



Moorside High School

Numeracy Policy

Date Reviewed:October 2018.....
Date of Next Review:October 2020

Reviewed by: Teaching & Learning Committee

October 2018

MISSION STATEMENT

Moorside High school is committed to raising the standards of numeracy of all its students, so that they **have** the ability to use numeracy skills effectively in all areas of the curriculum. **Students should develop** the skills necessary to cope confidently with the demands of further education, employment and adult life.

Rationale

It is important that all pupils develop the ability to apply numerical understanding and skills confidently and fluently in order to solve problems in a variety of curriculum contexts and to cope with practical mathematical demands of everyday life.

The focus on numeracy skills is not just the responsibility of the Maths department. All subjects, where pupils are expected to apply numerical skills, should be taking positive steps to develop pupils' numeracy skills and concepts and provide opportunities for them to acquire the mathematical language crucial to understanding mathematical knowledge. All form tutors are also expected to complete numeracy based activities during afternoon registration **once a week** on a Thursday, provided that they are not in an assembly, in order to help to improve pupils' basic arithmetic skills.

Subject areas, that naturally lend themselves to numeracy, have an obligation to work with the Maths department to ensure that a common approach, where appropriate, is taken by all. Where subjects need to take different approaches this **should be** explained to pupils in class by both the Maths department and by the other subject **staff**.

Subject teachers are not expected to artificially insert numeracy into their subject area but it is essential that opportunities for numeracy are not missed. Taking this approach across the school will help pupils to become more confident and fluent with their numeracy skills across the curriculum and can only help prepare pupils for the demands of real life. Poor numeracy skills hold back pupil's progress and can lower their self-esteem. Improving these skills is a whole school matter with every member of staff having a role to play whether it is just as a form teacher or a subject teacher in a subject that lends itself to numeracy.

DEFINITION

Numeracy is:

The ability to cope confidently and fluently with the mathematical demands of further education, employment and adult life.

This includes:

- The ability to carry out basic calculations efficiently and accurately, either mentally or with pencil and paper as appropriate.
- The ability to apply knowledge of number to both familiar and new circumstances and to use it in the solution of problems.
- The ability to understand and use units of measurement of length, mass, capacity and time.
- The ability to understand and use information presented in mathematical forms, including graphs, tables and charts.

Numerate students:

- Have a sense of the size of a number and where it fits into the number system.
- Read numbers accurately from a range of metres, dials and scales.
- Know basic number facts and recall them quickly and confidently.
- Use what is known to work answers mentally.
- Calculate accurately and efficiently, both mentally and with pencil and paper, drawing on a range of strategies.
- Use a calculator and other ICT resources appropriately, efficiently and effectively.
- Make sense of number problems, recognise the operation(s) needed and are available to work confidently with numbers.
- Know when answers are reasonable and give results to an appropriate degree of accuracy.
- Are able to manipulate algebraic expressions and use simple formulae.
- Understand and use correct mathematical notation and terminology.
- Are able to explain methods, reasoning and conclusions.
- Use 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.
- Understand and use compound measures and rates.
- Draw plane figures accurately to given specifications and understand and use the concept of scale in geometrical drawings and maps.
- Can calculate simple perimeters, areas and volumes.
- Collect and record discrete data and continuous data, draw and interpret tables, charts, diagrams and graphs and use them to make predictions.
- Are able to apply mathematical skills to solve problems in a variety of contexts.

RAISING STANDARDS OF NUMERACY

A whole school strategy for raising standards of numeracy involves:

- Increasing secondary teacher's awareness of the teaching strategies used in primary schools and the mathematical skills acquired by pupils.
- Identifying the numeracy needs of different subjects.
- Providing information on appropriate expectations of particular ability groups.

- Increasing teacher awareness of how students are taught particular skills in Maths lessons, so that students can be encouraged to utilise these skills efficiently in various subjects.
- Developing a consistent approach to learning and numeracy skills in all subjects.
- Increasing the awareness of students of the transferability of skills, so that they can make more effective use of the numeracy skills they have, in a range of contexts.
- Encouraging teachers to work more effectively.
- Completing form time numeracy activities on a regular basis.

In order to achieve this it is the responsibility of Maths teachers to:-

- 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 different age groups and different levels of ability
- Seek opportunities to use questions from other subjects in maths lessons

It is the responsibility of the teachers of other subject areas to:-

- Ensure that they are familiar with the correct mathematical language, notation and techniques relating to their subject area and to encourage students to use them correctly
- Be aware that there is normally more than one correct method that can be used for a given calculation and to encourage students to consider the different methods that they could use and to think about which method would be the most efficient
- Promote and encourage pupils to develop a deeper level of understanding of the processes that they are using and not to use rules that aren't necessarily correct all of the time and which don't encourage any level of understanding. For example, when you multiply by 10 you add a 0 on the end is not encouraging pupils to understand what is actually happening to the value of each digit and it isn't true if it is a decimal instead of an integer
- Be aware of the difficulties and the common misconceptions that pupils might experience when completing numeracy based tasks in their own subject area
- Provide information for Maths teachers on the stage at which specific numeracy skills will be required for certain groups
- Provide resources for Maths teachers to use in their lessons to enable Maths staff to promote and give examples of applications of numeracy in other subject areas
- Encourage students to use non-calculator methods, where this is appropriate, to help students to improve their calculation skills as well as teaching pupils how to use a calculator efficiently should calculators be permitted in their subject area

It is the responsibility of the Maths Department to teach basic skills, but by working more effectively with other teachers in the school standards should be raised for all students.

This should mean that:

- The need for teachers of subjects other than Maths to *teach* basic numeracy skills will be reduced.
- Achievement in those aspects of the curriculum that involving the use of basic numeracy skills will be raised.
- The ability of all students to work correctly, confidently and fluently with Maths in a variety of contexts will improve.
- Students leaving the school will be better prepared for further education and employment and able to deal more confidently with the mathematical demands of adult life.

MONITORING AND EVALUATION

This policy and the school's efforts to improve standards of numeracy will be monitored and evaluated by:

- Half termly drop ins to be completed during form time to ensure that numeracy is being completed on a regular basis.
- LA meetings to be used, where appropriate, for meetings with individual subject areas that naturally lend themselves to numeracy, to ensure that common approaches are taken and where this is not possible any differences are highlighted to staff so that this can be passed onto to pupils in class.
- Numeracy to be put on the agenda for department meetings.
- Governors' will receive regular updates on the progress, in the form of a short report from the Head teacher.