



# Numeracy Policy

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**Policy ratified by BoG: Draft – to be**

**Policy due for review: December -2022**

## **Numeracy Policy**

**Specific policy that the College has adopted to promote Numeracy.**

### **Summary**

**The policy sets out good practice in relation to Numeracy.**

**All policies are available through shared documents - (emailed to all staff)**

**Created: 2021**

**Reviewed:**

**Amended:**

**Date ratified by Board of Governors:**

**Date of Review:**

## Introduction

The publication of Count Read, Succeed, the Department of Education's Strategy for Literacy & Numeracy; closely aligned to Every School a Good School; indicates clearly the need for schools to promote Numeracy and Literacy skills.

I am often asked what the difference between Numeracy and Mathematics is. To try and clarify this, Mathematics is the methods that students learn how to do (learn what a percentage is); Numeracy is when students are able to apply those methods to solve problems (add 15% onto a bill).

To promote Numeracy within the college it is important to relate Numeracy to real life situations. This becomes easier if it is approached as a whole school initiative which is highlighted across the curriculum.

Key stage 3 examinations in Mathematics have been replaced by assessments in Using Maths. These assessments test students' skills in Numeracy at Key stage 3. The students have to complete at least 3 tasks, one from each of the following areas: Algebra, Number, Shape, space and measure and problem solving. Students are given a numeracy level in each of the tasks and their average level is reported. These tasks are assessed and moderated in year 10. Although the Mathematics department will lead this, it cannot be implemented by them alone, other departments within the college have been asked to play a role by writing and implementing parts of Using Maths tasks within their subject area. There is also a pilot of adaptive numeracy testing run by CCEA that assigns KS3 levels to pupils. Currently this is only running with Year 8 and Year 10 pupils.

All subjects have been asked to build at least one Numeracy lesson into their schemes of work each term as part of the Numeracy strategy within the College. This is important as it will increase the promotion of Numeracy across the curriculum and highlight to students the relevance of Mathematics throughout their lives. When departments are completing numeracy tasks they should refer to the Numeracy 'WAVES' poster to remind pupils of the important steps they should follow.

### **Definition of Numeracy** (Count Read, Succeed March 2011)

Numeracy is one of the bedrocks of entitlement for all young people, regardless of age or ability.

**Numeracy:** is the ability to apply appropriate mathematical skills and knowledge in familiar and unfamiliar contexts and in a range of settings throughout life, including the workplace. It involves the development of:

- a) an understanding of key mathematical concepts and their inter-connectedness;

- b) appropriate reasoning and problem-solving skills;
- c) the proficient and appropriate use of methods and procedures (formal and informal, mental and written); and
- d) active participation in the exploration of mathematical ideas and models.

**Definition of Using Mathematics** (CCEA – Guide to Assessment - April 2011) Using Mathematics describes the ability to apply mathematical knowledge and skills in a range of meaningful contexts. Standards of pupil competence in Numeracy are measured through the cross-curricular skill of Using Mathematics.

Across the curriculum, at a level appropriate to their ability, pupils should be enabled to:

- choose the appropriate materials, equipment and mathematics to use in a particular situation;
- use mathematical knowledge and concepts accurately;
- work systematically and check their work;
- use mathematics to solve problems and make decisions;
- develop methods and strategies, including mental mathematics;
- explore ideas, make and test predictions and think creatively;
- identify and collect information;
- read, interpret, organise and present information in mathematical formats;
- use mathematical understanding and language to ask and answer questions, talk about and discuss ideas and explain ways of working;
- develop financial capability;
- use ICT to solve problems and/or present their work.

It is important to stress at this stage that this is nothing new. We all are teaching Numeracy within our subjects, it is just a case of focusing the Numeracy into a real life task. This task can be very short (one lesson long); it can be built into a project that you already undertake (table of percentages according to age of people killed in the second world war and then graphically displayed). **A key element is that it must reflect the work that is already happening within your classroom.** I think of Using Maths as the extra bit when I am relating what the students have learnt to everyday life.

## **General Principles of Learning & Teaching**

1. Where possible, mathematical technique should be taught by the mathematics department before being applied in other subject areas.

*This hopefully will make your life much easier, as students will already have the mathematical knowledge. To achieve this it is important to do a numeracy map.*

2. Pupils should be taught to understand a technique (as far as possible) rather than use it mechanically.

*This is essentially what using mathematics is all about, showing how mathematical techniques relate to everyday life leading students to gain a deeper understanding.*

3. The mathematics department should be aware of the mathematical needs of other subjects and should take this into account in their schemes of work as far as possible.

*This will be determined by a numeracy audit.*

*Please use this opportunity to highlight Numeracy within your schemes of work.*

4. When the same mathematical skill is used in different subjects it should be approached in a similar way.

*It is important that there is consistency in the teaching of Mathematical methods; training with every department is to be carried out by the Numeracy coordinator. Also to download and pass on relevant CCEA 'how to' posters to departments – numeracy audit will show what posters need to go to what departments.*

5. The use of correct mathematical vocabulary should be encouraged across the curriculum.

*A bank of Mathematical words is to be produced and to be kept on shared documents for teachers to be able to access and display when appropriate. Numeracy 'WAVES' poster should also be referred to, to encourage pupils to remember to use correct vocabulary.*

6. Teachers in all subjects should be aware of their pupils' mathematical ability and plan accordingly, particularly at key transition points

*Results of baseline test and Mathematical levels to be held on staff documents for teachers to access. Also updates to be shared on Staff Development days.*

7. ICT software should be used where appropriate in assisting with the development of numerical skills in any subject area.

*At the moment the ICT department teach the use of excel and displaying Mathematical information on graphs. Use of iPads to be developed more.*

8. Parental involvement should be developed and encouraged where practical and appropriate.

*This is an area which will need explored further when Numeracy within the College is established.*

9. Training and resources need to be made available to support the development of Numeracy across the curriculum.

*Time and training are required to implement Numeracy and Using Maths tasks throughout the College.*

- 10.** Pupils are confident and competent in the transferability of their Numeracy skills across the curriculum.

*This will only be apparent when Numeracy and Using Maths are fully embedded.*

### **Role of the Numeracy Co-Coordinator**

- Ensure that all staff are familiar with the Northern Ireland Strategy for the promotion of Numeracy.
- Consult and update all staff regularly on Numeracy developments
- Lead the drafting of a Numeracy Policy
- Develop action plans for the implementation of the Numeracy Policy
- Co-ordinate the implementation of the Numeracy Policy through liaison with the appropriate colleagues.
- Establish the Numeracy In-Service requirements of the staff and contribute as appropriate to their training.
- Provide support and advice to colleagues to ensure effective teaching of Numeracy across the curriculum.
- Manage and develop appropriate resources for the promotion of Numeracy.
- Monitor progress in Numeracy by analysing the outcomes of Key Stages and other standardised tests.
- In consultation with departments establish whole school targets for Numeracy.
- Encourage and monitor continuity and progression in Numeracy across the curriculum.

- Encourage and monitor the use of ICT to enhance the learning and teaching of Numeracy.
- Be responsible for liaison with parents, support services and agencies.
- Liaise with the SEN Co-ordinator and Literacy Co-ordinator to assist pupils who have difficulties in Numeracy.
- Review and conduct an evaluation of the effectiveness of the school's Numeracy Policy.
- Inform staff of pupil progress in Numeracy.

### **Other Staff Responsibilities**

Teachers and Governors are aware that enabling young people to become Numerate is one of their core responsibilities. Every teacher has a responsibility for acquiring and developing pupils' Numeracy skills and applying these skills by 'Using Maths' within their own area of learning where appropriate. This process should occur naturally as an ongoing part of classroom activity and help pupils develop and demonstrate a deeper understanding of the subject.

Improving pupils' Numeracy skills will have benefits for their learning in other subjects, for example:

- pupils should be better able to describe, explain and justify their thinking;
- be more confident in using numbers in context and in handling data;
- be more accurate in their graphical skills and use of measurements

Teachers will therefore be involved in planning – identifying where and when specific skills can best support the teaching of particular topics, concepts, case-studies, issues etc. While the skills are transferable and cross-curricular, they are most meaningful when embedded in contexts within the learning area/subject strand where they can contribute to the knowledge and understanding of the subject.



Departments should therefore plan coherent programmes for learning, teaching and assessment, across the key stage, which provide opportunities for pupils to acquire develop and demonstrate Numeracy skills.

Pupils should be afforded opportunities to:

- work collaboratively and through discussion develop their mathematical language and organise their thinking
- choose from a variety of formats when recording work and select the most appropriate methods, mathematics and resources for a range of applications
- acquire the necessary processing skills to solve problems in a variety of contexts

### **Cross- Curricular Development work**

- Clearly identify opportunities within relevant subject schemes of work to develop numeracy skills e.g. select the appropriate representation of data
- Identify the detail of numeracy skills that may be expected to be developed in a particular subject; e.g. the skill of making accurate measurements
- Agree common approaches to specific aspects of numeracy development e.g. use of protractors, the size of squared paper to be used across the school, templates for drawing pie charts etc
- Ensure consistency in the delivery and presentation used, for example, when presenting data or information, estimating and checking answers
- Encourage pupils to develop and use the appropriate vocabulary e.g. when describing familiar shapes, sharing findings from an experiment etc

Although every teacher has a responsibility to promote the acquisition and development of the Cross Curricular skills of Communication, Using Mathematics and ICT, it must be recognised that some areas of learning will be able to provide more 'naturally occurring' opportunities than others.