

The logo for Inspire Maths features the word "INSPIRE" in a dark blue, bold, sans-serif font. A light blue spiral icon is positioned above the letter "I". Below "INSPIRE", the word "MATHS" is written in a light blue, bold, sans-serif font.

INSPIRE MATHS

Inspire Maths 2 Home Activities

Teacher Guidance

The *Inspire Maths* Home Activities provide opportunities for children to explore maths further outside the classroom. The engaging home activities help you to involve parents and carers in their child's mathematical learning. To support this, you might want to hold a short *Inspire Maths* meeting to fully explain what is expected.

Each Home Activity contains a practical activity to be completed using the activity sheets provided, or using common household items. A list of key words and phrases is given to support parents with modelling mathematical language for their children, and the activities also offer advice on specific strategies or misconceptions that parents could look out for.

Home Activities are only developed for units where home support is appropriate, so there may not be activities for all units. For those units without activities, you can refer to Home Maths sections in the *Inspire Maths* Pupil Textbooks for ideas for how a parent may support their child.

Parent/Carer Guidance

The *Inspire Maths* Home Activities give your child an opportunity to practise the maths that they have been doing at school, and give you an opportunity to support their learning.

Each Home Activity takes between ten and twenty minutes. The activities contain information on how the activity will help your child, important words and phrases that your child is learning, further opportunities to talk about your child's ideas, and particular strategies or issues to look out for. You are not expected to teach your child the mathematical concepts themselves.

You won't need any special equipment as most objects required for the activities can be found around the home. Some activities also include an activity sheet that contains illustrations or further questions to support your child's learning.

1 Number Paths with Numbers to 1000

This activity will help your child become familiar with numbers to 1000.

Important words and phrases:

- ones, tens, hundreds
- smaller than, greater than
- smallest, greatest
- 1 more, 1 less
- 10 more, 10 less
- 100 more, 100 less

You will need:

- Activity sheet 1
- a counter or a small object to use as a counter, for example a coin
- coloured pencils or pens

What to do:

- Look at Activity sheet 1 with your child and explain that they need to find out where each child is going.
- Explain that Ruby counts in tens. Ask: “*What path does she take? What number does she count up to? Where does she get to?*”
- Encourage your child to use a counter to follow the path, choosing the moves by counting in tens: “10, 20, 30,” Agree that Ruby counts to 150 and goes to the shop.
- Repeat this for Millie, who counts in hundreds: “100, 200, 300,” Agree that she counts to 600 and goes to the restaurant.
- Now talk about the path taken by Jack, who chooses the greatest number of the adjacent numbers each time.
- For each move, make sure your child identifies all the numbers Jack might move to. For example, from 25 Jack could move to 7, 85 or 108.
- Ask your child to compare these numbers and explain which is the greatest.
 - Remind your child: “*If two numbers have the same number of hundreds, we compare the tens. If two numbers have the same number of hundreds and tens, we compare the ones.*”
- Agree that Jack takes the path through 7, 25, 108, 130, 140 and 170, and goes to the swimming pool.
- Explain that Jack then returns home by choosing the smallest number each time. Ask your child to use their counter to show this return journey.
- For each move, encourage your child to explain which of the numbers is the smallest.
- Agree that Jack returns home by taking the path through 170, 135, 120, 85, 25 and 7.
- Once you have identified all the paths, your child could mark them on the activity sheet, using a different colour for each one.

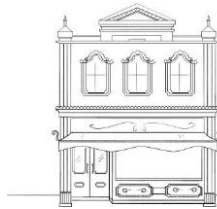
Talk about:

- Choose a number, up to 1000. Ask: “*What is the digit in the hundreds place? What is the digit in the tens place? What is the digit in the ones place?*”
- Ask your child to tell you a number greater than it and a number smaller than it.
- Together choose a starting number, up to 1000, and count on or back from it in ones, tens or hundreds.
- Say a number, up to 1000. Ask: “*What is 1 more? 1 less? What is 10 more? 10 less? What is 100 more? 100 less?*”
- If your child is confident with this, ask: “*What is 20 more? What is 300 more? What is 200 less?*”

Activity sheet 1

This activity sheet is for use with Y2 Home Activity 1

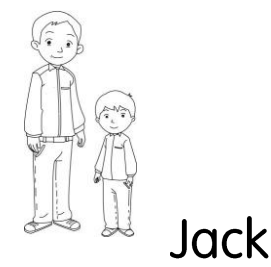
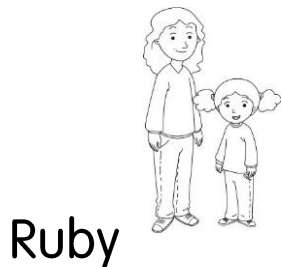
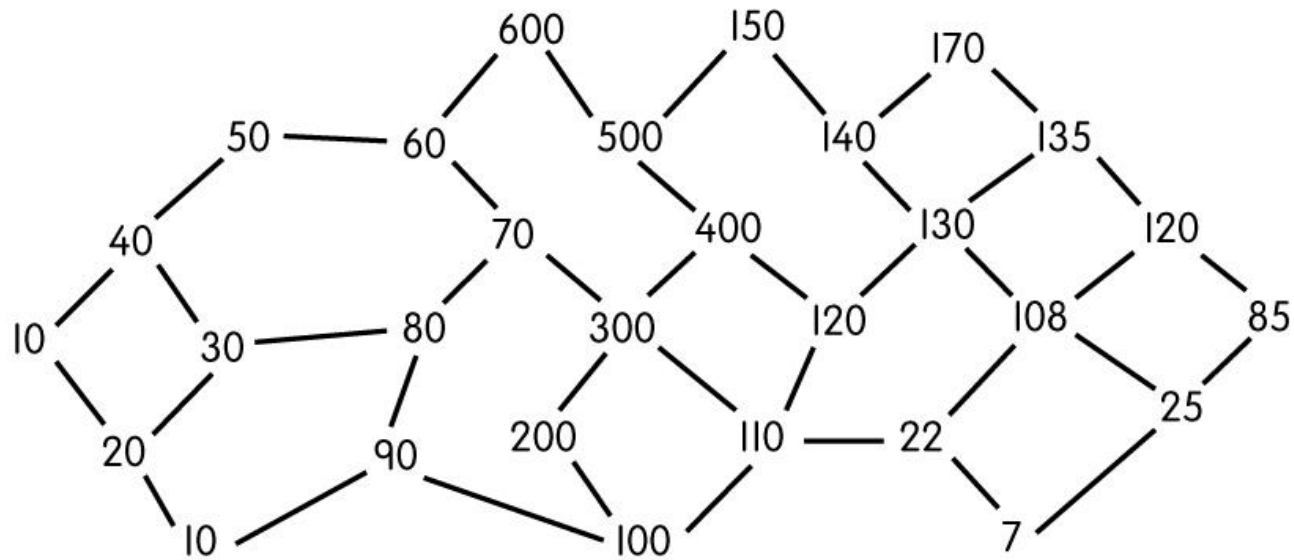
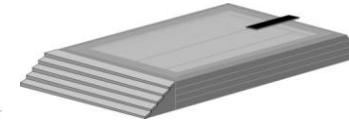
restaurant



shop



swimming pool



3 Modelling Addition and Subtraction Word Problems

This activity will help your child understand how models can be used to describe a problem, and to make the link between a word problem and the calculations needed to solve it.

Important words and phrases:

- model
- word problem
- bar diagram
- part, whole
- number sentence

You will need:

- Activity sheet 2

What to do:

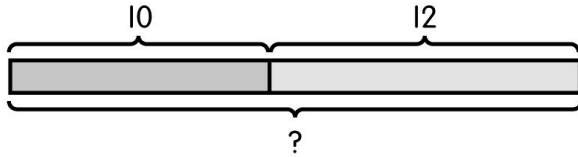
- Look at the first model on Activity sheet 2.
- Explain that together you are going to think of a word problem to go with the model.
- Ask: “*What additions could the model show?*” ($17 + 12 = 29$ or $12 + 17 = 29$)
- Ask: “*What subtraction could the model show? Is there another?*” ($29 - 17 = 12$ or $29 - 12 = 17$)
- Ask your child to choose one of these calculations. Together make up a word problem that this calculation can be used to solve.
- You can use the name and object next to each diagram as a context for your problem. For example, the problem to go with this first model could be about Millie and how many biscuits she has, or you can come up with your own ideas.
- Repeat this for other calculations, and for the other models on the activity sheet. Encourage your child to suggest and talk about different possibilities, ensuring they make up both addition and subtraction problems.

Talk about:

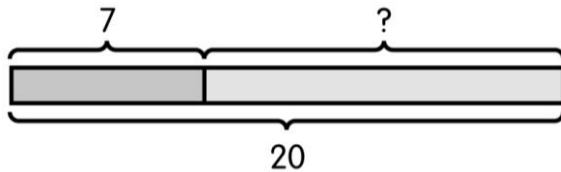
- Ask, for example: “*What’s 18 plus 13?*” ($18 + 13 = 31$)
- Now ask: “*What other number sentences can you make with 18, 13 and 31?*” ($13 + 18 = 31$, $31 - 18 = 13$, $31 - 13 = 18$).
- Together make up a word problem to go with each number sentence.

Look out for:

- The type of model your child is using is called a 'bar' diagram. Bars are used to represent numbers, creating a simple picture of the problem. They can be used to find a whole by adding two or more parts. For example, "Omar bakes 10 biscuits. Ruby bakes 12 biscuits. How many biscuits do they bake altogether?"



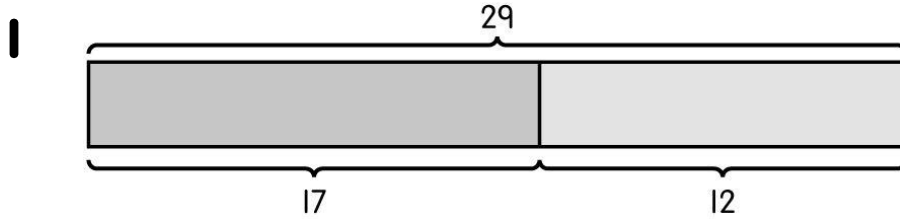
- They can also be used to find a part by subtracting from the whole. For example: "Hardeep buys large eggs and small eggs. Altogether he buys 20 eggs. There are 7 small eggs. How many large eggs are there?"



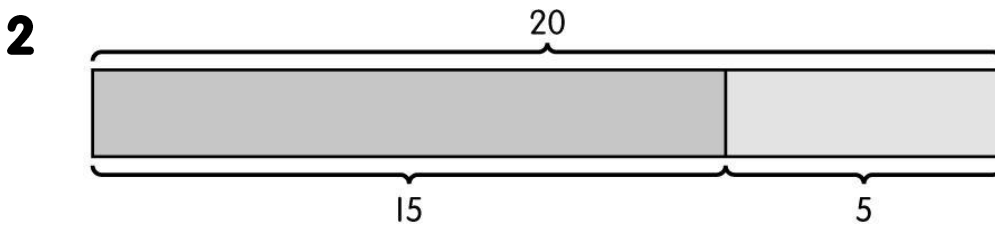
- This activity reverses the normal problem-solving process: instead of solving problems by creating models, you and your child will use models to write problems. This is a very powerful way of learning about mathematical modelling, and will help your child to develop their problem-solving skills.

Activity sheet 2

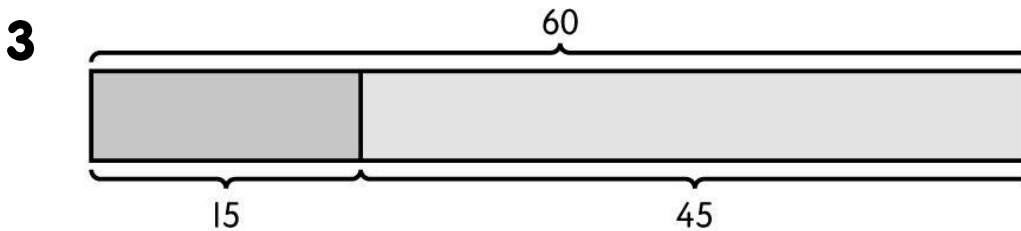
This activity sheet is for use with Y2 Home Activity 3



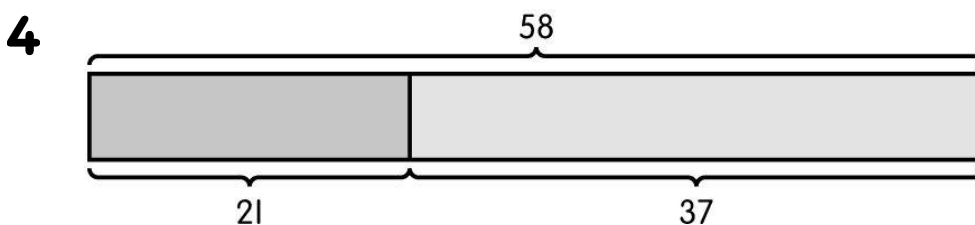
Millie, biscuits



Peter, coins



Ella, loaves of bread



Hardeep, strawberries

4 Multiplying and Dividing by Making Equal Groups

This activity will help your child to further develop their understanding of division, and to appreciate that some numbers can be divided in many ways.

Important words and phrases:

- equal groups
- division sentence
- ... divided by ... equals ...
- Divide ... objects into equal groups of ... objects.

You will need:

- at least 36 small objects, for example counters, blocks, buttons, straws, pasta shapes, dried beans

What to do:

- Make a group of all the 36 objects and ask your child to count them and then divide them into equal groups of 2 objects.
- Ask: “How many groups are there?” (18) “Are all the groups equal?” (Yes) “Are there any objects left over?” (No)
- Help your child to write down the number sentence to go with this division: $36 \div 2 = 18$. Read the division sentence together: “36 divided by 2 equals 18.”
- Group all the objects back together then ask your child to divide the 36 objects into equal groups again, but this time they can choose how many objects to put in each group.
- Again, ask: “How many groups are there? Are all the groups equal? How many objects are left over?”
- If your child chooses to make groups containing any number of objects other than 1, 2, 3, 4, 6, 9, 12, 18 or 36, there will be some objects left over.
- Ask your child to repeat this for other numbers of objects in each group, to explore which numbers 36 can be divided into without any objects being left over.
- After a few goes, encourage your child to be systematic. For example: they have found 36 divides into groups of 2, so try groups of 3, then 4, 5 and so on.
- Ask your child to write a division sentence for each of the numbers they find.
 - These are all the possibilities:

$36 \div 1 = 36$	(36 groups of 1)	$36 \div 2 = 18$	(18 groups of 2)
$36 \div 3 = 12$	(12 groups of 3)	$36 \div 4 = 9$	(9 groups of 4)
$36 \div 6 = 6$	(6 groups of 6)	$36 \div 9 = 4$	(4 groups of 9)
$36 \div 12 = 3$	(3 groups of 12)	$36 \div 18 = 2$	(2 groups of 18)
$36 \div 36 = 1$	(1 group of 36)		
- For more practice, you could ask your child to investigate other numbers, and find which can be divided in lots of ways, and which can't.

Talk about:

Use everyday opportunities to solve ‘grouping’ problems with your child. For example:

- “There are 16 people. Each car takes 4 people. How many cars do we need?” (4)
- “There are 18 pages in this book. I read 3 pages each day. How many days will I take to finish the book?” (6)
- “A florist has 24 roses altogether. They are sold in bunches of 6. How many bunches of roses are there?” (4)

5 Twos and Threes

This activity will help your child to practise counting in twos and threes ('skip-counting') and to learn two and three times tables facts.

Important words and phrases:

- multiplication
- skip-counting
- count in twos, count in threes
- How many groups of ... are there? How many ... are in each group?
- ... times ... equals ...

You will need:

- 15 pairs of socks

What to do:

- Spread 20 (unpaired) socks in front of your child (without telling them how many there are) and work together to put them into pairs. Count the pairs, one by one, as you go.
- Ask: "*How many groups of socks are there?*" (10) "*How many socks are in each group?*" (2)
- Say: "*How many socks are there altogether? Let's count in twos.*"
- Together 'skip-count' in twos. Encourage your child to use their fingers to count, raising each in turn, with each one representing a group of 2 socks: "2, 4, 6, 8, 10, 12, 14, 16, 18, 20."
- Encourage your child to say the multiplication sentence and to give the answer as a sentence: "*10 times 2 equals 20. There are 20 socks.*"
- Repeat this with 30 socks, making them into groups of 3 (imagine this is for aliens with 3 feet, who keep their socks in groups of 3).
- Ask: "*How many groups of socks are there?*" (10) "*How many socks are there in each group?*" (3)
- Say: "*How many socks are there altogether? Let's count in threes: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30.*"
- Encourage your child to say the multiplication sentence and to give the answer as a sentence: "*10 times 3 equals 30. There are 30 socks.*"
- Now spread, say, 8 socks in front of your child. First ask them to estimate how many socks there are altogether. Then ask them to check by putting the socks in groups of 2 and skip-counting in twos: "2, 4, 6, 8."
- As before, encourage them to say the multiplication sentence and to give the answer as a sentence: "*4 times 2 equals 8. There are 8 socks.*"
- Repeat this for other numbers of socks: either multiples of 2 up to 20 or multiples of 3 up to 30.
 - For multiples of 2, ask your child to make and count groups of 2 socks. For multiples of 3, ask them to make and count groups of 3 socks. (If you need to, you can make a quick adjustment to the number of socks as you go, so that it divides into equal groups with none left over.)

Talk about:

- Use everyday opportunities to count in twos with your child. For example:
 - count the number of people in a bus or train carriage where all the seats are full
 - count the number of shoes when they're arranged in pairs, the number of eggs in an egg box.
- Try to use everyday opportunities to count in threes with your child. Everyday opportunities are harder to find than for twos, but you might, for example:
 - count the number of items of cutlery where each place is set with (say) a knife, fork and spoon
 - count a group of items by putting them in groups of 3.

6 Fours and Fives

This activity will help your child to practise counting in fours and fives ('skip-counting') and to learn four and five times tables facts.

Important words and phrases:

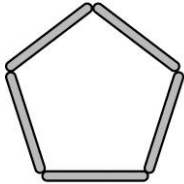
- multiplication
- skip-counting
- count in fours, count in fives
- How many groups of ... are there? How many ... are in each group?
- ... times ... equals ...

You will need:

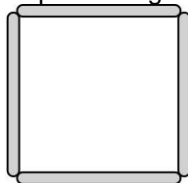
- craft sticks of equal length (or an equivalent, for example lolly sticks, straws, pipe cleaners)
- a large piece of paper
- glue (optional)
- paint (optional)

What to do:

- Ask your child to count out 5 sticks and to make a shape with 5 sides.



- Now give your child 10 sticks (without telling them how many there are). Ask them to make as many of the same shapes as they can.
- Ask: *"How many shapes are there?"* (2) *"How many sticks are in each shape?"* (5) *"How many sticks are there altogether? Count in fives."*
- Together 'skip-count' in fives. Encourage your child to use their fingers to count, raising each in turn, with each one representing another group of 5 sticks: "5, 10."
- Help your child to say the multiplication sentence and to give the answer as a sentence: "2 times 5 equals 10. There are 10 sticks."
- Now ask: *"How many sticks will you use if you make 4 of these shapes?"* Encourage your child to work this out without first making the shapes. Agree there are 4 groups of 5 or 4 times 5 sticks, altogether.
 - Your child may recall the multiplication fact $4 \times 5 = 20$ or use skip-counting to work out the answer, counting on four fingers: "5, 10, 15, 20."
- Ask your child to say the multiplication sentence and to give the answer as a sentence: "4 times 5 equals 20. There are 20 sticks." Ask your child to check their answer by making the 4 shapes and skip-counting in fives.



- Repeat this for other numbers of shapes, up to 10. Then repeat for a shape made with 4 sticks, for your child to practise four times table facts.
- Ask your child to use sticks to lay out a picture or pattern made with their 4- and 5-sided shapes on a large piece of paper. Your child may like to glue down the shapes and paint them.
- Once they have finished their picture, ask: *"How many sticks are there altogether in the shapes with 4 sticks? How many sticks are there altogether in the shapes with 5 sticks? How many sticks are there altogether?"*
- Encourage them to use their times tables knowledge to work out the answers, then check their answer together, by counting.

Talk about:

- If you display the stick art your child has made, use it to ask questions. For example: “*How many sticks would there be if you had 3 of these shapes and 6 of those shapes?*”
- Practise the four and five times tables with your child. Vary the language you use. For example, ask:
 - “*What’s 3 times 5?*”
 - “*What’s 4 multiplied by 6?*”
 - “*How many fours make 24?*”

7 Modelling Multiplication and Division

This activity will help your child practise solving word problems using models, this time for situations involving multiplication and division.

Important words and phrases:

- model
- word problem
- bar diagram
- multiplication, division
- equal groups
- sharing equally

You will need:

- Activity sheet 3

What to do:

- Together read question 1 on Activity sheet 3 and look at the model.
- Talk about the links between the problem and the model: the 5 rectangles represent 5 groups (jars) and each rectangle represents 3 items (insects).
- Help your child to write the multiplication sentence ($5 \times 3 = 15$) and complete the answer statement. Read it together: *“Ella puts 15 insects into the 5 jars.”*
- Now read question 2 and look at the model.
- Together link the problem with the model: each rectangle represents 4 items (stickers) and the total number of items is 32; the dotted lines show that we do not know the number of groups (pages).
- Help your child to write the division sentence ($32 \div 4 = 8$) and complete the answer statement. Read it together: *“Jack puts stickers on 8 pages altogether.”*
- Now read question 3 and look at the model.
- Encourage your child to explain how the model represents the problem in terms of groups and items: the 4 rectangles represent 4 groups (boxes) and there are 24 items (apples) altogether.
- Help your child to write the division sentence ($24 \div 4 = 6$) and complete the answer statement. Read it together: *“There are 6 apples in each box.”*

Talk about:

Use everyday opportunities to solve problems by multiplying or dividing. For example:

- *“There are 5 packets of rolls. There are 4 rolls in each packet. How many rolls are there in 5 packets altogether?”* ($5 \times 4 = 20$)
- *“I want to buy 16 rolls. How many packets should I buy?”* ($16 \div 4 = 4$)

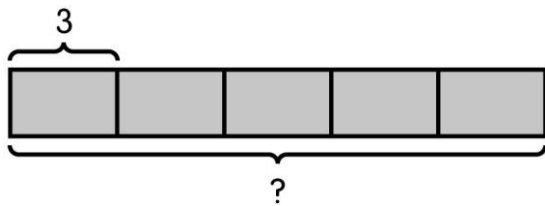
Encourage your child to answer with a sentence. For example:

- *“There are 20 rolls in 5 packets.”*
- *“You should buy 4 packets.”*

Activity sheet 3

This activity sheet is for use with Y2 Home Activity 7

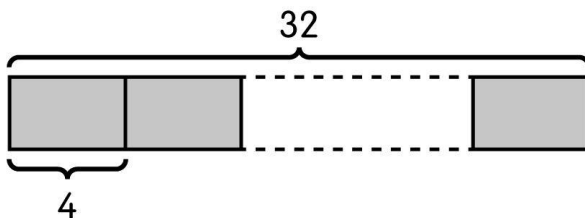
- 1** Ella puts 3 insects into each collecting jar.
She has 5 jars.
How many insects does Ella put into the 5 jars altogether?



_____ × _____ = _____

Ella puts _____ insects into the 5 jars.

- 2** Jack has 32 stickers. He puts 4 stickers on each page of a scrapbook. How many pages does Jack put stickers on altogether?



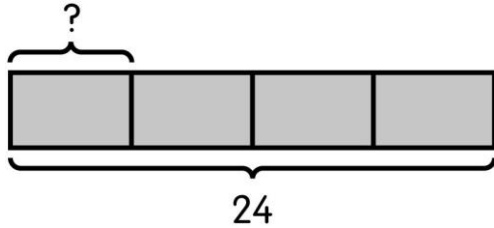
_____ ÷ _____ = _____

Jack puts stickers on _____ pages altogether.

3 Farha has 24 apples.

She puts an equal number of apples into 4 boxes.

How many apples are there in each box?



$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are apples in each box.

8 Ant Antics to Measure Length

This activity will help your child with their understanding of length and distance, and to practise working with measurements in metres.

Important words and phrases:

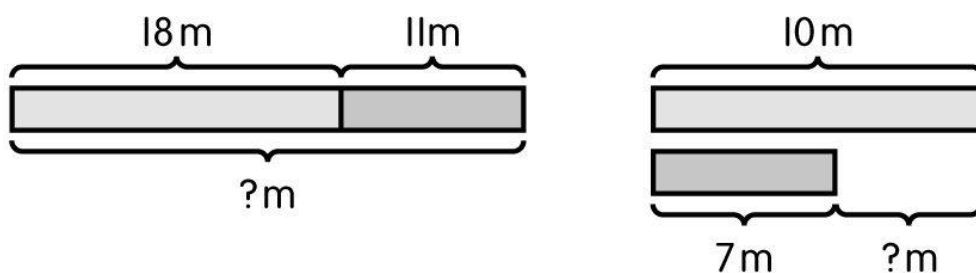
- metres
- length, distance
- curve, straight line
- long, longer, longest
- short, shorter, shortest
- nearer, further
- How far is it from ... to ...?

You will need:

- Activity sheet 4
- a pencil and rubber

What to do:

- Look at the map on Activity sheet 4 together. Your child can colour it in if they like.
- Talk about what it shows. Explain that the ants that live in the anthill only use the marked paths to get to the other places on the map.
- Ask some questions about the distances between the places on the map. For example: "How far is the anthill from the pond?" (10m). "How far is it from the pond to the field?" (7m)
- Ask: "What do you notice about the paths?" Encourage your child to recognise that all of the paths are shown as curves; none are straight lines.
- Talk about how this affects the distances the ants walk. Ask: "What would happen if the ants changed their paths so that they walked from one place to another in a straight line? Would their journeys be longer or shorter?"
- Now give your child some word problems that can be solved by adding or subtracting. For example: "An ant walks from the anthill to the trees and then to the flowers. How far does it walk altogether?" ($18 + 11 = 29$. The ant walks 29m altogether.) "How much further is it from the anthill to the pond than it is from the pond to the field?" ($10 - 7 = 3$. It is 3m further.)
- Work with your child to solve each problem. Encourage them to draw a bar diagram of the problem. For example:



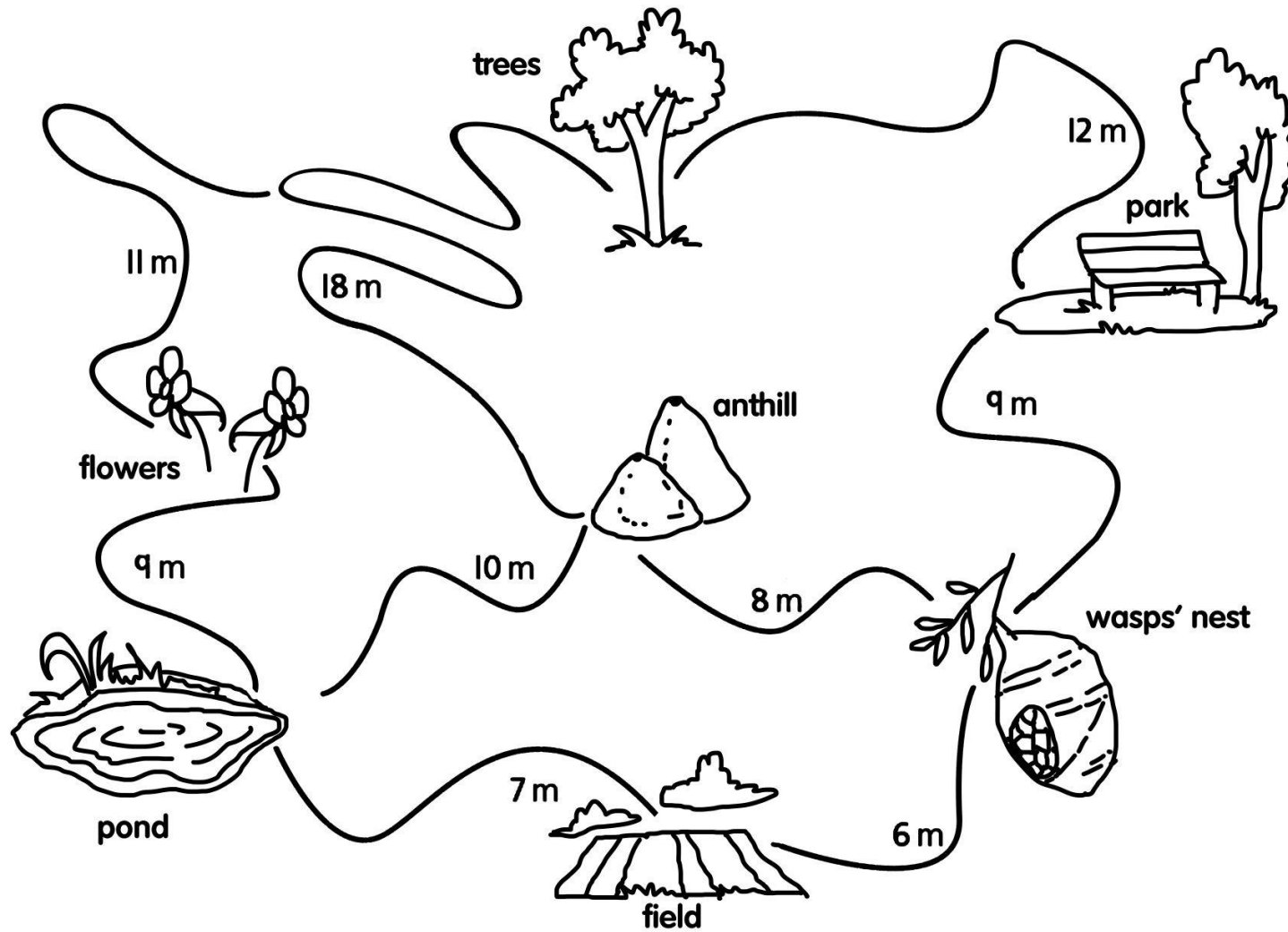
- Allow your child to add or subtract using their preferred method. (They might, for example, count, add mentally or write out the vertical calculation.)

Talk about:

- Your child has been learning how to measure in centimetres using a ruler, including how to measure a curve by matching string to its length, then straightening the string along the ruler.
- Work with them to measure things around the home. Ask: “*Can we measure this length with the ruler?*” Help them to decide whether the length is straight or curved, and whether they need to use string.
- Talk about what to do if the ruler is shorter than the length to be measured. If you have one, you could show them how to use a more suitable measuring instrument, such as a tape measure. If not, you could help them to use string.

Activity sheet 4

This activity sheet is for use with Y2 Home Activity 8



9 Measuring and Comparing Masses

This activity will help your child to practise estimating, measuring and comparing the masses of different objects.

Important words and phrases:

- mass
- weigh
- heavy, heavier, heaviest
- light, lighter, lightest
- grams
- estimate

You will need:

- a weighing scale that measures in grams (the type with a dial and pointer, if you have it)
- 6 or 7 objects that can be weighed on the scale, with a variety of masses less than 1kg (for example: a small bag of flour, a pencil, an apple, a bunch of grapes, a potato, a mug, a plate)
- Activity sheet 5

What to do:

- Look at the objects with your child. Encourage them to weigh the objects in their hands.
- Ask them to compare pairs of objects. For example: “Which do you think is heavier, the apple or the plate?”
- Now ask: “Which object do you think is the lightest? Which one do you think is the heaviest? Can you put all the objects in order, lightest to heaviest?”
- Support your child to work out an order (still just weighing the objects in their hands).
- Once the order is complete, look at Activity sheet 5 with your child.
- Write the names of the objects on the chart, in the same order. Then, for each object in turn, ask your child to weigh it in their hands again, estimate how heavy it is in grams, and write their estimate on the chart.
- Next ask them to weigh the object on the scale and write the actual mass in grams on the chart.
 - Help your child to read the measurement from the scale. If the pointer is between marks, guide them to use the nearest mark.
- Once the chart is complete, look at it with your child. Guide them to compare the actual masses of the objects and explain whether or not the order they worked out previously was correct. If not, ask them to rearrange the objects so they are in the correct order.
- Help your child use the correctly ordered objects and the masses they recorded in the chart to complete the sentences at the bottom of the activity sheet.
- Guide them to work out the subtraction needed to complete the final sentence. For example, if the heaviest object is 760g and the lightest object is 20g, the subtraction is $760 - 20 = 740$ and the final sentence is “The heaviest object is 740g heavier than the lightest object.”

Talk about:

- Do some cooking with your child, following a recipe that gives masses in grams or kilograms. Encourage your child to weigh out the ingredients accurately.

Look out for:

- In daily life, the word ‘weight’ is often used instead of the more strictly correct ‘mass’. While your child should be familiar with this everyday language, note that *Inspire Maths* only uses the word ‘mass’ – the verb ‘weigh’ is used, but only in talking about ‘weighing’ something to find its ‘mass’.

Activity sheet 5

This activity sheet is for use with Y2 Home Activity 9

Object	My estimate	Actual mass

The lightest object is the _____ .

It has a mass of _____ g.

The heaviest object is the _____ .

It has a mass of _____ g.

The heaviest object is _____ g heavier than the lightest object.

11 Money Bags

This activity will help your child with finding and comparing amounts of money in pounds and pence and recording the amount in pounds.

Important words and phrases:

- How much is there?
- ... pounds and ... pence
- First compare the pounds. Then compare the pence.

You will need:

- Activity sheet 6
- coins and notes (either play money or real)
- a pencil and rubber

What to do:

- Look at Activity sheet 6 with your child. Read the instructions together.
- Ask your child to complete the questions.
- You could help them by, for example, giving them coins and notes to count with and exchange, if they find this useful.
- If your child needs help to 'count on' to find the amounts in pounds and pence, for example, for the second box in question 1, say: "10, 11, 12 pounds. And 50, 100 pence, or 1 pound. That makes 12 pounds and 1 pound, which is 13 pounds altogether."
- When your child has completed the activity sheet, you could ask them to make all the amounts using as few coins and notes as possible (for example, 43p can be made with two 20p coins, one 2p coin and one 1p coin).
- They could also find total amounts, for example the total amount of money in each question (in both boxes), by making and combining the amounts, then exchanging coins and notes until they have the fewest possible, and counting the pounds and pence.

Talk about:

Use everyday opportunities to practise working out and comparing amounts of money with your child. For example, ask your child to:

- count how much money is in a purse, wallet or jar
- exchange the notes and coins from the purse, wallet or jar so that there are as few as possible, and check that the total is still the same
- compare this total with the cost of an item (you can make this up, for instance give the total cost of some groceries) and say whether there is enough to pay for it.

Look out for:

- Remind your child to write amounts in pounds with a dot separating the pence from the pounds.
- For each pair of amounts, encourage them to compare the pounds first, then (if they are the same) the pence.

Activity sheet 6

This activity sheet is for use with Y2 Home Activity 11

Write the amount in each space.

Then tick (✓) the box which has the greater amount.

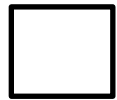
Example



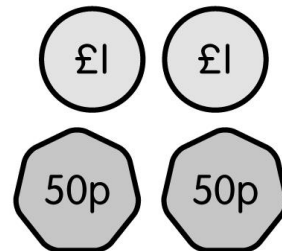
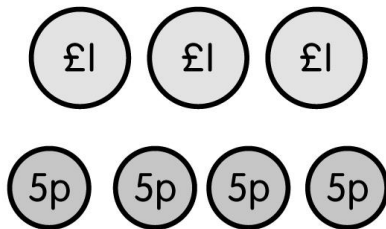
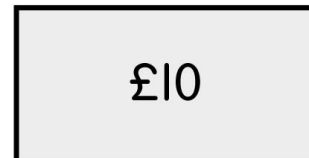
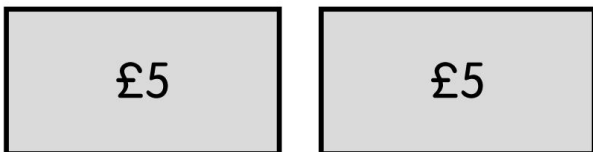
£0.07



£0.06



1



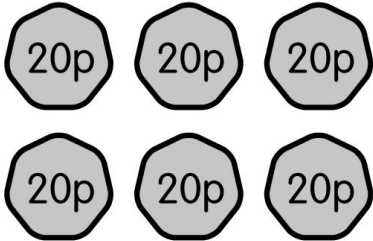
£ _____



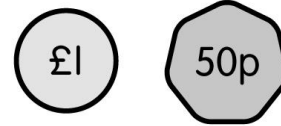
£ _____



2

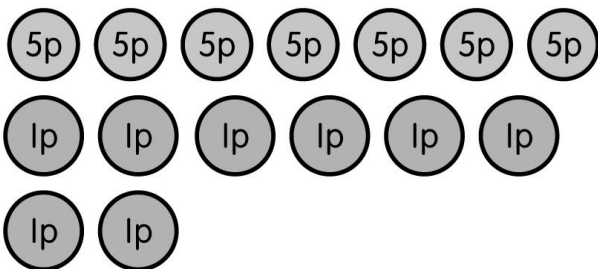


£ _____

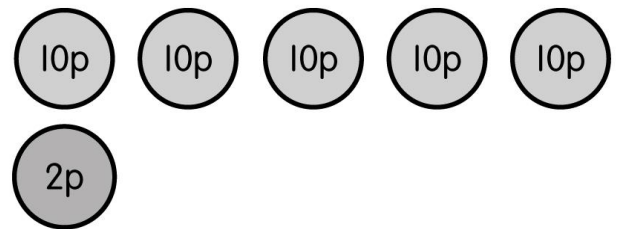


£ _____

3



£ _____



£ _____

12 Adding and Subtracting Like Fractions

This activity will help your child to make sure their understanding of fractions is secure, and to practise adding and subtracting 'like' fractions.

Important words and phrases:

- fraction
- like fractions
- part, whole
- equal parts
- half, halves, thirds, quarters, fifths, sixths, eighths, twelfths
- What fraction of the whole is coloured?
- bar diagram

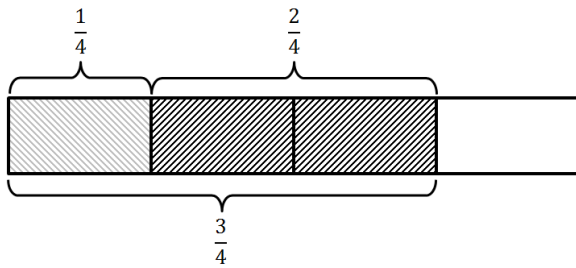
You will need:

- Activity sheet 7
- scissors
- a pencil and rubber
- colouring pencils or pens
- a few sheets of paper
- glue

What to do:

- Cut out the paper strips from Activity sheet 7.
- Give your child one of the strips. Ask: "Can you fold this to show one-half?" Emphasize that the parts the strip is folded into must be equal.
- Ask your child to draw a line along the fold, then colour the first part and label it as $\frac{1}{2}$.
- Repeat this with further strips to show one-third, one-quarter and one-sixth. Help your child to make accurate folds, in particular for thirds and sixths. To make quarters, they can fold the strip in half and then in half again. To make thirds, fold one edge so that it covers half of the remaining strip. To make sixths, they can fold the strip into thirds and then in half.
- Line up the strips one below the other, but out of order. Ask your child to put them in order, with the smallest fraction at the top. Agree that the order, smallest to greatest, is: $\frac{1}{6}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$.
- Now look again at the strip showing $\frac{1}{2}$. Ask: "How many halves is the whole strip divided into? (2) How many halves make 1 whole?" (2) "Can you use another strip to show 1 whole? How many folds do you need to make?" (None)
- Line up the 'whole' strip below the strip showing halves and ask your child to label it '1 whole'. Then repeat for the other strips, agreeing that $\frac{3}{3}$, $\frac{4}{4}$ and $\frac{6}{6}$ are all the same as 1 whole.
- Now look at the strip showing $\frac{1}{4}$. Ask your child to colour another $\frac{2}{4}$ (two-quarters) in a different colour.
- Ask: "How many parts of the whole are coloured altogether?" (3) "How many quarters are coloured altogether?" (3) "What fraction of the whole is coloured?" (Three-quarters)

- Glue the strip to a piece of paper. Work with your child to label the coloured parts of the strip to show a bar diagram, like this:



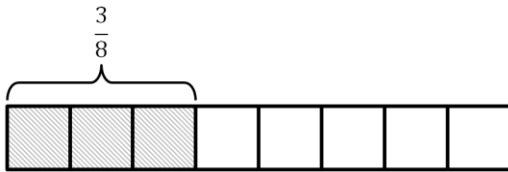
Talk about:

Use everyday opportunities to talk about fractions of a whole with your child. For example:

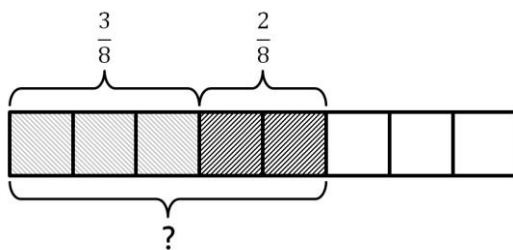
- Together cut a food item (for instance a pizza) into equal parts and identify what fractions have been made: cutting it into two equal parts makes halves, four equal parts quarters, eight equal parts eighths, and so on. Emphasize that the parts should be equal.
- As you eat the item, ask questions about the fractions. For example: “I have eaten two eighths and you have eaten one eighth. What fraction have we eaten altogether?” (three eighths). “What fraction is left?” (five eighths)

Look out for:

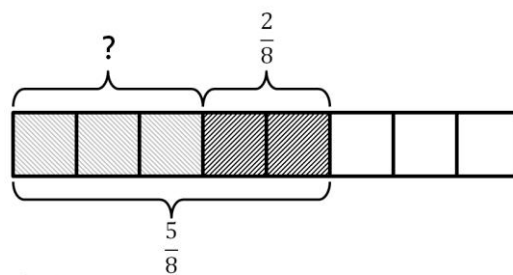
- When two or more fractions are the same type – for example they are all fifths, or all thirds – they are called ‘like’ fractions. When they are written with numbers, the number at the bottom is the same. So $\frac{1}{5}$ and $\frac{3}{5}$ are like fractions, as are $\frac{2}{3}$ and $\frac{1}{3}$, but $\frac{1}{5}$ and $\frac{1}{3}$ are not.
- Bar diagrams can be used to model fractions. To represent, for example, $\frac{3}{8}$, the bar is shown as 8 rectangles (all the same size) and 3 of them are coloured or shaded:



- Bar diagrams can also be used to model addition and subtraction of fractions. For example:



$$\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$$

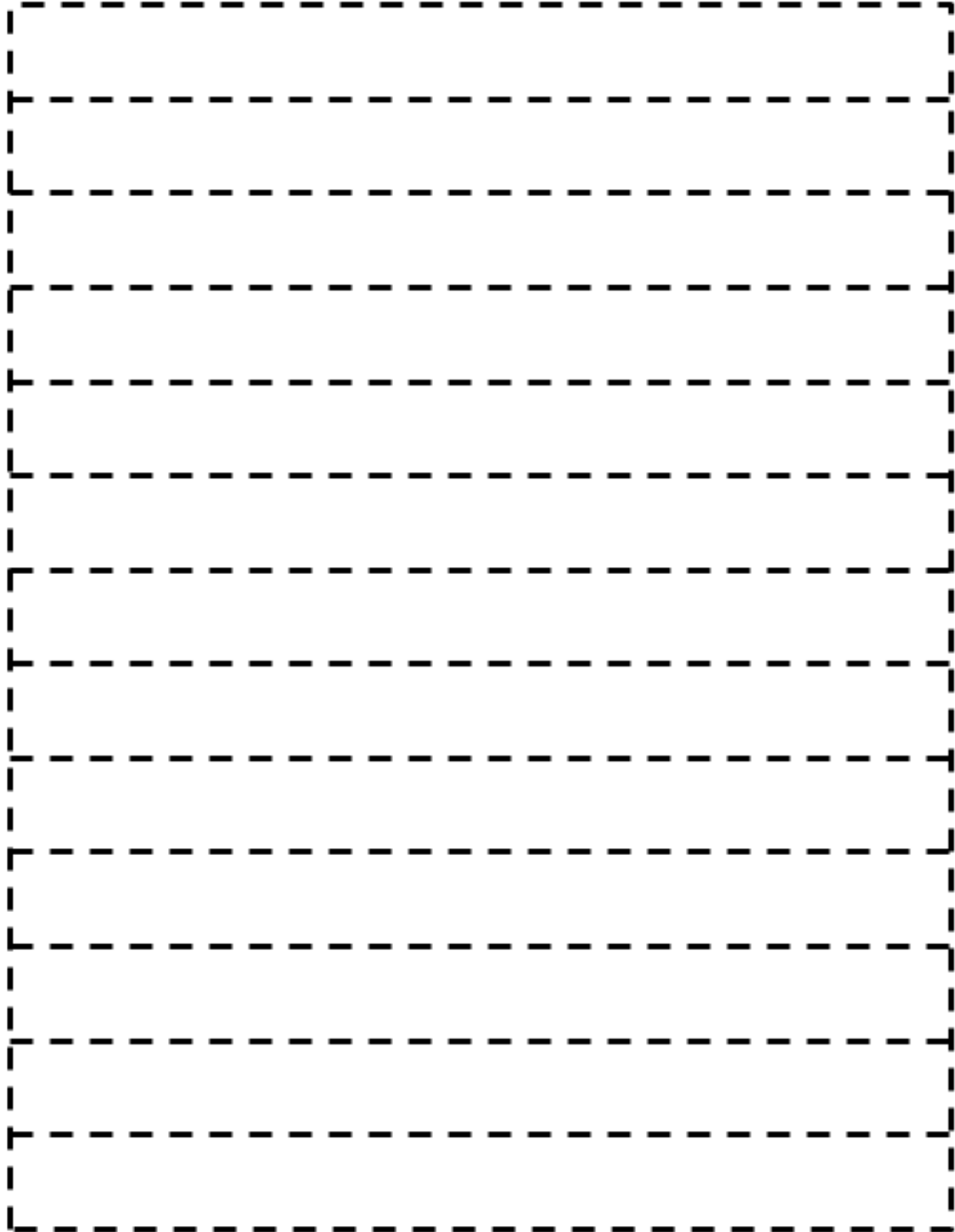


$$\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$$

- If your child needs help to order fractions, encourage them to compare the lengths of the fractions that they coloured in.

Activity sheet 7

This activity sheet is for use with Y2 Home Activity 12

A large rectangular area defined by a dashed black border. The interior of the rectangle is empty, providing space for a student to write or draw their work.

13 Finding the Time Taken

This activity will help your child to understand the idea of duration, using a clock face to practise finding time taken – either 1 hour or half an hour – from start and end times.

Important words and phrases:

- (for example) eight twenty
- How much time does ... take?
- How long does ... last?
- before, after
- later, earlier
- 30 minutes, half an hour

You will need:

- Activity sheet 8
- (if available) a clock with hour and minute hands
- a pencil and rubber

What to do:

- Read through the TV guide on Activity sheet 8 together. Show the times on a clock face as you read them. Use a clock with hour and minute hands if you have one.
- Help your child to read the times in hours and minutes, for example to read '4:30' as: "Four thirty."
- Ask questions about the times and lengths of different programmes. For example: "What channel is The Car Show on? What time does it start? What time does it finish? How long does it last? How do you know? What is on the other channel at the time The Car Show begins? How do you know?"
- Support your child to work out the answers. Guide them to recognise that the time at which a programme ends is the same as the start time of the next programme.
 - They can use the clock face to help. For example, to find out how long a programme is they can show the time it starts and count in fives as they move the minute hand (or visualize it moving) to the finish time: "5, 10, 15, ... , 50, 55, 1 hour."
- Ask your child to use the guide to plan what they would watch. Set a time limit, for example one and a half hours. Support them to work out a viewing schedule.
- Talk about their options and the decisions they will need to make. Explain that they can't watch programmes that are on at the same time.
- Ask: "Which programmes would you like to watch? How long does each one last?" Check that the programmes don't clash.
- Work out the length of each of the programmes chosen and then the total, to check that it is within the time limit. You can use the clock face to help, for example counting on each duration in turn.

Talk about:

- Ask questions about time taken. For example:
 - "A swimming lesson starts at 10:00 and ends at 10:30. How long does it take?"
 - "Ella leaves home at 8:00. It takes her half an hour to walk to school. What time does she get there?"
 - "Hardeep is late. He arrives at 11:30. He should have arrived an hour earlier. What time should he have arrived?"
 - For each question, ask your child whether it is more likely that the time will be a.m. or p.m.
- Use everyday opportunities to talk about lengths of time with your child. For example:
 - Ask your child how long they think one session of an activity they do regularly lasts. Talk about how they could check.
 - Read and talk about schedules and timetables you see when you are out and about, for example shops' opening hours, bus and train times.

Activity sheet 8

This activity sheet is for use with Y2 Home Activity 13

Channel 1	Channel 2
<p>4:00 p.m. Mannie the Mouse Puppet show adventures</p>	<p>3:30 p.m. Anna Finds Out About ... Science show. Anna finds out about electricity</p>
<p>4:30 p.m. The Car Show All about cars</p>	<p>4:00 p.m. News</p>
<p>5:00 p.m. News and weather</p>	<p>5:30 p.m. Clever Clogs Children's quiz</p>
<p>6:00 p.m. Flying Flippers Cartoon stories from the deep sea</p>	<p>6:00 p.m. On the Farm Lambing time</p>
<p>6:30 p.m. A Day's Work A day with a chef</p>	<p>7:00 p.m. A Tiger's Tale Life in a wildlife park</p>

14 Volume of Water for Weekend Washing

This activity will help your child practise using language about volume and become familiar with using litres as a unit of volume.

Important words and phrases:

- volume
- litres
- How much ... altogether?
- most, least

You will need:

- Activity sheet 9
- a pencil and rubber

What to do:

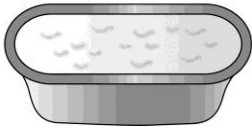
- Read through Activity sheet 9 with your child.
- Talk about the information it gives. Ask questions such as: *“Which uses the least water, a bath, a short shower or a long shower? Which uses the most? Who has the most showers and baths? Who doesn’t have a shower? Who doesn’t have a bath? Who do you think uses the most water? Who do you think uses the least water?”*
- Ask your child to answer questions 1 and 2.
- If they need some help, encourage them to draw a bar diagram of each problem.
- Guide them to recognise that they can find the answer to question 2 by adding together the answers from question 1.
- Help them to add the answers, for example by counting on in hundreds and tens. For example: *“80 plus 110. That’s 80, 180, 190. 190 plus 140. That’s 190, 290, 300, 310, 320, 330.”*
- Check that the answer is that the family uses 600ℓ of water for washing in a weekend.
- Talk about the answers with your child. Ask, for example: *“Who uses the most water?”* (Omar’s brother) *“How much does he use?”* (180ℓ) *“Who uses the least water?”* (Omar) *“How much does he use?”* (80ℓ) *“How much less water does Omar use than his brother?”* (100ℓ)

Talk about:

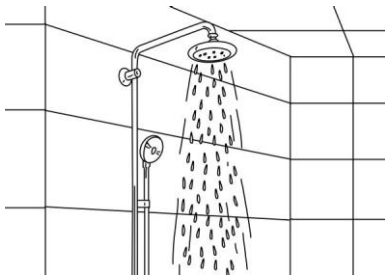
- Together estimate how much water is used for washing in your own home in a weekend. You can use the volumes for baths and showers from the activity sheet or make your own estimates.
- You could expand this to the total volume of water used in your home in a weekend. Identify all the different uses – washing, flushing the toilet, drinking, cooking, cleaning, and so on – and make an estimate for each, then find a total.
- You could also talk with your child about what the family could do to use less water.
- Use everyday opportunities to talk about and calculate volumes in litres. For example, when you are out shopping, ask:
 - *“What volume of lemonade is in that bottle?”*
 - *“How many litres are there in 3 bottles?”*
 - *“How many bottles would I need to buy if I wanted 6 litres?”*

Activity sheet 9

This activity sheet is for use with Y2 Home Activity 14



A bath uses 80ℓ of water.



A short shower uses 30ℓ of water.

A long shower uses 60ℓ of water.

- I** How much water does each person in Omar's family use for washing in a weekend?
- a** Omar has a bath on Sunday.
Omar uses _____ ℓ of water.
- b** Omar's dad has a bath on Saturday and a short shower on Sunday.
Omar's dad uses _____ ℓ of water.

- c** Omar's mum has a long shower on Saturday and a bath on Sunday.

Omar's mum uses _____ ℓ of water.

- d** Omar's brother has a long shower on Saturday morning and another on Saturday evening. He also has a long shower on Sunday.

Omar's brother uses _____ ℓ of water.

- e** Omar's sister has a short shower on Saturday, and two short showers on Sunday.

Omar's sister uses _____ ℓ of water.

- 2** How much water does Omar's whole family use for washing in a weekend?

Omar's family uses _____ ℓ of water for washing in a weekend.

15 Reading a Picture Graph

This activity will help your child practise reading picture graphs.

Important words and phrases:

- picture graph
- stands for

You will need:

- Activity sheet 10
- colouring pencils or pens

What to do:

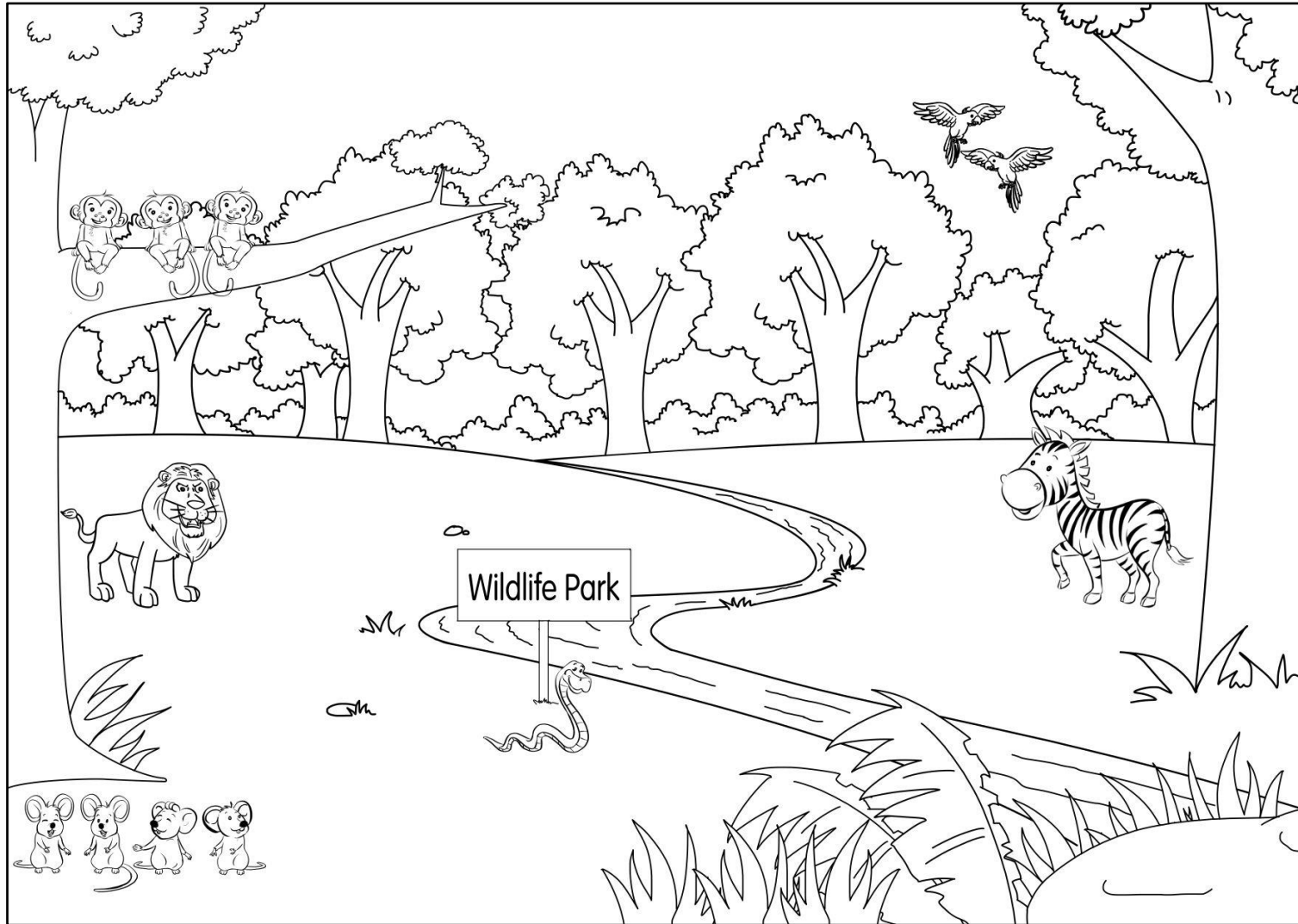
- Look at the picture on the Activity sheet 10 together.
- Ask: “*What can you see? What animals can you see? What plants can you see?*”
- Now look at the picture graph together.
- Ask: “*How many animals does each symbol stand for?*” (2)
- Explain that the graph shows the number of each type of animal in the wildlife park.
- Ask your child to work out from the graph the number of mice in the park.
- If they need some help with this, prompt them to multiply the number of symbols by 2. Say, for example: “*There are 3 symbols. 1 symbol stands for 2 mice, so 2 symbols stand for 4 mice, and 3 symbols stand for ...?*”
- Ask your child to compare the number of mice in the picture. Agree that all the mice in the park (4) are shown in the picture.
- Repeat this for snakes. Agree that the graph says that there are 2 snakes in the park but the picture only shows 1 snake. Invite your child to draw another snake so that the picture matches the graph.
- Repeat this for the remaining animals.
- Your child should add to the picture:
 - 6 more parrots to make 8 altogether
 - 1 more zebra to make 2 altogether
 - 3 more lions to make 4 altogether
 - 3 more monkeys to make 6 altogether.
- Your child can also colour in the whole scene if they like.

Talk about:

- Once the picture on the activity sheet is completed, talk about what else is in it, apart from the animals. Ask, for example: “*How many trees can you see? How many bushes? How many flowers?*” Work with your child to draw a picture graph to show the number of the different types of plants in the scene.
- Use everyday opportunities to talk with your child about what they could draw picture graphs of. They may also enjoy drawing some of these. For example:
 - the types of clothes, books or toys they have
 - the number of knives, forks and spoons in the cutlery drawer
 - what to pack for a trip away from home.

Activity sheet 10

This activity sheet is for use with Y2 Home Activity 15



Types of animals in the wildlife park

◆ ◆	◆	◆ ◆ ◆ ◆	◆	◆ ◆	◆ ◆ ◆
Mouse	Snake	Parrot	Zebra	Lion	Monkey
Each ◆ stands for 2 animals.					

16 Straight Lines and Curves

This activity will help your child to practise using a ruler and pencil to draw straight lines.

Important words and phrases:

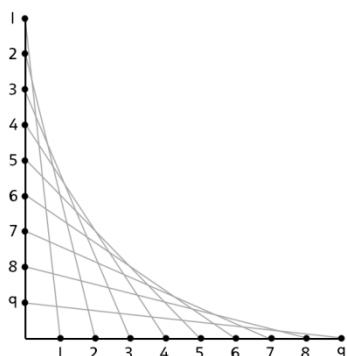
- straight line
- curve

You will need:

- Activity sheet 11
- a ruler
- a pencil and rubber
- a piece of card, for example from a cereal or washing powder box (optional)
- a piece of string, thread or wool at least 2 metres long (optional)
- scissors (optional)

What to do:

- Look at Activity sheet 11 and read the instruction together.
- Help your child to use a ruler and pencil to draw a straight line between the two dots that are numbered '1', then another to join the two dots numbered '2', and so on, until all nine pairs of dots have been joined with straight lines.



- Talk with your child about the pattern they have made.
- Ask: “*What have you drawn? What does it look like? What shapes can you see?*”
- You might describe the pattern as looking a bit like a fishing net, for example.
- Your child might also notice that the pattern forms what looks like a curve. Talk about this with them, encouraging them to recognise that it is actually made up of lots of short, straight lines.
- You can extend the activity by working with your child to make the pattern with string, thread or wool.
- Draw the two straight lines from the activity sheet on a piece of card and mark evenly spaced dots along each line. Number the dots as on the activity sheet and make a hole at each one.
- Tie a knot in one end of a long piece of string then help your child to thread the string through the hole numbered '1' at the top left, so that the knot is at the back of the card.
- Ask: “*Which hole should we push the string through next?*” Help your child to thread the string through the other hole numbered '1', then around the back of the card to the hole numbered '2' at top left, and so on, until the pattern is complete. Then ‘tie off’ the string at the back of the piece of card, and cut off any extra.
- Agree the pattern on the front of the card is the same as the one on the activity sheet.
- Turn the card over. Ask: “*What can you say about the pattern on the back?*” (It is similar to the pattern on the front, but is made by joining numbers that are one less or one more than each other: 2 to 1, 3 to 2 and so on. The ‘curve’ it creates is slightly different than the one on the front, though this is difficult to see.)

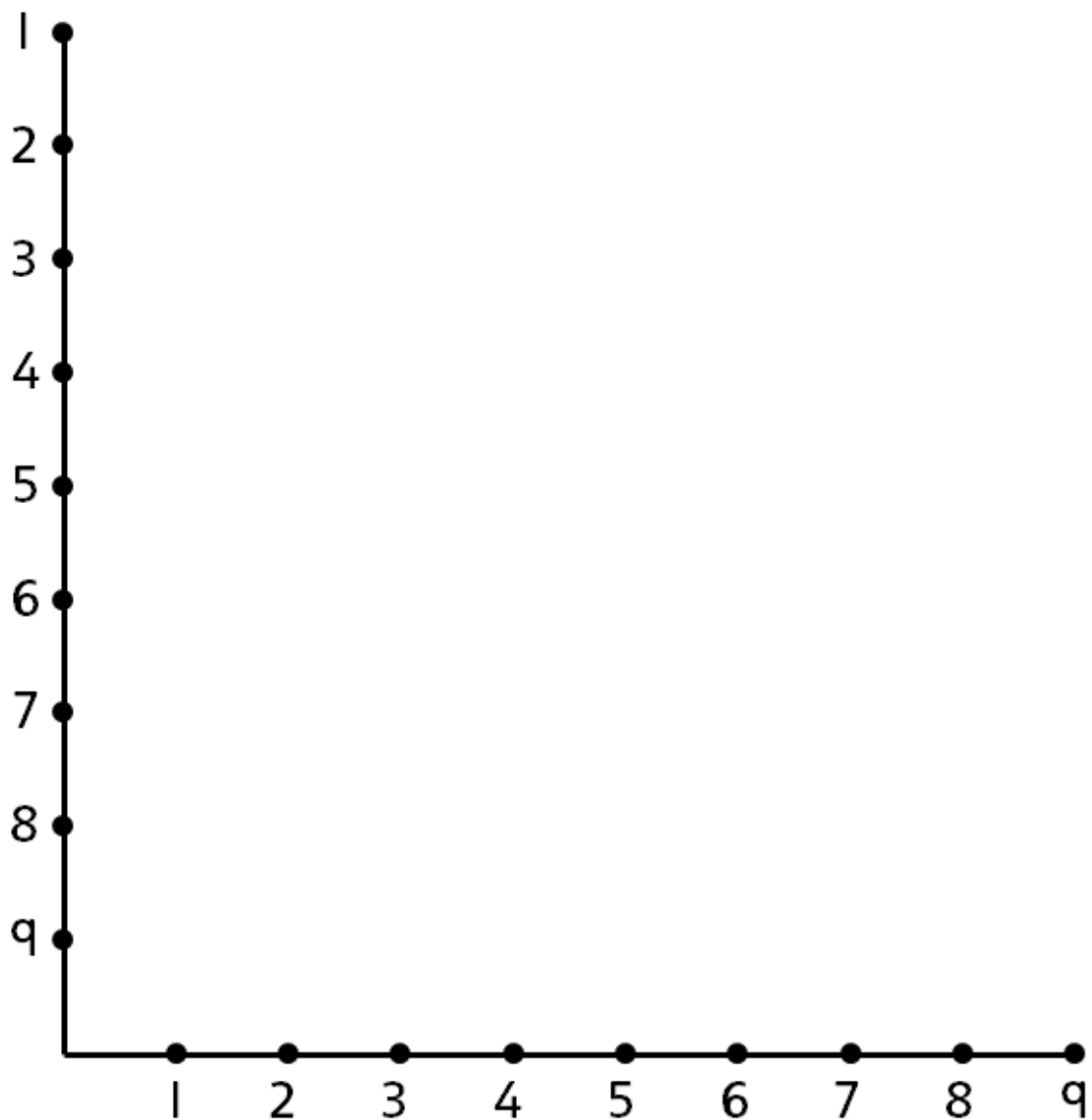
Talk about:

- Use everyday opportunities to spot shapes made with curves, straight lines or both, for example in pictures.
- You could also spot 'flat surfaces' on objects, which your child has also been learning about.

Activity sheet II

This activity sheet is for use with Y2 Home Activity 16

Draw a straight line to join each pair of dots that have the same number.



17 Shape Pictures

This activity will help your child to practise identifying shapes: triangles, squares, rectangles, circles, semicircles and quarter circles.

Important words and phrases:

- triangle, square, rectangle
- circle, semicircle, quarter circle
- How many different shapes do you see? What are they?

You will need:

- Activity sheet 12
- scissors
- glue
- colouring pencils or pens (optional)

What to do:

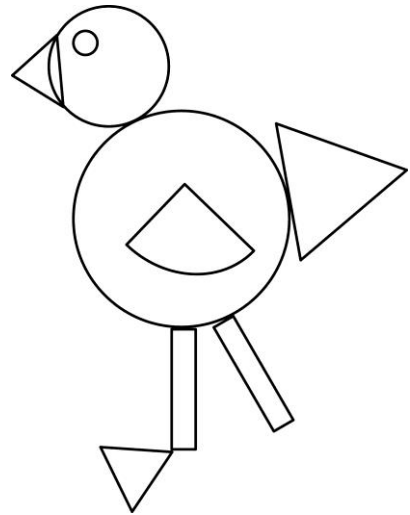
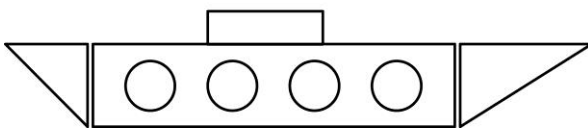
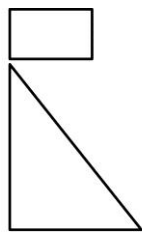
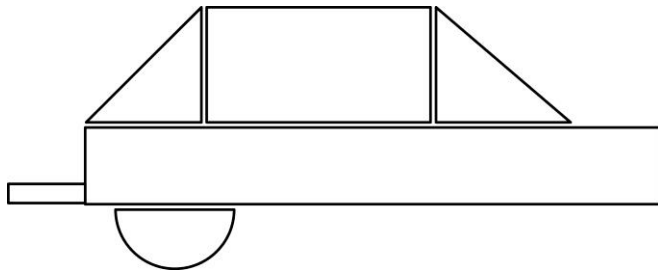
- Read question 1 on Activity sheet 12 with your child.
- Talk about what each picture shows (a car, a boat and a bird).
- Look at the car together. Ask: *“How many different shapes do you see? What are they?”* (There are 6 shapes altogether: 2 triangles, 3 rectangles and 1 semicircle.)
- Repeat this for the boat and bird pictures. (The boat has 10 shapes altogether: 3 triangles, 3 rectangles and 4 circles. The bird has 9 shapes altogether: 3 triangles, 2 rectangles, 3 circles and 1 quarter circle.)
- Your child may have noticed that something is missing from each picture. Read question 2 with them. Ask:
 - *“What’s missing from the car?”* (A wheel) *“What shape should it be?”* (A semicircle)
 - *“What’s missing from the boat?”* (The mast) *“What shape should it be?”* (A rectangle)
 - *“What’s missing from the bird?”* (A foot) *“What shape should it be?”* (A triangle)
- Help your child to cut out the shapes and glue them in place.
- Once the pictures are complete, your child can colour them in.

Talk about:

- Use everyday opportunities to spot shapes your child is familiar with in pictures, including triangles, squares, rectangles, circles, semicircles and quarter circles.
- Your child has also been learning about solid (or ‘3D’) shapes: cubes, cuboids, cones and cylinders. Use opportunities to spot these shapes in objects around you, for example most cereal boxes are cuboids, some party hats are cones, some tissue boxes are cubes, most tin cans are cylinders.

Activity sheet I2

This activity sheet is for use with Y2 Home Activity 17



- 1** The pictures above are made up of different shapes.
Name the shapes that make up each picture.
- 2** What is missing from each picture?
Cut out the shapes and stick them in the right places.

