Maths Targets for pupils in Year 6

A booklet for parents

Help your child with mathematics

For additional information on the agreed calculation methods, please see the school website.

About the targets

These targets illustrate what **most** children will have been taught by the **end** of Year 6. However, some children may need consolidation of earlier objectives, therefore greater focus will be given to these. Some children will have exceeded these targets, and will be working to more challenging objectives.

THE TARGETS

Using and Applying

To be able to identify and obtain necessary information to solve mathematical problems.
To check and spot errors whilst reviewing the methods used.
To show understanding of problems by describing them mathematically using symbols, words and diagrams.
To draw simple conclusions of their own and give an explanation of their reasoning.
To explain and justify their methods and solutions.
To break a several-step problems or investigations into simpler steps.
To solve simple problems involving ordering, adding and subtracting negative numbers in context
To solve simple problems involving ratio and proportion

Number

To use understanding of place value to multiply and divide whole numbers and decimals by 10, 100 and 1000 and explain the effect
To round decimals to the nearest decimal place
To order negative numbers in context
To recognise and use number patterns and relationships.
To add and subtract mixed numbers and fractions
To multiply and reduce fractions and write the answers in its simplest form
To divide fractions by whole numbers
To understand simple ratio, use ratio to show relative sizes of quantities and reduce a ratio to its lowest terms.
To check solutions by applying inverse operations or estimating using approximations
To use all four operations with decimals to two places
To use a calculator where appropriate to calculate fractions and percentages of quantities/measurements, etc.
To be able to understand and use an appropriate non-calculator method for solving problems that involve multiplying and dividing any four digit number by any two-digit number

To calculate simple fractions or percentages of a number/quantity, e.g. 3/8 of 400g or 60% of £300
To use and interpret coordinates in all four quadrants
To understand simple expressions using symbols e.g. '2 less than n' can be written as 'n – 2'
To use symbols to represent an unknown number in a number sentence

Shape, Space and Measure

Compare and classify shapes
Find unknown angles in regular polygons
Illustrate and name parts of a circle:
Recognise, describe and make nets of 3D shapes
Calculate the volume of simple 3D shapes
Estimate the size of angles
Describe position in all four quadrants
Construct translate and reflect shapes
Use, read, write and convert standard units
Calculate the area of parallelograms and triangles

Statistics

Read, draw and interpret line graphs
Use, interpret and apply all three averages
Use the language associated with probability

Parents play a vital role in children's mathematical development. Many key mathematical skills can be supported at home through everyday activities such as:

Telling the time
Weighing for cooking
Measuring for craft and DIY
Using money and playing board games.

Many of these skills are the "real-life" maths that we use every day, and are more effectively learned in the setting in which we use them.

Fun activities to do at home

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.

One million pounds

Assume you have £1 000 000 to spend or give

away.

1 = (4 + 4)/(4 + 4)
2 = 4/4 + 4/4

Plan with your child what to do with it, down to the last penny.

Animals

- Take turns to think of an animal.

- 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 animal,
- e.g. for a TIGER, T = 20, and I = 9,
- Multiply the two numbers together, e.g. 20 x 9 = 180.
- 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 names, food, countries etc

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!
- Add the 2 numbers together
- Subtract the smallest number from the biggest

Remainders

Draw a 6x6 grid like this and fill in numbers under 100.

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

- 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 ÷ 7 is the same
  - as the dice number, you can cover the board number with a
  - counter or coin.

The first to get three of their counters in a straight line 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?

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?

Food Offers

Ask which would be cheaper, 2 pizzas for £20 or 50% off the total order?

Is it cheaper to buy 1 large or 2 small?

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 s/he worked it out.

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 from this place to some other 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.
Extend this by asking questions like “What if you travelled at 30 mph?
What if we started at London?

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.

Using timetables

What time does the next train arrive?

How long does the journey take?

What time does the last train of the day leave?