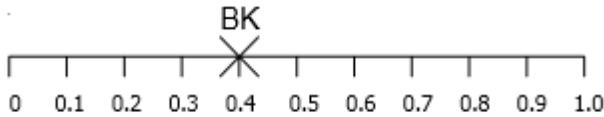


Three in a row

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.

CLEE HILL COMMUNITY

Help your child with
mathematics

ACADEMY



A booklet for parents

Targets for Age Related
Expectations in Year 6

To reach your age related expectation by the end of Year 6, you should be able to:

Number and Place Value

- read, write, order and compare numbers up to 10 000 000 and understand each value.
- round whole numbers
- use negative number and calculate intervals across zero (difference between 6 and -7)
- solve number and practical problems with number
- multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places

Activities to support your child

Draw your own place value board and try multiplying and dividing by 10, 100 and 1000 including decimals.

H	T	U	.	t	h
		3	.	7	6

3.76X 100 =

H	T	U	.	t	h
3	7	6			

The 4 operations (addition, subtraction, multiplication & division)

- multiply numbers up to 4 digits by a two-digit whole number (formal written method of long multiplication)

$$\begin{array}{r}
 32 \\
 \times 24 \\
 \hline
 8 \quad (4 \times 2) \\
 120 \quad (4 \times 30) \\
 40 \quad (20 \times 2) \\
 600 \quad (20 \times 30) \\
 \hline
 768
 \end{array}$$

- divide numbers up to 4 digits by a 2 digit whole number and use whole number remainders, fractions, or rounding.
- divide numbers up to 4 digits by a two-digit number (short division)

Short division

98 ÷ 7 becomes

$$\begin{array}{r}
 14 \\
 7 \overline{) 98} \\
 \underline{7} \\
 28 \\
 \underline{28} \\
 0
 \end{array}$$

Answer: 14

432 ÷ 5 becomes

$$\begin{array}{r}
 86 \text{ r}2 \\
 5 \overline{) 432} \\
 \underline{40} \\
 32 \\
 \underline{30} \\
 2
 \end{array}$$

Answer: 86 remainder 2

496 ÷ 11 becomes

$$\begin{array}{r}
 45 \text{ r}1 \\
 11 \overline{) 496} \\
 \underline{44} \\
 56 \\
 \underline{55} \\
 1
 \end{array}$$

Answer: 45 $\frac{1}{11}$

- identify common factors, common multiples and prime numbers
- use the order of operations (BIDMAS)
- solve problems involving the 4 operations
- use estimation to check answers

Activities to support your child

Flowers, remainders, doubles and trebles, card games

Fractions, decimals and percentages

- use common factors to simplify fractions; use common multiples to express fractions in the same denomination

$$\frac{24}{108} = \frac{12}{54} = \frac{6}{27} = \frac{2}{9}$$

Diagram illustrating the simplification of the fraction $\frac{24}{108}$ to its simplest form $\frac{2}{9}$. The process involves dividing both the numerator and denominator by common factors: 2, 2, and 3.

- compare and order fractions, including fractions > 1
- add and subtract fractions with different denominators and mixed numbers (whole numbers and fractions)
- multiply fractions, writing the answer in its simplest form
- divide fractions by whole numbers
- associate a fraction with division ($\frac{1}{2}$ is the same as $1 \div 2$)
- multiply numbers with decimals up to two decimal places (6×0.5)
- use written division methods (up to two decimal places)
- solve problems which require answers to be rounded
- change simple fractions into decimals and percentages,

Activities to support your child

Make cards on pieces of paper with different fractions, decimals and percentages on ($\frac{1}{2}$ $\frac{1}{4}$ 50% 0.25 etc). Play a range of card games (snap, pairs and simply ordering them)

Ratio and proportion

- solve problems involving ratio
- solve problems involving the calculation of percentages (as 15% of 360)
- Use scale factors
- solve problems involving unequal sharing and grouping

Activities to support your child

When shopping, if an item has 10% off, ask your child to work out how much the saving is and how much the product is now.

Look at some recipes (in books or online). Ask your child to work out what ingredients would be needed to make the recipe for the number in your family or for 10 people or 20 people etc.

Algebra

- use simple formulae ($2a + 6 = 16$: what is a ?)
- generate and describe linear number sequences (what will the fourth number be in a pattern?)
- express missing number problems algebraically
- find pairs of numbers that satisfy an equation with two unknowns
- enumerate possibilities of combinations of two variables. ($2g + w = 10$)

Activities to support your child

Take it in turns to create problems for each other where a letter represents a number. ($a + 7 = 10$: $a = 3$)

Some examples are on www.primaryresources.co.uk under Maths and Simple Algebra.

Measurement

- solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
- use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places
- convert between miles and kilometres
- recognise that shapes with the same areas can have different perimeters and vice versa
- recognise when it is possible to use formulae for area and volume of shapes
- calculate the area of parallelograms and triangles
calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³].

Activities to support your child

When cooking, ask your child to weigh / measure ingredients. Ask questions such as: How many more ml do I need to add to make it up to a litre?

Look at packaging in cupboard / shops. Talk about the weight / capacity of the item / bottle.

Geometry

- draw 2-D shapes using given dimensions and angles
- recognise, describe and build simple 3-D shapes, including making nets
- compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
- illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
- recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
- describe positions on the full coordinate grid (all four quadrants) □ draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Activities to support your child

2D and 3D shapes: Look at objects around the house. Ask your child to say which shape or shapes it is made up of. How many faces, edges or vertices does it have?

Play Guess My Shape: Take it in turns to think of a shape.

The player guessing has 10 questions to ask about the shape to narrow it down. (Is it a 3D shape? Does it have more than 4 faces?) The other player can only answer yes or no. If you can guess the shape within the number of questions, you win a point. If not, the other player wins a point.

Co-ordinates: Play Battleships.

Statistics

- interpret and construct pie charts and line graphs and use these to solve problems
- calculate and interpret the mean as an average

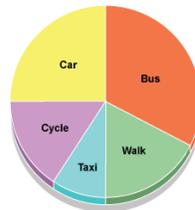
Activities to support your child

Try and look on the Internet at a range of different graphs. Give your child 1 minute to look at it and tell you everything they can about what the graph shows. They get 1 point for each correct point they make.

Then, swap over and you have a go.

Ask them a range of questions about the graph that they haven't told you. The type of questions can be things like:

- How do most people travel to school?
- If this is a survey of 100 people, estimate how many people walked to school?



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!

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 table's 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 in a straight line 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

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.