Children should be taught to:	As end-of-year outcomes, children should, for example:
Recognise and recreate simple patterns	Talk about and describe simple patterns, based on experience with patterns from different cultures: on ornaments, in necklaces and bracelets, on textiles, pottery, carpets... Use sets of shapes, printing, collage, weaving, bead threading, computer programs or other media to make own repeating patterns such as: *cotton reel, sponge, cotton reel, sponge...* *thumb print, palm, palm, thumb print, palm, palm...* Talk about, copy and continue repeating patterns of sounds or movements in music or dance, such as: *tap, tap, pause, tap...* on the tambourine; *hop, hop, jump...* in PE.
Solve simple problems or puzzles in a practical context, and respond to 'What could we try next?'	Solve simple problems or puzzles in a practical context. For example, explore different ways of: • distributing four play-people in and out of a house; • arranging five ladybirds on two leaves; • choosing three items from the classroom 'café' menu; • choosing a domino with a total of six spots; • distributing seven buttons between two boxes; • putting three cakes of different shapes in a line in a box; • breaking up four squares of chocolate; • building a tower of bricks as tall as the cupboard; • putting together the pieces of a cut-up birthday card; • making equal an unequal number of spots on each wing of a butterfly... Talk about and record in own way how the problem was solved. Suggest what to try in response to 'What could we try next?' For example, suggest distributing five play-people in and out of the house, or five ladybirds on three leaves...

Children should be taught to:	As end-of-year outcomes, children should, for example:
Make simple estimates and predictions	Make estimates and other predictions, giving reasons for them. For example: • Play Kim's game to find matching pairs of shapes, patterns or numbers. • Say what is hidden when an element in a pattern is covered up, or two elements are changed over. • Predict who will say 8 when counting round a circle of children. • Predict what will come next in a calculator display (in a teacher demonstration) when it is set to count in ones. • Say which numeral or other shape (made of wood or plastic) is hidden in a feely bag. • Estimate then check how many... cars will go in the garage, cakes will fit in this tin, strides it takes to cross the room, cups can be filled from this jug...  **See also estimating numbers (page 8).**
Sort and match objects, pictures or themselves	Begin to understand and use in practical contexts: *sort, match, count...* *Sorting* Sort things as part of classroom routines, such as tidying up: for example, putting cutlery in the cutlery tray, coins in the cash till, books on shelves... Respond to a given criterion for sorting, then suggest own criterion. For example: • Sort and display objects according to their characteristics. For example, in science activities sort objects that are shiny or dull, hard or soft, rough or smooth... • Sort and count the children themselves. Respond to a single criterion, such as all those who have brown eyes, are wearing trousers, are five years old... • Sort, match or order flat or solid shapes and explain how they have been sorted, matched or ordered.

Children should be taught to:

Use developing mathematical ideas and methods to solve practical problems involving counting and comparing in a real or role play context

As end-of-year outcomes, children should, for example:

Solve problems in everyday life in the classroom, or in role play. Make decisions about what to do. Explain orally and, where appropriate, record the solution in own way. For example, respond in practical situations to questions such as:

Comparing

- Are there enough mugs on the table for us all to have a drink? How many more do we need?
- Are there enough cars for the play-people to drive?
- Are there more blue bricks or more red bricks in this pile? How can we find out?
- Are there enough stamps to give everyone two?

Counting: adding and subtracting

For examples, see adding and subtracting (pages 14–17).

Counting: doubling and halving

Use vocabulary such as:
double, half, halve, pair...

- How many shoelace holes are there?
- How many slices of bread do we need to make 4 whole sandwiches for the 'café'?
- How many eggs will fill this box?
- Can you cut the cake in half? How many pieces?
- Fill half the tarts with strawberry jam and half with lemon curd.
- How many cakes in the box? Take half of them out. How many did you take out? How many are left?
- Put half of: the sheep in the field... the cars in the garage... the dinosaurs in the forest... the animals in the ark...
- How many pairs of socks are in the 'launderette'? Are any left over?
- Find a partner. How many children are there? How many pairs?

Counting: repeated addition, grouping or sharing

Use vocabulary such as:
share, group, left over, how many times?...

- How many wheels do we need for these three Lego cars?
- How should we plant the daffodil bulbs in these three pots? Is there a way of doing it so that they all have the same number? Are any left over?
- Count out these stickers round the circle of children. How many times will they go round? Are any left over?
- Can we share out these cakes fairly? How shall we do it?

Solve problems based on stories such as:
The Giant Jam Sandwich... The Bad-Tempered Ladybird... The Very Hungry Caterpillar... New Clothes for Alex... Goldilocks and the Three Bears... The Little Gingerbread Boy...

See also solving simple problems or puzzles (page 18).

Children should be taught to:	As end-of-year outcomes, children should, for example:
Begin to understand and use the vocabulary related to money; begin to recognise coins and use them in role play to pay and give change	Begin to understand and use in practical contexts: *coin, penny, pence, pound, price, cost, costs more, costs less, total, pay, change, how much?... how many?* Use coins to pay for things or buy things in the class 'shop', tickets on the 'bus', at the 'funfair' or 'skittle alley'... recognising that coins are used to pay and give change. Distinguish coins. For example: • sort money into spaces in a shop till, e.g. 10p, 50p, £1, £2; • feed 20p or 50p coins into a pretend drinks machine or car park ticket machine; • buy 20p stamps, using 20p coins; • in the 'pound shop', buy items costing £1, using £1 coins... Play money games. For example, roll dice to collect £1 coins to the value of £10... or 1p coins to the value of 10p. Choose and use the appropriate number operation to solve 'story' problems involving money. Explain orally and, where appropriate, record in own way how the problem was solved. For example, respond to: Find how much altogether, or give change. • Jim had £5. He spent £3. How much did he have left? • Rosie had a 10p coin. She spent 1p. How much change did she get? • How much altogether is 1p and 1p and 1p and 1p? Begin to recognise that some coins have a greater value than others, and will buy more: for example, 2p is worth more than 1p; 5p is worth more than 2p; £2 is worth more than £1. For example: • Begin to count up how much this is altogether.  For example, respond to: • Sunita spent 1p and 2p on toffees. What did she pay altogether? • Chews cost 2p each. How much do 2 chews cost? • In the 'pound shop', everything costs £1. Work out the total cost of a basket of items (up to about 6): for example, 2 tins of paint, 2 brushes and 1 roll of paper. Work out what to buy and how to pay. For example: • James paid 3p for chews. What coins could he use? What if he paid 4p? • An apple costs 6p. Which two coins would pay for it? • Which three coins make 5p? How else could you make 5p? Begin to read and write prices such as 8p or £4. • Count penny or pound coins. Watch while I write how much. Now find a price label to match how much. • Make price labels on items in the class 'shop' (drawn, symbolic, written)... and match penny coins to them. Extend to using combinations of 2p and 1p coins.