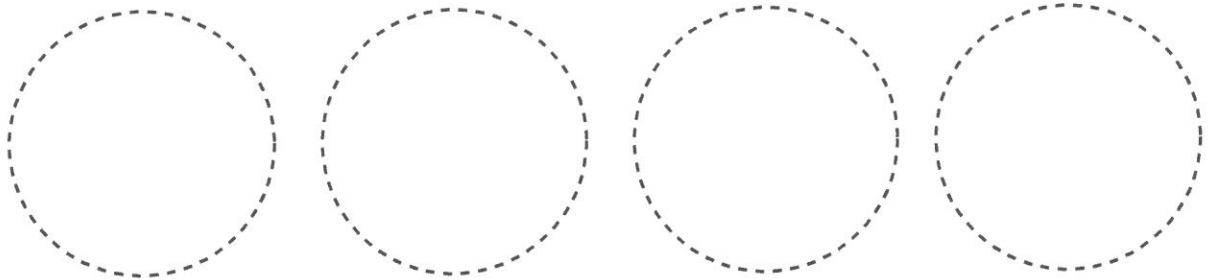
- Activity 1: Coloured counters (each child needs five each of the four colours)
- Activity 2: 2-D shape selection cut out from Worksheet 8 (four each of a square, circle, triangle and rectangle per child)



# Worksheet 8

Photocopy and cut out the shapes, four of each per child.

## Shapes for repeating patterns



# Strand: Geometry

DAY  
5


## Sub-strand: Position and direction


ASSESS



### ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.
- ▶ Give the children Worksheet 9.
- ▶ For Question 1, encourage them to read the patterns to themselves.
- ▶ When answering the second question on Worksheet 9, the children need to identify what has happened to the arrow. How has it turned around? There are two answers for each of these questions. Allow the children to choose which answer to give and to explain their understanding to you.
- ▶ Now give the children Worksheet 10. They need to look at the pictures and write down where the different items in the pictures are.

 **TIP:** It is important for the children to be precise in their descriptions. They should use their knowledge of positional language to work out which would be the most effective clue to give.

 **WATCH OUT:** Should any of the children give descriptions that do not match the position of the object, read their description and point to the object it shows, e.g. *This is next to the table. But where is the plant?*

- ▶ Note down any of the particular words the children struggle with. Again, you could reinforce these through class work and extra support using the Year 1 materials if necessary.



### EVIDENCING SUCCESS

#### Meeting expectations:

- ▶ The child can describe where an object is using mathematical vocabulary.
- ▶ The child can arrange a selection of shapes such as squares, triangles, circles and rectangles into a pattern, using different orientations.

### OBJECTIVES

- Use mathematical language to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)
- Order and arrange combinations of mathematical objects in patterns and sequences

**Rising Stars Progression Framework:** 2.4.1, 2.4.2, 2.4.3

### RESOURCES

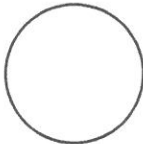

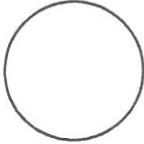

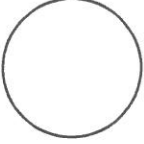






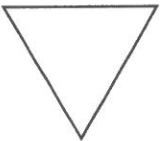
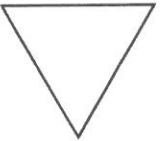
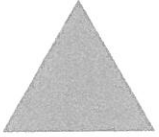
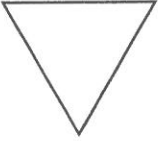





- Each child needs:  
Worksheet 9, Worksheet 10

# Worksheet 9








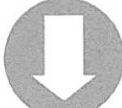
Name \_\_\_\_\_ Date \_\_\_\_\_

## Continuing patterns

1. Look carefully at the patterns. Can you tell what comes next? Draw it in the box.

2. What has happened to the arrow? How has it turned?



# Worksheet 10

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

## Describing position

Where are the different items in the pictures? Describe where they are using position words such as:

next to

underneath

behind

in front of

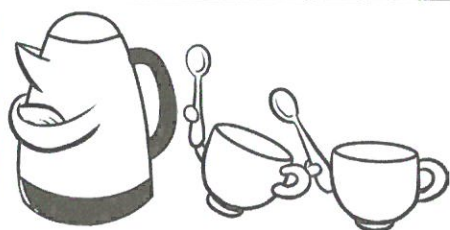
near

beneath

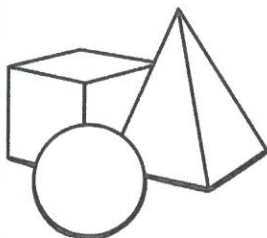
on top of

to the right of

to the left of



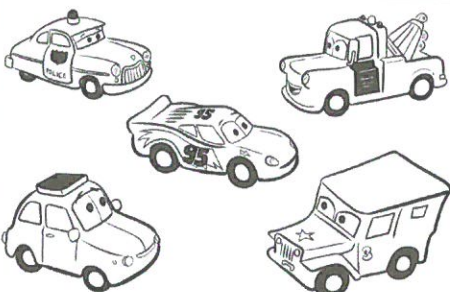
Where is the kettle?



Where is the sphere?



Where is the tennis ball?



Where is the racing car?

## Strand: Statistics

DAY  
1

## Sub-strand: Present, interpret and solve data problems

TEACH



## ACTIVITY 1: Making name block graphs

- ▶ Put the pile of small squares in the middle of the table. Explain to the children that you will be making a **graph** of their names.
- ▶ The children write their names on the paper (one letter on each square).
- ▶ The children put their letters in order on the A3 paper graph you prepared earlier. Each name is its own bar. It does not matter if the bars run horizontally or vertically on the page, as long as they all start at the same point.
- ▶ Discuss with the children: *Which name is the longest? Which is the shortest? How many letters does the longest name have? How many letters does the shortest name have? What is the difference between the lengths of these names? Do any of the names have the same length?*
- ▶ Discuss how we can see visually which names have more/less letters simply by looking at them compared to other names, because the lines are longer/shorter.



## ACTIVITY 2: Making elastic band tallies

- ▶ Show the children a **tally** of five drawn on a whiteboard. Establish with them how many are in the tally – count the lines to check. Then ask: *Why is there a line over the middle? When do we put the line there? Is it important?*
- ▶ Put the bands out on the table and tell the children that they will make a tally using the bands. The bands count as one each. Slowly count out the bands to five.
- ▶ When you count the fifth band, tell the children that to help you remember there are five, you will put the fifth band around the others to make a group.
- ▶ Continue with more bands until you have six tallies of five bands. Count them in fives with the children to see how many you have.
- ▶ Now ask the children to represent this tally on their whiteboard. Talk about each line representing one elastic band and the one across the middle being the band that held the five together.

## OBJECTIVES

- Interpret and construct simple pictograms, tally charts, block diagrams and tables
- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- Ask and answer questions about totalling and comparing categorical data

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.3.1, 2.3.2

## RESOURCES

- Activity 1: A3 paper with axes drawn on; enough small squares of paper for one per letter of each child's name
- Activity 2: 30 elastic bands; each child needs: a whiteboard and pen



## Strand: Statistics

DAY  
2

## Sub-strand: Present, interpret and solve data problems

TEACH



## ACTIVITY 1: Creating tally chart tables

- ▶ Give each child one of the empty data tables from Worksheet 1. Tell the children that they will be collecting **data** using the **tally** method. Explain that: *We want to know how many children would choose each colour of sweet. We draw a line for each one of the things we are counting but the fifth line goes across the middle of the set.*
- ▶ Show the children the selection of sweets and read through the data as you move the sweets into a bowl/pile. Ask them to draw a tally in the correct box for each colour of sweet. Be sure to read the data slowly: *green, orange, red, yellow, red, green, red, red, green, red, green, red, green, red, yellow, red, yellow, red, purple, red, purple.*
- ▶ The children then count the number of each colour they have drawn tallies for and write this number in the total box. Check their answers are as follows: ten red, five green, three yellow, two purple, one orange.

**TIP:** If any children struggle with this activity, repeat it using counters in stacks instead of tallies (they put one counter in a pile for each one of the things you say and then make a new stack when they get to five in the stack).



## ACTIVITY 2: Creating block graphs

- ▶ Give each child a copy of Worksheet 2, which shows a grid with vertical and horizontal axes. Tell the children that they will be making a **block diagram** to show the favourite sweets from the **tally chart** they made earlier.
- ▶ Ask the children to read the data from the table they completed in Activity 1.
- ▶ Look at the axes with the children. Say to them: *The **horizontal axis** at the bottom is labelled with the names of the colours. The **vertical axis** along the side is labelled with numbers. We are going to colour in the correct number of squares for each colour. How many yellow blocks will we need to colour? Why?*
- ▶ Ask them to continue filling out their block graph using the data from the table.

## OBJECTIVES

- Interpret and construct simple pictograms, tally charts, block diagrams and tables
- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- Ask and answer questions about totalling and comparing categorical data

## Rising Stars Progression

Framework: 2.1.1, 2.1.2, 2.3.1, 2.3.2

## RESOURCES

- Activity 1: Each child needs: a pre-drawn and labelled table from Worksheet 1, a pencil; 21 wrapped sweets (five green, one orange, ten red, three yellow, two purple)
- Activity 2: Each child needs: their table from Worksheet 1, a copy of Worksheet 2, crayons (red, blue, green, yellow, purple and orange)



# Worksheet 1

Photocopy and cut up the charts, one chart per child.

## Tally chart

Colour	Tally	Number
<b>Red</b>		
<b>Purple</b>		
<b>Green</b>		
<b>Orange</b>		
<b>Yellow</b>		

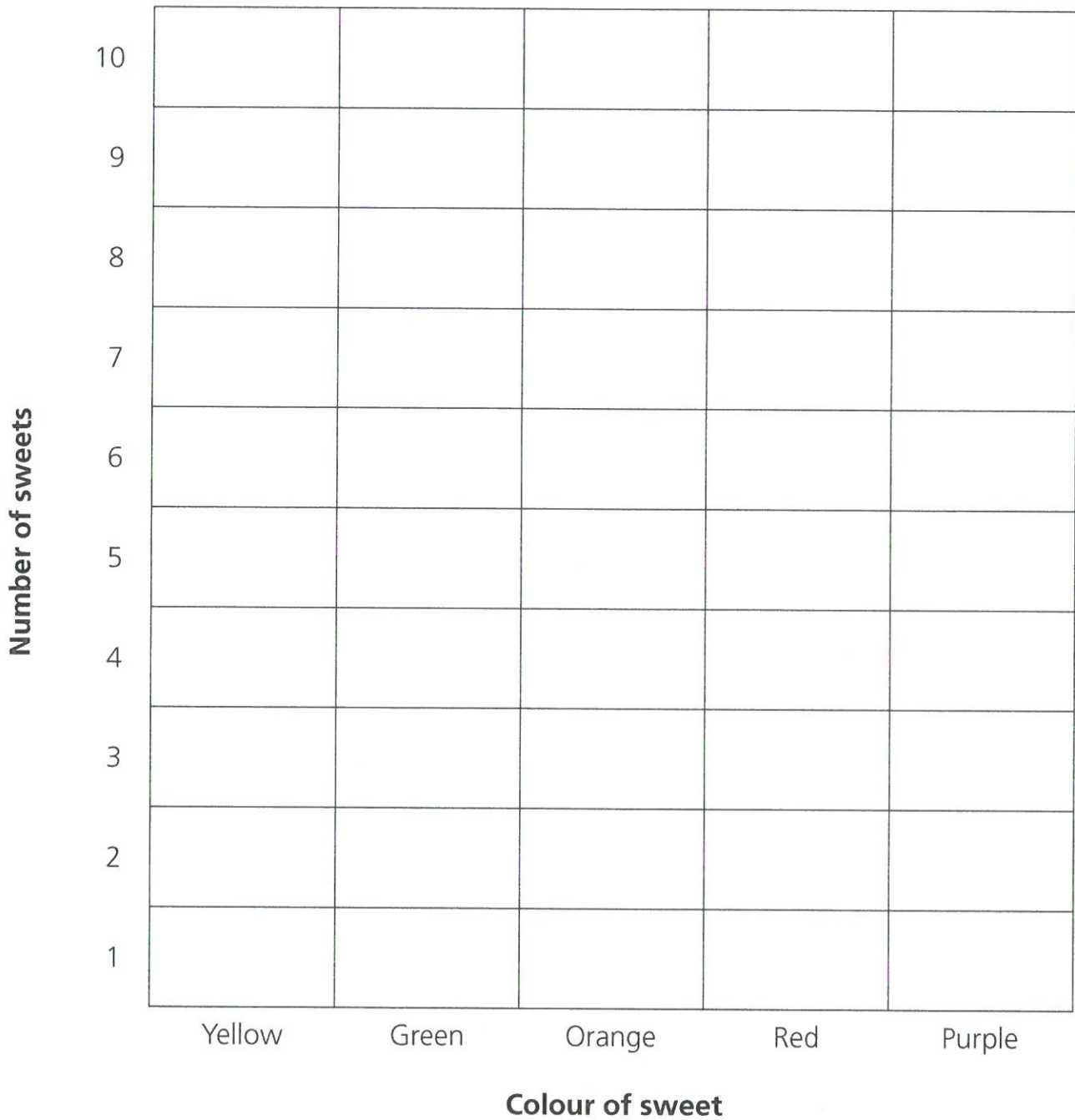
Colour	Tally	Number
<b>Red</b>		
<b>Purple</b>		
<b>Green</b>		
<b>Orange</b>		
<b>Yellow</b>		

Colour	Tally	Number
<b>Red</b>		
<b>Purple</b>		
<b>Green</b>		
<b>Orange</b>		
<b>Yellow</b>		

# Worksheet 2

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

## Making a block diagram



# Strand: Statistics

DAY  
3

## Sub-strand: Present, interpret and solve data problems

TEACH



### ACTIVITY 1: Counting data results pictograms

- ▶ Give each child a copy of Worksheet 3. Tell the children that the **pictogram** and the **data table** should match, but there are a few sections with information (data) missing.
- ▶ Look at the table on Worksheet 3. Ask: *How could we find out how many people have pet lizards?* Establish that they could look at the column on the pictogram and find out either by counting or by finding the number on the **vertical axis**.



**WATCH OUT:** While the children may choose to count how many lizard pictures there are on the chart, encourage them to check their answer by looking across at the axis to find the number it is up to.

- ▶ Now: *We have found that there are eight people with pet lizards. We can now fill that in on the data chart by writing in the number 8.*
- ▶ The children now try to fill in rest of the missing numbers in the table using the bars on the pictogram to help them.



### ACTIVITY 2: Counting data from tables and tally charts

- ▶ Return to the pictogram and data table from Activity 1.
- ▶ Draw the children's attention to the fact that some of the columns of data have not been filled in on the pictogram. Ask them: *How could we show how many people had pet dogs?*
- ▶ Establish with the children that they could draw the correct number of dogs into the pictogram. Clarify that the information they need is in the data table: two people had pet dogs. Say: *So we should draw two dogs into the chart.*
- ▶ The children then fill in the rest of the missing data in the pictogram using the information from the table.

### OBJECTIVES

- Interpret and construct simple pictograms, tally charts, block diagrams and tables
- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- Ask and answer questions about totalling and comparing categorical data

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.3.1, 2.3.2

### RESOURCES

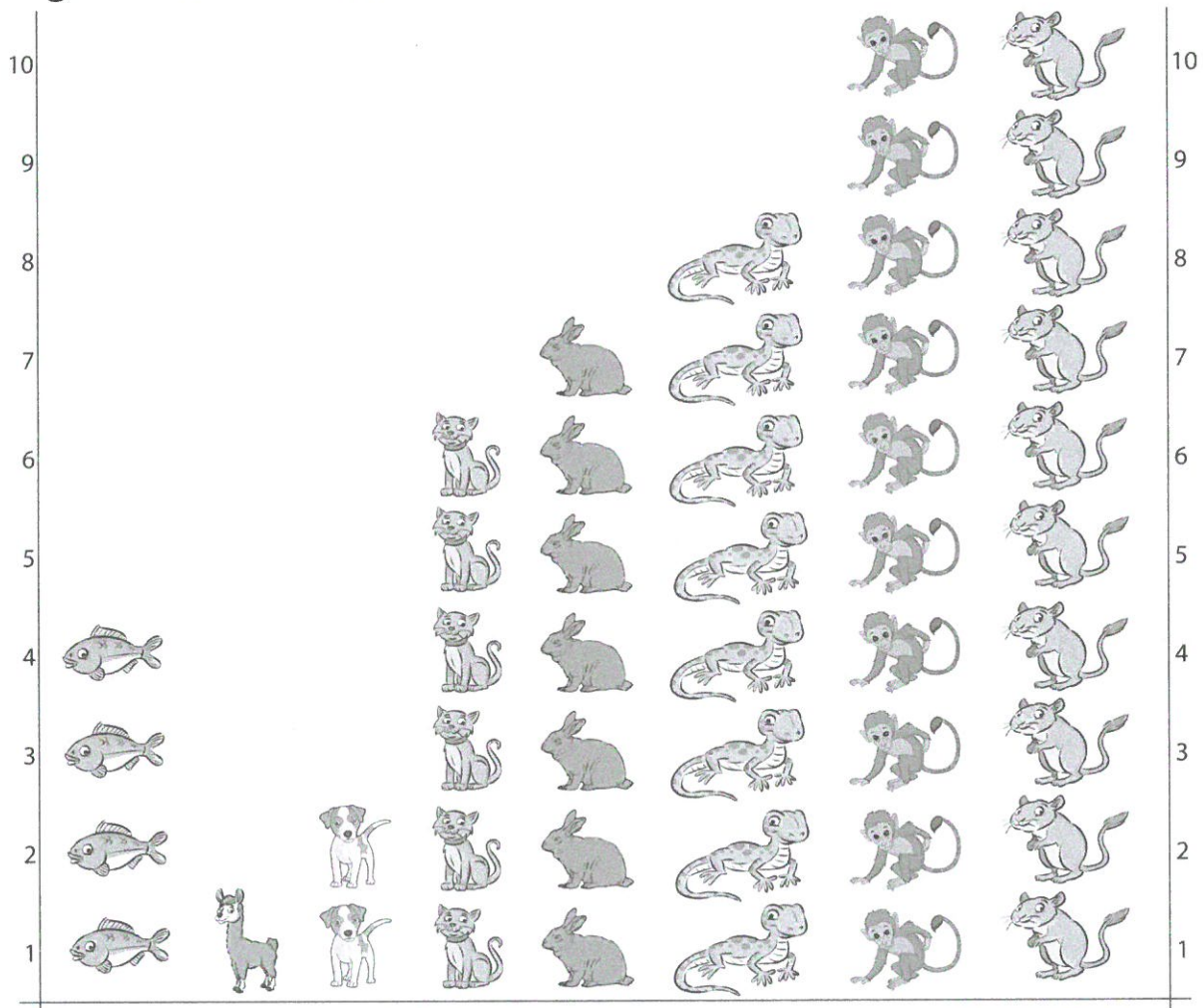
- Activities 1 and 2: Each child needs a copy of Worksheet 3



# Worksheet 3

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

## Pictogram and data table



Type of pet	Number of people who own pet
Fish	4
Llama	
Dog	2
Cat	
Rabbit	7
Lizard	
Monkey	10
Gerbil	

## Strand: Statistics

DAY  
4Sub-strand: Present, interpret  
and solve data problems

TEACH

**ACTIVITY 1: Creating and asking questions about block graphs**

- ▶ Put the counters in the middle of the table and ask the children to take seven each. They should choose at least two different colours of counter.
- ▶ Tell the children they are to create their own **block graph** on squared paper to show the number of each colour counter they have. Remind them to draw and label **horizontal** and **vertical axes** (horizontal = colour, vertical = number).
- ▶ The children then draw the blocks to show how many of each coloured counter they have.
- ▶ The children now think of two questions to ask a friend about their graph.



**TIP:** Model how to ask the questions or what questions to ask. E.g. *Which counter do you have most/least of? How many more/less of one type of counter do you have than another?*

- ▶ Pairs then swap graphs and take it in turns asking and answering questions.

**ACTIVITY 2: Creating and asking questions about pictograms**

- ▶ Put the magnetic letters in the middle of the group and ask the children to choose a handful of letters (and more than three). They should also aim to have more than one of some of the letters they choose.
- ▶ The children create their own **pictogram** on the squared paper, to show the number of each letter they have. Remind them to draw and label **horizontal** and **vertical axes** (horizontal = letter, vertical = numbers).
- ▶ The children draw the letters in the squares to show how many of each letter they have.
- ▶ The children now think of two questions to ask a friend about their pictogram.
- ▶ Pairs then swap pictograms and take it in turns to ask and answer questions.

**OBJECTIVES**

- Interpret and construct simple pictograms, tally charts, block diagrams and tables
- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- Ask and answer questions about totalling and comparing categorical data

**Rising Stars Progression Framework:** 2.1.1, 2.1.2, 2.3.1, 2.3.2

**RESOURCES**

- Activity 1: A large collection of different coloured counters (enough for seven per child); squared paper; pencils; rulers
- Activity 2: A large collection of magnetic letters; squared paper; pencils; rulers



## Strand: Statistics

DAY  
5

## Sub-strand: Present, interpret and solve data problems

ASSESS



## ASSESSMENT ACTIVITY

- ▶ The purpose of the assessment is to check what each child can do independently, noting down any difficulties and misconceptions. The adult will need to watch carefully what the children do, any strategies used and confidence levels.
- ▶ Ask the children to look at the data table on Worksheet 4. Ask them a series of questions about the table and help them to find the answers by counting the tallies or adding up the different totals. Possible questions to ask:
  - Which was more popular, ice cream or cheese?
  - Which did people like most, puddings or snacks?
  - Which was the least popular food?
  - Which was the most popular food?

**TIP:** The children may find it difficult to understand the last two questions. In this case explain to them that the most popular food will have the biggest number of people choosing it as their favourite, and the least popular will have the smallest number of people choosing it.

- ▶ Now ask the children to look at the pictogram on Worksheet 5. Ask the same questions (the data is different):
  - Which was more popular, ice cream or cheese?
  - Which did people like most, puddings or snacks?
  - Which was the least popular food?
  - Which was the most popular food?
- ▶ Discuss with the children: *Which was easier for them to find the answers from, the table or the pictogram? Was one easier for some questions than others? Why?*



## EVIDENCING SUCCESS

## Meeting expectations:

- ▶ The child can answer questions such as: *'How many people had school lunch on Tuesday?'* from an appropriate tally chart, table or pictogram.
- ▶ The child can construct a tally chart and a pictogram to show how many children are in each class in the school.
- ▶ The child can use appropriate data to solve problems such as: *'How many more people choose blue than yellow as their favourite colour?'*
- ▶ The child can solve problems such as: *'Which category has the most objects?'*

## OBJECTIVES

- Interpret and construct simple pictograms, tally charts, block diagrams and tables
- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- Ask and answer questions about totalling and comparing categorical data

## Rising Stars Progression

Framework: 2.1.1, 2.1.2,  
2.3.1, 2.3.2

## RESOURCES

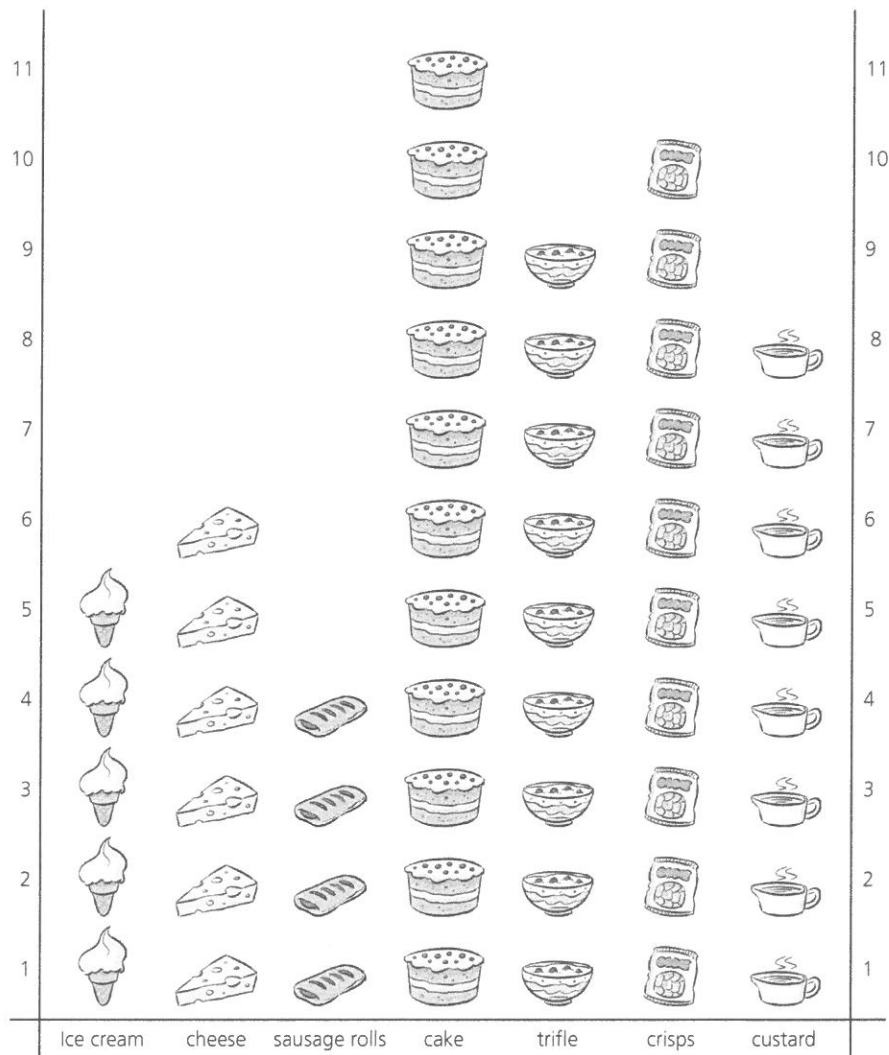
- Each child needs: Worksheet 4, Worksheet 5, a pencil



# Worksheet 4

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

## Pictograms



Food	Number
Ice cream	5
Cheese	6
Sausage rolls	4
Cake	11
Trifle	9
Crisps	10
Custard	8







