



WHOLE SCHOOL NUMERACY POLICY

Reviewed: July 2011
Date of Next Review: July 2012



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BSF Phase 1 - Our transformed school buildings will be completed by September 2012

Vision Statement

At The International School we believe that numeracy skills are absolutely fundamental for each of our pupils to be successful in their lives: Numeracy provides an ability to cope confidently with the mathematical demands of adult life, further education and employment.

The development of numeracy skills is a basic entitlement for all pupils.

All pupils should experience a rich numeracy learning environment, regardless of perceived 'ability'.

Numeracy involves the application of knowledge, skills and understanding essential for personal and social development, in this way the school supports the life-long learning of its pupils.

Competent numeracy promotes self-confidence and therefore staff will endeavour to deliver their lessons in a manner that builds pupil belief both in themselves and to improve the application of numerical skills by all pupils across the whole range of appropriate subjects.

What is the point of Numeracy?

The point of Numeracy is to make sure that all pupils have the skills to confidently cope with the mathematical needs within the school curriculum and also in their future adult lives.

The policy is here to reinforce each pupil's understanding of mathematical methods, vocabulary and notation when they meet mathematics in other subjects. If there is not consistency between subjects then pupils can get easily confused due to conflicting methods. This can only have a negative effect on pupil performance across subjects.

We are committed to:

- Securing high standards of numeracy across the school through developing a whole school Numeracy Policy which enables all staff to access support and guidance.
- Ensuring that a consistent approach to numeracy is adopted by all staff to keep pupil confusion to a minimum and avoid re-learning or un-learning numeracy methods.
- Ensuring an effective cross-curricular approach and identifying cross-curricular opportunities; indicating and facilitating areas for collaboration.
- Assisting in the transfer of pupils' knowledge, skills and understanding between subjects.
- Ensure pupils are aware of what is expected of their numeracy skills.



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- Liaising with the Mathematics Faculty whenever a mathematical activity or joint approach or support is required to ensure consistency.

Students should:

- Be able to select the appropriate method for solving problems.
- Be able to recall number facts.
- Use methods they have been taught in Mathematics lessons.
- Use calculators and ICT efficiently and recognise when these are inappropriate tools.
- Be able to communicate effectively their chosen method and approach.
- Estimate and judge the reasonableness of their solutions.
- Present ideas and data in the form of charts, graphs and tables.
- Interpret, describe and discuss their work and use this to support their conclusions and make appropriate predictions.
- Use mathematical vocabulary correctly in both oral and written work to explain their strategies and methods.
- Adopt a systematic approach to problem solving in line with the Numeracy Support Guide.

Cross Curricular Numeracy

A pupil's attainment in numeracy has been identified as a factor in their capacity to learn in other subjects. Numeracy is present in all subjects and so all Faculties have a role to play in supporting pupils' numerical development. It is important that we work together to ensure we equip pupils with basic life skills in numeracy and identify opportunities for cross-curricular and numerical development.

Collaboration between Mathematics and other subjects can have different purposes:

- Collaboration can help to raise standards in ALL subjects.
- The Mathematics Faculty can support the work of other subjects.
- Other subjects can provide a context for Mathematics.
- Collaboration can help pupils make connections.

Teachers of Mathematics should:

- Be aware of the mathematical techniques used in other subjects and provide assistance and advice to other departments, so that a correct and consistent approach is used in all subjects.
- 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.



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Teachers of subjects other than Mathematics should:

- 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.
- Be aware 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.
- Provide resources for Mathematics Teachers to enable them to use examples of applications of numeracy relating to other subjects in Mathematics lessons.

Teachers can support numerical development by:

- Ensuring they are familiar with the Numeracy Policy and the National Numeracy Strategy and the Framework for teaching Mathematics (Appendix).
- Ensuring they are confident with the methods recommended in the Numeracy Support Guide and are able to explain methods to pupils as appropriate.
- Place emphasis on mental calculation and estimation as appropriate.

Faculties should ensure that:

- A copy of the following is available to all staff:
 - The Numeracy Support Guide
 - A Mathematical Glossary
 - Display Posters
 - Key words
 - Numeracy Faculty audit
- Schemes of Work identify opportunities for Numeracy.
- They plan with the Mathematics Faculty when mathematical support is required.
- Liaise with the Mathematics Faculty to ensure that when prior knowledge of a mathematical topic is required, it has been taught within the Mathematics Faculty first.
- Discuss any areas of professional development with respect to numeracy that staff within the Faculty may require.



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Implementing the Numeracy Policy and Development

Improving attainment in numeracy is a key target for whole-school development.

We aim to:

- Agree whole school targets for numeracy and ensure all staff are aware of these.
- Develop a Numeracy Support Guide which will illustrate methods recommended by the Mathematics Faculty in calculations and ensure staff use these methods to keep pupil confusion to a minimum.
- Ensure appropriate training in these methods is offered to all staff as required.
- Develop a Numeracy Group Representative of all disciplines to support the Numeracy Co-Ordinator and numeracy development across Faculties.
- Ensure each Faculty has a copy of the following:
 - Numeracy Policy
 - Numeracy Support Guide
 - Mathematical Glossary
 - Web-based sources of data for their specific subject
- Encourage Departments to consider areas for collaboration and cross-curricular numeracy development.

Numeracy in Ofsted Inspections

In relation to numeracy, as stated in the KS3 National Strategy, Inspectors should establish:

- Whether there is a clear understanding and consistent practice among staff in the development of pupils' mental skills, written methods and use of calculators.
- If pupils can identify and use an efficient strategy for the calculations they need to do.
- If pupils cope well with the mathematical demands made in different subjects, or are held back through lack of mathematical knowledge or poor skills in numeracy.
- How well numeracy and, where appropriate, other mathematical skills are taught, developed or practised in other subjects.

Calculations within Lessons

It is important for pupils to know when to use a mental method and when to use a calculator in lessons. Obviously we wouldn't expect a pupil to add up a list of 50 pieces of data from a Science experiment using a pen and paper method, and equally we wouldn't expect them to reach out for a calculator to work out a simple subtraction. Our aim is that all departments should encourage and promote efficient methods to solve problems whilst not sacrificing a key understanding of the method.



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To aid Teachers in this task there is a Numeracy booklet available which highlights a number of different methods used in Maths.

Handling Data

The main area of focus within the school is how pupils handle data, as data handling appears in many subjects. Data handling is a wide topic which starts with the collection of data (questionnaires and surveys), then covers processing data (mean, mode etc.), displaying data (scattergraphs, pie charts, etc.) and finishes with interpreting the results. To aid teachers with this there are a series of posters distributed to Faculties and Faculty meeting time set aside to discuss numeracy issues.

All documents referred to can be found on the Numeracy section of the Shared Area.



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