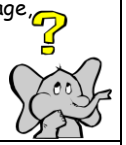
Key Learning Objectives

Using and Applying Mathematics



- I can solve multi-step problems, and problems involving fractions, decimals and percentages, choosing and using appropriate and efficient methods at each stage, including calculator use.
- I can explain how I solved a problem and check to see whether my answer is
- reasonable.
- I can solve problems where symbols are used to indicate unknown quantities.

Counting and Understanding Numbers/Knowing and Using Number Facts

- I can find the difference between a positive and negative integer, or two negative integers, in context.
- I can use decimal notation for tenths, hundredths and thousandths, and partition and order them.
- I can round decimals.
- I can reduce a fraction to its simplest form by canceling common factors 6/12 = ½
- I order fractions by converting them to fractions with common denominators
- I can solve simple problems involving ratio and proportion.
- I can find equivalent decimals, fractions and percentages.
- I can use my knowledge of multiplication tables to 10 x 10 to work out related facts involving decimals e.g. 0.8 x 7, 4.8 ÷ 6.
- I can work out square numbers to 12 x 12
- I know what a prime number is and can identify prime numbers less than 100

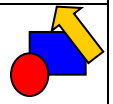
Calculating

- I can calculate mentally with whole numbers and decimals e.g. U.t +/- U.t, TU x U, U.t x U, HTU ÷ U, U.t ÷ U.
- I can use a written method to add, subtract, multiply and divide integers and decimal numbers; calculate the answer to HTU ÷ U and U.t ÷ U to one or two decimal places.
- I can find fractions and percentages of whole-number quantities
- I can carry out calculations involving time by converting hours and minutes to minutes.

Measuring

- I can use standard metric units of measure and convert between units.
- I can measure and calculate imperial units still in everyday use.
- I know approximate imperial and metric measurements.
- I can read scales accurately and record results.
- I can work out the area and the perimeter of rectilinear shapes (L shapes)
- I can estimate the area of an irregular shape by counting squares.

Understanding Shape



- I can make and draw shapes with increasing accuracy.
- I can confidently name 2-D shapes and 3-D solids and discuss their properties.
- I can use co-ordinates.
- I can use a protractor to estimate, measure and draw angles, on their own and inside shapes.

Handling Data

- I can describe and predict outcomes from data using the language of chance or likelihood.
- I can solve a problem by drawing a graph, chart or table and read and understand the information it displays including pie charts.
- I can use the mode, range, median and mean.

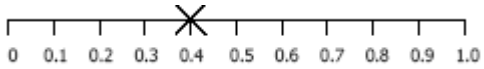
Ideas for home learning activities

Using and Applying Mathematics

- Make up a Trivial Pursuit type game where each colour is a different type of word problem e.g. blue – measurement, orange – time, yellow – multiplication and division etc. Use a computer?
- Make up a 'Millionaire' style game using a program such as Powerpoint. Include some missing number questions.

Counting and Understanding Numbers/Knowing and Using Number Facts

- Look at the weather reports in newspapers or watch the TV weather forecast. Calculate the difference in temperature between different places.
- Look in a catalogue or note down prices in a shop. Put them in order.
- Choose 5 items from the catalogue and use a calculator to work out how much they would cost if they were reduced by 10%, 20% etc. Look out for sale leaflets.
- Three in a row – Draw a line like this.



The aim of the game is to get three crosses in a row without any of the other player's marks in between. Take is in turns to choose a fraction say 2/5 . Use a calculator to convert it to a decimal (i.e. 2 ÷ 5 = 0.4) and mark the line with a colour or your initials. Next player repeats this. How close can they get to your mark?

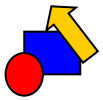
Calculating

- Practise mental manipulation of number at every opportunity.
- Allocate a budget for the week/month – encourage them to keep a record of spending and remaining budget.
- Work out differences in time periods e.g. between lunch and dinner. Calculate journey times from timetables or plane journeys from travel brochures.

Measuring

- Work out the area of different rooms in the house. Draw plans/diagrams so this reinforces the shape as compound (made of rectangles). How much would it cost to carpet different room? Tile it? Lay laminate flooring?
- Draw around irregular shapes on squared paper and estimate areas by counting squares.

Understanding Shape



- Play battleships.
- Accurately reproduce shapes through oral instruction e.g. draw a horizontal line 5cm long then draw a perpendicular line 7cm from the left-hand end … and so on.

Handling Data

- There are more red cars on the road than any other. Collect information to prove/disprove this statement.
- Throw a dice 10 times. Record the scores. Work out the mode (the score that comes up most), the range (the difference between the largest and smallest number thrown), the median (the middle number – put the numbers in order first) and the mean (the average – add up the numbers and divide by 10 – the number of throws).