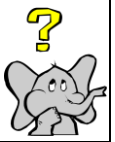
Key Learning Objectives

Using and Applying Mathematics



- I can solve one and two-step problems involving whole numbers and decimals and all four operations, choosing and using appropriate methods, including calculator use.
- I can explain how I worked out a problem and check that my answer is sensible.

Counting and Understanding Numbers/Knowing and Using Number Facts

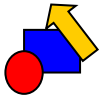
- I can count from any given number in whole-number steps and decimal-number steps extending beyond zero when counting backwards.
- I can explain what each digit represents in whole numbers and numbers with up to two decimal places, and partition these numbers.
- I can solve problems involving proportion e.g. increase or decrease quantities in a recipe
- I can express a small whole number as a fraction of a larger one
- I can find equivalent fraction and I can match fractions to their decimal equivalents
- I understand percentages
- I can add and subtract decimal numbers in my head
- I can recall quickly multiplication facts up to 10 x 10 and the division facts linked to them e.g. 9 x 8 = 72, 72 ÷ 9 = 8, 72 ÷ 8 = 9

Calculating

- I can mentally multiply TU x U
- I can confidently use written methods to work out addition and subtraction calculations including those with decimals
- I can multiply and divide whole numbers and decimals by 10, 100 or 1000
- I can use written methods to multiply and divide HTU x U, U.t x U, TU x TU and HTU ÷ U
- I can find fractions using division
- I can use a calculator to solve problems, including those involving decimals or fractions e.g. to find $\frac{3}{4}$ of 150 g, interpreting the display correctly.

Understanding Shape

- I can identify, visualise and describe properties of rectangles, triangles, regular polygons and 3-D solids
- I can draw 2-D shapes and identify nets of 3-D shapes.
- I can read and plot coordinates
- I can recognize parallel and perpendicular lines; I can use a set square
- I can complete patterns with up to two lines of symmetry
- I can draw a shape after it had been reflected or translated (moved)
- I can estimate, draw and measure angles with a protractor
- I can work out missing angles

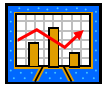


Measuring

- I can read, use and record standard metric units to estimate and measure length, mass and capacity
- I can convert larger units to smaller ones
- I can estimate measures and measure lengths, masses and capacities with accuracy
- I can read timetables and use the 24-hour clock notation
- I can use a calendar

Handling Data

- I can describe the occurrence of familiar events, using the language of chance or likelihood e.g. There's an even chance a baby will be a boy
- I can draw a wide variety of graphs and answer questions about them
- I can answer questions by collecting information and drawing graphs



Ideas for home learning activities

Using and Applying Mathematics

- Devise a problem solving orienteering treasure hunt. Challenge children to solve problems. Give a map with the location of the first clue they must find it, solve and then return to explain what they did before they get the location of the second clue and so on.

Counting and Understanding Numbers/Knowing and Using Number Facts

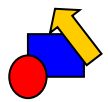
- Write fractions and decimals on different blank playing cards and match them. Use a calculator – point out that $\frac{1}{2}$ is the same as 1 ÷ 2
- Watch the weather forecast, write down the temperatures and order them.
- Whilst out shopping encourage children to round prices up/down and estimate totals.
- Look at recipes and calculate how the ingredients would change if there were more or less people.
- Look for reductions in shops that involve percentages or on products where there is, for example, 20% extra. Discuss what this means.

Calculating

- Use a catalogue like Argos and ask children to choose 5 items under £20. Calculate how much they cost and the change from £100.
- Plan a party or a special celebration with a given budget.
- Give them a budget for the week/month – encourage them to keep a record of their spending and what they have left
- Make a tables game using blank playing cards – write the 'sum' in one colour on one card and the answer in a another colour on a different card. Turn them face down. Pick a pair. Keep if right.
- Make a times tables tape or a video. Use different voices. Link actions to the tables e.g. tables 'Macarena'
- Play tables 'Millionaire'. Devise questions for each stage including tables backwards e.g. how many 8s in 56?

Understanding Shape

- Cut out different triangles and quadrilaterals. Name them. Sort them out. Which have right angles? Which have acute angles? Which have parallel sides?
- Look for example of parallel and perpendicular in the environment e.g. railway lines (parallel), fencing (perpendicular). Look for symmetry.
- Devise a treasure/scavenger hunt using the eight point of the compass
- Take digital pictures of, or draw, 2-D shapes and 3-D objects in the environment
- Look for different shapes boxes and containers. Disassemble them to find out how they are constructed.
- Make Egyptian pyramids of different sizes, different sized dice.
- Make boxes for presents
- Play battleships using two dice to generate the coordinates.



Measuring

- Measure some rectangles in the home e.g. coffee table, bedside cabinet, CD case, DVD case and work out their area. Wrap a 'box' shaped present. How much wrapping paper will be needed?
- How many different quadrilaterals can they draw with a specific area?
- Practise changing centimetres to metres and vice versa. Convert other units of measure.
- Use timetables to plan journeys.

Handling Data

- Look at the temperature and rainfall graphs in an atlas or travel brochure. What times of the year are hottest? Coldest? One weekend record the temperature at set times during the day and draw a graph. Do the same for rainfall over a week.
- Discuss the likelihood of different events.