

Critical Pathway for Mathematics: Soudley Primary School uses a mastery approach, with the support of quality materials.

When they leave Soudley School, we would like our children to have:

- Become fluent in the fundamentals of mathematics (see Year by Year Curriculum Maps) so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios.
- Reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
- Have an appreciation of number and number operations which enables mental calculations and written procedures to be performed efficiently, fluently and accurately.

What is it?	What does that look like?	Where is it in Can Do?
Can Do :The resources and approach for teaching maths at Soudley School Primary Stars: KS1 maths resource to be used alongside Can Do Mastering Number: Reception, KS1 and Y3/4	Cando Maths is the resource we use for teaching, learning and assessment Videos: each unit has a video to remind, educate, inspire and add to our continuing professional development. Primary Stars is the resource we use for teaching, learning and assessment in KS1 through planning slides, resources and assessment. Mastering Number (KS1) is used for ‘quick maths’ practice and as the main planning and teacher resource for Reception. Other areas, such as Geometry, should be planned for, within the provision and as an addition to the NCETM Mastery Number. Year 3 and 4 also have a scheme to work within to secure times table facts and knowledge. Additionally, further documents such as The Stronger Foundations report has supported teachers in ensuring concepts lower down the school are secure to ensure they are ready for the next step in their education.	https://buzzardpublishing.com/browse-by-product/candomaths https://primarystareducation.co.uk/ https://www.ncetm.org.uk/maths-hubs-projects/mastering-number-at-reception-and-ks1/
Video Tutorials (Can Do only)	Liz and Steve showcase the learning for each unit: <i>‘subject expertise’ video</i> Please watch the video for the unit you are about to teach The learning support worker should watch it too.	It is within the Unit package , underneath the pdf’s. 
One Manageable step: • New learning • Intelligent practice • Linger Longer • What it is • What it’s also • What it’s not • Let’s go deeper	One manageable step Each lesson has just one key idea, one manageable step which is taught in a consistent way across the school. Each lesson should have a : 1) Hook It: Introduction (all available on the Can Do website) 2) Teach It: Live modelling of the new learning with explicit use of potential misunderstandings 3) Practise It: All children practise together Support & Challenge 4) Do It: Up to 5 examples – 5 ‘What it is’ or ‘3+2 ‘What it is/What it’s also’ Challenge 1: Procedural Fluency 5) Secure It: 1 or 2 Misunderstandings (True/false, Spot the mistake) Challenge 2: Conceptual Understanding 6) Deepen It: Apply understanding to solve new problems Challenge 3: Mathematical Thinking 7) Review It: Lesson Recap: Key Concept Statement and Key Vocabulary Sometimes we may not get to 6 or 7: this can be done in deliberate Practice/ MOT/ MF time	Under Resources section for Can Do/Planning Slides for Primary stars with daily resources. Additionally, the Maths Calculation Policy also details the support that can enhance Lesson Design
One stem sentence and Mathematical Vocabulary	For lessons, when appropriate we will have stem sentences or generalized statements where all the reasoning and the explanation can be rooted in one learning objective.	Stem Sentences and Generalisations are in the Vocabulary pdf’s within the documents for each unit, for each scheme.

Mathematical Fluency - Like a sportsman or sportswoman, I keep getting better at it - I deliberately practice something I am currently working on or doing past practice - Where I cement: longer lasting learning: Keep up knowledge - Practice - Consolidate - Supporting connections - Pre teach - Not managed the problem solving section? Need more bar model practice? Not sure what a trapezium was in the middle of a rhombus model? Time to look again	<i>Within the curriculum there are sufficient opportunities planned to revisit previously learned knowledge, concepts and procedures'; this is to ensure that, once learned, mathematical knowledge becomes deeply embedded in pupils' memories. This then allows rapid and accurate recall and frees pupils' attention so they can work with increasing independence, apply their mathematical knowledge to more complex concepts and procedures and gain enjoyment through growing self confidence in their ability.</i> <i>There is flexibility in curriculum planning so that schools can address identified gaps in pupils' mathematical knowledge that hinder their capacity to learn and apply new content..... This must not be reduced to or confused with simply memorizing factsor long lists of disconnected facts</i> OFSTED Inspection Framework If classes are following the NCETM Mastering Number, they will work through these sessions as set out by the NCETM; if they do not follow Mastering Number then the alternative structure is listed below, unless the class teachers needs to prioritise arithmetic concepts 	Where is that in Can Do? It is on the termly plan and set out, day to day, Remember, it does not need to flow from day to day. See images below There is 'Fact Check' and 'Suggested focus.' Note e.g. Year 4 Termly plan Fact check 3 x table facts; this would not be in that one lesson but across the week as longitudinal learning. Resources: Arithmekit: the Magic 24 resources can also be found here. Arithmekit They are on T drive under curriculum 21 within the folder <i>CanDo Maths Other</i> And on Google Drive <i>under Can Do Maths Other</i> Where is that in Mastering Number for EYFS and KS1? https://www.ncetm.org.uk/maths-hubs-projects/mastering-number-at-reception-and-ks1/ Where is that in Mastering Number for Year 3 and 4? https://axis.ncetm.org.uk/
Managing the Forgetting Curve	<i>.....sufficient opportunities planned to revisit previously learned knowledge, concepts and procedures'; this is to ensure that, once learned, mathematical knowledge becomes deeply embedded in pupils' memories.....</i> Can Do provides links to self-marking quizzes. Mastering Number gives KS1 the opportunity to revisit calculation strategies and make links their morning work.	Low Stakes End of Unit Quizzes to support recall; resources - Remember Its. Primary Stars has end of topic quizzes, if applicable NFER to support retrieval and assessment (summative)
Assessment and Question Level Analysis	NFERs – SATs style/formal layout with assessment questions to provide standardized scores	

	QLA; an ongoing assessment to highlight successes and areas for development – this is one through the NFER analysis tool and highlights curriculum areas. Assessments are termly and cover Reasoning, Problem Solving and Arithmetic. Insight Tracker – currently uses National Curriculum objectives for teachers to assess the children. - Objectives should be populated 3 times a year with assessments of the objectives that have been taught so far, and/or mopped up i.e. a child may be a 1 for an objective after initial teaching/assessment, but with further intervention and/or deliberate practice may progress on to a 2 - Main assessment to be update termly (3 times a year) - NFER scores to be populated on Insight Tracker Early Years – will be teacher assessed based on Early Years Framework. Termly Insight should be populated to support assessment of children for the prime areas and then used to support the specific area of mathematics Teacher Assessment – teachers will use their professional judgements, based on marking, observations and feedback to assess the children, termly. These judgements are based on lessons, books and low stake quizzes. These are reported to parents regularly via reports.	
Same Day/ Same Week 'prevent the gap'	Through effective marking and feedback, we can pick up those spotlight children that need a bespoke intervention to get them back on track. Those that can, get on with deliberate practice whilst we have a small group that need the intervention. Resources for these include Number Stacks.	
Pictures to promote mathematical discussion 'What do I see? What do I notice?'	https://www.idm314.org/2022-photo-challenge-gallery-intro.html?utm_source=NCETM+Newsletters&utm_campaign=58dcf7ac08-newsletter-and-round-ups-april-2022&utm_medium=email&utm_term=0_13f8d631f4-58dcf7ac08-221451069	
Representation	We have agreed to use the Cando Maths/ Primary Stars/ Mastering Number Representation and Structure We will use the frames and resources that specifically match this structure.	Calculation Policy and Representation and Structure Frames and resources