



Basic Skills in Mathematics Policy

January 2016

Consultation Date:
Date agreed by Governors:
Date policy became effective:
Review Date:

Rationale

At Grasmere Academy, we recognise that basic skills in mathematics are the building blocks, which allow the children to become fluent, confident and accurate mathematicians. Without these skills, children cannot solve problems and reason mathematically.

Aims

- To allow children to become fluent in the fundamentals of maths so that they are able to recall and apply their knowledge rapidly and accurately to solve problems.
- To provide a consistent and progressive framework across school in the teaching of basic skills.
- To foster effective learning in basic skills in mathematics by suggesting appropriate ways of teaching these skills.
- To meet the requirements of the 2014 Primary National Curriculum.

Teaching and Learning

At Grasmere Academy, children are offered the following opportunities to rehearse, recall and practise their basic skills in mathematics:

- A daily mental oral started at the beginning of each maths lesson which focuses on 3 key skills. See Appendix 1 for the structure of the session.
- A whole schools tables challenge which allows children to take ownership of their learning and celebrates success. See Appendix 4.
- Displays in the classroom and around school which promote maths and basic skills.

Trio Time Planning

Planning of activities to develop children's basic skills is taken from the Primary National Curriculum 2014. This is mapped out to show progression and to ensure that all areas are covered thoroughly, ensuring that no gaps in children's knowledge appear. See Appendix 2 for yearly overview.

The expectations are that the majority of children will move through the stages at broadly the same pace. However, decisions about when to progress to the next stage will be taken by the class teacher and will be based on the pupils' security in understanding and application of the skills. Pupils who grasp and apply skills quickly should be challenged by moving to the next level. Those who are not sufficiently secure should be provided with opportunities to consolidate and master their understanding.

Multiplication Tables

As of 2017, all children at the end of Key Stage 2 will be assessed on their times table knowledge to 12x12. This will take the form of a computerised timed multiplication test. Children will find out immediately the results of these tests. Schools will be held accountable for their pupils skills, speed and accuracy.

Children should know the 2,5,10 and 3 times table by the end of Key Stage 1 to enable them to complete the Key Stage 1 mathematic SAT tests.

To equip the pupils at Grasmere Academy with the necessary times table knowledge, children (where possible) should know the times tables to 12x12 by the end of Year 5. In Year 6, children can then focus on the speed of answering times table questions.

Throughout the year, children should spend at least five minutes per day working on their times tables through Trio Time. Children will also take part in a whole school Olympic Times Table Challenge that will be conducted weekly (See Appendix 4).

Each classroom will celebrate their children's success at learning the times tables by having a times table ladders which the children can work up as well as an Olympic Times Table display which shows the level they are currently working on.

Resources

At Grasmere Academy we have a range of resources to support children in becoming fluent in basic skills.

In all phases of the children's learning, a range of practical equipment is used to secure children's conceptual understanding including Numicon, base 10 and real life objects.

Through the use of iPads, children, teachers and parents have access to a range of apps to support their children in their learning e.g. RMEasiMaths, Sumdog, multiplication.com.

Problem Solving

Within the 2014 Curriculum for maths using and applying, reasoning and problem solving were brought to the forefront. Within Trio Time it is expected that children will be given problem solving activities. These could involve practicing skills taught in lessons. These could include -

- Trial and improvement
- Working systematically
- Pattern spotting
- Working backwards
- Reasoning logically
- Visualising
- Conjecturing

Assessment

Alongside the class teacher's assessment for learning, the following tools are used to assess the children's progress and attainment in their mathematical basic skills:

- Mental maths tests which gives the children a chance to practise their skills.
- Take part in Times Tables challenges

Monitoring

The monitoring of the teaching and learning of basic skills will be carried out by the school's senior leadership team and will involve:

- Trio Time maths learning walks
- Analysis of data
- Pupil interviews/ Pupil voice

CPD on request or CPD requirements will be identified as part of the monitoring process.

Appendix 1: Structure of TRIO TIME Maths Session

Each Trio Time Maths session should last for 15 minutes and focus on the practice of 3 basic skills per session. The session is quick paced and interactive.

Teachers organize the class how they wish for the session, some use the carpet, others have their class sitting at tables. When recording is needed, the children record on their whiteboards/ in their books.

All children should be actively involved in a session and included through differentiated questioning, challenging tasks, choice of entry points to tasks and through support.

Resources

- * The TVs and the Interactive Whiteboards can be used to display resources to support the children in their mental strategies and conceptual understanding (100 squares and number lines for counting, calendars, etc)
- * some of these activities may be based around playing a game
- * some of these activities may be using the iPads
- * use of practical resources e.g. numicon

Each session must include:

- three different 5 minute activities. These sessions need to be short and snappy.

See Appendix 2

One activity – to be multiplication at a suitable level for your class

One activity – to be whole school area for development

One activity – to be teacher choice. This can be any area of the teachers choice e.g. an area of weakness in your class, revision of a previous topic, revision for the next topic, revision of the previous lesson

These activities should promote enjoyment, thinking and reasoning. These activities may remain the same for 2-3 days (altering the numbers/shapes each day) and then change again to maintain enjoyment and engagement.

APPENDIX 2 – 2015-2016 Overview

	ACTIVITY 1	ACTIVITY 2	ACTIVITY 3
Autumn 1	Place Value	Multiplication	Teacher Choice
Autumn 2	Number and Calculation	Multiplication	Teacher Choice
Spring 1	Fractions	Multiplication	Teacher Choice
Spring 2	Measures	Multiplication	Teacher Choice
Summer 1	Time	Multiplication	Teacher Choice
Summer 2	Shape	Multiplication	Teacher Choice

APPENDIX 3 – POSSIBLE TEACHING IDEAS

PLACE VALUE

- Ordering Numbers
- Odd One Out
- Rounding
- Giving part of a number grid – asking pupils what patterns they can see/ which numbers would go around the number grid given.

NUMBER

- A counting activity where the children count forwards/backwards in steps appropriate to their year group
- A mad minute where the children have one minute to record as many pairs of number bonds to X as they can, to calculate missing numbers in calculations or to complete a tables challenge.
- Give a number – what can they say about the number. Can pull information from all areas.
- Maths Frenzy – can be pulled from Maths Drills website

TIME

- Calendar work where the children practise skills such as reading and recording the date, calculating the date in a X number of days' time, calculating intervals between dates.

ANY TOPIC

- Odd One Out – from a selection of numbers, shapes, coins, measures, etc children have to explain which is the odd one out and why.
- Sometimes, Always, Never – children are given a statement which they then have to explain if it is sometimes, always or never true, e.g. *every multiple of 4 ends in 4, 6 or 8*.
- Images – a range of images to be used to encourage children to identify shapes, lines of symmetry, estimate, order, count and memorise.
- Opinion line – children are given a statement and have to place themselves along a continuum to show if they agree or disagree.

- Big Maths Mats or numbers of the day are used for children to practise number facts related to a given number.
- Bingo
- Marking answers
- Mr Wrong/ Mr Muddle (from Mr Men) has got muddled up/ wrong answers – can children help
- _____ is the answer. What could the question be?

Appendix 4: Whole School Olympic Times Tables challenge

Each child from Years 2 – 6 takes part in the tables challenge to gain a quick recall of the multiplication tables appropriate to their year group (see progression in basic skills).

- The order of the tables learnt is 2, 5, 10, 3, 4, 8, 6, 7, 9, 11, 12.
- Children start at x2 tables and move on from there, learning each table as part of their homework at home.
- Weekly/ Fortnightly, children should complete the tables challenge appropriate to their stage (In some classes children will be working on different stages). Teachers to mark.
- To move to next stage, the child needs to have full marks on two separate occasions.
- When they have successfully completed the level, they are given a certificate in our Celebration Assembly. Awards will be given for completing a stage.
- It is the class teacher's responsibility to complete the certificate ready for the assembly.
- Each classroom should have a display showing the children's progress in the tables challenge.

How to complete

- each child is given the stage they are working on
- have three minutes to complete
- need to be all completed and correct.

LEVELS

Quarter Finals – 10 x table

Semi Finals – 2 and 5 times tables

Finalist – 2,5,10 times tables

Bronze Medal – 2,3,4,5,10 times table

Silver Medal – 3,4,5,6,11 times tables

Gold Medal – 7,8,9,12 times tables

Olympic – 100 mixed

World – Decimal tables mixed

5 Minute Frenzy charts

