
$$e^{i\pi} + 1 = 0$$

Mathematics

Introduction

We hope that parents will place a special emphasis on the activities in this section. The most effective Year 1 programmes in the world provide youngsters with lively and almost daily exposure to age-appropriate maths concepts and operations, thus giving the children a comfortable familiarity with the elements of maths, as well as a firm foundation for later mastery.

Among grown-ups, mastery of maths has been shown to be a reliable road to getting a good job in the modern world. Yet the greatest barrier to mastery – ‘maths anxiety’ – usually arises in the early years, because children have not been made to feel at home with the conventions and procedures of maths. The only good way for them to gain the needed familiarity, and avoid the widespread symptoms of maths anxiety, is to provide them with a lot of lively exposure and practice at an early age.

Practice does not mean mindless repetition but, rather, varied practice, including the use of countable objects and also some paper-and-pencil work. Regular practice and review in the early years will make the basic ideas and operations of maths interesting and familiar, and eventually lead children to the effortless, automatic performance of basic operations upon which later problem solving depends.

If we adults have ‘maths anxiety’ ourselves, our duty is to avoid conveying to our children the idea that we ‘don’t like maths’ or ‘aren’t good at maths.’ By engaging our children in the kinds of activities suggested in this section, we can let them know that maths is important and interesting to us. Keep in mind, however, that the activities suggested here are supplementary ways for parents to reinforce their children’s learning at home. They are not sufficient for teaching maths in school, where children need more extensive opportunities for practice and review.

Suggested Resources

Ten Monkey Jamboree by Dianne Ochiltree (Simon and Schuster, 2003). In this cheerful, whimsical romp, readers explore just how many combinations of monkeys will add up to ten. Accompanying the amusing and captivating illustrations, the rhythmic text twirls and spins as much as the monkeys, and makes a perfect read-aloud for the very young. Dianne Ochiltree teaches writing in schools, and has written several mathematical-orientated picture books including ‘Bart’s Amazing Charts’ and ‘Cats Add Up’.

How Many Sharks in the Bath? by Bill Gillham (Frances Lincoln) is a great interactive number book which incorporates the concept of zero.

Five Little Monkeys by Zita Newcome (Walker) is packed full of number rhymes and games with lots of opportunities for joining in.

The Real Princess, a mathemagical tale by Brenda Williams (Barefoot) mixes number learning and fairy tales in a very entertaining way.

Number Rhymes by Opal Dunn (Frances Lincoln Children’s Books). This entertaining collection of rhymes explores counting backwards, counting in twos and counting numbers beyond 10. From ‘Five Little Monkeys’ and ‘Ten in a Bed’ to ‘One, two, buckle my shoe’

and ‘One hundred bees round a hive’, these rhymes provide a rich range of enjoyable opportunities to familiarise children with ways of manipulating numbers. Collected by a highly reputable early years educationalist with the clear aim of developing early number skills, these rhymes are vividly illustrated.

Read and Learn: Finding Shapes is an extensive collection that helps young readers discover and understand the world around them. These books are packed full of fascinating facts and intriguing, labelled photographs that will really grab their attention. Using questions to focus learning, each title will prompt discussion, encourage information gathering and truly involve children in the topics they are studying. ‘Finding Shapes’ investigates the shapes that can be found at home, in school, in the park and those that can be found in nature. It develops simple mathematical skills as readers are invited to count the number of shapes they can spot, and includes a quiz to help with classifying objects in terms of their shape.

Reading Roundabout: My Money by Paul Humphrey (Franklin Watts) complements practical money work. See also the ‘Money Books’ (Easylearn) which are useful for consolidating material when pupils are learning to solve problems involving money. There is a wide range of interesting tasks to achieve understanding.

Patterns and Classifications

PARENTS: When you recall your earliest experiences with maths, you may think of counting on your fingers, or perhaps adding and subtracting: $2 + 2 = 4$, $3 - 1 = 2$. Besides such familiar operations, early maths also involves some fundamental concepts and ways of thinking.

Children need to learn how to sort and classify, and many start to learn these skills well before Year 1. By their first years, they are ready to recognise similarity and difference, to see patterns, and to sort objects according to specific attributes, such as size, colour, or function. You can help your child reinforce these concepts through some activities.

Activity 1: Collecting things by likeness

Get Ready: Tell your child you’re going on a ‘similarity hunt.’ Get a paper bag and tell your child that you’re going to collect objects that are alike in some way and put them in the bag. Talk about what sorts of things you will collect and how they will be alike. You may want to collect things that are all one colour or things that are all used in the same way (things to eat with, things to draw with, etc.).



Go: With your child, label the bag with the attribute or characteristic you've selected, such as 'red things' or 'things used to eat with'. Now it's time to collect. Together look for objects in and around where you live. If necessary, you can model the selection of the first object or two by finding an object and saying, 'Look, here's a red crayon. We can put it in our bag because it's red.'

Talk and Think: Guide your child to comment on each object as it goes in the bag, by asking:

- 'Why does this one go in the bag?' (If he says, 'It's red', you can reinforce the idea of similarity by saying, 'Yes, like all the other things'.)
- 'What else can you find that's red [or used for eating, etc.]?'

On another day, repeat this activity with a new bag and a new quality that makes the things alike. This is, by the way, a good activity to begin in the morning because you'll find that as you go through your day, you and your child will find objects for your collection even when you aren't thinking about the game.

Activity 2: Sorting everyday objects

Get Ready: You will need an assortment of familiar items from around the house. Choose items that can be sorted into two to four groups according to a specific attribute, such as size, colour, or function. For example, collect a bunch of socks, some white, some with stripes and others with spots. Or gather some books of varying sizes. For more groupings you could choose toys of different colours or four different kitchen utensils.



Go: With the pile of mixed-up items in front of you, tell your child you're going to separate the objects into two groups. Ask her to guess the rule you're using to separate the objects. Then start to put items into two groups: for example, the white socks in one pile, the socks with designs in another. Next try sorting into three, then four different groups.

Talk and Think: To help your child focus on the concepts of similarity and difference, ask:

- 'How are all the items in each group alike?'
- 'How are the items in these two groups different?'

- ‘Here’s one more item. Where would you put it? Why?’
- ‘What do you think is the rule for sorting these items?’

Go a Little Further: Give your child an item that doesn’t belong in either group; for example, if you’re sorting big and small books, give her a spoon. Then talk about why the item is different and why it can’t be sorted into either group.

Activity 3: Similar and different

Get Ready: Put a variety of different objects in a bag. Choose items that can be grouped in different ways – by colour, shape, texture, or function: for example, crayons, buttons, or blocks in different colours and shapes. Be sure to include at least one set of items that share the same function, such as three different drinking cups.

It’s easier to see some qualities of things than others, so it may help to examine some of the objects with your child in order to help him see both the obvious characteristics of an object, such as colour, and the less obvious qualities, such as function. For example, if you examine a common pencil, you can ask such questions as: ‘What colour is it?’ (Yellow.) ‘What do we use it for?’ (To write with.)

Go: Place the objects on the floor and spread them around if necessary. To model the activity for your child, pick up two items that are similar in some way and tell your child how they are similar and how they are different. For example: ‘Here are two cups. They are similar in the way that we use them; we use them both to drink with. They are different in their colour: one is red, but the other is blue.’ Then tell your child to pick two other items that are similar in some way. Discuss the items by asking:

- ‘How are the items similar?’
- ‘How are they different?’
- ‘Can you find another item that belongs with these?’
- ‘How is it like the other items?’

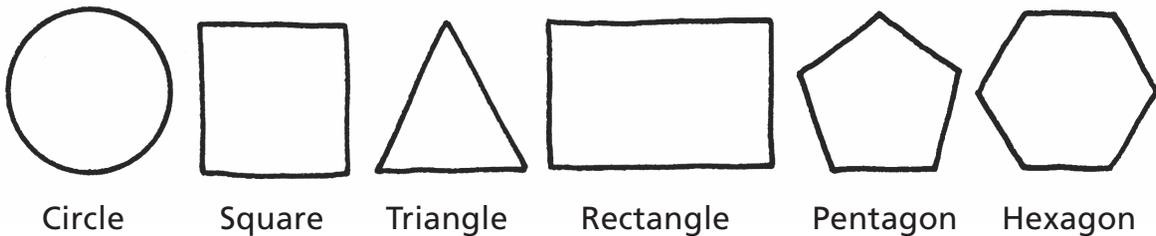
As your child answers the questions, occasionally give him words that help him categorise. For example, if your child picks two red blocks and says that they are similar because ‘they’re both red,’ you might say, ‘Yes, they’re both red; the way they’re similar is their colour.’ With two writing implements – for example, a pen and a pencil – if your child says they’re similar because ‘they’re both long,’ you might add, ‘Yes, and another way they’re similar is the way we use them: we use them both to write with.’

Activity 4: Shape sort

Get Ready: To do this activity, your child needs to be familiar with the six basic shapes pictured here and with their names. If she is not yet familiar with these shapes and their names, we suggest that first you do Activities 1-2 in the Geometry section of this chapter (see pages 234–238).

You will need:

sturdy paper such as stiff card, crayons, scissors



Review with your child the shapes pictured here and tell her their names several times. You might want to have her touch each shape and say or sing its name. You can point out that a square and a rectangle are similar: they both have four sides. But in a square, the sides are all the same.

Draw some circles, squares, triangles, rectangles, pentagons and hexagons of different sizes on sturdy paper. As you draw, talk with your child about the shape names. Let her join in the preparation by colouring the shapes before you cut them.

Go: Spread the cut-outs on a flat surface. Ask your child to pick one and help her examine the shape by asking:

- ‘How many sides does this shape have?’
- ‘Are the sides straight or round?’
- ‘How many corners does this shape have?’
- ‘Does the shape look the same if I turn it this way? How does it change?’
- ‘Can you tell me the name of this shape?’ (If your child correctly names the shape, you can reinforce the name by repeating it: ‘That’s right, it’s a [name of shape].’)

Talk and Think: Pick another shape that's different from the first one. To help your child focus on the differences, put the shapes side by side and ask:

- 'How are the shapes different from each other?'
- 'Do both shapes have sides?'
- 'Do they both have corners?'
- 'Do they have the same number of corners?'
- 'Does each shape have the same number of sides?'
- 'If we turn the shapes this way, do they still look different?' Then ask her to sort the rest of the shapes and tell which shapes belong together and why.

Go a Little Further: Have a scavenger hunt for shapes. For example, your child may compare a rectangle and a tabletop; an ice-cream cone and a triangle; or a tyre and a circle. The hunt can take place at home, in the park, in the car, or anywhere else that shapes exist – that's everywhere!

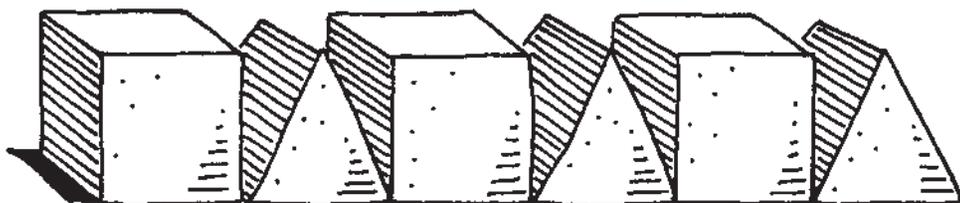
Activity 5: Shape train

Get Ready: This activity will help your child learn how to identify and describe patterns of alternating shapes.

You will need a set of blocks with geometric shapes. Make sure there are at least twelve blocks of three different shapes, such as four blocks with square faces, four blocks with triangular faces and four blocks with rectangular faces.

After you collect the blocks, discuss the names of the block faces with your child and give him some time to examine and touch the three kinds of shapes.

Go: Tell your child that you're going to build a 'shape train'. To get started lay six blocks in a row, alternating the shapes. To help your child understand the pattern, point to each block face and ask:

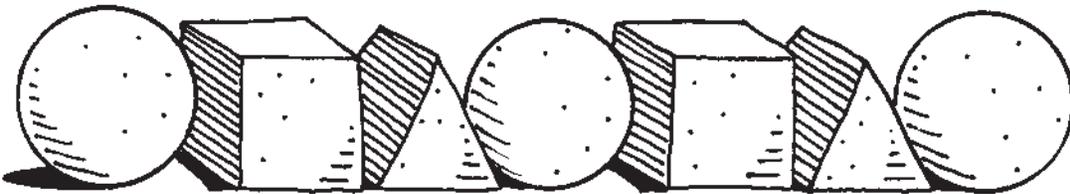


A shape train.

- ‘What shape is the first carriage? And the next? And the next?’ Talk about the pattern with your child; for example: ‘Do you see the pattern? There is a triangle carriage, then a square carriage, then a triangle carriage, then a square carriage.’ Then tell your child that you want to continue the pattern, and ask him to add another carriage. Ask:
- ‘What shape should the next carriage be? Why?’

Talk and Think: To help your child focus on different patterns, use the same blocks to form a different pattern, such as two squares and two triangles. Ask:

- ‘How many squares are there?’
- ‘How many triangles?’
- ‘What pattern can you see in this shape train?’ Ask your child to add more blocks to the train and describe the pattern.

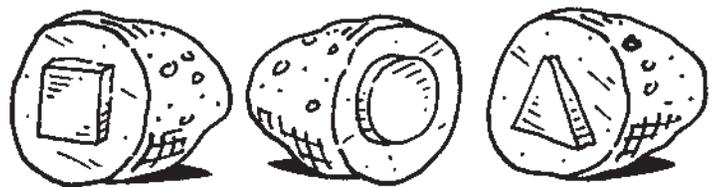


Go a Little Further: Introduce another shape, such as a sphere. Work with your child to make and describe other shape trains. Encourage him to name the shapes he uses to build the train and then describe the pattern he has made.

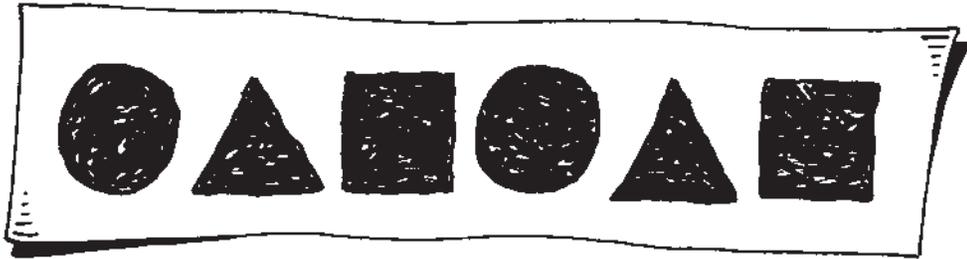
Activity 6: Potato prints

Get Ready:

You will need: 2 large potatoes, a paring knife, newspaper, poster paint in several colours, some big sheets of paper, paper towels.



WARNING: The adult must do all the cutting in this activity. Explain that you are going to cut the potatoes so that they can be used to print shapes: a square, a rectangle, a circle, and a triangle. First, cut the potatoes in half and draw an outline of one shape on each half. Next, cut down around each outline, which will leave a raised shape that you can use to print with.



Cover your work surface with newspaper; this activity can get messy! Put about two tablespoons of paint on a small plate or in a shallow plastic lid. Show your child how to dip the potato stamp into the paint to coat only the raised shape. Then show your child how to make a print by pushing the potato stamp firmly and evenly on a piece of paper.

Go: To get started, let your child make any prints he wants on a big sheet of paper. Children love to print and will enjoy just printing before you begin to work on patterns. (You'll need to rinse the potato stamp and dry it on a paper towel if your child wants to dip the same potato stamp into different colours.)

When your child is ready, get a new piece of paper and stamp out a pattern on it. Begin with a pattern of two shapes, for example, a triangle and a circle. Alternate the shapes but use only one colour. Repeat the pattern three times. Ask your child to copy the pattern. It's O.K. if your child makes mistakes doing this – it's all part of learning. While your child is stamping the pattern, ask:

- 'What are the names of the two shapes we're using?'
- 'Which shape comes first?'
- 'Which shape comes next?'
- 'Which shape comes after that?'
- 'What pattern do you see?'

Ask your child to continue the pattern.

Go a Little Further: Add another shape to the pattern so that you're using three different shapes: for example, a triangle, a circle, and a square.

Activity 7: More play with patterns

Get Ready:

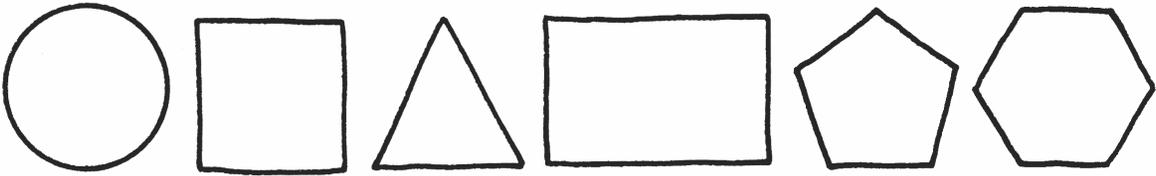
You will need:

coloured sugar paper

scissors



Using three different colours of paper, cut out 18 of each shape (circle, triangle, rectangle, square, pentagon, hexagon), each about three by 10 centimetres. In other words, when you're finished you'll have, for example, 18 triangles: 6 blue, 6 yellow, and 6 red.



Go: To help your child focus on colour patterns, choose one shape and create a colour pattern, such as blue triangle/red triangle/yellow triangle. Repeat the pattern several times. Then point to the pattern and ask:

- 'What is the name of this shape?'
- 'What is the colour of this shape?'
- 'Are the colours of the shapes similar or different?'
- 'What pattern do you see?' Ask your child to continue the pattern. Then have him explain his choices.

Go a Little Further: Ask your child to make up his own pattern. To make the activity more challenging, guide him in creating a pattern that repeats both shape and colour, such as blue square/yellow triangle/blue square/yellow triangle.

Numbers and Number Sense

PARENTS: We encourage you to read this introduction, which is addressed to you, before proceeding with the activities for your child that begin on page 206.

At home and during nursery and Reception, your child will no doubt have experienced some familiar counting rhymes, such as ‘One, two, buckle my shoe’ (page 25) or:

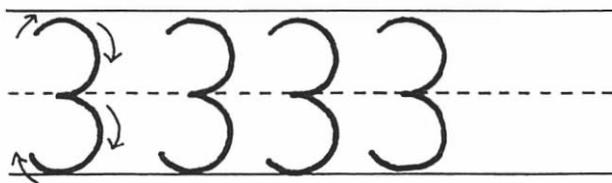
One, two, three, four, five,
Once I caught a fish alive;
Six, seven, eight, nine, ten,
Then I let it go again.

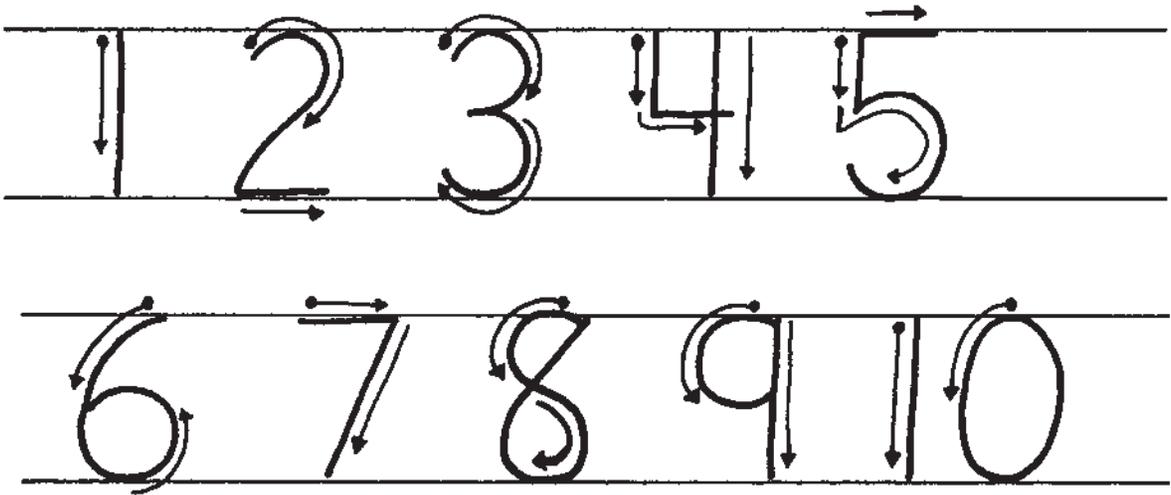
Through such counting rhymes and games, many children, even before Reception, learn to recite numbers aloud (‘one, two, three, four, five...’) in the same way they sometimes recite the alphabet song, without really understanding what the numbers (or letters) represent, except that they are said in a certain order. Reciting the numbers aloud in order, quickly and without missing a number, is an important first step towards using numbers in a meaningful way.

Next, children can begin to combine their recitation of the number sequence with the act of counting objects. Counting aloud a group of objects then becomes the foundation for learning addition, subtraction, and later, place value.

Children also need to become aware that written numerals (1, 2, 3...) correspond to what they have been saying when they recite the number sequence aloud. They need to learn to put these written numerals in order, to match the written numerals to groups of objects having the same quantity, and to write the numerals themselves.

During Reception, your child may have begun learning these key skills, but it is important that they continue practising them as they move into Year 1. Regular and continued practice is especially important with numeral writing. They will have been introduced to writing numbers in Reception but most children need continued practice to form their numbers clearly and the correct way round. Do not worry if they reverse their numbers at this stage, with lots of practice through Year 1, this will improve. You can help at home





Handwriting chart for numerals. Start at the dot.

by having your child practise writing one numeral at a time. You can use workbooks available at bookshops and toy shops, or you can provide paper with broadly spaced lines, on which (as illustrated opposite) you lightly write the numeral a few times for your child to trace over, to be followed by writing the numeral several times without tracing it.

Your child should write the numerals as directed by the arrows in the chart above.

To begin with, focus on getting your child to practise until he can write all of the numerals from 1 to 10 without help.

Later, as your child works with quantities greater than 10, he can practise writing the numerals for those quantities. You might want to pay special attention to the differences between potentially confusing numerals, such as: 6 and 9; 1 and 7; 12 and 21; 13 and 31; etc.

To summarise, the first step is for your child to learn to count from 1 to 10 fast without making any mistakes, and to write the numbers up to 10. He may need to review the numbers many times in order to learn them. By the end of the Year 1, your child should be comfortable counting to higher numbers (a reasonable goal is counting by ones up to 51, and counting by fives and tens up to 50), as well as writing the corresponding numerals.

There are some excellent counting books that can make learning about numbers enjoyable for both you and your child in the list of Suggested Resources on pages 195–196.

Activity 1: The size of 10

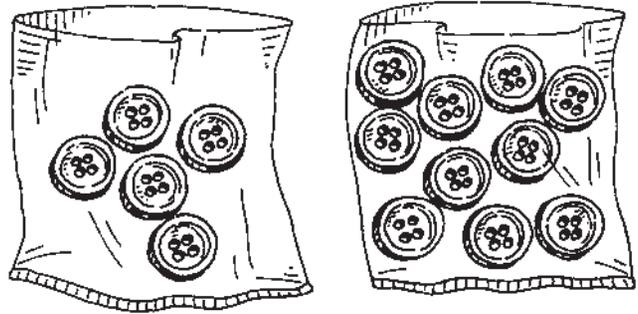
Get Ready:

You will need:

15 small objects like buttons, raisins or pasta shapes

2 small clear plastic bags

Go: Put 5 of the small objects you have selected in one of the plastic bags and 10 in the other. Put the bag with 5 items on a table in front of your child. Ask her to guess, without counting, if the bag has 5 or 10 items.



Then ask:

- ‘How can you tell?’
- ‘How can you find out if there are that many in the bag?’

Have her count to find out how many are in the bag.

Talk and Think: To help your child think about the size of 10, put the bag with 10 items in front of her and ask:

- ‘What about this bag? Do you think there are five buttons or ten buttons?’
- ‘How can you tell?’

Then have your child count to find out how many are in the bag.

Go a Little Further: Later, when your child is comfortable with counting larger quantities, you can put 20 buttons in a clear plastic bag. Ask her to guess if there are 20 or 50 buttons in the bag. Then she can count to find how many are in the bag.

Activity 2: Counting game

Get Ready:

You will need:

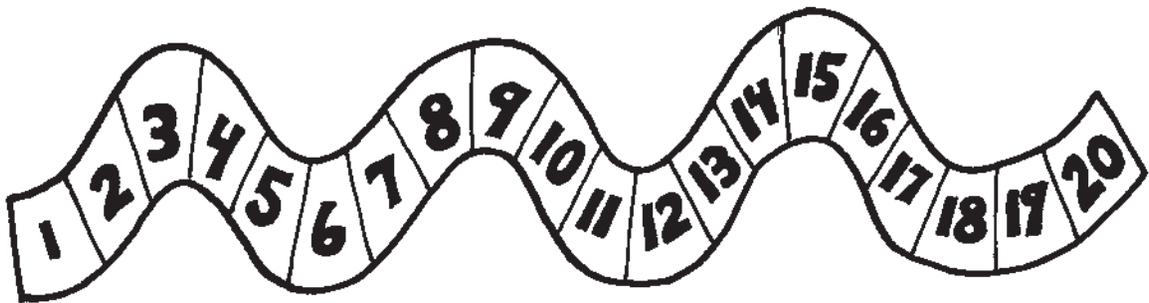
paper markers,

pencils, or crayons

small objects to be used as markers, like buttons or pebbles

a dice

Tell your child you're going to play a number game. Make up a game board like the one below, with a path of squares numbered in order. Have your child help you write the numbers in the squares.



Go: Tell your child to put a button (or pebble) on square 1. Then tell her to say each number as she moves the button from one space to the next. When she gets to the last number on the board, have her turn around and move the button back to number 1, saying the numbers backward. Next tell your child she is going to play a game to see how quickly she can get to number 20. She should roll the dice and move that many spaces. This can also be played with two players. Who can make it to twenty first? Ask your child:

- 'What is the first number on the board?'
- 'What is the last?'
- 'Can you say every number that you put your button on?'
- 'Can you say the numbers backward?'

- 'Which number have you landed on?'
- 'How many spaces left until you reach the last number?'

Talk and Think: To help your child focus on counting numbers, place her button on a number on the board. Then ask:

- 'Which number is the button on?'
- 'Which number comes before it? After it?'
- 'Can you count forward from where the button is to 20?'
- 'Can you count backward from where the button is to one?'
- 'How many spaces until you reach the last number?'

You can have fun counting backward by singing this favourite song with your child. As your child becomes confident with higher numbers, increase the number of monkeys jumping on the bed.

TEN LITTLE MONKEYS

Ten little monkeys jumping on the bed,
One fell off and bumped his head.
Mama called the doctor, and the doctor said,
"No more monkeys jumping on the bed."

Nine little monkeys jumping on the bed,
One fell off and bumped his head.
Mama called the doctor, and the doctor said,
"No more monkeys jumping on the bed."

Eight little monkeys jumping on the bed,
One fell off and bumped his head...



Go a Little Further: You can challenge your child by extending the game board to higher numbers. A reasonable goal is to reach the number 51 by the end of the year. It is sensible to increase the final number by ten at a time, as your child is confident with the numbers they have already been working with. You may want to ask your child's teacher when their class will begin working on those higher numbers.

If your child experiences difficulty with this counting activity, or any others that go beyond the number 10, revise the activity with numbers from 1 to 10 before gradually introducing higher numbers. Your child may need a little extra help when he first works with numbers greater than 10, since the English names for numbers do not always give a clue to the actual quantity. That is, in some languages, the numbers after 10 are logically called 'ten-one,' 'ten-two' and 'ten-three' but in English we say 'eleven,' 'twelve' and 'thirteen'. This may cause some initial confusion for your child, but encouragement and gentle review will lead to understanding.

Activity 3: How many?

Get Ready: This activity helps children develop number sense. You will need at least 30 pennies.

Go: Arrange 6 pennies in a row and another 6 pennies in a cluster. Ask your child which group has more pennies. Then take the cluster of pennies and line them up coin-for-coin under the row of pennies. Have your child count along with you as you point to the pennies in each line. Ask:

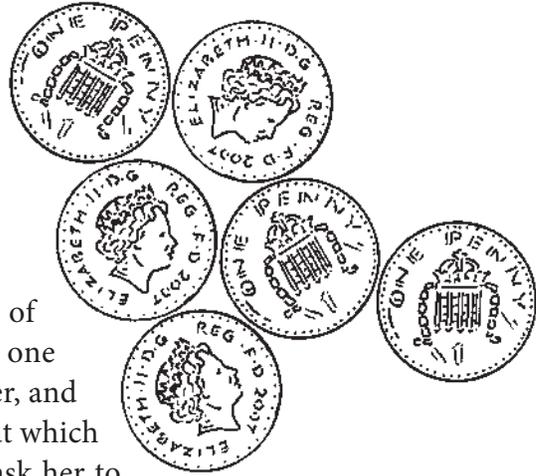
- 'How many pennies are in this group?'
- 'How many are in the other group?'
- 'Are there the same number of pennies? How do you know?'



Talk and Think: For more practice with number sense, arrange 5 pennies in a row and 5 in a stack. Point to the stack and ask:

- ‘Do you think this group has more pennies?’
- ‘How can you find out?’

Go a Little Further: Make three groups of pennies of equal amounts up to 10. Arrange one group in a row. Put the second group in a cluster, and stack the third group. Talk with your child about which group she thinks has the most pennies. Then ask her to arrange the other two groups coin-for-coin under the row of pennies.



Activity 4: Number match

Get Ready:

You will need:

a pack of 10-by-15-centimetre unlined index cards

crayons, markers, or pencils



Tell your child that you are going to prepare some cards so you can play a kind of matching game.

On twenty of the index cards, draw large dots for the numbers from 1 to 20. Your child can colour in the dots. Next, have your child count the dots on each card and draw a numeral on a blank card to match the number of dots. When he’s finished, you’ll have one set of twenty dot cards and one set of twenty numeral cards.

Go: Tell your child to mix up each pile of cards and place the piles face down on a table. Then take turns turning up a card in each pile until someone finds a dot card and a numeral card that match. Keep playing by reshuffling the unmatched cards and putting them back into two piles until you’ve matched all the pairs.

Talk and Think: As you play, ask:

- ‘How many dots are on this card? What number does the other card show?’
- ‘Do they match? How can you tell?’

Go a Little Further: Ask your child to put the number cards in order, laying them out flat on a table from left to right. You might need to help by putting the first two or three cards on the table to show him what you mean. Then ask him to put the matching dot cards in order under the number cards. As your child becomes more confident, increase the numbers to fifty over time, ten at a time.

Activity 5: More and less

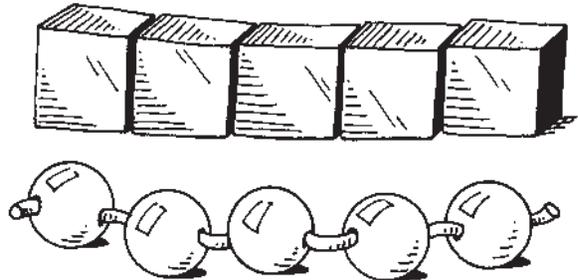
Get Ready: To give your child practice with the concepts of more and less.

You will need:

at least 20 blocks or 20 large beads

a string or a shoelace

Tell him that you’re going to play a game in which you say a number and he shows that number by lining up that many blocks or putting that many beads on the string or the shoelace.



Go: Say any number between 1 and 20, such as 17, and ask your child to show that number of blocks. To focus on the concept of one more, say:

- ‘Now show me one more than seven.’
- ‘How many is that?’

Then start again and have your child show a different number. This time, ask him to show one less and to tell how many that is. Repeat this asking him to show ‘2, 3, 4 or 5 more or less.’

Talk and Think: Continue choosing new numbers for your child to show. For the fourth or fifth number that you choose, have him predict without counting what will be 2, 3, 4 or 5 more and 2, 3, 4 or 5 less. Then have him make more or less and count to be sure. Ask:

- ‘How can you tell what is more [or less]?’
- ‘Can you tell without counting the blocks?’

Activity 6: Most and fewest

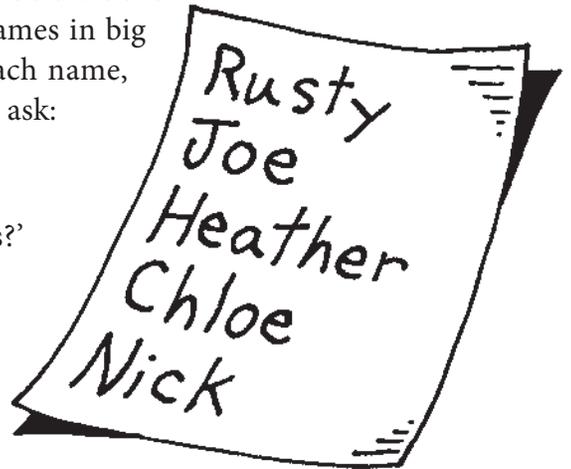
Get Ready: Tell your child that you’re going to play a counting game together using the names of family members. If your family is small, include the names of family friends or pets.

You will need: a sheet of paper, a marker or a pencil

Go: Ask your child to name four or five family members. As she names each person, use the marker to write the names in big letters on a sheet of paper. When you complete each name, point to the name and read it with your child. Then ask:

- ‘Which name has the most letters?’
- ‘Why do you think this name has the most letters?’
- ‘How can you tell?’
- ‘How many letters does it have?’

Then ask your child to count to find out how many letters there are.



Talk and Think: To focus on the concept of fewest, ask her which name has the fewest letters:

- ‘How can you tell this name has the fewest letters?’
- ‘How many letters does it have?’

Have your child count to find out.

Activity 7: Counting more than 10 objects

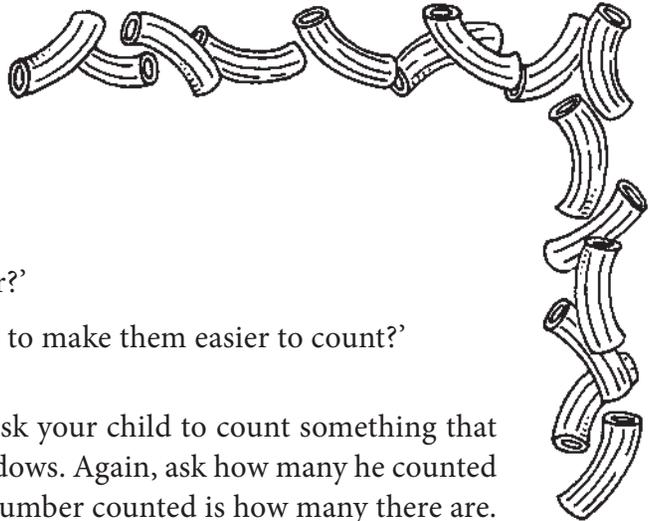
Get Ready: Children find it easier to count objects when they can touch objects that are lined up in an organised way. With practice, your Year 1 child will find it easier to keep track of items that aren’t organised or touchable. To start out, let your child help you gather between 10 and 31 small items, such as paper clips, pasta shapes, or small toys.

Go: Arrange the items in a row and ask your child to count them. Ask:

- ‘How many [paper clips, pasta shapes, etc.] are there?’

Then spread the items around and ask your child to count them. Ask:

- ‘How many did you count this time?’
- ‘Which way that you counted is easier?’
- ‘Is there a way you can organise these to make them easier to count?’



Go a Little Further: Go outside and ask your child to count something that cannot be touched, such as a row of windows. Again, ask how many he counted to be sure he understands that the last number counted is how many there are.

Activity 8: Things that come in pairs

Get Ready: To get started, have your child look at a stuffed animal or doll. Ask her to name parts of the stuffed animal or doll that come in twos:

- ‘What do you see that your animal [or doll] has two of?’

Then tell your child that ‘a pair is two of something that go together,’ and that the animal (or doll) has a pair of eyes, and a pair of arms, etc.

Go: Arrange several groups of like objects, including some pairs of objects, such as a pair of shoes, a pair of gloves or socks, etc. Other groups should contain three objects. Say:

- ‘Here is a pair of shoes; there are two shoes, and they go together. Can you show me some other pairs of things here?’
- ‘How do you know this is a pair?’
- ‘Why isn’t this group a pair?’



Activity 9: Counting by twos

Get Ready: Tell your child that you're going on a shoe hunt. Try to find at least five pairs of shoes and line them up in pairs next to each other. Then tell your child that you're going to find out how many shoes there are by counting them two ways.



Go: First, ask your child to count the shoes one by one. Tell him he is 'counting by ones.' Then, tell him there is another way to count the shoes called 'counting by twos.' Ask him to listen as you point and count the shoes. Put the emphasis on every second number. For example, you could whisper the numbers 1, 3, 5, 7, 9 and say the numbers 2, 4, 6, 8, 10 in a loud voice. After this, count the shoes by twos: 2, 4, 6, 8, 10. Repeat and then ask your child to follow along. Then give him an opportunity to count the shoes by twos on his own. Ask:

- 'How many shoes are there? Can you count them by twos?'

Go a Little Further: Use other items, such as spoons or crayons, and gradually use more than ten items. Start with a review of counting by twos up to 10, then ask:

- 'What number comes next if we keep counting by twos?'



Activity 10: Counting by fives and tens

Get Ready:

You will need: a big sheet of sturdy paper, finger paints

Tell your child that you are going to make a handprint poster. You're using finger paints, so do this where it's okay to make a mess! (Note: Your child should already have practised counting by ones to 30 before you do this activity.)

Go: Use the finger paints to make colourful handprints all over the paper. If possible, have family members or friends make handprints, too. At first, start with six handprints; later, you can work up to ten handprints. When the poster is finished, point to it and ask:

- 'How many fingers are there?'
- 'How could you find out?'

Point to one handprint, and ask:

- 'How many fingers are on this one hand?'

Point to the next handprint and ask your child to continue to count. Continue until your child has counted all the fingers on the poster. Ask:

- 'How many fingers are there in all?'

Talk and Think: Explain to your child that there is a faster way to count in twos, threes, fours and so on. Explain that you're going to learn to count in fives. Say:

- 'We're going to count five fingers at a time, like this: five, ten, fifteen, twenty...'

(As you count, move your finger from one hand on the poster to another.)

Have your child listen as you count in fives. After repeating the pattern, ask her to join in. Repeat the same procedure as you count in tens. Then ask:

- 'Did you end up with the same number when you counted by ones? How about fives?'
- 'Which way is faster?'

Go a Little Further: The next time the family is having dinner, ask how many toes are under the table.

Activity 11: Halves and quarters

Get Ready:

You will need:

10 items of one kind that are of particular interest to your child, such as stickers, biscuits, or small toy cars, 8 pennies, a slice of bread

Go: Spread the 10 items out on a table. Ask your child to show a fair way to share the items between the two of you. When your child has made two equal shares of the 10 items, explain that each share is half of the whole group of items: you have one half, and he has the other half. Now, show your child the 8 pennies; allow him to count them. Then put all 8 pennies in a pile between you. Give 2 pennies to your child. Ask:

- ‘Do you have half?’
- ‘Can you show me how to share them fairly, half for you and half for me?’

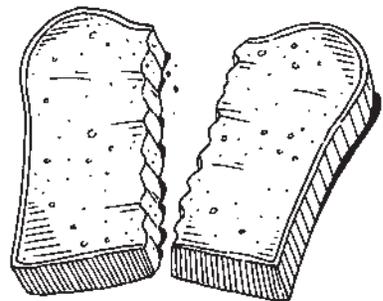
Then repeat the activity, this time sharing fairly between four. Explain that each share is a quarter.

Talk and Think: Many children in Year 1 do not yet understand that two halves are equal in size, and one quarter is the same size as another quarter. To focus on the concept of halves and quarters as equal shares, ask:

- ‘Do we each have the same number of toy cars [or other items]?’
- ‘How could you find out?’

Go a Little Further: Put the piece of bread on the table, and ask your child to show a fair way to break it into 2 pieces to share, half for you and half for him. After he has broken it (in roughly two equal pieces), ask:

- ‘Is my half of the bread the same size as yours, or is it a different size?’
- ‘If two more people needed to share the bread, what could you do?’
- ‘Does everyone have the same size piece of bread? Are all the quarters the same size?’



Reinforce what he has done by saying: ‘You have half of the whole piece of bread, and I have half of the whole piece of bread, and both halves are equal.’ Similarly reinforce sharing into quarters.

Activity 12: A good-job graph

Get Ready:

You will need:

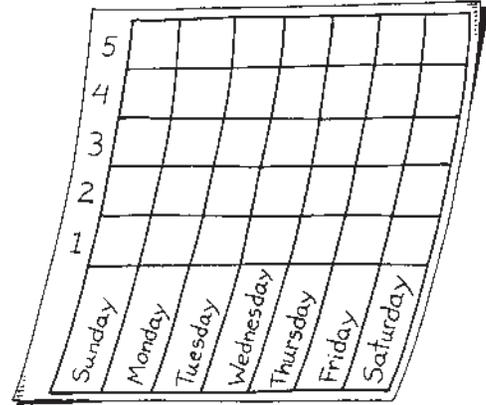
a sheet of paper

crayons or markers

Tell your child that the two of you are going to make a Good-Job Graph, which will show some of the good things she does in a week. You can talk together about what sort of jobs to include:

picking up toys, brushing teeth, washing hands before dinner, helping Mum or Dad, etc.

Write the days of the week along the bottom of a sheet of paper and numbers up to 5 along the side edge. Post this chart in an easy-to-reach spot and explain that every day she can colour a square on the graph for each of the 'good jobs' she does. Try to help her record from 1 to 5 'good jobs' a day.



Go: At the end of the first day, look at the graph with your child. Point to the name of the day and ask:

- 'How many 'good jobs' did you do today?'
- 'How do you know?'

At the end of each day, look at the graph together and make some comparisons by asking:

- 'How many squares did you colour today?'
- 'Was that more or less than yesterday?'

Talk and Think: To help your child think about graphs, at the end of the week, ask:

- 'On which day did you colour the most squares? How many did you colour?'

Go a Little Further: Ask your child:

- 'How many good jobs did you do in all this week?' To help her answer this question, ask her how she could find the answer to that question. You might need to coach her that one way to find out would be to count all the squares on the graph. Then ask her to count all the squares.

Activity 13: Block train

Get Ready: This activity provides practice with order words – ‘first,’ ‘second,’ ‘third,’ etc. Let your child help you gather:

10 blocks

10 different small objects (such as a button, a pasta shape, a pebble, etc.)

Go: Tell your child to build a block train by arranging the blocks in a row. Then have her put one of the small objects on top of each block. Identify one carriage for your child by using an order word such as ‘first’ or ‘second’ in a sentence, like this: ‘The button is on the second block.’ Then have your child identify the other cars, using an order word. Ask:

- ‘Which block is carrying the pasta shape?’
- ‘Which block is carrying the pebble?’ Continue until you and your child have identified all the blocks by their order words.

If your child has trouble using these words, say them all aloud in order as you point to each car. Have her repeat them as you point to blocks first in order and then at random. Then repeat the questioning activity.

Money

PARENTS: Even before children know what money is for, they are fascinated by the shape and appearance of coins and notes. By Year 1, your child probably also realises that money is important.

Year 1 children need to know that money is used to buy things, and that different kinds of coins and notes have different values. The following activities will help children start to recognise coins and to understand what each is worth. At this point, don’t expect your child to be able to trade coins for other coin combinations of the same value. Exchanging money is a skill that will come later.

Activity 1: Identifying money

Get Ready:

You will need:

8 small containers such as margarine tubs

a way to label your containers (masking tape and pen or marker)

coins: at least 2 of each type of coin

Label the containers 1p, 2p, 5p, 10p, 20p, 50p, £1, £2. Pile the coins in front of the containers. Tell your child that together you are going to separate the coins into different groups.

Go: Spread out the coins. To get started, pick up one of each kind of coin and tell your child what it is. Give him an opportunity to look at the coins and say their names to you. Ask him to watch as you put one coin of each type in a container. Then ask him to sort the rest of the coins. Depending on your child's experience with money, you can explain what each coin is worth as you sort, or simply have him tell you in which container to put the coins. Ask your child to find the number written on pence coins to find their value.



One Penny



Two pence



Five pence



Ten pence





Twenty pence

Fifty pence



Two pounds

One pound

Talk and Think: To help your child become familiar with coins and their value, have him look over the coins pictured below in order of their value. Read through the text about what each coin is worth and what the pence and pound signs mean.

- The sign 'p' means penny or pence. Only the 1 pence coin is called a penny. Values higher than this are called 'pence'.
- The sign '£' means pound or pounds.

Explain that the pictures show both sides of each coin. Tell him that the side with a head on it is called the heads side of the coin. Point out that the face on the heads side of the coin is the head of the Queen. And tell him that the other side is called the tails side. Then have him look again at real coins and ask him to show you their heads and tails sides. Ask:

- 'Are all the kinds of coins the same shape? Are they all the same size and colour?'
- 'How is the penny different from all the other coins?'
- 'Which coin looks smallest? Is this coin worth less than a penny?'
- 'Which coin looks largest? Is this coin worth more than the other coins?'

Go a Little Further: The next time you go shopping, give your child a change purse with some coins. Ask for his help in picking out coins to give the cashier. (But don't expect him to know which coins add up to a certain amount. That skill comes later.)

Activity 2: Money bingo

Get Ready: Tell your child that you are going to play Money Bingo. Before you begin, remind your child of the different coins and what they are worth. Show her the pence sign and the pounds sign, and show how these denominations are written: 1p, 2p, 5p, 10p, 20p, 50p, £1, £2.

You will need:

stiff paper or card

scissors

a ruler

crayons or markers

buttons or other small items for markers

a supply of coins

a box or hat

1p	5p	10p	20p	£1.00
2p	£1.00	1p	5p	£2.00
£2.00	10p	50p	£1.00	1p
20p	5p	2p	10p	20p
£2.00	50p	£1.00	1p	5p

Make at least two bingo cards. Each card should have five squares across and five squares down. Instead of numbers, use these labels: 1p, 2p, 5p, 10p, 20p, 50p, £1, £2 in the squares. Let your child help you write the numbers and pounds and pennies signs on each card.

If your child has never played bingo, explain that you are going to cover the rows on the cards with markers and that the first person to cover a whole row – across, up and down, or diagonally – calls out ‘Bingo!’

Go: Put the coins in the box or hat, then give each player a bingo card and about a dozen markers. To play the game, choose a coin and hold it up. As you hold each denomination of money, ask these three questions:

- ‘What am I holding up?’
- ‘How much is it worth?’

Then each player puts a marker in every box on the card that says the amount just held up. When one of you calls out ‘Bingo!’ ask your child to remove each marker and read out the money values underneath. Now you’re ready to play again.

Computation

PARENTS: You probably don't remember a time when you didn't know that adding two groups of things gives you one larger group, while taking away something from one group leaves you with a smaller group. But these fundamental mathematical concepts are likely to have only been introduced to your child in Reception. It is important, especially during the early stages of Year 1, that the concepts of addition and subtraction continue to be practised with concrete objects in order to secure your child's understanding.

The activities that follow use concrete objects to help your child understand what happens when groups of things are added together or taken away. By working with concrete objects, your child will learn that addition requires counting forward, while subtraction requires counting backward. The activities also introduce the + and - symbols. Some children can make an immediate connection between joining or separating groups and using symbols to describe what happens. Other children need a little more time to see this connection. Also, while some children might memorise specific addition and subtraction facts such as $2 + 2 = 4$, don't expect or demand it of all Year 1 children. That ability will come after your child understands the basic concepts.

Activity 1: Addition

PARENTS: Before you begin this activity, it may help to read aloud the following introduction to addition with your child:

When two groups of things are put together, it's called addition. There are 3 flowers in a vase. If you pick 2 more flowers and put them in the vase, how many flowers are in the vase now? This is an addition problem, because you start with 3 flowers and add 2 more. After the flowers are added, there are 5 flowers. To show what happens, you can write



$$3 + 2 = 5$$

The sign + means 'plus'. It shows that you are adding.

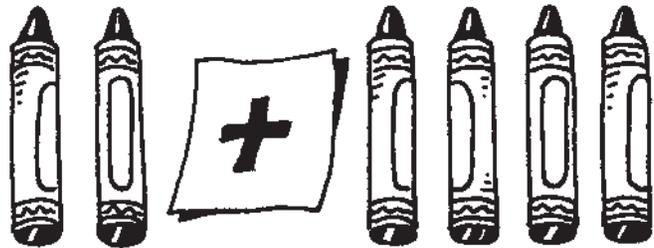
The sign = means 'equals'. It shows that two amounts are the same:

$$3 + 2 \text{ is the same as } 5$$

$$3 + 2 = 5$$

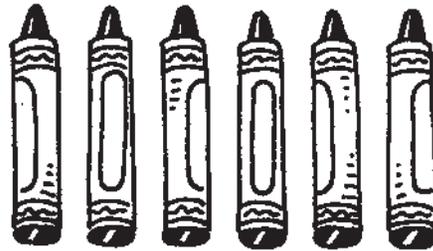
Get Ready: Gather 10 objects of the same kind, such as crayons, blocks, pebbles, or pennies. Put some of the objects in one pile and some in another pile. (When you start out, you do not have to use all the objects.) Draw a large plus sign on a slip of paper and place it between the two piles. Tell your child that the two of you are going to play an addition game.

Go: Have your child count how many crayons are in each pile and tell you how many. Tell him that you are going to add the two piles to make one new pile. Point to the plus sign between the piles to show what you will do. Then put the piles together. Ask your child to count the crayons and tell how many there are now.



Talk and Think: After you make the new pile, ask:

- ‘How did we make the new pile?’
- ‘How many crayons are in the new pile?’
- ‘Were the other piles bigger than this pile?’
- ‘Is this the biggest pile?’



Repeat this activity several times with different-size piles so your child can practise adding various combinations up to 10.

Go a Little Further: Ask your child to do some simple addition mentally. Here’s how: display two groups that each contain just one or two items. Have your child count the items in each pile. Ask him to put both groups into a bag. Close the bag. Ask him to tell you how many objects are in the bag. Then he can open the bag and count the new group. Repeat this several times with different-size piles.

Activity 2: Subtraction – the take-away game

Get Ready:

You will need:

a small group of no more than 5 objects of the same kind, such as buttons or pebbles



Go: Tell your child that you're going to play a number game. Put the buttons on a table and ask your child to count them. While she watches, cover some of the buttons with your hand and slide them a few centimetres away (keeping them under your hand). Then ask:

- 'How many buttons did you count before?'
- 'How many buttons do you see now?'
- 'Can you tell how many were taken away?'

Talk and Think: After she tells you, lift your hand to show the missing buttons. Tell her that when you took away some of the buttons, you were subtracting. Ask:

- 'How did you know how many buttons I took away?' If your child has trouble with these questions, put all the buttons back on the table. Have her count them again. Then take one button away while she watches. Ask:
- 'How many buttons am I taking away?'
- 'How many are left?'

Go a Little Further: As your child begins to understand subtraction, you can use more than five objects in the group. You can also try reversing roles, and let her take away the items. For fun, you can occasionally 'guess wrong' and have her tell you how many items she removed.

As your child repeats this activity, remind her that when you take away buttons, you are subtracting a number.

Activity 3: Addition and subtraction stories

Get Ready:

You will need:

5 to 10 index cards, a pencil or marker

Write a plus sign on one of the index cards, a minus sign on one, and an equals sign on another.

Tell your Year 1 child that you're going to tell some number stories. Show each sign to your child and remind him what each symbol means.

Go: As your child listens, tell a number story about a family event. For example, you might tell him about the time that Uncle Ralph was a boy and ordered five hot dogs but could eat only four.



PARENTS: Put your hand over 4 of the hot dogs to show 'taking away' the hot dogs that Uncle Ralph ate.

Talk and Think: Use the plus, minus and equals signs as you tell the story. Ask:

- 'How many hot dogs did Uncle Ralph order?' (Put a 5 on one card.)
- 'How many did he eat?' (Put a 4 on a card.)
- 'How many were left?' (Put a 1 on a card.)
- 'How could you use a plus sign [+] or a minus sign [-] to tell the story?'



Using the index cards, help your child write an addition or subtraction sentence that tells his story, for example, $5 - 4 = 1$. Have him read the numbers and symbols aloud: 'Five minus four equals one,' as he points to each card.

Go a Little Further: Have your child tell another story using the same addition or subtraction sentence. The story can be about something that really happened or something he makes up.

Measurement

PARENTS: Your Year 1 child probably uses words that describe size such as 'big', 'smaller', 'long', 'tall' and 'taller.' These words show that she recognises size relationships. This important skill is fundamental not just to mathematics but to science, geography, and even story telling.

Children need to learn that measuring is one way of describing something—for example, how big, hot, heavy, or tall something is, or how long something takes to do. Children also need to learn that measuring is a way to compare objects in terms of such qualities as size, weight, and capacity.

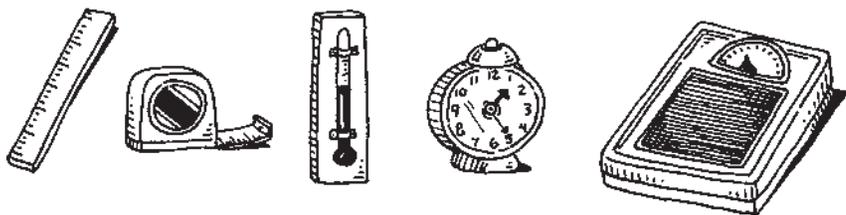
Year 1 children generally have little trouble comparing things by placing them next to each other, but they are only beginning to understand measurement. The activities that follow will help your child recognise the standard measuring tools. Don't expect your child to be able to use the tools to measure. Your child should, however, be given opportunities to use arbitrary units, such as paper clips or footsteps, to measure length.

Activity 1: Measurement tools

Get Ready: Let your child help you gather some household measurement tools such as a ruler, tape measure, thermometer, clock, and bathroom scale.

Go: Tell her that these are all tools used to measure things. For each tool, ask:

- 'Do you know the name of this one?'
- 'Do you know what we use this for?'



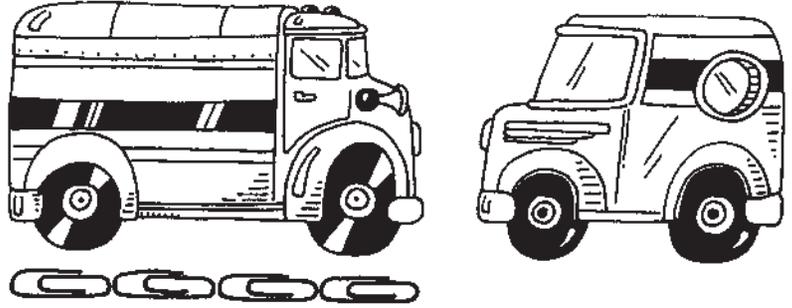
Talk and Think: To help her focus on how these tools are used, ask:

- 'Which tool tells us what time it is?'
- 'Which tool tells us how hot or cold it is?'
- 'Which tool tells us how heavy something is?'
- 'Which tools tell us how long something is?'

Activity 2: Measuring with paper clips

PARENTS: When children first learn to measure, many of them have difficulty measuring with rulers that use standard units such as centimetres or inches. To help a child understand concepts of measurement and why we measure using units like centimetres, it is generally helpful to begin by asking your child to use a set of identical objects, such as paper clips, to measure the length of an object.

Get Ready: Get together a few pairs of similar items to measure, such as two books, two cereal boxes or two toy trucks. The items in each pair should be of different sizes. Also have ready a bunch of paper clips (all the same size) to use as measuring tools.



Go: Tell your child that the two of you are going to measure some items. Show him the pair of books and ask:

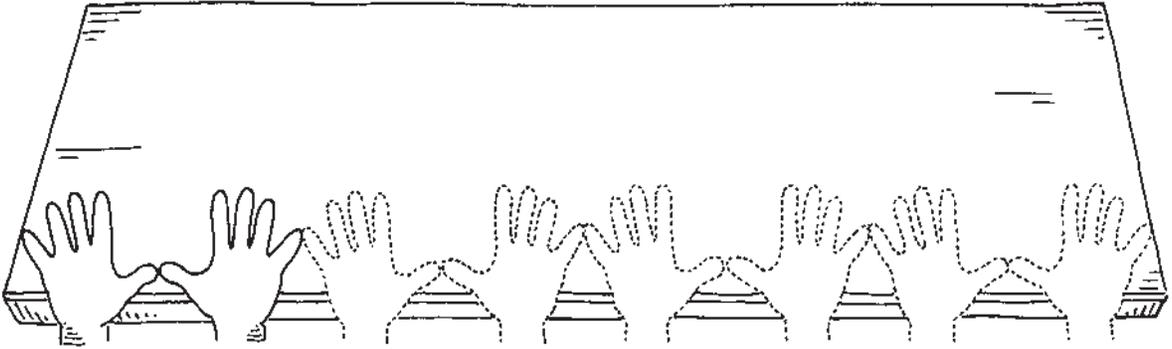
- ‘Which book looks bigger?’
- ‘How can you find out which is bigger?’ Your child may say that one book looks bigger, or he may hold the books next to each other to compare. Give your child some paper clips. Help him measure the book. Line up the clips one by one along the binding side of one book until you reach the end of the book. Do the same with the other book. Ask:
- ‘How many paper clips long is this book?’
- ‘How many paper clips long is that book?’
- ‘How can you tell which book is longer?’

Go a Little Further: Have your child hook the paper clips together after measuring each of several items. Then ask him to arrange the paper clip chains in order from shortest to longest.

You can also have your child make a paper ruler by tracing a paper clip several times, end to end. Have him use his new ruler to measure length. As he becomes familiar with using the paper ruler, provide a centimetre ruler and help him investigate how to measure small objects with this tool.

Activity 3: Measuring with hands and feet

Get Ready: Tell your child that you're going to measure some items using your hands.



Go: Spread out your hand and have your child do the same. As your child watches, measure a table by alternating hands the length of the table. Ask her to count the number of hands it takes to measure the table. Ask:

- 'How many hands long is the table?'
- 'Will the table still be [number of] hands long if I measure it again?'
- 'How long is the table if we use *your* hand?'
- 'Why does it take more of your hands to measure the table than mine?'
- 'What about our feet? Do you think it takes more hands or more feet to measure the table?'

Go a Little Further: Show your child how you can use your feet to measure an item, like a small rug, by counting as you place one foot in front of the other. Then have your child use the length of her foot to measure the table by cutting out a paper foot length, using your child's foot as a model. Show her how to use this paper foot to measure the length of the table. She can also measure other furniture and spaces using this paper tool.

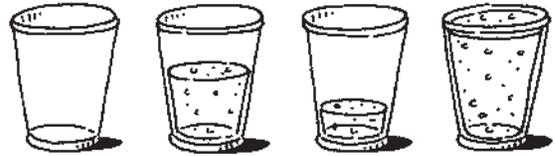
Activity 4: Full, half-full, and empty

Get Ready: You will need four identical glasses and a jug of water.

Go: Arrange the glasses in a row and fill up one glass with water. Fill another glass half-full. After that, pour a small amount of water into the glass next to the half-full glass. This glass should be less than one-quarter full. The glasses should not be in order from full to empty.

Talk and Think: Have your child compare the water levels. Ask:

- ‘Which glass is full?’
- ‘Which glass is half-full?’
- ‘Which glass is empty?’
- ‘Are the glasses in order from full to empty?’
- ‘Can you put them in order?’



Go a Little Further: Add another glass that is half-full. Have your child decide which glass is ‘as full as’ the new one.

Activity 5: Heavy and light

Get Ready: Ask your child to help you pick out several different items of different weights, such as books, pebbles, and blocks. You can also use grocery items of different weights.

Go: Put all the items on a table. Ask her to pick something heavy from the group.

Talk and Think: To help your child recognise the difference between heavy and light ask:



*Which child is holding something light?
Which child is holding something heavy?*

- ‘Why did you pick this [name of item]?’
- ‘Is it hard to lift? Can you find something that is harder to lift?’
- ‘Can you find something that is easier to lift?’
- ‘Can you find something that is light? Is it very easy to lift?’

If your child has difficulty understanding which object is light, you can pick up a light object and say, ‘This is not very heavy at all – it’s light; it’s very easy to lift.’ This will help her recognise that heavy things are hard to lift, while light things are easy to lift.

Then ask your child to choose two items. Ask:

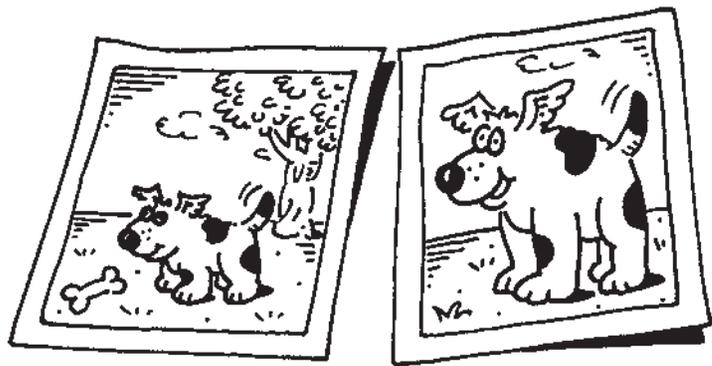
- ‘Which item is heavier? Why?’

Go a Little Further: Choose three items of obviously different weights. Ask your child to arrange the three items in order of weight, from heavy to light.

Activity 6: Long and short events

Get Ready: Gather some photos or picture books that convey the idea of things that take a long time. For example, they might involve a car or train trip that takes all day or the growth of a pet or plant.

Go: Ask your child to listen as you tell him about something that takes a long time. Show

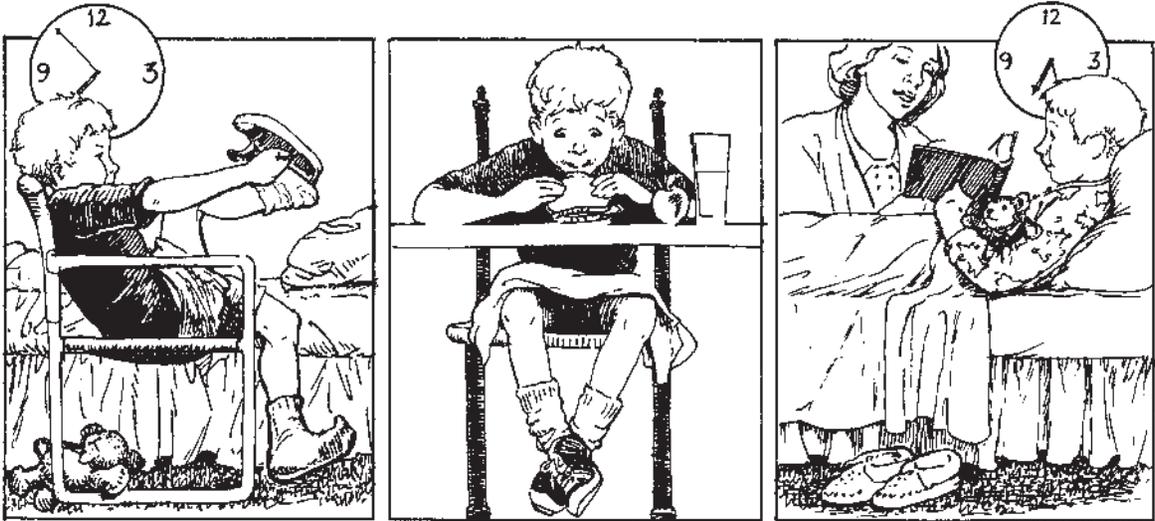


the pictures you’ve gathered as you tell your story. Then, ask your child to tell you about something that he thinks takes a long time. Next, give one or two examples of things that take a short time, such as snapping your fingers, clapping, or eating a biscuit. Ask your child to tell you about some other things that take a short time.

Talk and Think: To help him become more familiar with long and short events, you can ask questions like:

- ‘Which would take longer: combing your hair or going from our home to school?’
- ‘Which would take longer: pouring a glass of water or reading a whole story?’

Activity 7: Before and after; morning, afternoon, and evening



Get Ready: A good time to begin this activity is in the evening, before your child's bedtime. Ask your child to tell you about some of the things she did today.

- 'Did you play today?'
- 'Did you eat lunch?'
- 'Did you brush your teeth?'

Go: Tell your child you want to talk about the parts of the day – morning, afternoon, and evening. Then ask:

- 'What do we do in the morning?'
- 'What do we do in the afternoon?'
- 'What do we do in the evening?'

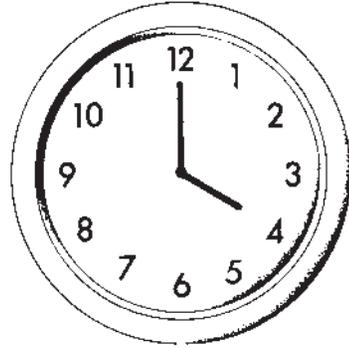
Talk and Think: To follow up, you can ask:

- 'Did you eat breakfast in the morning, the afternoon, or the evening?'
- 'Did you eat breakfast before or after you got dressed?'
- 'Did you come home from school in the morning, the afternoon, or the evening?'
- 'Did you eat supper before or after you came home from school?'
- 'What part of the day is it now? Is this the morning, the afternoon, or the evening?'

Activity 8: What time is it?

Get Ready:

You will need:
a sheet of coloured paper
scissors
a paper plate
a marker or a crayon
a split pin



To make clock hands, cut two narrow strips from the coloured paper: one strip should be longer than the other. Then, have your child help you turn the paper plate into a clock face by numbering around the rim from 1 to 12. Finally, use the split pin to attach the ends of both strips to the centre of the clock face. Your child can use this homemade clock face to show different times.

Go: Put a real clock on a table. Use a clock with two hands and twelve numbers rather than a digital clock. Discuss the clock with your child. Point out the twelve numerals. Tell him that the short hand is the hour hand. It indicates what hour it is. The long hand is the minute hand. It shows the minutes.

Set the clock to show 4 o'clock. Point out how the short hand points to the hour and the long hand points straight up, to 12. Tell your child you can see what hour it is by looking at the short hand. Go over another example, such as 5 o'clock: point out that the long hand points straight up, to 12, while the short hand points to the 5.

When your child confidently recognises the o' clock times, introduce her to half past the hour. Move the long hand down to six – making sure she sees this happen. Tell your child this means 'half past', point to the number that the short hand has just travelled past and say 'half-past [hour]'.

Then ask:

- 'Where is the short hand pointed?'
- 'Where is the long hand pointed?'
- 'Can you say what time it is?'
- 'Can you show the same time on your clock?'

Talk and Think: Set the clock to show 8 o'clock and then 9 o'clock. Each time, ask:

- 'Where is the short hand pointed now?'
- 'Can you say what time it is?'
- 'Can you show the same time on your clock?'

You can continue the activity by having her name the time shown as you move the short hand to other numerals on the clock. Show only whole and half hours. Don't expect your child to recognise parts of an hour, such as 5, 10, or 20 minutes before or after the hour.

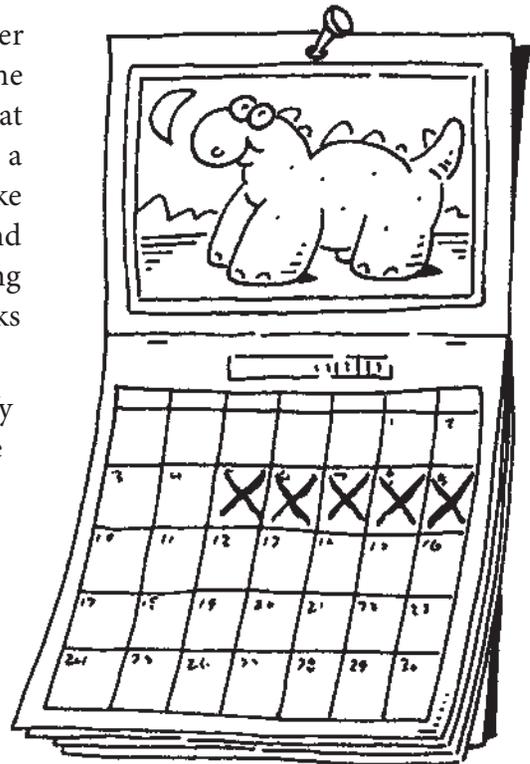
Go a Little Further: Have your child help you keep track of the time until it's time for a snack or a story. About ten or twenty minutes before the hour of the activity, tell him that you will have a snack at (the next hour) o'clock. Several times before the hour, ask your child if it's time yet. You can also tell your child to let you know when it's time.

Activity 9: The calendar

Get Ready: You will need a calendar, preferably one with big, easy-to-see numbers.

Go: Show your child the calendar. Remind her that a calendar is a way of keeping track of time and of showing what day today is. Explain that every day is part of a week and also part of a month. Have her touch the line of days that make up a week. With your help, have her point to and say the names of the days of the week, starting with Monday. Then have her touch all the weeks that make up the month.

Show her today's date on the calendar. Identify today by the day of the week, the date, and the month; for example: 'This is Wednesday, the fifth of October.' Have her mark an 'X' in the box for today's date on the calendar. Explain that tomorrow you will mark tomorrow's date. Set aside a regular time each morning to mark the calendar.



Talk and Think: When you and your child mark the calendar every day, have her tell you what day of the week it is. When she answers, follow up by telling her the more complete date: ‘Yes, today is Wednesday. Today is Wednesday, the fifth of October.’ Then say:

- ‘Today is Wednesday. Do you know what day it will be tomorrow? What day was it yesterday?’
- (On a Friday) ‘Today is Friday. What things do we usually do on Friday? Tomorrow is Saturday. What things do we usually do on Saturday?’

Most Year 1 children don’t have a good sense of long-term time, so ask about events that happen on a single day or on the same day every week.

Go a Little Further: As your child becomes familiar with the calendar, ask:

- ‘Can you name the days of the week in order, starting with Monday?’
- ‘How many days are there in a week? How can you find out?’
- ‘How many days are in this month? How can you find out?’

Geometry

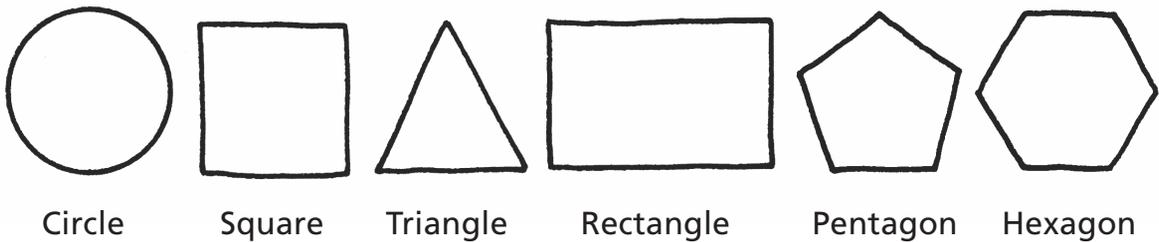
PARENTS: Year 1 children are likely to already recognise and name the first four basic 2D shapes – squares, circles, triangles and rectangles – and may be able to use words of position and direction to tell you where things are. The activities in this section will help you introduce more basic shapes and words of position and direction to your child and describe the properties of shapes. Beyond these activities, you can use lots of everyday opportunities to give your child practice with shapes and words of position and direction. For example, you might ask, ‘What shape is that piece of pizza? That’s right, it’s a triangle. Can you point to its corners?’ Or, while reading aloud, you can point to a picture and ask, ‘Can you tell me where the troll is? That’s right, he’s under the bridge.’

Activity 1: What's that shape?

Get Ready:

You will need: cardboard, scissors, markers or crayons, a brown paper bag

With your child, look at these pictures of the six basic shapes. Say their names aloud as you point to them and run your finger around their outline. As you run your finger around the shapes, explain their properties, for example, 'This is a side and this is a corner.' Show your child how to count sides by running your finger along each one. Show your child how to count corners by pointing to each one.



You can point out that a square and a rectangle are alike: they both have four sides. But in a square, the sides are all the same.

Now tell your child that you are going to make shapes like these and play a game. Cut from cardboard several of each of the six basic shapes. They should be about 10 centimetres by 10 centimetres. Your child can colour or decorate the shapes as you cut them.

Go: Let your child put the shapes in the bag. Then hold the bag so your child cannot see into it. Ask him to reach into the bag (with one or both hands) and, without looking, to pull out a circle. If he brings out one of the other shapes, show him the picture of a circle and try again. Repeat this game with all the shapes.

Talk and Think: After playing with all the shapes, ask your child, when he pulls out a correct shape, how he knew it was a (shape name). Ask your child:

- 'How many sides does it have?'
- 'Can you count the corners?'

Activity 2: Shape and size

Get Ready:

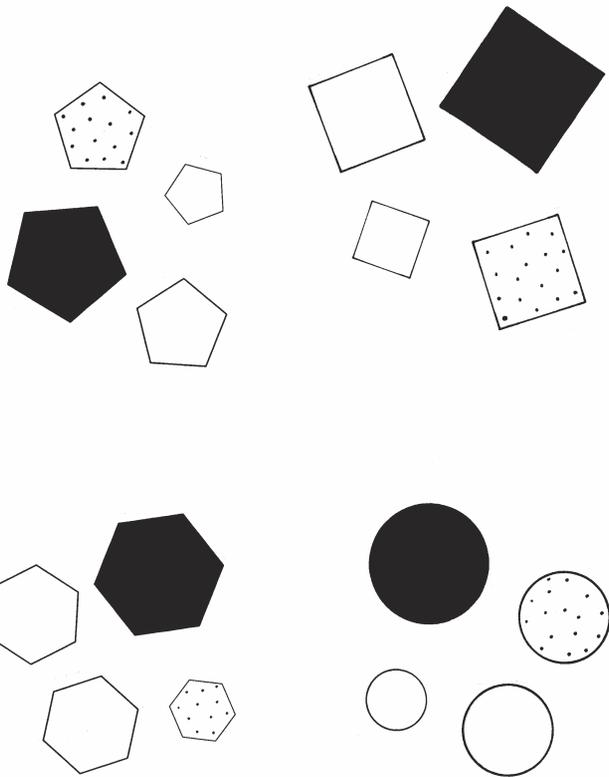
To make twenty-four shape cut-outs, you will need:

stiff paper or cardboard

scissors

markers, crayons, or other decorations like stamps or stickers

Cut out four of each shape. Two of the cut-outs of each shape should be the same size, a third should be smaller than the others, and a fourth should be larger than the others. As you make the shapes, ask your child to tell you the name of each shape. Your child can colour or decorate the shapes as you cut them.



Go: Put the shapes on a table and mix them up, turning some at different angles. Choose one and ask your child to find another cut-out that has the same shape.

Talk and Think: To help her compare the shapes, ask:

- 'Are the two shapes the same size?'
- 'Is the shape you chose larger or smaller than the first one?'

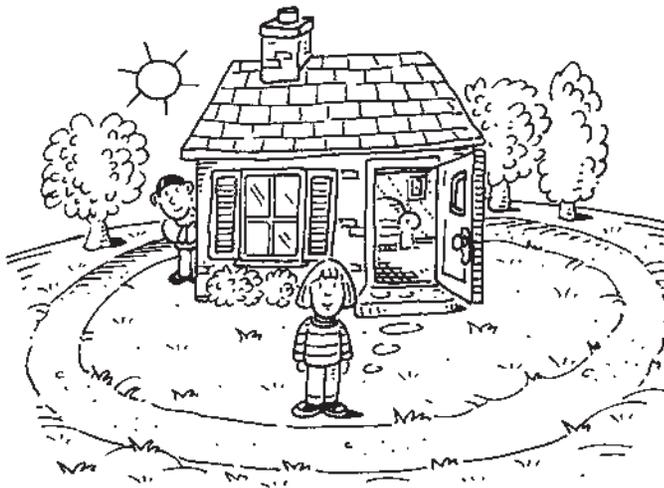
Go a Little Further: You can extend the game by picking up a shape and asking your child:

- 'Can you find another piece that's the same shape and size as this?'
- 'Can you find another piece that's the same shape as this but [bigger or smaller]?'
- 'What is the name of this shape? Can you pick out all the other pieces that are the same shape?'

Activity 3: Where is it? Using words of position and direction

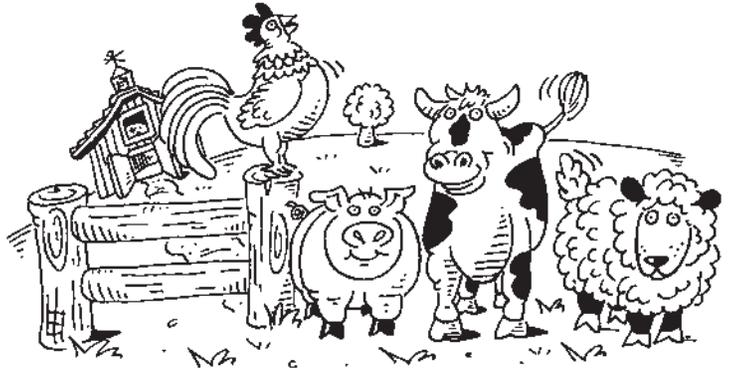
PARENTS: Direct your child's attention to the pictures below. Ask questions that will encourage your child to use position words in his answers. You can model the use of position words by answering the first two or three questions yourself.

- 'Where is the lamp?' (The lamp is on the table.)
- 'Where is the cat?' (The cat is under the table.)
- 'Where is the balloon?' (The balloon is over the table or next to the lamp.)
- 'Where is the girl?' (The girl is next to the table.)



- 'Is the door open or closed?' (The door is open.)
- 'Is the window open or closed?' (The window is closed.)
- 'Is the girl in front of the house or behind the house?' (The girl is in front of the house.)
- 'Is the boy in front of the girl, or is he behind the girl?' (The boy is behind the girl.)
- Are the children inside the house, or are they outside the house?' (The children are outside the house.)
- 'Do you see where the path goes?' (It goes around the house.)

- 'Do you see the cow?' (The cow is between the pig and the sheep.)
- 'Is the pig to the left of the cow, or is the pig to the right of the cow?' (The pig is to the left of the cow.)
- 'Is the sheep to the left of the cow, or is the sheep to the right of the cow?' (The sheep is to the right of the cow.)
- 'Is the rooster above the pig, or is the rooster below the pig?' (The rooster is above the pig.)
- 'Is the pig below the rooster, or is the pig above the rooster?' (The pig is below the rooster.)
- 'Does the tree look like it is near the animals or far from the animals?' (The tree looks like it's far from the animals.)
- 'Is the pig near the fence, or is the pig far from the fence?' (The pig is near the fence.)



Activity 4: Simon Says

Get Ready: This game emphasises right and left, but you can also use other directional words, such as 'behind', 'beside', 'between', 'above', 'below', 'under', 'far from', 'near', 'inside', 'here' and 'there'.

Go: Tell your child that you are going to play a game of Simon Says. If she does not know the game, explain that she is to do what you say only if you use the words 'Simon says'. If you tell her to do something without saying 'Simon says', she should not do it.

Play the game by giving commands that use directional words, especially 'left' and 'right', such as:

- 'Simon says: Put your right hand on your hip.'
- 'Simon says: Put your left hand on your chin.'
- 'Simon says: Put your left hand on your tummy.' Occasionally give commands that do not begin with 'Simon says'.

Talk and Think: To get your child to focus on directional words, after playing for a while, ask:

- 'Which commands were hard to follow?'
- 'Which were easy?'

Go a Little Further: If your child has no difficulty with left and right, make the commands harder by using more directional words. For example, instead of saying 'Put your right hand on your neck', say 'Put your right hand behind your neck'. Or, 'Put your right hand beside your left knee.'