

School Curriculum Subject Guide

Mathematics

(last updated in March 2016)

The guide has taken into consideration the requirements of the National Curriculum, Foundation Stage, the Primary Framework, National Skills Profile Number Skills, the Equals Mathematics Schemes of work and the Equals Moving On Numeracy schemes of work and Moving On key skills in Application of Number.

The National Curriculum identifies a number of key areas and strands that need to be developed with regard to mathematics including;

- Number and place value
- Measurement
- Geometry
- Statistics (KS 2)
- Addition & subtraction
- Multiplication & division
- Fractions

These underpin the development of mathematics at St Piers and will be delivered through the schemes above.

The National Curriculum also places a great emphasis on the ability of students to apply their knowledge, skills and understanding to a range of different mathematical experiences. The focus is on mental methods, practical tasks, real life problems and investigations.

Due to the nature and individual needs of the students at St Piers School, the development of numeracy and the application of students' knowledge and understanding to real life situations and events will feature highly in the teaching of mathematics.

Aims

The processes of the school aim to ensure equality and consistency of service to learners; to ensure that no learner is disadvantaged in learning and opportunity by gender, ethnicity, sexuality, religion or disability; to ensure that all learners are treated equally and with respect by staff and peers.

The aim of Mathematics at St Piers School is to enable students, as appropriate to age and ability, to;

- acquire the basic skills, a positive attitude and enjoyment of mathematics

- read mathematics, to write and talk about the subject in a variety of ways and understand the significance of the results obtained
- use mental methods, solve problems, carry out calculations, present solutions clearly, check and interpret results
- produce and appreciate imaginative and creative work, patterns and relationships arising from mathematical ideas
- have a willingness to work independently and/or co-operatively as appropriate
- apply mathematics in other subjects and appreciate the place of mathematics in every day living
- reason logically, to classify and to generalise skills, so providing a firm foundation for further studies of mathematics
- acquire concepts through as many practical experiences as possible including oral, written and practical tasks
- understand the mathematical content and assessment procedures therefore being able to be involved
- to share and celebrate their progress and achievement with all those involved

Aims for Staff

Teachers at St Piers need to take account of the following when planning and organising students' mathematical learning:

1. Mathematics teaching is good where appropriate opportunities are offered and a range of approaches managed and differentiated for students to:
 - develop and consolidate knowledge, skills and understanding across all Attainment Targets, develop links between all Attainment Targets, ensure appropriate connections are made
2. Mathematics teaching is good where teaching approaches, as appropriate to age and ability, include:
 - exposition
 - mental methods, discussion and practical work
 - consolidation and practice
 - problem solving and investigations
3. Mathematics teaching is good where:

- carefully planned mathematical activities are provided
- all four attainment targets are kept in good balance and links effectively demonstrated
- teachers use mathematics as a tool

Teachers at St Piers need to provide opportunities for students to:

- show and develop their curiosity
- develop their interest, powers of concentration and perseverance
- question and probe, communicate effectively, apply their knowledge and understanding,
- work independently or co-operatively as appropriate and to evaluate their own achievement.

Mathematics has an important contribution to make to the total curriculum because it is crucial in preparing all young people for life in a rapidly changing and increasingly technological society.

Mathematics is a language and a basic tool of learning; therefore it should contribute to, and enhance, every curriculum area. It is identified as a cross-curricular skill and as a core subject within the National Curriculum, therefore mathematics must have an appropriate time allocation within the whole curriculum.

The following statements are illustrative.

- The discriminating use of language is a crucial element in the students' mathematical growth and consequently the study of the subject assists linguistic development.
- Aspects of science are reinforced in much of the teaching of mathematics particularly with its emphasis on practical work. Mathematics provides a medium for communication, recording and analysis in science, technology, humanities and PE.
- The study of mathematics with its emphasis on pattern and its concern to explore spatial relationship in two and three dimensions can foster development of the aesthetic and creative senses.
- The intimate connection between mathematics and logical thinking can greatly assist the development of problem solving techniques. It also links closely with ICT.