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

# INSPIRE MATHS

## **Year 1 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 Counting and Comparing Numbers to 10

*This activity will help your child with counting and comparing numbers to 10.*

### Important words and phrases:

- count
- one, two, three, four, five, six, seven, eight, nine, ten
- more
- fewer
- 1 more
- 1 less
- greater
- smaller
- What number comes next?

### You will need:

- 10 green counters and 10 red counters; or similar objects e.g. ten 5p coins and ten 1p coins

### What to do:

- Put 10 counters of the same colour in front of your child. Ask: *“How many counters are there?”*
- Encourage your child to count carefully to 10, pointing and saying a number once for each counter. You can help your child by putting the counters in a row and counting along.
- Repeat this activity with different numbers of counters (up to 10).
- Now show two separate groups of up to 10 counters, for example 6 green counters and 10 red counters. Ask: *“How many green counters are there? How many red counters are there?”*
- Repeat this activity with different numbers of counters (up to 10 in each group).
- Ask your child some questions that involve comparing the numbers of objects: *“Are there more green counters or more red counters? Are there fewer green counters or fewer red counters?”*
- Now show your child a group of less than 10 counters. Agree with them how many there are.
- Add 1 counter to the group. Say: *“There is 1 more counter. How many counters are there now?”*
- Repeat this, adding or taking away 1 counter each time.

### Talk about:

Use everyday opportunities to practise counting and comparing numbers to 10. For example:

- Count up to or down from numbers to 10 when doing up buttons or putting away toys.
- Practise counting and finding 1 more or 1 less at mealtimes: *“If I eat 1 raspberry, I will have 1 less raspberry. How many raspberries will I have?”*
- Count and compare items of shopping: *“There are 5 apples and 8 bananas. Are there more apples or more bananas? Which number is greater, 5 or 8?”*

### Look out for:

- Encourage your child to answer your questions in full sentences. For example, if you ask: *“How many counters are there?”* encourage your child to answer using the format *“There are 10 counters.”*

## 2 Number Bonds to 10

*This activity will help your child with recalling the number bonds for numbers up to 10.*

### Important words and phrases:

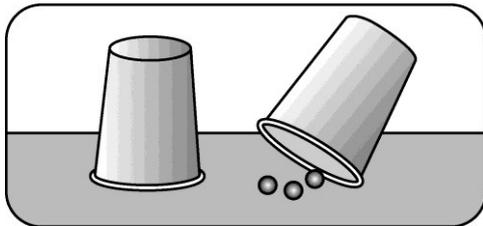
- count
- zero, one, two, three, four, five, six, seven, eight, nine, ten
- number bond
- How many are there?
- ... and ... make ... (for example 4 and 6 make 10)

### You will need:

- a group of 10 identical (or almost identical) objects, for example beads, marbles or buttons
- 3 cups

### What to do:

- Show your child a group of identical objects, for example 5 beads. Ask your child to count them.
- Put, for example, 3 of the beads under one cup, and the rest under another cup.
- Lift the first cup to let your child 'peek' and count the 3 beads.



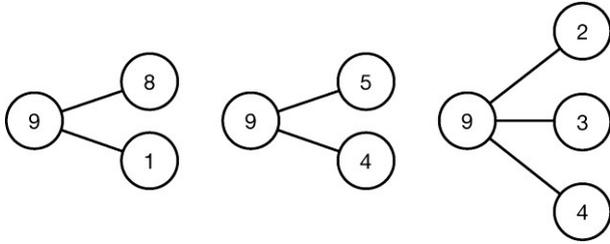
- Without letting your child see underneath the other cup, ask: *“How many beads can you count? How many beads are hidden under the other cup? How many beads are there altogether?”*
- Lift the other cup and ask your child to check that their answer is correct.
- Repeat this several times with the same total number of beads, but splitting them up differently between the two cups. For example, put 1 bead under one cup and 4 beads under the other, then 0 beads under one cup and 5 beads under the other. Repeat this activity with other total numbers of objects, for example 7 beads, 3 beads, and so on, up to a maximum of 10.
- If your child is confident, try using three cups, letting your child peek and count under two cups.

### Talk about:

- Use everyday opportunities to practise number bonds to 10 with your child. For example:
  - Count the number of chairs around a table or people at a bus stop, then ask your child to think of some number bonds. For example, if there are 6 chairs around the table, encourage them to say a number bond of 6 (*“4 and 2 make 6,”*) or a number bond including 6 (*“6 and 2 make 8.”*)
  - Give your child a number up to 10 and ask them to find as many of its number bonds as they can. For example, ask: *“How many ways can you make 8?”*
  - Can your child put the number bonds in order? For example: *“0 and 8, 1 and 7, 2 and 6, 3 and 5, 4 and 4,”* and so on. Did you manage to find all of them?

## Look out for:

- Encourage your child to answer your questions in full sentences. For example, if you ask “How many beads are there altogether?” encourage your child to answer using the format “There are 5 beads altogether.”
- ‘Number bonds’ are where two or more numbers add up to make another number. For example, these are some number bonds of 9:



## 3 Addition within 10

*This activity will help your child to practise adding with answers up to 10.*

### Important words and phrases:

- one, two, three, four, five, six, seven, eight, nine, ten
- altogether
- add
- count on
- number bond
- plus
- equals

### You will need:

- scissors
- Activity sheet 1

### What to do:

- Cut out the picture cards from Activity sheet 1.
- Spread the cards face-down in front of your child. Turn over up to 10 of them at random, quite quickly and without counting aloud.
- Encourage your child to place the cards in two groups: ladybirds and butterflies.
- Ask: *“How many ladybirds are there? How many butterflies are there? How many insects are there altogether?”*
- Repeat the activity, taking turns to choose cards.
- If you want to vary the activity, you can change how the groups are made. Turn over more than 10 cards (the answers will still be within 10) and ask, for example:
  - *“How many ladybirds have spots? How many butterflies have spots? How many insects with spots are there altogether?”*
  - *“How many ladybirds are on a leaf? How many butterflies are on a leaf? How many insects on leaves are there altogether?”*

### Talk about:

Make up some addition word problems involving answers up to 10 for your child to solve.

For example:

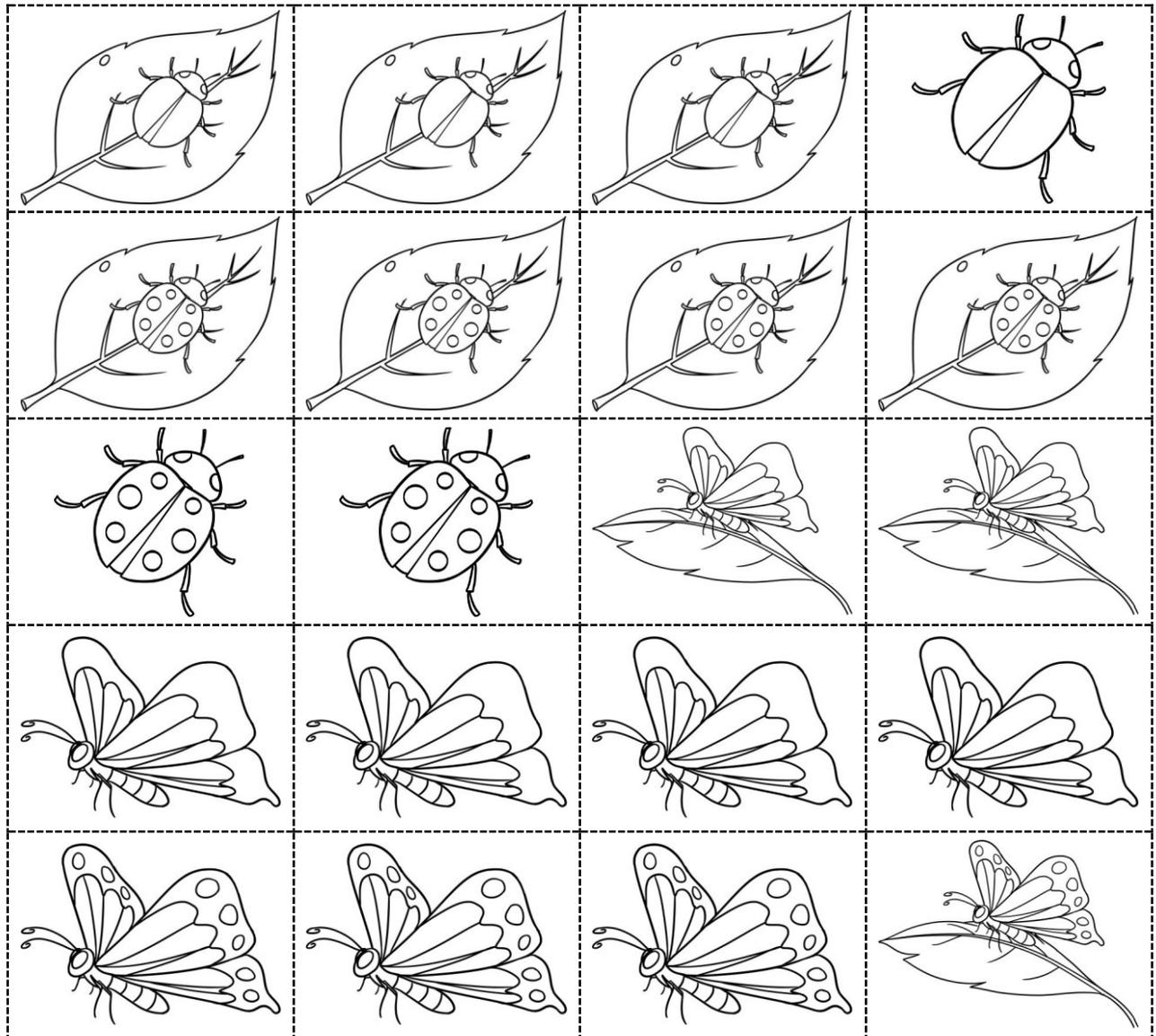
- *“There are 4 rabbits in a field. 3 rabbits hop into the field. How many rabbits are in the field altogether?” (7)*
- *“There are 8 people on a bus. 2 people get on the bus. How many people are on the bus altogether?” (10)*

### Look out for:

- Your child may add by:
  - ‘counting on’ from the greater number, for example, if there are 2 ladybirds and 6 butterflies, starting from 6, count on 2 steps: *“6, 7, 8.”*
  - recalling the number bond, for example: *“2 and 6 make 8.”*
- Encourage your child to answer your questions in full sentences.

# Activity sheet 1

This activity sheet is for use with Y1 Home Activities 3 and 4



## 4 Subtraction within 10

*This activity will help your child to practise subtracting from numbers up to 10.*

### Important words and phrases:

- one, two, three, four, five, six, seven, eight, nine, ten
- subtract
- take away
- count on
- count back
- number bond
- minus
- equals

### You will need:

- scissors
- Activity sheet 1

### What to do:

- Cut out the picture cards from Activity sheet 1 (or re-use the ones you cut out previously).
- Spread the cards face-down in front of your child. Ask your child to choose a number between 1 and 10 and then turn over that number of cards.
- Ask: *“How many insects are there altogether? How many are butterflies?”*
- Encourage your child to answer using full sentences, for example: *“There are 7 insects altogether. 3 are butterflies.”*
- Now ask: *“How many ladybirds are there?”* Encourage your child to work out the answer by subtracting rather than counting the ladybirds, for example *“7 minus 3 equals 4.”* Repeat the activity using other starting numbers of cards.
- If you want to vary the activity, you can change how the groups are made. Turn over more than 10 cards (the starting number will still be 10 or less) and ask, for example:
  - *“How many insects with spots are there altogether? How many ladybirds with spots are there? So how many butterflies with spots are there?”*
  - *“How many insects are on a leaf? How many butterflies on leaves are there? So how many ladybirds on leaves are there?”*

### Talk about:

Make up some subtraction word problems involving numbers up to 10 for your child to solve. For example:

- *“There are 4 rabbits in a field. 2 rabbits hop out of the field. How many rabbits are left?”* (2)
- *“There are 8 people on a double-decker bus. 2 people are on the upper deck. How many people are on the lower deck?”* (6)

### Look out for:

- Your child may subtract by:
  - ‘taking away’ – removing the butterfly cards and looking at how many cards are left
  - ‘counting on’ – counting on from the smaller number to the larger number and working out how many steps they count. For example, counting on from 3 to 7 (3, 4, 5, 6, 7) means counting on 4 steps, so the answer is 4.

- 'counting back' – counting back from the greater number by the smaller number of steps.  
For example, counting back 3 steps from 7 (7, 6, 5, 4) gives the answer 4
- recalling the number bond, for example: "3 and 4 make 7."
- Encourage your child to answer the questions in full sentences.

## 5 Getting to Know Shapes

*This activity will help your child learn more about circles, triangles, squares and rectangles.*

### Important words and phrases:

- square
- rectangle
- triangle
- circle
- big
- small

### You will need:

- old magazines, newspapers or catalogues
- paper
- scissors
- glue

### What to do:

- Look through some old magazines or newspapers with your child. Ask them to look for examples of circles, triangles, squares and rectangles. These might appear in the design of the pages (for example, a section of text inside a rectangular box) or as objects or parts of objects in pictures.
- Encourage your child to explain how they know which shape is which. Guide them to talk about the number of sides each shape has.
- Work with your child to choose and cut out some of these shapes. Make sure you have a variety of examples of each shape, and a variety of sizes. Ask your child to group the shapes by type.
- Encourage your child to use the cut-out shapes to make a collage picture.
- As they work, talk to them about what they are doing. Encourage them to use the names of the shapes and to describe them. For example, you could ask: *“Do you need any more shapes?”* Ask them to answer as precisely as they can, for example they might talk about *“a big circle,”* or *“3 small triangles.”*
- Ask your child to describe their collage to someone else.

### Talk about:

- Challenge your child to spot shapes in things around you in the home, in the garden or when you are out and about. For example, you might ask:
  - *“Look at that car. What shapes can you see?”*
  - *“Can you see any circles? Where?”*

### Look out for:

- Ensure that your child can identify the difference between a square and a rectangle. If they are not confident with the difference, you could explain that a square has 4 sides that are equal, and a rectangle has 4 sides that are not equal.
- Encourage your child to rotate or turn the shapes, and remind them that the properties of the shape remain the same, for example 4 equal sides.

## 6 Ordinal Numbers

*This activity will help your child to become more familiar with ways of describing position, including 'first', 'second', 'third' and so on (these are called 'ordinal' numbers), as well as 'before', 'after' and 'between'.*

### Important words and phrases:

- ordinal numbers: 1st (first), 2nd (second), 3rd (third), 4th (fourth), 5th (fifth), 6th (sixth), last
- before
- after
- between ... and ...

### You will need:

- Activity sheet 2
- colouring pencils or pens
- scissors
- glue or sticky tape
- a dice

### What to do:

- With your child, colour the snails on Activity sheet 2 so that each snail is a different colour. Cut out the snails and the race track.
- Choose up to 3 snails each (depending on the number of people playing) to roll the dice for and 'race' as your own.
- Place the snails on the start line.
- Roll the dice for each snail in turn. Count the number of spots on the dice and move the snail the same number of squares on the track.
- After one turn when all the snails have moved, talk about their positions in the race. Encourage your child to answer using ordinal numbers to describe their positions. For example, ask: *"Which snail is 1st? Which snail is last? Which snail is just before/just after the blue snail? Which two snails is the red snail between?"*
- Continue playing and discussing the race until all the snails have reached the finish line.
- You could encourage your child to arrange the snails in the order they finish, and talk about their final positions in the race.

### Talk about:

- After you have finished playing the game, your child can make a snail race picture by colouring in the track and sticking on the snails. Ask questions about their picture, encouraging them to describe the snails' positions. For example: *"What colour is the 3rd snail? Where is the yellow snail? Which snail is between the green snail and the red snail?"*
- When you are out and about, point out queues and lines, for example people at a bus stop or in a shop, or cars at traffic lights, and encourage your child to talk about positions.

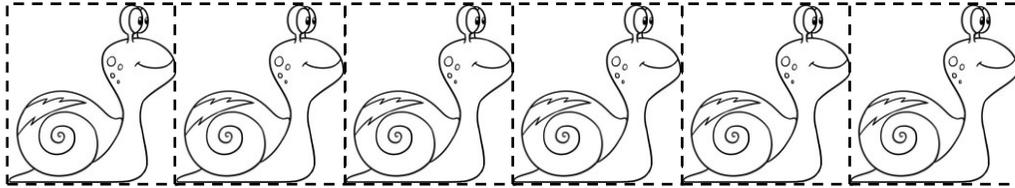
### Look out for:

- Ensure that when your child is describing positions, they use both ordinal numbers as listed in the important words and phrases section, and descriptions of items in relation to each other using words such as 'before', 'after' and 'between'.

## Activity sheet 2

*This activity sheet is for use with Y1 Home Activity 6*

Colour in the snails, then race them on the track!



<b>START</b>										
										<b>FINISH</b>

## 7 Counting and Comparing Numbers to 20

*This activity will help your child with counting and comparing numbers to 20.*

### Important words and phrases:

- eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty
- How many are there altogether?
- make 10
- count on from 10
- 1 more
- 1 less
- 1 fewer
- greater/greatest
- smaller/smallest
- ... and ... make ... (for example 10 and 7 make 17)

### You will need:

- Between 20 and 40 identical (or almost identical) small objects for your child to count, for example counters, beads, marbles, blocks, buttons, pasta shapes, dried beans, straws.

### What to do:

- Give your child a group of between 10 and 20 objects, for example 17 pasta shapes.
- Ask your child to 'make 10' by putting 10 of the objects in a separate group.
- Now ask them to count how many objects there are altogether by counting on from the group of 10. For example: *10, 11, 12, 13, 14, 15, 16, 17*. Ask your child to complete the sentence "*... and ... make ...,*" for example "*10 and 7 make 17.*"
- Repeat this with different numbers of objects (between 10 and 20 each time).
- When your child is working confidently, take 1 object away from or add 1 object to the smaller group.
- Ask: "*There is 1 fewer/1 more pasta shape. How many pasta shapes are there now?*"
- Encourage your child to check their answer by counting on from 10 again.
- Repeat this, adding or taking away 1 object each time. Now show two separate groups of between 10 and 20 objects. For example, a group of 18 pasta shapes and a group of 20 pasta shapes.
- Ask your child to find out how many objects are in each group by making 10 and counting on from 10. Ask: "*Which number is greater/smaller? How much greater/smaller?*"

### Talk about:

- Practise reading numbers to 20 that you see around you, for example page numbers in books.
- Ask your child to read a number to 20, and then to tell you what number comes next or what number comes before it.
- Ask your child: "*Which is smaller/greater, 12 or 16?*" Then ask: "*How much smaller/greater?*" Repeat this for other pairs of numbers.

### Look out for:

- Encourage your child to answer your questions in full sentences.

## 8 Adding and Subtracting within 20

This activity will help your child practise adding and subtracting with numbers from 1 to 20.

This involves using the important idea of 'place value', or what each digit in a number is worth, to split numbers between 10 and 20 into 'tens' and 'ones'. These ideas will help them when it comes to working with bigger numbers.

### Important words and phrases:

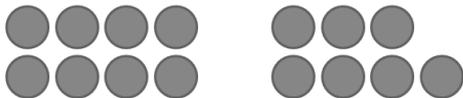
- eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty
- tens
- ones
- add
- subtract
- regroup
- What is ... plus ... ?
- What is ... minus ... ?
- ... plus ... equals ...
- ... minus ... equals ...

### You will need:

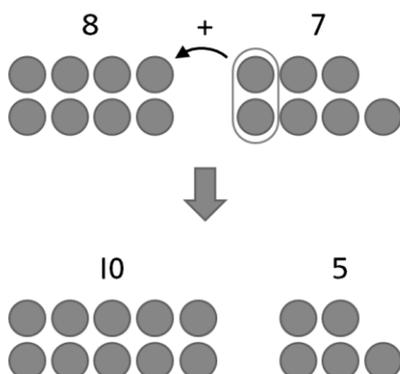
- 20 identical (or almost identical) small objects, for example counters, beads, marbles, blocks, buttons, coins of the same value, pasta shapes, dried beans, straws.

### What to do:

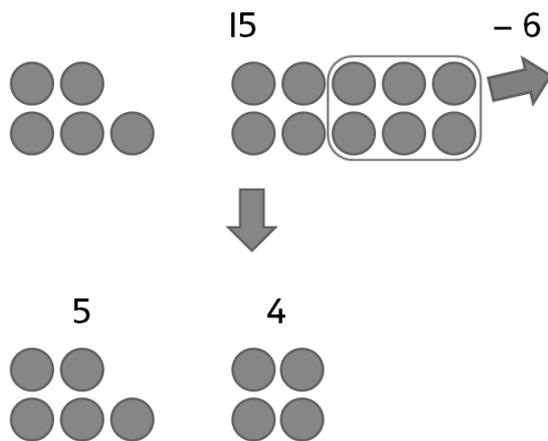
- Ask your child to think of a number between 1 and 10, for example 8, and to count out that number of objects into a group.
- Tell them that it's your turn to think of a number. Say a number that when added to the first will give an answer between 10 and 20, for example 7. Ask your child to count out that number of objects into a group.



- Now ask your child to add the two numbers. For example, ask: "What is 8 plus 7?"
- Write the adding sentence together (without the answer),  $8 + 7 =$ .
- Encourage your child to work out the answer by regrouping the objects into 'tens' and 'ones'. Regrouping is done by making a group of 10 objects (the 'tens'), then adding the objects that are left over (the 'ones').



- Repeat the activity with other pairs of numbers with answers up to 20.
- Each time, encourage your child to regroup the numbers into tens and ones. If one of the numbers is greater than 10, this will involve 'splitting' that number into tens and ones.
- Now say a number between 10 and 20, for example 15. Ask your child to show this number with objects as 'tens' and 'ones'. For 15, this means making a group of 10 objects and a separate group of 5 objects.
- Next, ask your child to think of a number between 1 and 10. They might say 6, for example.
- Ask your child to subtract the smaller number from the larger number: "What is 15 minus 6?"
- Where the answer is less than 10, point out that we cannot subtract the ones from each other. Say, for example: "We cannot subtract 6 from 5."
- Guide your child to subtract the 6 from the group of 10, then to group the objects that are left: "10 minus 6 equals 4. 4 and 5 make 9."



- Repeat with other pairs of numbers (subtracting from a number between 10 and 20 each time).

## Talk about:

Make up some addition and subtraction word problems involving numbers up to 20 for your child to solve. For example:

- "There are 5 people on a bus. 6 people get on the bus. How many people are on the bus altogether?" (11)
- "There are 14 people on a bus. 8 people get off the bus. How many people are left on the bus?" (6)
- "How old are you? How old will you be in 7 years' time?"

## 9 Length

*This activity will help your child to practise using language about length and to compare the lengths of different objects.*

### Important words and phrases:

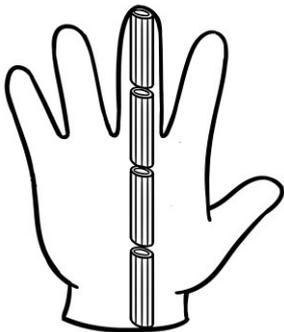
- measure
- compare
- long, longer, longest
- short, shorter, shortest
- tall, taller, tallest
- high, higher, highest

### You will need:

- pasta shapes of a near-identical size, or similar objects such as paper clips
- paper
- pencil

### What to do:

- Spread your hand flat on a piece of paper and ask your child to carefully trace round it with a pencil.
- Ask your child to trace round their own hand on another piece of paper. You may need to help.
- Look at the two hand shapes. Ask:
  - *“Whose hand is bigger? Whose is smaller?”*
  - *“Who has the shortest fingers? Who has the longest fingers?”*
  - *“Which of your fingers is the longest? Which is the shortest?”*
- Ask your child to measure the longest finger on their hand outline by laying pasta shapes end to end along its length and counting them. Guide them to line up the shapes as accurately as they can, avoiding gaps or overlaps.



- Ask: *“How long is your longest finger? About how many pasta shapes do you need?”*
- Encourage your child to answer with a sentence: *“My longest finger is about ... pasta shapes long.”*
- Repeat this for the same finger on the outline of your hand.
- Ask: *“Whose finger is longer? Whose finger is shorter?”*
- Repeat this activity for each of the fingers on your child’s hand.
- Ask: *“What if you had used different pasta shapes to measure the length of the fingers? Would it have made a difference to the numbers you talked about?”*
- Ask: *“You used pasta shapes to measure a finger on your hand. Could you use your hand to measure how long your arm is?”*

## Talk about:

- Measure and compare other objects from around the home, for example the lengths of shoes, the heights of soft toys or action figures.
- Use everyday opportunities to encourage your child to describe and compare lengths, using language such as: *long, longer, longest; short, shorter, shortest; tall, taller, tallest; high, higher, highest*. For example: “*The tree is taller than the lamp post.*”

## Look out for:

- At this stage your child is measuring length using familiar, identical (or near-identical) objects – in this activity they use pasta shapes. These ‘non-standard’ units help your child to understand the idea of measurement and units of measurement, before they move on to more abstract, ‘standard’ units of length, such as centimetres and metres.

## 10 Mass

*This activity will help your child to become familiar with the idea of mass and to practise measuring and comparing the masses of different objects.*

### Important words and phrases:

- mass
- weigh
- heavy, heavier, heaviest
- light, lighter, lightest
- as heavy/light as
- balance, pan balance

### You will need:

- a variety of objects including, if possible, some that are small but quite heavy and some that are large but quite light, for example a tin of beans and a beach ball, a book and a (blown-up) balloon, a jug of water and a larger, empty box
- Activity sheet 3

### What to do:

- Begin by asking your child to hold an object. Encourage them to describe its mass. If they need help, ask: *“Would you say it is heavy or light?”*
- Now ask them to hold two objects at the same time if possible. Ask: *“Which is heavier? Which is lighter?”*
- Repeat for other pairs of objects. If possible, include some pairs of objects where one is small but quite heavy and the other is large but quite light, for example a tin of beans and a beach ball, a book and a (blown-up) balloon. Encourage your child to recognise that the size of an object doesn't necessarily tell us anything about its mass.
- If your child is confident, you could give them 3 objects (or more) and ask them to decide which is lightest and which is heaviest.
- Look at Activity sheet 3 with your child. Read the first line together. Agree that the mass of 1 marble is 1 unit.
- Look at the three pictures together. Ask:
  - *“What can you say about the mass of the objects in each picture? How do you know?”* (The mass in the two pans is the same. The pans are balanced.)
  - *“Do the apple, the glass and the tin can all have the same mass? How do you know?”* (No. Each one is balanced by a different number of marbles.)
  - *“How many marbles balance the apple? What can we say about its mass?”* (4. The mass of the apple is 4 units.)
  - *“What would happen if we put one more marble in the pan balancing the apple?”* (The marbles would be heavier than the apple. The pans would move so that the marbles were lower than the apple.)
  - *“What would happen if we took one of the marbles away?”* (The marbles would be lighter than the apple. The pans would move so that the marbles were higher than the apple.)
- Work through the activity sheet, reading and completing the questions with your child. Encourage them to explain their answers, and to talk about the masses of the objects in terms of numbers of units.
- Ask your child: *“What if paper clips were used to measure the mass of the objects, instead of marbles? Would it have made a difference to the numbers you wrote down?”*

## Talk about:

- Explore with your child how you might estimate mass in units. For example you might simply hold a paper plate in either hand, with an object on one plate and some identical items on the other plate, and adjust the number of items until you feel 'balanced'. Alternatively, you could try making your own pan balance, for example with a coat hanger, string and 2 tubs.
- Use everyday opportunities to encourage your child to describe and compare masses, using words such as: *light, lighter, lightest; heavy, heavier, heaviest*.

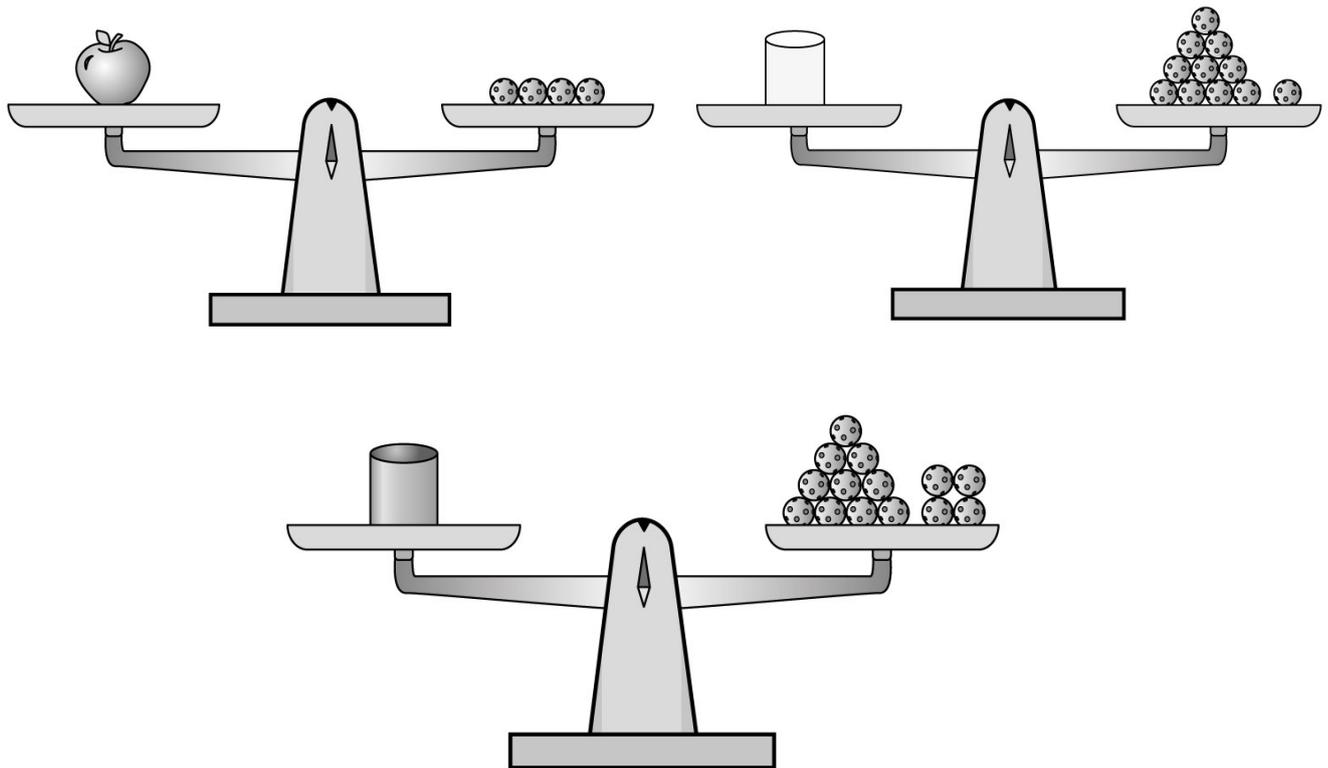
## Look out for:

- At this stage your child is measuring masses by comparing them directly, using a pan balance and familiar objects (such as marbles). This direct comparison and use of 'non-standard' units helps your child to understand the concept of mass before they move on to using weighing scales and more abstract, 'standard' units of mass, such as grams and kilograms.
- 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 3

This activity sheet is for use with Y1 Home Activity 10

 stands for 1 unit.



**a** What is the mass of the apple? \_\_\_\_\_ units

**b** What is the mass of the glass?

\_\_\_\_\_ units

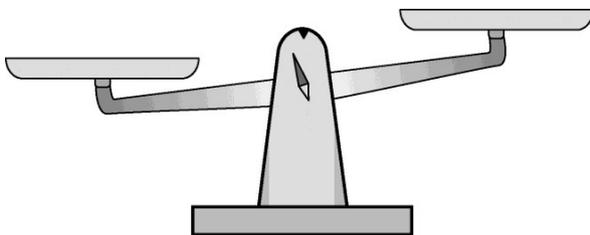
**c** What is the mass of the tin can?

\_\_\_\_\_ units

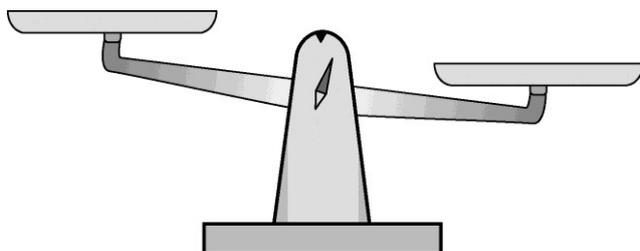
**d** Which is the heaviest? \_\_\_\_\_

**e** Which is the lightest? \_\_\_\_\_

**f** Draw the apple and the tin can.



**g** Draw the apple and the glass.



## 11 Counting and Recording on Picture Graphs

*This activity will help your child to practise using picture graphs to record and read data.*

### Important words and phrases:

- picture graph
- How many ... are there?
- How many more/fewer ... than ... are there?
- more, most
- fewer, fewest
- same/equal number

### You will need:

- colouring pencils, pens or crayons
- Activity sheet 4
- large container
- identical small toys or small household items in a mixture of colours, for example construction blocks, beads, clothes pegs, elastic bands.

### What to do:

- Look at the picture graph on Activity sheet 4 with your child. Explain that it shows the cars that passed Millie's house in a 10 minute interval. Read the colour names and ask your child to colour the cars on the picture graph to match.
- Talk about how Millie has used a shape to show each car.
- Ask your child a few questions about car colours:
  - (About a familiar car) *"What colour is our car / ...'s car?"*
  - *"What is your favourite colour for a car?"*
  - *"What car colours do you see the most? Are there car colours you hardly ever see?"*
- Ask your child questions about the data in the picture graph:
  - *"How many red cars passed Millie's house? How many blue cars?"* (red: 6; blue: 1)
  - *"What colour of car passed Millie's house most often? What colour passed least often?"* (red; blue)
  - *"2 colours of cars passed Millie's house the same number of times. Which colours?"* (black and grey)
  - *"How many fewer white cars than black cars were there?"* (1)
  - *"How many more red cars than grey cars were there?"* (3)
  - *"How many different colours of car passed Millie's house?"* (5)
- Next, take a handful or 2 handfuls from a container holding a mixture of colours of a toy or household item (for example construction blocks, beads, clothes pegs, elastic bands). Ask your child to sort the objects by colour and arrange them on the table to make a graph showing how many there are of each colour.
- Ask your child questions about the data their graph shows (use questions like those above, about the picture graph on the activity sheet).

## Talk about:

When you are out and about, encourage your child to notice the colours of cars.

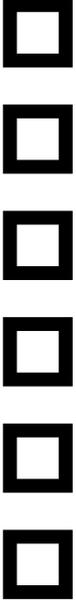
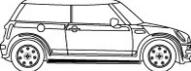
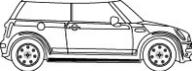
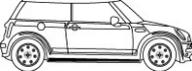
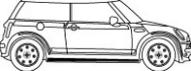
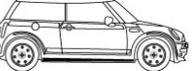
- Ask: *“Which do you think is the most popular car colour? How could we find out?”*
- Choose a colour of car each and together count the number that passes during a particular interval of time. For example (during a journey or part of a journey), *“Whose colour appeared most often?”*

## Look out for:

- Encourage your child to answer your questions in full sentences. For example, if you ask: *“How many fewer white cars than black cars were there?”*, encourage your child to answer using the format *“There was 1 fewer white car than black cars.”*

## Activity sheet 4

This activity sheet is for use with Y1 Home Activity 11

				
 Red car	 Black car	 White car	 Grey car	 Blue car
Each  stands for 1 car.				

## 14 Multiplication

*This activity will help your child understand the idea of multiplication.*

### Important words and phrases:

- There are ... groups. Each group has ... .
- ... twos equal ...
- twos, threes, fours, fives, sixes, sevens, eights, nines
- ... groups of ... equals ...
- ... times ... equals ...
- multiplication sentence
- times

### You will need:

- 10 pairs of socks

### What to do:

- Work with your child to make 3 pairs of socks.
- Ask: "How many groups of socks are there?" (3) "How many socks are there in each group?" (2)
- Ask: "How many socks are there altogether?" Encourage your child to add together the number in each group:  $2 + 2 + 2 = 6$ .
- Point out that we add 2 three times. Talk about how this is the same as 3 twos = 6 or 3 groups of 2 = 6. Say the multiplication sentence together: "3 times 2 equals 6."
- Repeat for other numbers of pairs of socks.
- Next make, for example, 4 groups of socks, but vary the number of socks in each group (for example, make a group of 3 socks, a group of 4 socks and 2 groups of 2 socks). Encourage your child to see that in this case we can't add the same number each time, so  $4 \times 2$ , for example, does not match the groups. Guide your child to see that for multiplication, there should be the same number of items in each group.
- Now make other groups of equal size, for example 4 groups of 3 socks. (You could say these are for aliens with 3 feet, so they have to keep their socks in groups of 3.)
- Ask: "How many groups of socks are there? How many socks are there in each group? How many socks are there altogether?"
- You can help your child by asking them to work out the total number of socks by adding:  $3 + 3 + 3 + 3 = 12$ .
- Repeat the activity for other numbers of groups and groups of different sizes. For example: 3 groups of 5 socks, 5 groups of 4 socks, 2 groups of 8 socks.

### Talk about:

Use everyday opportunities where there are equal groups to make up 'multiplication stories' with your child. For example:

- "There are 5 pairs of gloves/shoes/boots. There are 2 in each pair. There are 10 gloves/shoes/boots altogether."
- "There are 4 groups of coins. There are 5 coins in each group. There are 20 coins altogether."
- "There are 3 packs of yoghurts. There are 4 yoghurts in each pack. There are 12 yoghurts altogether."

## 15 Dividing by Grouping

*This activity will help your child with understanding division.*

### Important words and phrases:

- There are ... objects. Put ... objects in each cup. How many cups do you need?
- There are ... objects altogether. There are ... objects in each group. How many groups are there?
- division, divide
- groups

### You will need:

- 25 small objects, for example marbles, blocks, buttons, pasta shapes
- 6 cups or mugs

### What to do:

- Ask your child to count out 12 objects. Say: *“There are 12 objects. Put 3 objects in each cup. How many cups do you need?”* (4)
- Now give your child a division word problem that can be solved by making the same groups. For example: *“Peter has 12 oranges. He puts 3 oranges in each bag. How many bags does he need for all the oranges?”*
- You can help your child using the objects and cups to model the problem.
- Encourage your child to give the answer as a full sentence: *“Peter needs 4 bags for all the oranges.”*
- Emphasise that we know how many objects there are altogether and how many objects there are in each group, and we are finding the number of groups.
- Give other word problems for your child to solve, using the objects and cups if necessary to help:
  - *“Farha has 18 apples. She puts 3 apples on each plate. How many plates does she need?”* (6)
  - *“Jack has 24 seeds. He plants them in pots. Each pot has 8 seeds. How many pots can he plant?”* (3)
  - *“There are 20 cars. There are 4 cars of each colour. How many colours are there?”* (5)
  - *“Ruby’s mum has 25 bus tickets. She uses 5 bus tickets every week. How many weeks will the tickets last for?”* (5)

### Talk about:

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

- *“There are 15 marbles. We play a game where each person gets 3 marbles. How many people can play?”* (5)
- *“There are 8 bananas. I eat 2 bananas each day. How many days will I take to eat all the bananas?”* (4)
- *“A train passes 12 stations. It stops after every 4 stations. How many times does it stop?”* (3)

## Look out for:

- Encourage your child to answer your questions in full sentences. For example, if you ask: *“I have 6 crackers and I’m going to put 2 on each plate. How many plates do I need?”*, encourage your child to answer using the format *“You need 3 plates for all the crackers.”*
- There are two main ways of thinking about division: ‘sharing’ and ‘grouping’. This is an example of division involving sharing:

- *“6 marbles are shared equally between 2 people. How many marbles do they get each?”* (3)

While this problem, solved using the same division calculation, involves grouping:

- *“6 marbles are divided into groups of 2 marbles. How many groups are there?”* (3)

In general, the concept of grouping is more challenging, and this activity will give your child the opportunity to develop their understanding of it.

- Note that at this stage your child is learning about the concept of division, and has not yet encountered the division sign,  $\div$ .

## 16 Time

*This activity will help your child practise telling the time from a clock face, to the hour ('o'clock') and half hour ('half past').*

### Important words and phrases:

- ... o'clock
- half past ...
- hour hand
- minute hand

### You will need:

- Activity sheet 5

### What to do:

- Cut out the picture cards from Activity sheet 5, and mix them up so that they are out of order. Spread them out in front of your child.
- Talk with your child about what is happening in the pictures.
- For each picture, ask: *"What time is it? How do you know?"* Encourage your child to explain how the positions of the clock hands show what time it is. You can help by reminding them:
  - *"When the **minute hand** is at **12**, we say it is **o'clock**."*
  - *"When the **minute hand** is at **6**, we say it is **half past**."*
- Ask your child to work out the order the pictures should go in.
- Once the pictures are in order, encourage your child to tell you the story of what happened at the sports day. Ask questions about the times, for example:
  - *"What happened at 2 o'clock?"*
  - *"What time was the egg and spoon race?"*
  - *"What do you think happens at half past 3?"*
- You could encourage your child to colour in the pictures and stick them on a piece of card in the correct order.

### Talk about

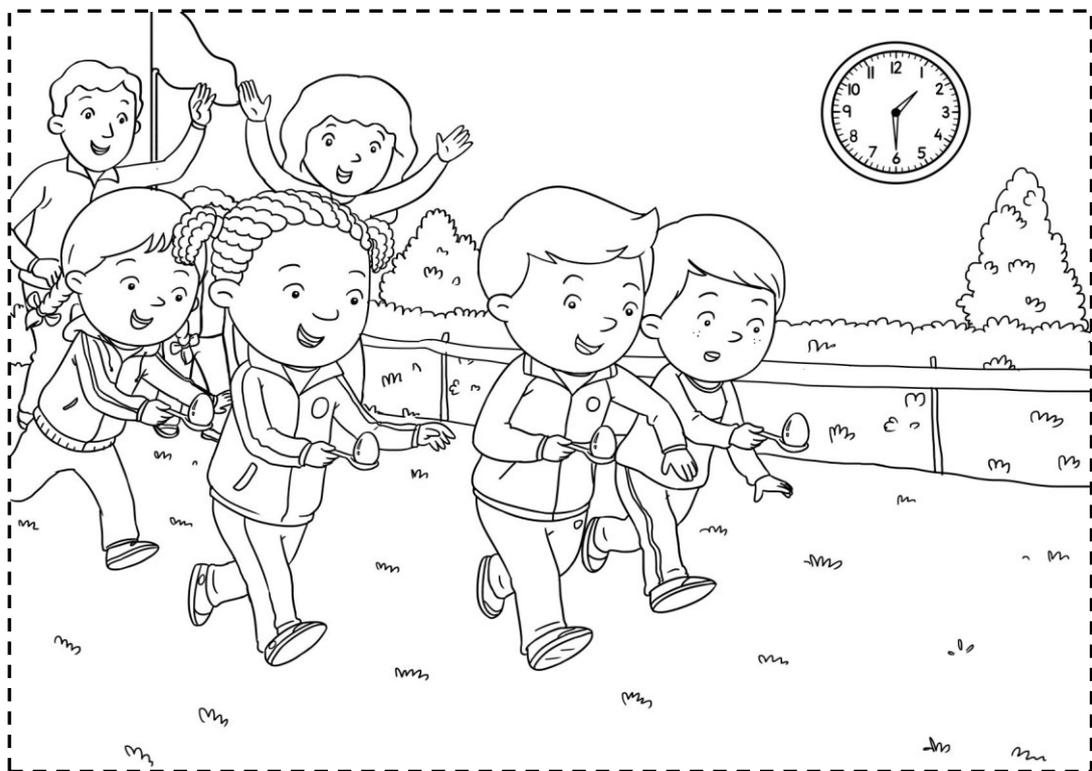
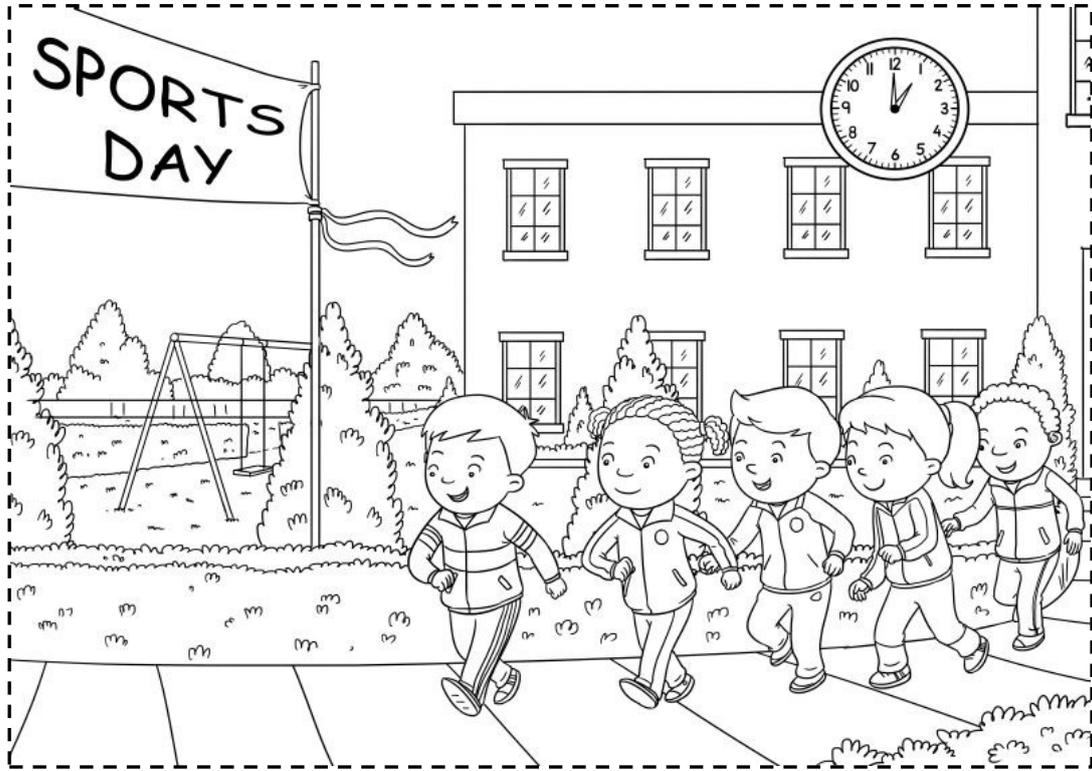
- Use everyday opportunities to talk with your child about what time things happen at. For example:
  - *"School starts at 9 o'clock."*
  - *"What time do we usually have dinner?"*
  - When there is a clock face showing an 'o'clock' or 'half past' time: *"What time is it? How do you know?"*

### Look out for:

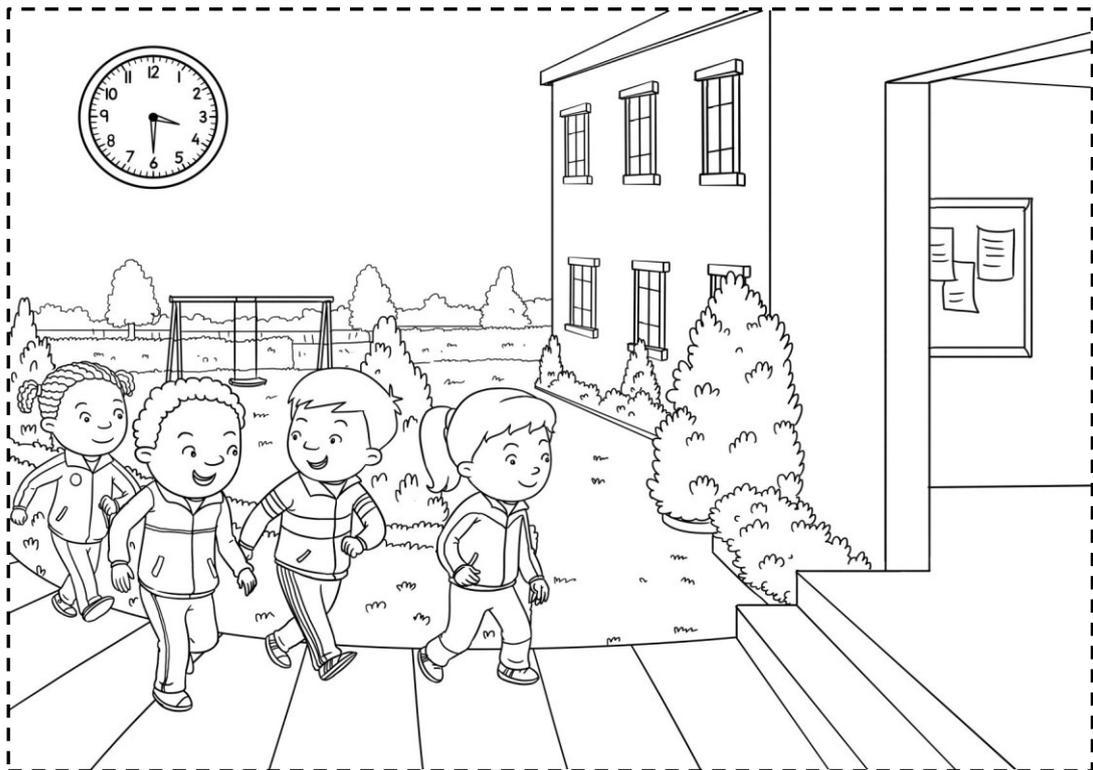
- For now, make sure that you uses the phrases 'o'clock' and 'half past', and to avoid saying, for example, 'twelve thirty' or (for the hour) just 'twelve'.
- Ensure that your child notices that at 'half past' the hour the hour hand is exactly half way between the two hour numbers on the clock.

# Activity sheet 5

*This activity sheet is for use with Y1 Home Activity 16*







## 18 Money

*This activity will help your child become familiar with UK coins and notes, and with the idea that amounts of money can be added together as numbers.*

### Important words and phrases:

- money
- pence
- pounds
- 1p/2p/5p/10p/20p/50p/£1/£2 coin
- £5/£10/£20/£50 note
- How much is that altogether?

### You will need:

- Activity sheet 8
- coins and notes (either play money or real)
- colouring pencils or pens
- purse (optional)

### What to do:

- Look at the different coins and notes. Help your child to identify each one. Ask, for example:
  - *“What is this coin? What is this note?”*
  - *“Which of these is a 5p coin? Which is a 20p coin?”*
- Practise making a set of coins and working out the amount with your child. Say, for example: *“Find a 5p coin. Find two 20p coins. How much money is that altogether?”*
- Ask your child to make a set of coins totalling a particular amount (up to £1). Choose an amount that can be made with the coins you have. If you have one, you could ask your child to put the amount of money in a purse for you to check.
- Ask them to think about whether there are different ways of making the amount with the coins you have.
- Repeat this activity with different numbers, asking your child to make particular amounts of money and find different ways of making them with the coins you have.
- Once your child is working confidently, you can ask questions like these:
  - *“What is the smallest number of coins that you need to make 57p?”*
  - *“Put in 10p more. How much money is in the group now? How much will there be if we put in another 10p?”*

### Talk about:

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

- to tell you how much money is in your hand, purse, wallet or pocket
- what coins or notes you can pay with, to pay exactly
- to count your change.

## 19 Money: Finding Totals and Giving Change

*This activity will help your child practise adding to work out the total cost of two or more items, and subtracting to work out the change that should be given.*

### Important words and phrases:

- money
- pence
- pounds
- 1p/2p/5p/10p/20p/50p/£1/£2 coin
- £5/£10/£20/£50 note
- How much is that altogether?
- change

### You will need:

- toys or other objects from around the home
- small pieces of paper or sticky labels to use as price tags
- pens or pencils
- a purse or wallet
- coins and notes (either play money or real)

### What to do:

- Set up an imaginary shop with your child. Work with your child to price the objects. Price them only in whole pounds (up to £100) or only in pence (up to £1).
- Ask your child to be the shopkeeper while you are a customer. Buy an item from them, paying with the exact money. Ask: *“Is that the right amount?”*
- Repeat for several single items. Pay the exact amount each time, but where possible pay with lots of small coins or notes.
- If your child is working confidently, buy 2 or more items at a time. Ensure that the total price is within £100 or £1. Ask: *“How much is that altogether?”*
- You can also ask questions like: *“I have 80p to buy two things. What could I buy?”*
- If your child is working confidently, buy 1 or 2 items and pay more than the exact amount. Ask: *“How much change should I get?”* Talk with your child about how to work this out. Help them to recognise that they need to subtract the total cost from the amount you have given them.
- Take turns with your child to be shopper or shopkeeper.

### Talk about:

Use everyday opportunities to practise working out the cost of 2 or more items and change, in pence up to £1 (or in whole pounds up to £100, if the opportunity arises). For example, ask your child:

- *“A tin of beans is 49p. A tin of tomatoes is 35p. How much is that altogether?”* (84p)
- *“This milk is 75p. I have a £1 coin. How much change will I get?”* (25p)

### Look out for:

- For now, ensure that your child is working with amounts of money that are either in whole numbers of pounds up to £100, or in pence up to £1. Your child has not come across amounts using both notes and coins yet, so it may be best to avoid these.