



School Development Plan - priority 3

Nurture and develop numeracy, and the mastery of other mathematical skills, to prepare students for their academic studies and working life.

Introduction:

Numeracy is a proficiency that is developed mainly in mathematics but also in other subjects. It is more than an ability to do basic mathematics. It involves developing confidence and competence with numbers and measures. Numeracy requires understanding of the number system, a repertoire of mathematical techniques and an inclination and ability to solve quantitative and spatial problems in a range of contexts. Numeracy also demands understanding of the ways in which data sets are gathered by counting and measuring, and presented in graphs and diagrams, charts and tables.

St. Julie's Catholic High School is committed to raising the standards of numeracy across each key stage. We expect our students to be confident and capable in the use of numeracy to support their learning in all areas of the curriculum and to acquire the skills necessary to help achieve success in further education, employment and adult life.

Standards of Numeracy:

At St. Julie's Catholic High School, we believe that improving numeracy standards is fundamental to raising student self-esteem, self-confidence and achievement and are committed to ensuring that students use the opportunities available in order to achieve beyond expectations. The school aims for all students to be able to:

- Have a sense of the size of a number and where it fits into the number system
- Be able to use strategies successfully to solve number related problems mentally
- Apply an appropriate method to help solve a problem, e.g. mental, oral and written methods
- Make sense of number problems and identify and use the required operations to solve them
- Restrict their reliance on using a calculator and use them when it is appropriate to do so
- Develop their skills in estimation and approximation and have strategies for checking the reasonableness of their answers
- Be able to explain their methods and reasoning using consistent language and mathematical terminology
- Be able to make and use sensible estimates of a range of measures in everyday situations
- Be able to interpret, explain and make predictions from information given in graphs, charts and tables
- Improve their general problem solving skills

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Strategies to improve numeracy skills and ensure consistency:

The numeracy skills of all students is improved by:

- Ensuring staff are aware of the numeracy skills used within their subject
- Using an agreed consistent approach to the teaching of numeracy skills across the curriculum
- Increasing student awareness of the links between subjects by talking frequently about them, both in mathematics and other lessons
- Displaying cross-curricular numeracy posters in the above curricular areas and around the school and referring to them as appropriate
- Developing a bank of numeracy “starters” for use in form tutor time
- Ensuring all curriculum areas have access to a numeracy dictionary
- Providing additional numeracy provision for targeted students within and outside the school day
- Ensuring that curriculum areas are developing cross-curricular numeracy activities (e.g. lessons starters, numeracy projects)
- Altering the Mathematics schemes of work in response to audits of numeracy skills across the curriculum
- Providing annual whole-school training days where appropriate.
- Providing prior attainment information on individual students’ achievement in mathematics. We endeavour to ensure all teachers are aware of the ways to teach calculation strategies to all abilities
- All teachers being aware of and aim to use correct mathematical terminology
- Curriculum areas identifying and setting numeracy activities for homework and within their schemes of learning
- Curriculum areas identifying opportunities to incorporate mental and written calculations within their schemes of learning and liaising with the Mathematics department regarding the appropriateness of the activity
- All subject teachers being familiar with number facts and number techniques
- Numeracy being promoted across the school by various activities, i.e. numeracy week, puzzle mornings in tutor period time for Years 7-9, for example: the Numeracy Ninja programme across key stage 3 and problem-solving activities across key stage 4.

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To ensure a consistency of approach:

Roles and Responsibilities:

Senior Leadership Team

The Senior Leadership Team implement the policy by:

- ensuring that Curriculum Leaders develop and regularly evaluate the implementation and impact of the numeracy policy,
- carrying out drop-ins to evaluate the impact of the numeracy policy,
- providing whole school training for staff to support the implementation of the Numeracy Policy,
- working closely with the Assistant Curriculum Leader for Mathematics to collaborate on the development, implementation and evaluation of the numeracy policy.

Curriculum Leaders implement the policy by:

- writing and keeping up to date a specific numeracy focus as part of the Department Development Plan which is based upon the key numeracy skills to be developed in that particular department,
- carrying out monitoring and evaluation in the form of drop-ins, lesson observations, book and lesson plan sampling to assess implementation and impact of the numeracy policy in their department areas,
- ensuring their subject area has compiled a list of keywords relating to numeracy and is present in classrooms clearly visible from any point in the room,
- encouraging and rewarding independent mathematical skills outside of school.

Teachers of mathematics:

- maintain awareness of the mathematical techniques used in the other subjects and provide assistance and advice to other departments, so that a correct and consistent approach is used in all subjects. For example, in-house training and cross-curricular meetings,
- provide information to other subject teachers on appropriate expectations of students and difficulties likely to be experienced in various age and ability groups,
- through liaison with other teachers, attempt to ensure that students have appropriate numeracy skills by the time they are needed for work in other subject areas,
- seek opportunities to use topics and examination questions from other subjects in mathematics lessons.

Teachers of subjects other than mathematics:

- Ensure that they are familiar with correct mathematical language, notation, conventions and techniques, relating to their own subject, and encourage students to use these correctly
- Maintain awareness of appropriate expectations of students and difficulties that might be experienced with numeracy skills
- Provide information for mathematics teachers on the stage at which specific numeracy skills will be required for particular groups

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Pupils

Pupils support this policy by:

- having a sense of the size of a number and where it fits into the number system,
- reading numbers correctly from a range of meters, dials and scales,
- knowing basic number facts and recall them quickly and confidently,
- using calculators and other ICT resources appropriately and effectively to solve mathematical problems,
- making sense of number problems, recognise the operation(s) needed and are available to work confidently with numbers,
- knowing when answers are reasonable and give results to an appropriate degree of accuracy,
- being able to manipulate algebraic expressions and simple formulae,
- understanding and using correct mathematical notation and terminology,
- are able to explain methods, reasoning and conclusions,
- using units of measurement of length, angle, mass, capacity and time; can suggest suitable units for measuring, make sensible estimates of measurements and measure accurately using a range of instruments,
- understanding and using compound measures and rates,
- using simple formulae and substitute numbers in them,
- measuring and estimating measurements, choosing suitable units and calculate simple perimeters, areas and volumes,
- drawing plane figures to given specifications and appreciate the concept of scale in geometrical drawings and maps,
- understanding the difference between the mean, median and mode and the purpose for which each is used,
- collecting data (discrete and continuous) and draw, interpret and predict from graphs, diagrams, charts and tables,
- Understanding probability and risk.

Parents

Parents support this policy by:

- supporting the school in checking that their children are correcting regular misconceptions,
- making every effort to attend parents' evenings when requested,
- talking to children about their mathematics,
- becoming informed about the nature of mathematics and numeracy,
- making their children aware when they as parents are faced with mathematical demands in their everyday lives, and display a positive attitude when they face these demands,
- asking their children to explain their mathematical thinking when doing maths homework or performing everyday mathematical tasks,
- using the links on the school website to aid their children's understanding,
- building children's confidence and develop their interests in mathematics,

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- praising children when they notice some new development in their mathematical understanding and skills,
- being patient in regard to their child's development and discuss concerns with the teacher,
- looking at attempts to record mathematics, responding to their ideas and then praising the progress towards standard mathematical representations,
- showing their children through their words, actions, and attitudes that they believe that the children will become confident and competent users of mathematics.

Governors

It is the role of the Governing Body to monitor and evaluate the effectiveness of this policy and its practice. They will be informed of its impact through:

- receiving feedback on this via the Governors' Teaching and Learning Committee meeting, provided by the Assistant Head Teacher for Teaching, Learning and Assessment.

Framework for monitoring and evaluating the Numeracy Policy:

- The SLT, in collaboration with the Curriculum Leader for Mathematics, monitor the impact of the numeracy policy on overall achievement in mathematics across the school. This includes information gathered from lesson observations and learning walks
- The Curriculum Leader for Mathematics gathers further information by interviewing students and sampling students' work. This occurs periodically during the school year
- The numeracy policy is reviewed annually by the school leadership team, in consultation with all teaching staff, and governors are kept informed through the Governors' Curriculum Committee

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