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**Mathematics**

 **and**

**Numeracy Policy**

**Policy Review**

**Date Agreed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Next Date Review Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Signed by Chair of Governors:**

**Introduction**

All staff had an input in developing this policy under the guidance of the numeracy co-ordinator.

In St Oliver’s Primary School, we have decided to adopt the following definition of numeracy:

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 interconnectedness;

b) appropriate reasoning and problem solving skills;

c) the proficient and appropriate use of methods and procedures (formal and informal, mental and written);

d) active participation in the exploration of mathematical ideas and models.

(Count, Read, Succeed, paragraph 1.10)

We see numeracy as being interrelated to all subjects. Numeracy is both a key skill and a life skill.

In St Oliver’s Primary School, we value every pupil and the contribution they make. As a result, we will strive to enable every child to achieve success and to develop their skills in accordance with their level of ability. We aim to equip our children with the necessary life skills to allow them to participate fully in the society in which they live.

Aims:

1. To develop within our pupils a positive attitude towards numeracy through promoting the subject in a relevant and interesting manner thus promoting confidence, pleasure and success in the subject.
2. To give children an appreciation of Numeracy as a creative subject, of its structure and pattern, and of its value to the environment.
3. To develop children’s understanding that Numeracy has relevance across the curriculum and a value in real life situations.
4. To develop children’s clear and effective use of Numeracy vocabulary which is reflective of their ability and experience
5. To develop children’s understanding of mathematical concepts by involving them in well planned problem-solving and investigative activities.
6. To develop children’s ability to think clearly and logically, with confidence and independence of thought.
7. To foster children’s use of mathematical skills and knowledge accompanied by quick recall of basic facts.
8. To promote the habit of discipline and to encourage perseverance in the completion of set tasks.
9. To provide children with a variety of learning experiences which cater for all learning styles.
10. To develop children’s ability to calculate mentally and to be able to visualise number and its use throughout all areas of Mathematics.
11. To make appropriate use of ICT to promote teaching and learning in Numeracy.
12. To consolidate Numeracy processes and concepts by presenting our pupils with practical experiences which are presented in a planned curriculum.

**Methodology**

We adopt a practical approach to the teaching of numeracy with great emphasis being placed on children being able to explain their work using accurate mathematical language, depending on their age and ability. We follow these basic steps:

1. When introducing a new topic/learning intention to the children, the teacher checks to see that the children are confident in the prerequisite knowledge/skills.
2. Once this has been ascertained, the teacher introduces the new work using a variety of practical materials. We deliberately use many different types of resources because we realise that children learn in different ways and require resources to suit them.
3. When the children have grasped the concept through practical work, they move on to work that involves pictorial images. This involves the children completing relevant aspects of published schemes and teacher generated worksheets and activities
4. We introduce story problems involving the concept so that the children can see how relevant mathematics is to everyday living. They are taught to look for key words and to consider these when given written problems to solve.

**Classroom Management**

In St. Oliver’s Primary School every teacher ensures that effective classroom management strategies are employed throughout the school, in accordance with our Discipline and Teaching and Learning Policies:

* Approaches to classroom arrangement are varied to allow for individual, paired, group and whole class teaching within the composite class situation
* Grouping of pupils is flexible. Children may be placed in ability or mixed ability groups according to the topic and the nature of the learning activity. Where possible children are provided with opportunities to develop both their group working skills and communication skills. There are always opportunities for pupils to work independently.
* Children are encouraged to discuss, with other children and adults, their approaches to learning activities and findings where appropriate
* A healthy working noise level is tolerated but behaviour should be in accordance with the school discipline policy
* Classroom assistants are employed to positively support the classroom teacher in the implementation of the numeracy curriculum.

**Continuity and Progression**

1. In St. Oliver’s Primary School numeracy is regarded as a core element of the school curriculum. Within the subject itself it is seen as an interrelationship between the five attainment targets- Mathematical Processes, Number, Measures, Shape & Space and Handling Data
2. The content of the scheme ensures a structured learning experience for our pupils, through a sequenced set of experiences for each child as they progress through the key stages.
3. We ensure that there is consistency of mathematical language used throughout the school, which develops in sophistication as the children progress.

**Learning and Teaching Strategies**

In order to develop our children’s numeracy skills, we provide a range of learning experiences and teaching approaches, including:

* Investigations/Problem solving
* Recording
* Discussion – Individual, group and whole class
* Structured Play/Activity Based Learning/Games
* ICT – use of a range of ICT devices as mathematical tools
* Mental Maths
* Employment of good questioning techniques
* A range of methods of calculation (mental, pencil and paper)

Children’s learning begins with opportunities to encounter concrete experiences, then moving to pictorial and finally more abstract experiences.

Practical sessions are well planned and concepts consolidated through the employment of effective questioning strategies.

During Mental maths lessons teachers use planning materials provided by the EA and highlight such in their half termly plans.

**Mental Mathematics**

We believe Mental Maths should:

* Encourage more than just mental calculation
* Happen daily
* Provide children with a variety of opportunities to develop their mental maths skills

The overall objective is that when children leave St Oliver’s, they will:

* Have a good knowledge of number facts and a good understanding of the 4 operations (addition, subtraction, division and multiplication)
* Are able to apply knowledge when carrying out calculations mentally
* Can rely on an efficient, compact written method they can use when calculations cannot be completed mentally
* Mental Maths is timetabled separately in our class timetables to give it a specific focus throughout our school day.

**Role of Homework**

The use of numeracy homework reflects our homework policy.

The purpose of homework is to:

1. Reinforce and consolidate work undertaken in school
2. Provide practice
3. Allow for further investigation into topics
4. Strengthen home-school links

**Resources**

In St. Oliver’s Primary School we feel that it is inappropriate to rely solely upon one scheme as it is felt that relying upon one scheme limits our pupils’ Numeracy experiences. Therefore, a wide range of resources is available to support the teaching of numeracy.

This wide range of resources is further supplemented by teacher generated worksheets, practical materials, games and ICT software.

Resources are readily available and accessible to children to help develop their process skills. Each classroom is adequately resourced to support the teaching and learning of Numeracy.

**Role of ICT**

ICT is seen as an integral part of Numeracy and is used to help enhance our pupils understanding. The role of ICT is to: -

1. consolidate our children’s learning
2. further develop our children’s numeracy skills
3. provide our children with a variety of stimuli, therefore developing their use of mathematical processes

provide our children with a variety of challenging learning situations

1. promote children’s enjoyment of Numeracy

provide children with opportunities to take part in collaborative activities

Some of the apps used throughout the school include:

* Mathletics
* Conquer Maths
* Top Marks
* Math Workout

This list is continually being updated within classes.

Teachers make use of ICT to enhance children’s knowledge, skills and understanding across all areas of mathematics. Half termly plans contain specific reference to ICT and how it is used to enhance teaching and learning with numeracy.

**Use of Calculators**

Calculators, like computers, are a means of consolidating our pupils’ Numeracy skills. Our children are given the opportunity to develop the calculator skills as early in Key Stage 1 as possible. It is the intention that calculators should be used as a checking device rather than a child’s first means of calculation. However, our pupils do need to develop skills in relation to using calculators, particularly when engaging with real-life problem-solving and investigative activities.

**Role of Parents**

* In St. Oliver’s Primary School, we view parents as one of our greatest resources and we strive to nurture our links with parents at all times. We hope that parents are involved with their children’s’ progress as much as possible.
* Parents are welcome to discuss their concerns about their children’s’ progress
* We report on pupils’ progress on two occasions during the school year:
	+ In early November, parents are invited to meet with teachers to discuss their children’s progress.
	+ Prior to the summer holidays parents are provided with a written report.
* Staff are available for consultation in regards to individual difficulties in Numeracy as they arise.

**Assessment**

We employ a number of ways of assessing pupils. Most important of all is the on-going formative assessment gathered over the year. In the early years, the assessment is of a practical nature and involves pupils explaining and demonstrating their work. From Primary 2 upwards, written tests are also included.

The school employs the use of GL Progress Test in Maths standardised tests from Primary 2 to Primary 7. This testing is carried out in May/June. These results are analysed in order to help teachers develop their planning for the coming school year.

We believe that a key purpose of assessment is to provide information on how well children have grasped the concept being taught. Consequently, all of the information generated through the assessment process is reviewed and carefully analysed to help teachers decide when children are ready to proceed the next step and when further consolidation at the current level is required.

**Inclusion**

Our progressive numeracy curriculum ensures that every child is appropriately challenged in numeracy. Teachers are aware of, and address, the specific needs of pupils who are experiencing difficulties at any time. It is each teacher’s responsibility in consultation with the SENCO (Mr Woods) to develop an Individual Education Plan for children as and when required. Children’s progress is monitored regularly and appropriate action is taken to ensure all children make appropriate progress in line with their ability, including our more able children.

Children who have been identified as underachieving in Numeracy in Primary 2 - 7 will be supported through a range of interventions.

School year 2021/2022

* Underachievers shall be supported by our Engage teacher Miss C Rowland.
* Numeracy booster clubs shall be offered to each class on a six-week cycle.

**Staff Development**

Teachers are encouraged to continually develop their knowledge base and skills through collaboration and in-service training,

**Target Setting**

The following elements will contribute to the setting of targets for the end of Key Stage 1 assessment: -

* Teachers’ professional judgement
* Results of Standardised tests

The following elements will contribute to the setting of targets for the end of Key Stage 2 assessment: -

* Previous level of attainment at the end of Key Stage 1
* Teachers’ professional judgement
* Results of Standardised tests

**Cross Curricular Links**

It is recognised that Numeracy is an integral part of the whole curriculum and we provide opportunities to introduce elements of Numeracy in relevant contexts, e.g. the introduction of negative numbers in World Around Us (temperature). This helps develop the pupils’ realisation that Numeracy has real life application,

**Monitoring and Evaluation**

This policy will be monitored and evaluated on an on-going basis. In addition, children’s work, test results, teacher’s notes/evaluations and classroom observations (PRSD) will provide additional evidence in allowing us to monitor and evaluate the effective implementation of this policy.

**Review**

This Policy will be reviewed annually in light of any changes to our provision, including those brought about by any future developments in the statutory requirements, and non-statutory guidance, of the Northern Ireland Curriculum.