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INTRODUCTION

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

1. Aims of the policy

- 1.1 The aims of this policy are to provide a consistent approach to the teaching of Maths and to have a smooth transition between year groups and phases

2. Time allocation

- 2.1 At both KS 1 and KS 2 children have one Maths lesson daily.

3. Planning

- 3.1 Each year group plan from the Maths Programmes of Study 2014

- Medium and Short term planning will be support by the use of the White Rose scheme. The intension is that the scheme is not used in its entirety, but provides the skeleton planning which is then enhanced with resources from other locations including Abacus.
- Planning is written to ensure children achieve their year group objectives.
- Planning is differentiated to support SEND, EAL, Disadvantaged and more able children, though due to the teaching of Maths through the Mastery approach all children will experience the same or very closely related objectives. Differentiation is given through other methods including but not only teacher input, resources used, concrete equipment support and the deepening of learning through more challenging reasoning tasks.
- Planning is shared with TA support in class so that all supporting staff are aware of the role they play within the lesson.
- Cross curricular links must be made evident in planning across the curriculum.

4. Teaching and Learning

4.1 The main emphasis throughout the school will be on developing a range of mental and written strategies to solve problems and to know the appropriate strategy to apply in different situations.

- a) Mental maths should be incorporated throughout all lessons and mental strategies for solving all mathematical concepts will be discussed and developed based on continuous assessment for learning.
- b) A progression towards efficient written calculations should be developed and applied consistently in each year-group. The school Calculation Policy should be followed.
- c) A variety of teaching styles will be used to cater for the variety of learning styles of pupils in mathematics lessons.
- d) Use of teaching assistant support is planned for in every part of the mathematics lesson to ensure they are used effectively in supporting, developing and assessing pupil progress throughout
- e) Each classroom / resource area should also have a maths display relating to current work.
- f) Children should be encouraged at all times to communicate their understanding of maths so that it clarifies their thoughts.
- g) IT is used in mathematics lessons for modelling ideas and methods. White Rose Interactive Whiteboard Files are saved on the G drive to support this learning

5. Resources

- 5.1 Children will have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods.
- 5.2 Maths learning builds from a concrete understanding of concepts where children are manipulating objects. When children are able to see concepts this way, they then need to understand the same concepts represented pictorially. Children are then ready for abstract representation before being able to apply their knowledge to different situations.
- 5.3 At the beginning of each area of Maths studied within the year, children should be exposed to concrete equipment, models and images to assist in their learning regardless of age or ability.

6. Homework

- 6.1 At KS2 weekly Maths homework is given in the form of 10 minutes on TTRockstars and one other piece of Maths work, which enables the children to practice or apply a skill learnt in Maths previously. Homework may be given as an online task using the children's online Abacus account.

7. Cross curricular

- 7.1 Throughout the whole curriculum, opportunities to extend and promote Mathematics should be sought. Links are made with other subjects when relevant, and part of the topic. Mathematics contributes to many subjects in the primary curriculum, often in practical ways for example in science, mathematical skills such as classifying, counting, measuring, calculating, estimating and recording in tables and graphs are encountered. Measuring often occurs in art, design and technology along with shape, including symmetry. The study of maps in geography includes such mathematical knowledge as co-ordinates, angles, direction, position and scale. IT is used for data handling, angles, spread sheets, number programmes on the networks, ITPs and other areas where applicable when using appropriate websites on the internet.

8. Equal Opportunities

- 8.1 The Equality Act, 2010, states that the responsible body of a school must not discriminate against, harass or victimise a pupil or young person because of one of the protected characteristics;
 - disability;
 - gender reassignment;
 - pregnancy and maternity;
 - race;
 - religion or belief;
 - sex;
 - sexual orientation.

- 8.2 Staff are responsible for ensuring that all children, irrespective of any of the protected characteristics, ability, ethnic origin and social circumstances, have access to the whole curriculum and make the greatest possible progress. All children have equal access to the Mathematics Curriculum, its teaching and learning, throughout any one year.
- 8.3 Children with special needs should be given access to the curriculum through differentiated planning and Individual Education Plans. Where appropriate, children with IEPs will be supported with teachers and teaching assistants within or near the classroom environment.

9. Assessment

- 9.1 Assessment is regarded as an integral part of teaching and learning and is a continuous process. It is the responsibility of the class teacher to assess all pupils in their class. This is mainly achieved through mini-plenaries, questioning, marking, T.A feedback and pupil self-assessment. Questioning is the key to success in all our mathematics sessions and questions will be continuously adapted by the teacher and support staff based on assessment for learning.
- 9.2 Mini assessments will be completed at the end of each unit studied and the results used to inform teachers on future planning, needs of individual children and as an assessment tool to highlight the key objective grids. End of term tests are available for staff to use from the White Rose scheme, but they are used at teacher's discretion and for their own information. During the year PIXL tests will be completed and results share with Subject and Middle Leaders.
- 9.3 Teacher will use the marking code consistently across the school to assess whether the children have met the objectives in each Maths session. Time in the following lesson will be given to the children to respond to the teacher's marking. Where issues in learning for that objective are greater than can be sorted at the beginning of the lesson, time will be allocated outside of the Maths lesson for the child to work with a member of staff to address difficulties.
- 9.4 Children with SEND, on Individual Education Plans will have their targets reviewed, assessed and recorded in SEND IEPs. Their progress and attainment will also be updated on the tracking system; Focus on Assessment.

10. Maths Marking Policy

Marked in green pencil	Self and peer marking
	Answer is correct (marked in green)
	Answer incorrect, c next to answers that are to be corrected (marked in green)
	Improvement prompt in purple If up to 4 calculations when skill is being practiced are incorrect, teacher writes 2 of these for child to correct using upward arrow next to the calculation.
	Challenge question in purple – a challenge question to be set for those whose learning can be challenged further or to introduce new learning.
FS	Further support – this may be in the form of TA support during the next lesson or intervention outside of the maths lesson.
RQ (KS2)	Read the question carefully
VF (KS1 and 2)	Verbal feedback

Work to be peer or self-marked after 5-10 min to all self-assessment and teachers/TA to intervene. This should be completed in green pencil

10.1 Aims of marking in Maths

- To show that we value the children's work and through praise and encourage them to value it too
- To feedback to children on performance, supporting their progressive development
- To provide an assessment record.

10.2 Marking for assessment

- Marking children's work should be manageable for everyone. It is immediately available to the child, and should have more impact on learning.
- Marking should focus on how well a child has achieved the learning outcome.

10.3 Marking as Feedback

- Feedback is directed from the teacher/TA to the child on what is good, and what can be improved. Feedback can be written or verbal.
- Feedback is a combination of specifying attainment and improvement on previous work and setting targets for future development (CTG question). It can take place either individually, in a group or the whole class. Whenever possible, marking and feedback should be shared with the child by either the teacher or teaching assistant. This will be noted in the child's book by VF.

10.4 Expectations of Marking

- a) The marking should be related to the learning objective, although other aspects of the learning may be commented upon. All work should be marked and comments should be brief and focussed. Any adult's writing should be a good example to the children e.g. legible to a child, joined where appropriate, correct letter and number formation, correct spellings, punctuation etc.
- b) When marking, supply teachers should record the S symbol for supply and their initials after marking. When marking writing, Teaching Assistants should record the TA symbol and their initials. Rewards, such as stickers and team points should be used to celebrate success and good effort. Time must be allowed for the children to read and action their corrections or complete the CTG tasks. Children should initial after comments to show they have read them either independently or with adult support. Consideration will be given to what a particular child is capable of, what the next learning stages involve, and what should now have priority.

11. Multiplication Tables Check

11.1 Completing the MTC

During June in Year 4, pupils will take part in the Multiplications Check. Exceptions to those taking part are any children who are deemed not to yet be working at a Year 2 level in Maths.

11.2 Preparation for the MTC

All children from Year 2 will complete the Multiplication Booklets daily in preparation for the MTC and to fully embed their knowledge and understanding of the times tables.