

Maths Policy



Deepcar
St. John's C.E.
Junior School

A Policy for Mathematics

Long Term Planning

Topics are identified on an annual overview for each year group based on the 'White Rose Maths Hub' format (see below), but always aligned closely to the National Curriculum, 2014. Planning will always be pitched towards each child meeting their age related expectations (ARE). More recently planning should ensure a progression of all the key skills from the 'Ready to Progress Criteria.' Where children are working below ARE, content from previous year groups may be appropriate but only as a temporary stepping stone to bridge the gap to where they need to be. It is essential that each child is secure and fluent with the skills for their year group by the end of the year. Children working at greater depth will be challenged through appropriate enrichment learning activities related to the main learning intention.

Lesson structure

Expected approximate timings (All lessons, Mon – Fri, same structure):

Start-5mins	'Flashback 4' quick recap of skills on whiteboards
5-15 mins	'Number Ninjas': practise of skills to consolidate weak areas and develop fluency.
15-30mins	Problem solving practice
30-45mins	Main teaching and learning activity
45-70 mins	Independent follow-up work, same-day intervention and deeper problem-solving activity.

Number Ninjas

This is a 10 – 15 minute slot at the start of every lesson to practise and consolidate prior fluency skills and knowledge of essential facts.

- **Ongoing development of progressing fundamental skills.** Informed by the medium term plan, this will ensure appropriate progression of fluency skills across the key stage. This is interactive work to develop fluency and efficiency of key skills (x tables, operations, number bonds, use of inverses etc...). Teacher input is vital here to help children to compare and evaluate methods. This should incorporate a variety of representations, including number lines, counting sticks, place value charts, 100 grids etc...
- **Gap-work.** Whole-class gaps are identified from on-going formative assessment.
- **Consolidation.** It is important that subjects are not taught and then quickly forgotten. To this end, number ninjas should regularly include quick revision activities to practise a wide range of skills as well as those which have been recently taught.
- **Essential facts knowledge.** Practise of facts, particularly measures, such as days of months and their order.
- **Problem Solving** for more able groups these skills will be applied in more contextual problem – solving representations

Continued guidance on the teaching of fluency skills will be given at regular Professional Development Meetings.

Problem Solving

Whole class problem solving practice to include lots of discussion and hands-on work. Materials in Staff Shared > Subject areas > Maths > Barvember and Problem solving.

Main Topic

Main whole class teaching is indicated by the learning intention and context of the lesson. Topic work will be an ongoing learning journey and so should **start with what the children already know** and, through **exploration, discussion and practice**, enable children to make their own connections, building on their understanding. The vast majority of activity will be performed by the class with the teacher directing. This should stick very closely to the schedules given in the White Rose overview to ensure appropriate coverage across the curriculum.

Where possible, the mathematical content is to be applied in other areas of the curriculum. Curricular targets are linked as much as possible with science and ICT, and integrated into themes.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2											
Y3	Number: place value	Number: addition and subtraction	Number: multiplication and division	Measurement: money	Statistics	Measurement: length and perimeter	Number: Fractions	Measurement: time	Geometry: properties of shape	Measurement: mass and capacity							
Y4	Number: place value	Number: addition and subtraction	Measurement: length and perimeter	Number: multiplication and division	Measurement: area	Number: Fractions	Number: decimals	Measurement: money	Measurement: time	Statistics	Geometry: properties of shape	Geometry: position and direction					
Y5	Number: place value	Number: addition and subtraction	Statistics	Number: multiplication and division	Measurement: area & perimeter	Number: Fractions	Number: decimals and percentages	Number: decimals	Geometry: properties of shape	Geometry: position and direction	Statistics	Measurement: converting units	Measurement: volume				
Y6	Number: place value	Number: addition and subtraction	Number: multiplication	Number: fractions	Geometry: position and direction	Number: decimals	Number: percentages	Number: algebra	Measurement: perimeter, area, volume	Measurement: converting units	Number: decimals and percentages	Measurement: perimeter, area, volume	Number: ratio	Statistics	Geometry: properties of shape	consolidation	Themed projects

Pitch

Pitch should always be towards the age-related skills taken from the National Curriculum. Where assessment finds children working at a lower level than this then teaching will be pitched at a lower year group, but then the aim is to bring the children up to the appropriate ARE in that skill.

The school now uses the White Rose printed booklets which generally progress from more scaffolded work at the start to deeper application of a skill in the second half.

Where children have mastered the skill, they are NOT given work from a higher year group, but instead given challenges to deepen their understanding in reasoning and problem-solving contexts. Children working at greater depth are encouraged to choose deeper challenges. Children are to be given as much opportunity as possible to decide on their own level of challenge, depending on their understanding.

Interventions and teacher support

During the first 5 minutes of activity, some children may be having difficulty and will be directed towards work directly with the teacher on a skill, ideally with a view to then working independently before the end of the lesson. Children simply needing further practice on a skill will continue on the same level of challenge and children who are ready to apply the skill at greater depth will be moved on to more challenging work.

All learning will then be reviewed again at the end of the lesson (including self-assessment) to inform the next day's teaching. Note should be taken of children still needing further practice of the skill and this followed up through follow-up interventions and/or 'Number Ninjas' work. Only in exceptional circumstances should extra lessons be allocated for the same skill.

Times Tables

All children start on grid 1 at the start of Y3. It is expected that most children will be onto grid 5 by the start of Y4 and progressing onto grid 7 by the start of Y5.

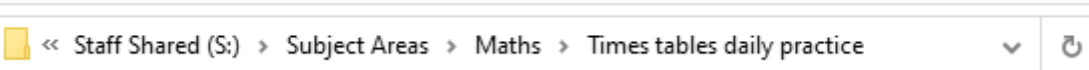
Times tables are taught explicitly in class as part of the number ninja work in Y3 and Y4, using strategies including number lines, grids, arrays, doubling, halving and near multiples. Children practise the grids daily and should be making progress from week to week if not day to day.

Children who are not progressing could be given additional explicit teaching and could be given arrays to support the grids or work on the appropriate flap cards instead for a short time. The order of the tables are largely based on doubling tables facts which they already know and this should be made explicit in teaching.

Progress should be recorded in the following Excel document:



...located here:



Homework

Homework is to be allocated on a weekly basis, to consolidate and apply content studied.

Assessment

The week before the end of every half-term is allocated to assessment week. Also children should complete the White Rose end of unit assessment at the end of each topic to review learning and establish any remaining gaps to be addressed.

Children will fall into either **working at ARE** or 'PITA' (Point In Time Assessment) 7; **working at greater depth** for their year group (PITA 8 or 9) or **working below expectations** for their year group (PITA 1-6). A child's achievement in relation to ARE will be informed by a child's constancy in achieving the main learning intention regularly in their day to day work. Where the child has received regular support to achieve this (WS), it will mean the child is working towards ARE. More evidence of GDS being achieved means the child is working at greater depth. The teacher will then use his/her professional judgement in placing children on or around the appropriate step in relation to ARE for that point of the year.

Staff meetings are used to increase knowledge and confidence for levelling samples of work and also moderation of teacher assessments.

Resources

The school uses a range of materials to deliver the curriculum appropriately to the level of the child. These include the following:

- White Rose maths materials
- NCETM support materials
- Collins Busy Ant maths textbooks and Shanghai books
- Various other textbooks (see subject lead)

There is also a wide range of supporting activities (online, saved on staff shared, pupil books and laminated activities kept in the resources room). Physical apparatus and additional materials are held in the resources room (to the rear of the staff room) and can be selected and used appropriately within lessons. Each class has a variety of standard resources within the class e.g. number lines, base 10 apparatus etc.

Enrichment – Measures days

The intention of these days is to help children across school become more hands-on and familiar with measures whilst having fun. Do they have an idea how heavy an egg is or how much water fits in a water bottle? These sessions are designed to be as fun as possible.

There are 4 of these each year: Spring 2, Summer 1, Summer 2, Autumn 1.

The days would work best if we cover measures as much as possible in the weeks before hand. Children should be made familiar with the units of measurement (age appropriate) and ideally with the conversions between them.

Displays and Learning Walls

Children's work is celebrated in communal displays around school and within the classroom.

Learning walls in classrooms display generic information which will serve as a quick reference point for children. The children are encouraged to use the learning wall 'if stuck' and teachers reference it in their teaching to create links.

