Oyne School

Mathematics Policy including Numeracy across Learning



January 2015

Revision 2018

 2021

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| **“Being numerate helps us to function responsibly in everyday life and contribute effectively to society. It increases our opportunities within the world or work and establishes foundations which can be built upon through lifelong learning.”** **(A Curriculum for Excellence, Numeracy across learning, Principles and Practice)** |

**Vision**

That pupils at Oyne School develop high levels of mathematical skills including numeracy skills across the curriculum based on a shared understanding by all staff of how children progress and of effective learning and teaching.

**Aims**

At Oyne School we aim to engage pupils and develop confidence and competence in mathematics and numeracy across learning. We will develop skills by adopting an investigative and creative problem-solving approach to learning and teaching for pupils in Primary 1 to Primary 7. Through active learning we will ensure that children experience **depth, challenge and enjoyment** by providing a broad range of **relevant** contexts for numeracy to develop skills for learning, life and work. We will give children choice and opportunities for collaboration and exploration in their mathematical work as well as well planned **coherent and progressive** programmes of work and revisiting and building on skills throughout their learning. Assessment is for Learning strategies will be embedded in mathematics and numeracy. Children will be encouraged to reflect on their learning and to make their own links between mathematics and numeracy and the world around them.

**Effective learning and teaching in mathematics and numeracy**

* Children experience active learning and planned, purposeful play with opportunities to observe, explore, investigate, experiment, play, discuss and reflect.
* Problem-solving and investigative capabilities are developed.
* Mental agility is developed.
* Children are frequently asked to explain their thinking.
* Relevant and familiar contexts and experiences are used.
* Technology used in creative and effective ways.
* Children understand the purpose and relevance of learning activities. They receive effective feedback and understand how to improve their work.
* Children experience collaborative and independent learning opportunities.
* Frequent links are frequently made across the curriculum, so that concepts and skills are developed further by being applied in different, relevant contexts
* An interest and enthusiasm for mathematics and numeracy is promoted.

**What does mathematics and numeracy look like at early level?**

* Children have time to play, explore and revisit learning.
* Planning starts from what children know.
* Children explore at their own level and their ideas are responded to.
* Everyday experiences are used as relevant contexts.
* Teachers find out what is happening in a child’s head.
* The environment is numeracy rich and opportunities to model numeracy are planned.
* There is a lot of talking and questioning to develop thinking.
* Recording happens in a variety of different ways.

**What does mathematics and numeracy look like at first level?**

* Builds on early level.
* Children can explain their answers and their thinking, and develop ways of representing this.
* Teachers model number and thought processes.
* Lessons provide progression in concepts, skills and understanding.
* Children make connections with prior learning.
* Active learning approaches engage children fully.
* There is a problem-solving and investigative ethos.
* Contexts are developed which support learning.

**What does mathematics and numeracy look like at second level and beyond?**

At second level children are thinking through problems of their own. They are being creative using their number skills and problem-solving strategies.

* Pupils are developing skills to identify the problems and the mathematical processes needed to solve them.
* Pupils develop confidence, resilience and a positive attitude towards solving problems.
* Pupils can justify and explain their thinking and can solve problems collaboratively.
* Pupils transfer skills and make links between different areas of learning and different areas of mathematics.
* Pupils use mathematical language and thinking is recorded in a variety of ways.
* Creative contexts are used to promote mathematics and numeracy across learning.
* Pupils have a clear idea of their learning and how to improve it.

**Planning**

Within the Curriculum for Excellence, the mathematics framework contains experiences and outcomes organised around three broad organisers with subdivisions. Pupil progress is supported with Aberdeenshire frameworks and National Benchmarks.

**Number, money and measure**

* Estimation and rounding
* Number and number processes
* Multiples, factors and primes
* Powers and roots
* Fractions, decimal fractions and percentages
* Money
* Time
* Measurement
* Mathematics – its impact on the world, past, present and future
* Patterns and relationships
* Expressions and equations

**Shape, position and movement**

* Properties of 2D shapes and 3D objects
* Angle, symmetry and transformation

**Information handling**

* Data and analysis
* Ideas of chance and uncertainty

**Assessment in mathematics and numeracy**

Teachers will gather evidence of progress and increasingly skilful work with numbers, data, mathematical concepts and processes in a variety of ways. Pupils will need continual reinforcement and revisiting of concepts in order to maintain progression. Careful planning will ensure increasingly challenging contexts for pupils to develop their skills. Pupils will be assessed by the extent to which they can apply their skills in their learning. Children and young people will be able to increasingly demonstrate their competence and confidence in applying mathematical concepts. Specific assessment tasks will be important particularly at key transition points. Assessment is for Learning strategies are embedded in effective learning and teaching.

**Home learning (see home learning policy)**

Home learning activities will be based around what the children have been learning in class. The task could be linked to lessons on number work, shape, measure, handling data or problem solving. Children will be asked to make sure they know their tables from 2 to 10. Tasks may take the form of a game, a practical investigation e.g. a survey, problem-solving activities as well as the practising and recording of basic skills. Puzzle Pockets is a themed home learning project for P6 pupils with a focus on maths. Parents/carers will be invited to the school to a presentation about Puzzle Pockets before they begin.

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| **“To face the challenges of the 21st century, each young person needs to have confidence in using mathematical skills, and Scotland needs both specialist mathematicians and a highly numerate population”** **(A Curriculum for Excellence, Building the Curriculum 1)****“Mathematics equips us with many of the skills required for life, learning and work. Understanding the part that mathematics plays in almost all aspects of life is crucial. This reinforces the need for mathematics to play an integral part in lifelong learning and be appreciated for the richness it brings.”****(A Curriculum for Excellence, Mathematics, Principles and Practice)** |

Do you have any comments to make regarding the mathematics and numeracy across learning policy?

Signed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_

Name (please print**) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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