For information on the next level see
Understanding progress in mathematics: a guide for parents

Working at level 6 in maths

Children will be able to do many of the following:

- devise their own strategies for working on mathematical tasks and problems, for example, break down complex problems into smaller, manageable tasks
- construct an argument using mathematical symbols, diagrams and language correctly
- convert between fractions, decimals and percentages
- add and subtract fractions
- investigate and explain number patterns by drawing graphs and using algebra to represent them, for example, by using algebra to explain the pattern 3, 7, 11, 15 as $4n - 1$ ($4 \times 1 - 1 = 3$, $4 \times 2 - 1 = 7$ etc.)
- know about different quadrilaterals (four-sided closed shapes) and their properties
- understand formulae for calculating the circumference and the area of a circle
- work out the volume of a cuboid, for example, the volume of water needed to fill a rectangular water tank
- use ICT to explore transformations of shapes (reflection, rotation, translation, enlargement)
- understand how to construct a pie chart
- calculate the probability of different outcomes, for example, getting a head and a tail when tossing two coins.

At level 6 and beyond, mathematical activity becomes more abstract and uses more algebra. Some of the best ways that parents can support their child's progress at this level are by looking for opportunities to extend their experience of maths in the wider world. For ideas see page 17.

If your child is in Key Stage 2 working at level 6, they are likely to be supported by gifted and talented provision in school or elsewhere. Talk to your child's teachers to find out more.

What you can do at home to help your child make progress beyond level 6

At level 6 and above the nature of maths becomes more algebraic and abstract. This involves making and using formulae and developing knowledge of sequences and graphs. You could ask your child to explain their understanding of some of the maths problems they are working on and solving at school. This will help reinforce and consolidate what they know.

You could also encourage your child to:

- attend a maths event at school with you
- work out the best value for money when shopping
- watch documentaries and discuss the maths involved in climate change or other environmental concerns
- talk about their work with reference to a textbook or online resource such as BBC Bitesize or MyMaths
- watch the Royal Institution (RI) Christmas Mathematics Lectures, designed for children and young people, that offer exciting ways of looking at maths problems
- listen to maths programmes such as 5 numbers, Pi, Golden Ratio, Imaginary number, Infinity.

Higher attaining children could be encouraged to:

- consider the maths involved in modelling real-life situations, such as building a bridge or the arc a ball makes when thrown
- find out why gambling is likely to cost you money
- explore the interest earned on a range of savings accounts, the cost of obtaining money for a mortgage or the cost involved in using credit, for example, children can be encouraged to use an ICT spreadsheet to calculate and compare interest rates
- join a maths club (at school or online, for example, NRICH), or take part in master classes (for example, RI) and other enrichment activities.

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Higher attaining children could be encouraged to:

- consider the maths involved in modelling real-life situations, such as building a bridge or the arc a ball makes when thrown
- find out why gambling is likely to cost you money
- explore the interest earned on a range of savings accounts, the cost of obtaining money for a mortgage or the cost involved in using credit, for example, children can be encouraged to use an ICT spreadsheet to calculate and compare interest rates
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