

## Key Ideas in Year 6

- Use knowledge of place value and tables to  $10 \times 10$  to find facts involving decimals (e.g.  $6.3 \div 7 = 0.9$ ).
- Multiply and divide decimals by 10 or 100 in their heads, (e.g.  $2.5 \times 6$ ;  $3.2 \div 4$ ;  $9.8 + 4.1$ ;  $10.3 - 5.7$ ;  $24 \times 8$ ;  $96 \div 3$ ).
- Put numbers, including decimals, in order of size, e.g. 1.06, 0.099, 0.25, 1.67. Round them and position them on a number line.
- Use pencil and paper to add and subtract decimals, (e.g.  $3.91 + 8.04 + 24.56$ , or  $13.3 - 1.27$ .)
- Use pencil and paper to multiply and divide, (e.g.  $387 \times 46$ ,  $21.5 \times 7$ ,  $539 \div 13$ ,  $307.6 \div 4$ ).
- Express one quantity as a % of another (e.g. £400 as a percentage of £1000); find equivalent fractions, decimals and percentages.
- Know square numbers up to  $12 \times 12$ ; know that prime numbers only have 2 factors and identify prime numbers to 100.
- Find fractions and percentages of whole numbers quantities, (e.g.  $\frac{5}{8}$  of 96, 65% of £260 etc). Express remainders as decimals or fractions.
- Estimate angles and use a protractor to measure them.
- Order a set of fractions by converting them to fractions with a common denominator; simplify fractions by cancelling common factors.
- Select and use units of measure and convert between units using decimals to two places (e.g. 2.75kg to 2750g) and vice versa.
- Solve word problems, continue sequences (including negative numbers) and explain their methods and reasoning.
- Visualise and draw shapes with reflections, translations and rotations through  $90^\circ$  and  $180^\circ$ .
- Solve problems by collecting, selecting, processing, presenting and interpreting data; drawing conclusions and identifying further questions to ask.

# Supporting your child in maths



**A booklet for Year 6 parents**

Help your child with mathematics

## Activities to do at home

### Favourite food

- ◆ Ask your child the cost of a favourite item of food.  
Ask them to work out what 7 of them would cost, or 8, or 9.  
How much change would there be from £50?
- ◆ Repeat with his / her least favourite food.  
What is the difference in cost between the two?

### Sale of the century

- ◆ When you go shopping, or see a shop with a sale on, ask your child to work out what some items would cost with:
  - 50% off
  - 25% off
  - 10% off
  - 5% off
- ◆ Ask your child to explain how she worked it out.

### TV addicts

Ask your child to keep a record of how long he / she watches TV each day for a week. Then ask him / her to do this.

- ◆ Work out the total watching time for the week.
- ◆ Work out the average watching time for a day (that is, the total time divided by 7).

Instead of watching TV, you could ask them to keep a record of time spent eating meals, or playing outdoors, or anything else they do each day. Then work out the daily average.

### Four in a line

Draw a 6 x 7 grid.

Fill it with numbers under 100.

26	54	47	21	19	5	38
9	25	67	56	31	49	13
39	41	6	1	75	28	90
14	50	81	23	43	4	37
45	29	72	34	7	58	17
36	2	55	11	22	40	42

- ◆ Take turns.
- ◆ Roll three dice, or roll one dice three times.
- ◆ Use all three numbers to make a number on the grid.
- ◆ You can add, subtract, multiply or divide the numbers, e.g. if you roll 3, 4 and 5, you could make  $3 \times 4 - 5 = 7$ ,  $54 \div 3 = 18$ ,  $(4 + 5) \times 3 = 27$ , and so on.
- ◆ Cover the number you make with a coin or counter.
- ◆ The first to get four of their counters in a straight line wins.

### Rhymes

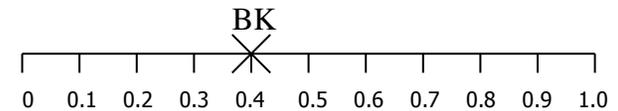
Make up rhymes together to help your child to remember the harder times-tables facts, e.g.

6 x 7 = 42 phew! 7 x 7 = 49 fine! 6 x 8 = 48 great!

### Three in a row

For this game you need a calculator.

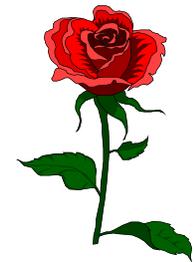
Draw a line like this:



- ◆ Take it in turns to choose a fraction, say  $\frac{2}{5}$ . Use the calculator to convert it to a decimal (i.e.  $2 \div 5 = 0.4$ ) and mark your initials at this point on the line.
- ◆ The aim of the game is to get 3 crosses in a row without any of the other player's marks in between.
- ◆ Some fractions are harder to place than others, e.g. ninths.

### Flowers

- ◆ Take turns to think of a flower.

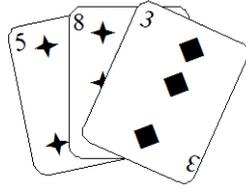


- ◆ Use an alphabet code, A = 1, B = 2, C = 3... up to Z = 26.
- ◆ Find the numbers for the first and last letters of your flower, e.g. for a ROSE, R = 18, and E = 5.
- ◆ Multiply the two numbers together, e.g.  $18 \times 5 = 90$ .
- ◆ The person with the biggest answer scores a point.
- ◆ The winner is the first to get 5 points.

When you play again you could think of animals, or countries.

## Card game

Use a pack of playing cards.  
Take out the jacks, queens and kings.



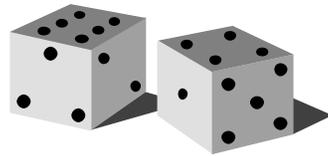
- ◆ Take turns.
- ◆ Take a card and roll a dice.
- ◆ Multiply the two numbers.
- ◆ Write down the answer. Keep a running total.
- ◆ The first to go over 301 wins!

82	33	60	11	73	22
65	12	74	28	93	51
37	94	57	13	66	38
19	67	76	41	75	85
86	29	68	58	20	46
50	69	30	78	59	10

## Remainders

Draw a 6 x 6 grid like this.

- ◆ Choose the 7, 8 or 9 times table.
- ◆ Take turns.
- ◆ Roll a dice.
- ◆ Choose a number on the board, e.g. 59. Divide it by the tables number, e.g. 7. If the remainder for  $59 \div 7$  is the same as the dice number, you can cover the board number with a counter or coin.
- ◆ The first to get four of their counters



## Doubles and trebles

- ◆ Roll two dice.
- ◆ Multiply the two numbers to get your score.
- ◆ Roll one of the dice again. If it is an even number, double your score. If it is an odd number, treble your score.
- ◆ Keep a running total of your score.
- ◆ The first to get over 301 wins.

## Recipes

Find a recipe for 4 people and rewrite it for 8 people, e.g.

4 people

8 people

125g flour

250g flour

50g butter

100g butter

75g sugar

150g sugar

30ml treacle

60ml treacle

1 teaspoon ginger

2 teaspoons ginger

Can you rewrite it for 3 people? Or 5 people?

## Fours

- ◆ Use exactly four 4s each time.
- ◆ You can add, subtract, multiply or divide them.
- ◆ Can you make each number from 1 to 100?
- ◆ Here are some ways of making the first two numbers.

$$1 = (4 + 4)/(4 + 4)$$

$$2 = 4/4 + 4/4$$

## Journeys

Use the chart in the front of a road atlas that tells you the distance between places.

- ◆ Find the nearest place to you.
- ◆ Ask your child to work out how long it would take to travel to some places in England if you travelled at an average of 60 miles per hour, i.e. 1 mile per minute, e.g.

York to Preston: 90 miles 1 hour 30 minutes

York to Dover: 280 miles 4 hours 40 minutes

Encourage your child to count in 60s to work out the answers mentally.

# £1,000,000

## One million pounds

Assume you have £1 000 000 to spend or give away.  
Plan with your child what to do with it, down to the last penny.