

McLaren High School



Numeracy Across The Curriculum Policy

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Numeracy Across the Curriculum

Numeracy is a proficiency that involves confidence and competence with numbers and measures. It requires an understanding of the number system, a repertoire of computational skills and an inclination and ability to solve number problems in a variety of contexts. Numeracy also demands practical understanding of the ways in which information is gathered by counting and measuring, and is presented in graphs, diagrams, charts and tables.

Mathematical skills can be consolidated and enhanced when students have opportunities to apply and develop them across the curriculum. Poor numeracy skills, in particular, hold back students' progress and can lower their self-esteem. To improve these skills is a whole-school matter. By identifying the contribution each department makes towards numeracy and other mathematical skills and then working together, we will help students become confident at tackling mathematics in any context.

The school policy is that:

Numeracy is a key skill in students' learning and all students are entitled to quality experiences in this area. The teaching of numeracy is the responsibility of all staff and the school's approaches should be as consistent as possible across the curriculum.

Curriculum areas will endeavour to ensure that materials presented to students will match their capability both in subject content and in numerical demands. They should consult this policy or liaise with the Mathematics Faculty or the Learning Support Department when appropriate in order to support the teaching of numeracy.

All teachers should consider students' ability to cope with the numerical demands of everyday life and provide opportunities for students to:

- handle number and measurement competently, mentally, orally and in writing;
- use calculators accurately and appropriately;
- interpret and use numerical and statistical data represented in a variety of forms.

Cross-curricular guidance:

This document should provide information and guidelines to help produce consistency across the curriculum - it is not intended to be a prescription for teaching although some advice is given.

Approaches

All teachers will discourage students from writing down answers only and encourage students to show their numerical working out within the main body of their work.

All teachers will encourage the use of estimation particularly for checking work.

All teachers will encourage students to write mathematically correct statements.

It is recognised that there is never only one correct method and students will be encouraged to develop their own correct methods where appropriate rather than be taught 'set' ways.

Wherever possible students will be allowed and encouraged to 'vocalise' their maths - a necessary step towards full understanding for many students.

All students should be helped to understand the methods they are using or being taught - students gain more and are likely to remember much more easily if they understand rather than are merely repeating by rote.

Calculators:

In order to improve numeracy skills, it is essential that students should be encouraged to use non-calculator methods whenever possible. However departments should ensure students have access to calculators when they are necessary.

It is recognised that where calculators are to be used their correct use may have to be taught.

Methods and Presentation:

Where a student is gaining success with a particular method it is important that s/he is not confused by being given another method. This does not disallow the possibility of introducing alternatives in order to improve understanding or as part of a lesson deliberately designed to investigate alternative methods, provided students can manage this without confusion.

Working out:

In all arithmetic, the importance of place value and neat column keeping should be stressed.

In a line of workings an "equals" sign should only appear once.

This is poor, but common practice: $£3.50 \times 0.85 = 2.975 + 3.50 = 6.475 = £6.48$

This is good practice: $£3.50 \times 0.85 = 2.975$
 $2.98 + 3.50 = £6.48$

Language:

When referring to decimals say "three point one four" rather than "three point fourteen".

Read numbers out in full, so say three thousand four hundred rather than three, four, zero, zero.

It is important to use the correct mathematical term for the type of average being used, i.e. mean, median or mode.

Mean Total of values of sample \div sample size.

[The term average is commonly used when referring to the mean]

Median Middle value of sample when sample values are arranged in order size.

Mode Sample values which occur most frequently.

Checking:

Encourage students to check divisions by multiplication and subtractions by adding.