MATHS

Breath of Study

Key Stage 1

- During the key stage, pupils should be taught the Knowledge, skills and understanding through:

a) Practical activity, exploration and discussion.

b) Using mathematical ideas in practical activities, then recording these using objects, pictures, diagrams, words, numbers and symbols.

c) Using mental images of numbers and their relationships to support the development of mental calculation strategies.

d) Estimating, drawing and measuring in a range of practical contexts.

e) Drawing inferences from data in practical activities.

f) Exploring and using a variety of resources and materials, including ICT.

g) Activities that encourage them to make connections between number work and other aspects of their work in mathematics.

Key Stage 2

- During the key stage, pupils should be taught the Knowledge, skills and understanding through:

a) Activities that extend their understanding of the number system to include integers, fractions and decimals.

b) Approximating and estimating more systematically in their work in mathematics.

c) Using patterns and relationships to explore simple algebraic ideas.

d) Applying their measuring skills in a range of contexts.

e) Drawing inferences from data in practical activities, and recognising the difference between meaningful and misleading representations of data.

f) Exploring and using a variety of resources and materials, including ICT.

g) Activities in which pupils decide when the use of calculators is appropriate and then use them effectively.

h) Using mathematics in their work in other subjects.

Key Stage 3

- During the key stage, pupils should be taught the Knowledge, skills and understanding through:

a) Activities that ensure they become familiar with and confident using standard procedures for a range of problems, including ratio and proportion.

b) Activities that enable them to understand that algebra is an extension of number.

c) Solving familiar and unfamiliar problems, including multi-step problems, in a range of numerical, algebraic and graphical contexts and in open-ended and closed form.

d) Activities that develop short chains of deductive reasoning and concepts of proof in algebra and geometry.

e) Activities focused on geometrical definitions in which they do practical work with geometrical objects to develop their ability to visualise these objects and work with them mentally.

f) Practical work in which they draw inferences from data and consider how statistics are used in real life to make informed decisions.

g) A sequence of activities that address increasingly demanding statistical problems.

h) Tasks focused on using appropriate ICT [for example, spreadsheets, databases, geometry or graphic packages], using calculators correctly and efficiently, and knowing when it is not appropriate to use a particular form of technology.