

2019

# Numeracy across Learning

## Whole School Policy

*We are numerate if we have developed . . .*

*. . . the confidence and competence in using number  
which will allow individuals to solve problems, analyse  
information and make informed decisions based on  
calculations.*

curriculum for excellence



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<sup>1</sup> For the purpose of this document the definition of **stakeholders** is learners, teachers, subject leaders, senior managers and parents/carers.

# Introduction

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*A strong focus on numeracy is essential: all children and young people require numeracy skills to gain access to learning and to succeed in life. Confidence and competence in numeracy provide the foundations for lifelong learning.'*

## ***Building the Curriculum 3***

### **What is numeracy?**

Many children and young people talk about mathematics when they are referring to numeracy skills.

The distinction between numeracy and mathematics is important. The mathematics curriculum is constructed with both mathematics and numeracy outcomes.

Numeracy development progresses as part of mathematics. Numeracy outcomes are those areas of the mathematics curriculum, which are necessary in understanding other aspects of learning, and are therefore regarded as the responsibility of all teachers.



Numeracy goes beyond mere computation – it includes essential skills such as solving problems, understanding and explaining the solutions, making decisions based on logical thinking and reasoning and interpreting data, charts and diagrams.

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# Aims of a whole school Numeracy Policy

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The purpose of this policy is to promote the vision, values and capacities of A Curriculum for Excellence and to encourage the development of numeracy skills and competencies through our practice.

**By adhering to this policy,** we at KHS will be able to:

- Encourage all stakeholders to become actively involved in ensuring that learners receive positive messages about numeracy when used across the curriculum.
- Secure high standards and consistency in numeracy across the school.
- Set out the school's agreed approach to the teaching of numeracy skills.
- Provide a basis against which progress can be judged.
- Record methods and notation that have been agreed.
- Respond to the [SNSA data](#) research as required.

**Key messages and points to note:**

- Numeracy and learning are clearly linked because good numeracy skills support learning, whereas poor Numeracy skills are barriers to learning.
  - Good numeracy skills are a key factor in raising standards across all subjects.
  - Learners who are empowered to recognise the links in their learning can build upon them throughout their school experience and beyond.
  - All teachers in a school should share the responsibility for developing Numeracy across Learning through collaborative planning.
  - High expectation of standards of accuracy and presentation should be consistent in all classrooms.
  - Numeracy opens up personal pathways to success and is central to active participation in society and the economy.
  - Mental arithmetic should be recommended as a first resort. Teachers are encouraged to seek and compare a range of calculation methods, by asking students how they worked out a calculation and insisting everyone listens and responds positively to the responses.
  - Learners should be helped to develop appropriate methods of calculations.
  - Learners will gain more and remember much more if understanding is given prominence.
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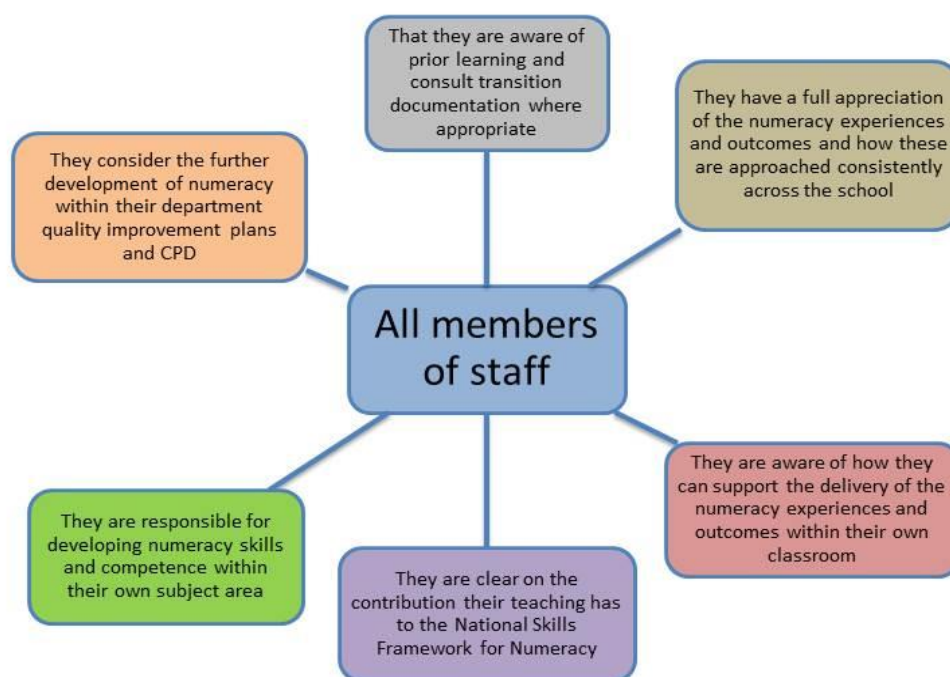
# Responsibilities of key stakeholders

*All teachers have responsibility for promoting the development of Numeracy. With an increased emphasis upon Numeracy for all young people, teachers will need to plan to revisit and consolidate Numeracy skills throughout schooling.*

## Building the Curriculum 1

**All members of staff** should work to ensure:

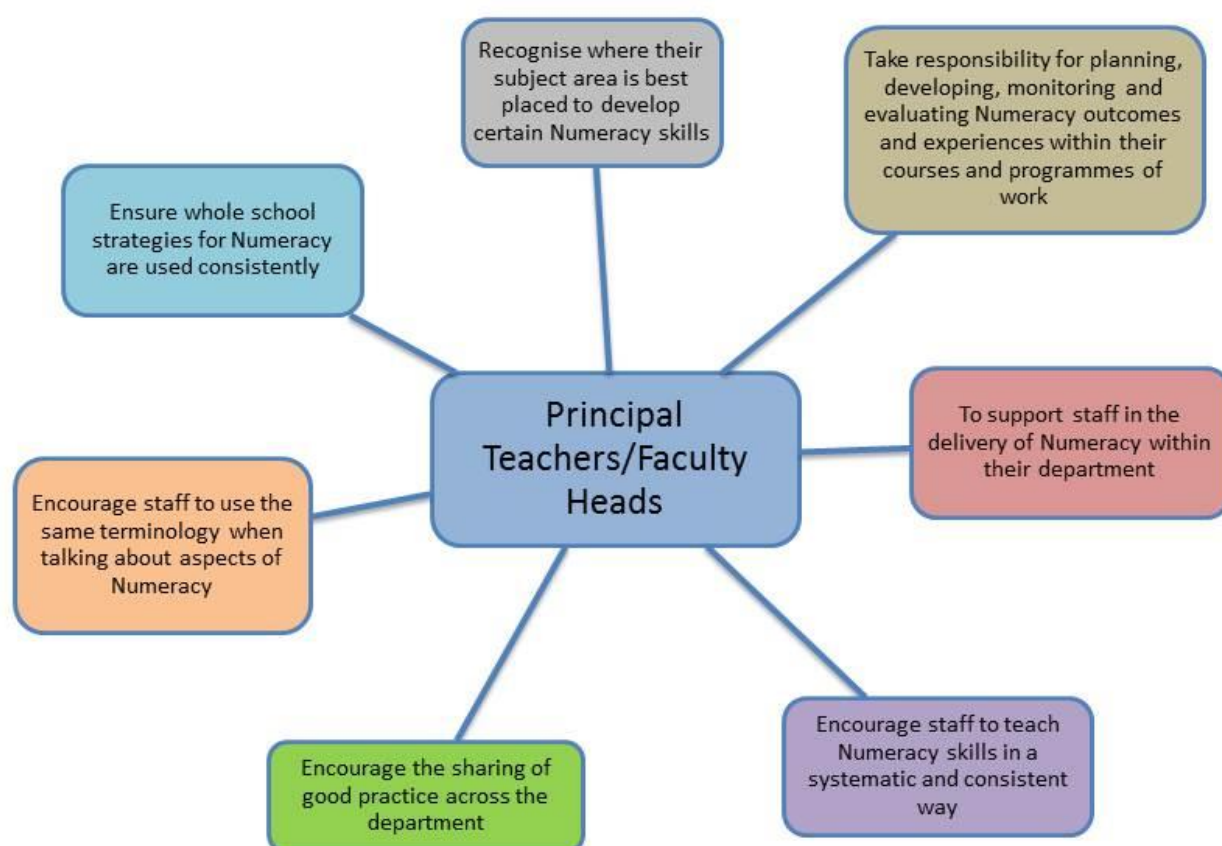
- That they are aware of prior learning and consult transition documentation where appropriate.
- They have a full appreciation of the [Experiences and Outcomes](#) and [Benchmarks](#) and how these are approached consistently across the school.
- They are aware of how they can support the delivery of the numeracy experiences and outcomes within their own classroom.
- They are clear on the contribution their teaching has in relation to the [PKC Skills Framework for Numeracy](#) and [Principles and Practice paper](#) and can report on pupils' progress within the framework.
- They are responsible for developing numeracy skills and competence within their own subject area.
- They consider the further development of numeracy within their department quality improvement plans and continued professional development



# Responsibilities of key stakeholders (contd.)

## Middle Leaders will:

- Recognise where their subject area is best placed to develop certain Numeracy skills.
- Take responsibility for planning, developing, monitoring and evaluating [Experiences and Outcomes](#) and [Benchmarks](#) within their courses and programmes of work.
- To support staff in the delivery of Numeracy within their department.
- Encourage staff to teach numeracy skills in a systematic and consistent way by referring to the [Maths and Numeracy Guide](#) for guidance.
- Encourage the sharing of good practice across the department.
- Encourage staff to use the same terminology when talking about aspects of numeracy.
- Ensure whole school strategies for numeracy are used consistently.



## Responsibilities of key stakeholders (contd.)

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**All learners** should engage fully with their education to allow them to develop the numeracy skills required, allowing them to function responsibly in everyday life and contribute effectively to society.

**Parents/Carers** should:

- Support and encourage the development of their child's numeracy.
- Support the school in the implementation of whole school expectations of this policy in order to maximise the potential of their child and therefore all learners.
- Familiarise themselves with the [Maths and Numeracy Guide](#) used at Kinross High School and refer to it when supporting their child's learning.

**The Support for Learning department** should:

- Have a full appreciation of the [Experiences and Outcomes](#) and [Benchmarks](#) and how these are approached consistently across the school.
- Support all staff in developing strategies to assist learners in overcoming barriers to developing numeracy across learning.

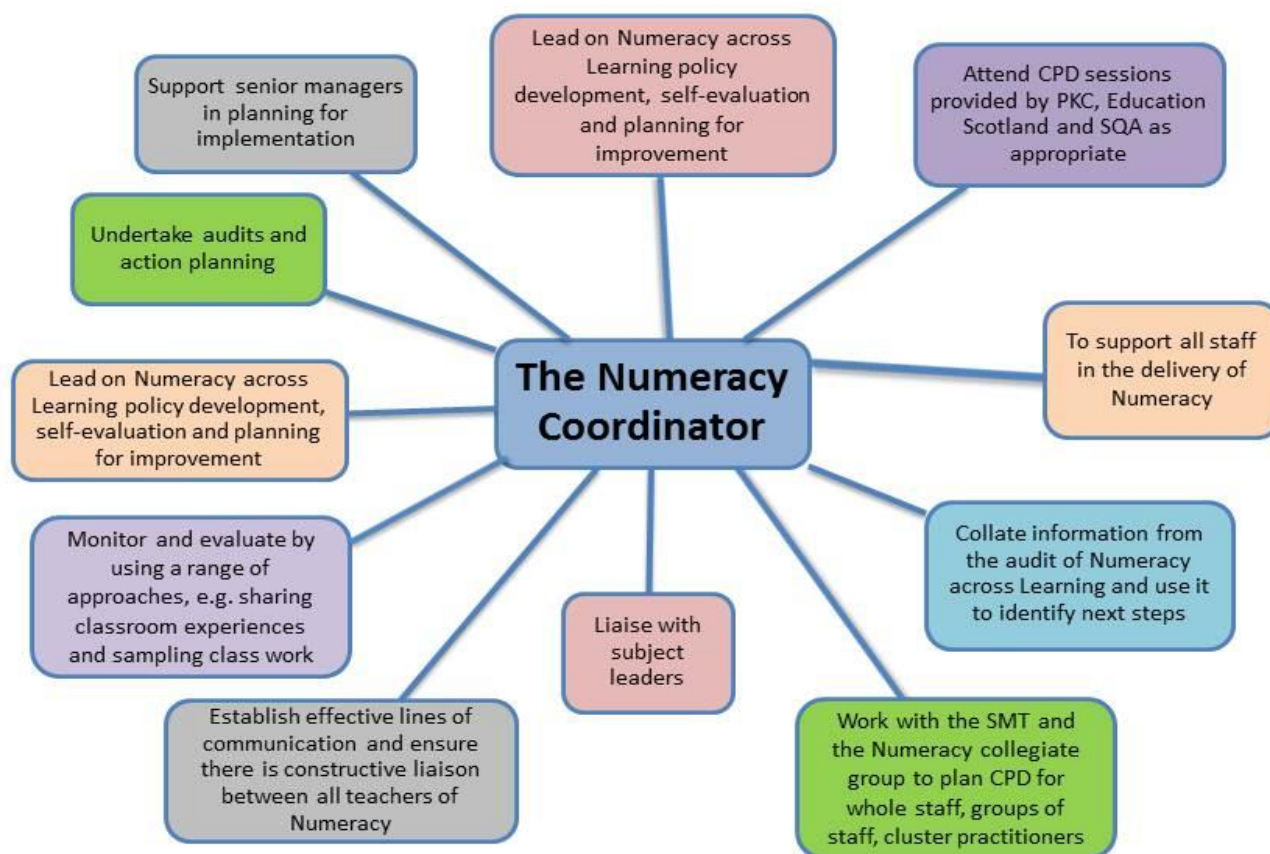
**The Numeracy collegiate group** will:

- Consult with staff in order to develop a coordinated and consistent approach to the development of numeracy throughout the school;
- Play a leading role in creating and reviewing the whole school policy for numeracy;
- Assist in identifying staff development needs in relation to numeracy and work to ensure these training needs are met.
- Maintain the profile of numeracy within all areas of the school.

## Responsibilities of key stakeholders (contd.)

**The Numeracy Coordinator** will work to:

- Support senior managers in planning for implementation.
- Undertake audits and action planning.
- Collate information from audits and use it to identify next steps.
- Liaise with subject leaders.
- Establish effective lines of communication and ensure there is constructive liaison between all teachers of numeracy.
- Attend CLPL sessions provided by PKC, Education Scotland and SQA as appropriate.
- Lead on Numeracy across Learning policy development, self-evaluation and planning for improvement.
- Work with the SLT and the Numeracy collegiate group to plan CLPL for whole staff, groups of staff, cluster practitioners.
- To support all staff in the delivery of numeracy.
- Monitor and evaluate by using a range of approaches, e.g. focus groups and sampling of learners' work.



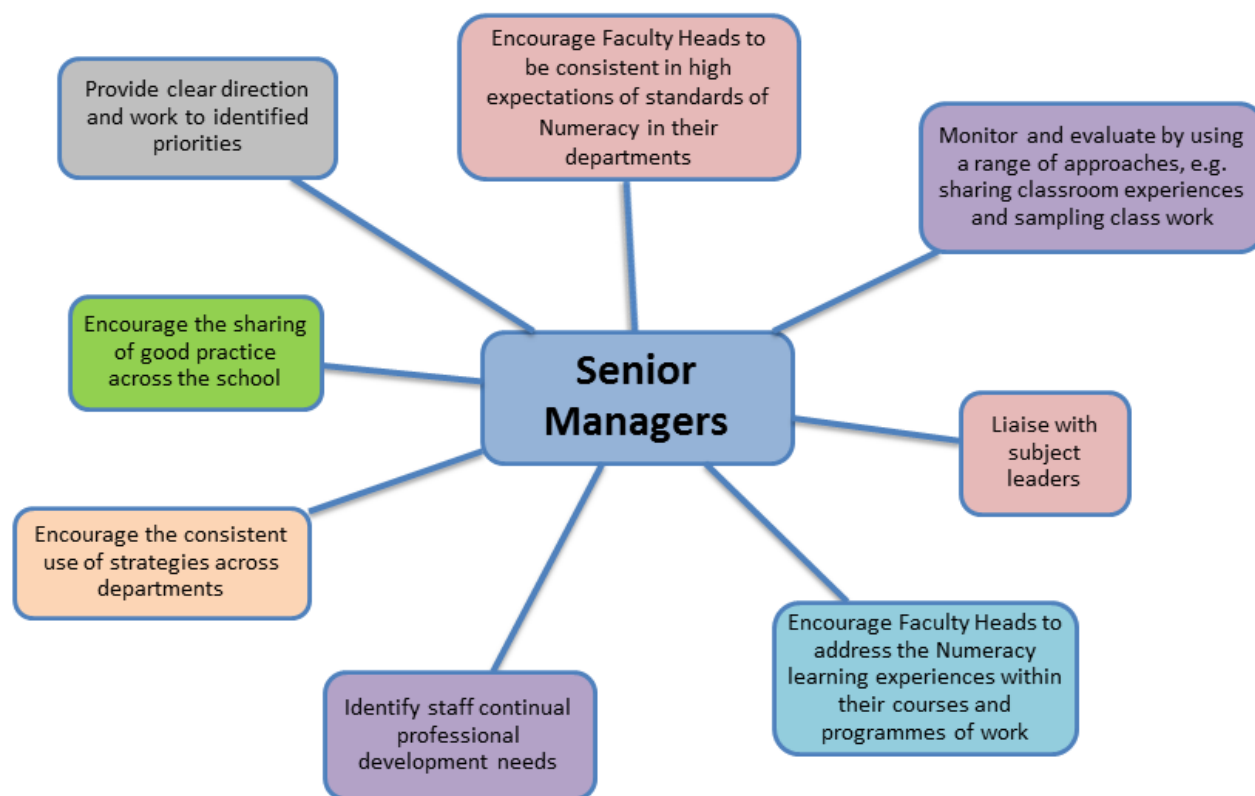


## Responsibilities of key stakeholders (contd.)

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### Senior Leaders will:

- Provide clear direction and work to identified priorities.
- Encourage Middle Leaders to address the numeracy learning experiences within their courses and programmes of work.
- Identify staff CLPL needs.
- Allocate time to continuous professional development.
- Encourage the sharing of good practice across the school.
- Encourage the consistent use of strategies across departments.
- Encourage Middle Leaders to be consistent in high expectations of standards of numeracy in their departments including the use of the same terminology when talking about aspects of numeracy.
- Monitor and evaluate by using a range of approaches, e.g. sharing classroom experiences and sampling class work.



# Supporting Numeracy Learning and Teaching at Kinross High School

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In order to support Numeracy across Learning several initiatives have been put in place. This is ongoing and all new initiatives will be discussed within the numeracy collegiate group and presented to staff as appropriate.

- A Numeracy Coordinator is in post.
  - A 'Numeracy across Learning' policy is available for all staff and a parental version available via the website.
  - A [Numeracy Folder](#) is available on the shared drive and contains examples of good practice, ideas to be shared and other relevant documentation. This is updated regularly.
  - The [Maths and Numeracy Guide](#) contains methodologies and advice for parents/carers, learners and staff.
  - CLPL opportunities are provided as appropriate.
  - Useful references are contained within this policy.
  - A whole school process for assessing and reporting on numeracy levels in S3 is in place and monitored by the Numeracy Co-coordinator.
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# Planning, assessing and reporting

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Learners' progress in solving problems, analysing information and in making informed decisions based on calculations, will be monitored as part of day-to-day learning.

Approaches to assessment should identify the extent to which children and young people can apply these skills in their learning in and beyond the classroom, in their daily lives and in preparing for the world of work.

As learners gradually build up the concepts and skills, contained in the experiences and outcomes, they will demonstrate their competence and confidence in applying them in a number of ways. For example:

- Can they explain their thinking to show their understanding of number processes and concepts?
- Are they developing securely the full range of the skills and attributes set out within the [PKC Skills Framework for Numeracy](#) As they apply these to problems, can they draw on skills and concepts learned previously?
- As they tackle problems in unfamiliar contexts, e.g. understanding specific language used in other subject areas, can they confidently identify which skills and concepts are relevant to the problem? Can they then apply their skills accurately when working independently and with others, and can they then evaluate their solutions?
- Are they developing their understanding of personal finance?
- Can they evaluate data to make informed decisions?
- Are they developing the capacity to engage with and complete tasks and assignments?

## Evaluation

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This policy will be monitored and evaluated by SLT and the Numeracy Coordinator, supported by the Numeracy Collegiate Group. Departments will be asked for information about implementation of the policy at various stages and this information will be reviewed in terms of recognising success and highlighting areas for improvement.

# Departmental Self-Evaluation Checklist

The table below summarises what learners should know, understand and use with regards to numeracy.

Use the table to help you identify where you already capitalise on opportunities to develop learners' numeracy skills and where you think there is more work to be done to help learners develop their skills fully.

Learners know, understand and use aspects of:	Green	Amber	Red
<b>Number and number processes to:</b> <ul style="list-style-type: none"> <li>■ Calculate accurately, where appropriate, using efficient mental strategies;</li> <li>■ Estimate and round appropriately;</li> <li>■ Use calculators and other ICT resources appropriately and efficiently.</li> </ul>			
<b>Applied numeracy to:</b> <ul style="list-style-type: none"> <li>■ Identify and use an efficient strategy for the calculations they need to do;</li> <li>■ Confidently measure and estimate measurements;</li> <li>■ Work confidently with money and time;</li> <li>■ Choose suitable units;</li> <li>■ Find, select, sort, collate and link information from a variety of sources.</li> </ul>			
<b>Information handling to:</b> <ul style="list-style-type: none"> <li>■ Organise information appropriately;</li> <li>■ Present graphs, charts and diagrams to suit purpose and audience;</li> <li>■ Read numbers accurately from a range of diagrams, tables, graphs and real life objects;</li> <li>■ Make inferences, informed decisions and draw valid conclusions;</li> <li>■ Use information for different purposes.</li> </ul>			
<b>Understanding, analysing and evaluating to:</b> <ul style="list-style-type: none"> <li>■ Work in groups or individually to solve problems;</li> <li>■ Confidently judge the reasonableness of solutions, checking them out when necessary;</li> <li>■ Explain their thinking and share their approaches and solutions;</li> <li>■ Form and respond to questions;</li> <li>■ Interpret and use information effectively.</li> </ul>			

## Useful references

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- [\*Experiences and Outcomes\*](#)
- [\*Benchmarks\*](#)
- [\*Maths and Numeracy Guide\*](#)
- [\*SSLN Key Numeracy Findings\*](#)

## Further recommended reading:

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[Education Scotland/Learning, Teaching and Assessment/Learning  
Across The Curriculum/Responsibility of all/Numeracy](#)

[Principles and Practice – Numeracy across Learning](#)