



JC Prep Policy for Mathematics

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Our College Vision

Our ambition for all students at JC Prep:

We aim to nurture happy, confident, caring students, who enjoy positive relationships and show compassion and respect for others. We want students to grow as individuals, to feel valued and to forge a strong and supportive community that reaches out around the world. We hope they will demonstrate a growing awareness about the choices they make and the impact these have on their environment.

We want to develop hardworking, independent students and creative thinkers. Our students will be encouraged to take full advantage of opportunities and to aspire to the highest standards. We aim for our students to be inquisitive, ambitious and motivated in their approach to learning. We want them to grow in independence, to be reflective in their thinking, to be eager for challenges and to be able to cope with setbacks.

Our goal is to prepare our students for life beyond JC Prep equipped with the knowledge, skills and attitudes for life-long learning.

At the heart of all we do are the College's Core Values:

Aspire, Inquire, Excel, Belong

Aims of this policy:

Our Policy for Mathematics provides a framework which:

- Provides high quality teaching, at the appropriate level, throughout our school
- Provides students with the opportunity to learn mathematical skills in different contexts across the curriculum
- Promotes enjoyment enthusiasm and a fascination about Mathematics itself through practical activity, exploration and discussion
- Enables students to think critically, reason and communicate their understanding and findings
- Promotes confidence, competence and fluency with numbers and the number system
- Develops the ability to solve problems through decision-making in a range of contexts
- Develops a practical understanding of the ways in which information is gathered and presented
- Explores features of shape and space, and develop measuring skills in a range of contexts
- Enables students to understand the importance of Mathematics in everyday life, applying what they have learnt effectively to a range of situations
- Will implement the current legal requirements of the Jersey Curriculum and follow the programmes of

- study
- To use National Curriculum level descriptors as the basis for making judgements about students' progress and attainment
- Provides consistency and progression of high standards and expectation across the College

Principles:

Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and solve problems. It enables students to understand and appreciate relationships and patterns in both number and space in their everyday lives. Through their growing knowledge and understanding, students learn to appreciate the contribution made by many cultures to the development and application of Mathematics.

All teachers and support staff will foster a positive climate for good Mathematics learning. Positive relationships will support students in their endeavours and encourage them to take risks to further develop their understanding. Throughout the whole school and beyond there will be a culture of sharing good practice and celebrating achievement.

There is an expectation that all students will make expected progress and that they will develop mathematical skills needed for later life.

There is an expectation that all students will take responsibility for their learning, questioning areas they are unsure of and asking for a challenge when it is appropriate to do so.

There is consistently high quality teaching, at the appropriate level, throughout the teaching establishment.

1. Mathematical Language

Students will be taught, and provided with opportunities, to use the correct mathematical language and notation to discuss their Mathematics and explain their thinking. For students where English is their second language strategies will be put in place to ensure they can access the curriculum.

2. Mathematical Methods:

Students will be encouraged to discuss their ideas and thinking and to use the most appropriate and efficient method to solve a problem, be it mental, written or calculator.

➤ **Mental Mathematics:**

Mental methods will be emphasised from an early age. Students will be directly taught and provided with regular opportunities to develop the different skills involved. These skills include:

- Remembering number facts
- Using known facts to work out new facts
- Developing a repertoire of mental strategies
- Solving problems
- Use appropriate equipment to support and illustrate a mental strategy

➤ **Written Work:**

Written recordings will be used to:

- Informally support a mental calculation
- Develop the skill of explaining the method used
- Help someone else follow the method or assess the work
- Practise writing and using the correct symbols and notation
- Help remember or practise the recall of number facts
- Carry out the working of a standard written method of calculation
- Use jottings to support working memory
- Summarise the learning undertaken

Throughout the school, our students are developing the skills of self-assessment and reflection. Students are beginning to use a range of age appropriate written comments to show that they have either achieved the lesson objective or need further support.

➤ **Response Partners/Thinking Skills:**

Response partners will be used to encourage pupils to discuss their thinking and use appropriate mathematical vocabulary. Pupils will be encouraged to develop the thinking skills necessary to apply their knowledge in a range of contexts.

3. Lesson Organisation

All students will have access to an appropriate amount of Mathematics teaching that enables them to make good progress. As a guide, in the Primary phase at JC Prep, a minimum of five hours a week quality teaching is appropriate. Due to the nature of the new Mathematics Curriculum, all students will learn maths within their day to day classes, in mixed abilities; learning at the appropriate level to ensure that all are challenged and progress in their mathematical understanding and abilities. Groupings within classes remain fluid, depending on topic areas/ objectives and the children's individual understanding.

There will be a good balance between whole-class work, group teaching and individual practice. There will be an appropriate balance of the main areas of Mathematics, with the aims of the Mathematics curriculum overarching and as an integral part of most lessons.

Teachers will use their professional judgment to determine the activities, timing and organisation of each part of the lesson to suit its objectives. There will therefore be considerable variety and creativity on different days.

Quality Mathematics teaching in the Early Years lays solid foundations for continued learning. Child initiated learning should include regular mathematical opportunities which are planned for and support purposeful learning. In the Foundation Stage we relate the mathematical aspects of the students' work to the guidelines in Development Matters and the Early Learning Goals. We give all the students ample opportunity to develop their understanding of number, measurement, pattern, shape and space. Opportunities for learning are either teacher led group activities or child-initiated activities. All of which allow students to enjoy, explore, practise and talk confidently about Mathematics.

4. Mathematics across the Curriculum

The learning and teaching of maths at JC Prep is beginning to reflect our move towards being more creative within our curriculum. Teachers endeavour to plan stimulating maths experiences that develop the student's understanding of the role of maths in everyday life.

Opportunities will be used to draw mathematical experiences out of a range of activities in other subjects to provide opportunities to apply and use Mathematics in real life contexts. Mathematics will also contribute to other subjects in practical ways and students should be encouraged to identify these links and use Mathematics to support their learning. We aim that all students will be encouraged to apply what they know in maths to other areas of the curriculum e.g. reading scales in science.

5. The Role of Calculators and ICT

Students will apply and use Mathematics in a variety of ways when they solve problems using ICT. The use of technological devices in Mathematics lesson aims to support learner activities and direct teaching strategies related to the learning objectives for the lesson.

Calculators will be used in the school as a teaching aid and as a calculating aid where appropriate. Here students will be directly taught and given opportunities to develop the technical skills involved, an understanding of the various functions and the correct vocabulary. They will also be taught to make decisions about when best to use a calculator.

When using a calculator to check calculations for accuracy, students will be encouraged to gauge the approximate size of an answer first. This is necessary in order for students to develop a 'feel' for the expected size of an answer.

7. Resources

JC Prep uses a wide variety of published materials to facilitate the teaching of Mathematics. Importantly, JC Prep recognises the need for the teaching of maths to be "scheme assisted not scheme driven." The main published scheme being used at present to support the delivery of the Framework for teaching Mathematics is Abacus Evolve. However, a wide range of other materials are also used, for example 'I Can Do Maths'. In most classes in Key Stage 2, 'I Can Do Maths' materials are used on a daily basis to enhance and develop mental arithmetic skills aimed at the students' individual levels.

We also use resources and expertise from our senior school, through effective links and partnerships between our Maths co-ordinator and our senior school's Maths department. We have shared College access to Maths internet resources such as Mathletics and also take part in 'Maths' events hosted by our senior school.

Resources for the delivery of the maths curriculum are stored both centrally and in classrooms. Everyday basic equipment is kept in classrooms. Materials are constantly updated by the co-ordinator, as new and relevant items become available.

8. Special Needs and Gifted Students

Teachers should set high expectations for every pupil. They should plan stretching work for pupils whose attainment is significantly above the expected standard. They have an even greater obligation to plan lessons for pupils who have low levels of prior attainment. Teachers should use appropriate assessment to set targets which are deliberately ambitious. They should organise the class and deploy staff to support group or individual needs.

For pupils with a Mathematics learning difficulty, their targets will be included on the group or individual education plan. These will be taken from the Jersey Curriculum or P-level targets.

9. Equal Opportunities

It will be ensured that all students will have equal access to quality teaching and learning of the full Mathematics curriculum.

10. Homework and Parental Involvement

The Maths Homework Policy outlines the aims and principles of maths homework. The policy determines a 2-strand format for maths homework that is used throughout the school. The 2 strands determine that:

1. Students are given homework that covers the skills/concepts that have been taught during the previous week.
3. Students will be expected to practise a key skill, for example times tables, place value, number bonds.

Opportunities will be provided for students to practise and consolidate their skills and knowledge, to develop and extend their techniques and strategies and to prepare for their future learning through out-of-class activities or homework. This may not always be written work, and it is aimed that it will be frequently given, short and focused. It will be varied, interesting and fun whilst still being enriching and challenging, so that the students are motivated. It will stimulate their learning and foster different study skills. Whatever the nature of the work it is aimed that feedback will always be given.

Regular communication takes place between teachers and parents. This takes the form of Curriculum evening; letters; homework diaries and planners that outline homework expectations. Parent/teacher

meetings in the autumn and spring terms are an opportunity for teachers to discuss a student's individual strengths and areas for development.

11. Planning and Assessment/Marking/Record Keeping

Key Stages 1 and 2:

The aims of the Mathematics curriculum will be an integral part of Mathematics teaching, and will be evident in planning. Pupils will be aware of where they are in their learning and what their next step should be through quality feedback.

At each level of planning it is aimed that a range of assessment tools are used to inform future planning.

Long and medium term planning will be structured to ensure full coverage of the Jersey Curriculum Programmes of Study at the appropriate Key Stage.

Medium term planning is based on a breadth of resources including Abacus, Active Learn, 'I Can Do Maths' and Exploring Maths. The main teaching objectives are developed from the from the new curriculum's programmes of study programme to ensure a balanced Mathematics curriculum throughout the school. At JC Prep, we recognise the need to revisit topics regularly to revise and consolidate skills and then extend them. Every main objective in the programme of study is covered at least once by the end of the year. Alternative resources are also to be used to support and complement the Abacus scheme. When necessary, year groups are expected to use resources from older/younger year groups in order to meet their students' learning needs.

Short term planning will be on a weekly basis and will outline the learning intentions, what the teacher will do, pupil activities and strategies for differentiation for each lesson. It will also identify links to outdoor learning, any ICT used and also highlight the use of problem solving or a problem solving skill to deepen learning, wherever possible. These will be adapted as necessary to meet the needs of individual learners in the class.

Detailed discussions of the progress that our students are making, take place during regular Faculty Pupil Progress Meetings together with the use of the on-line School Pupil Tracker. We track pupils' progress using sheets linked to the learning objectives and record on the tracker whether they are emerging, developing or secure in relation to their year group's objectives. We recognise that for a number of reasons, some students make different rates of progress. Regular Faculty Team meetings are scheduled to discuss and monitor students' progress in conjunction with the use of the School's Pupil Tracker. Where the expected levels of progress are not made, each individual case will be scrutinised and closely monitored to ensure that the school is doing everything possible to help the child move forward in their learning. Our most able students will be working at greater depth and may achieve mastery against their year group objectives.

Students will be aware of where they are in their learning and what their next step should be through quality feedback. As students progress through the school they will be expected to take more responsibility for their learning. They will be asked to reflect on their learning and progress and identify their own 'next steps'.

12. Monitoring and Evaluation:

Monitoring of the quality of teaching and learning in Mathematics is the responsibility of the Mathematics coordinator.

He/she will review samples of student's work and undertake lesson observations of Mathematics teaching across the school to ensure that standards are maintained.

Plans are monitored by the Head and Deputy Head Teacher on a weekly basis, and regularly by the Maths Co-ordinator.

Internal moderation across faculties takes place on an annual basis. External moderation takes place annually in key year groups and the Maths department at senior school are invited to attend the moderation for Year 6.

Relationship to other policies:

Internal policies:

- Calculation policy
- Assessment policy
- Homework policy
- Lesson observation and Quality Assurance guidelines

External policies:

- Policy for Mathematics – ESC

Core Components:

- Appendix 1** - **Student Learning**
- Appendix 2** - **Teaching**
- Appendix 3** - **Monitoring Learning and Teaching**
- Appendix 4** - **Professional Learning**
- Appendix 5** - **ESC Mathematics Policy**