

Maths Resources and Interventions for Wave 3

If you know of other resources and interventions that you would like to see included on this list then please email details under the list headings to jenny.stanley@tameside.gov.uk

Resource	Age Range	Purpose	Outcome
Numbershark A computer program to help anyone improve basic numeracy	6-14	“It addresses many of the difficulties which lead students to dislike maths, including poor short term memory, attention span and sequencing skills. The program features 30 totally different games covering addition, subtraction, multiplication and division in ways which add meaning and understanding to these operations. The games are played with your chosen units of work (topics) from a list of over 400; each topic generates a new set of sums every time you play the game. Numbershark combines motivation and enjoyment within a structured learning process.” (website)	Suitable for children who need more practise of learning objectives to consolidate learning experiences.
Mathmania A computer program to support pupils with SEN	7-14	Children have to escape mazes by answering questions and collecting points. There are four levels of difficulties and puzzles to solve along the way. Four rules Coins Angles Shape and Space Sliding blocks Magic squares Fill it Towers of Hanoi	Performance is tracked and High Score Tables are kept, so parents can see their child's progress. Games are geared towards National Curriculum Level 3 onwards.
Maths Recovery	Yr 1 and 2 and older pupils with conceptual weaknesses in maths.	Distinctive features of the programme are: <ul style="list-style-type: none"> • early identification of low attainment, • intensive individualised teaching for the child, • training for the classroom teacher in specialised methods relating to early mathematics learning. • Maths Recovery Daily – total of 16 to 20 sessions 1:1 sessions need to be delivered by a trained instructor. 	allows teachers and parents to: understand the development of a child's number sense, enter into supportive dialogue with the child, help the child construct mathematics knowledge and have success in mathematics.
Number Box	Yr 1 and 2 and older pupils with SEN	A multisensory system for teaching early numeracy skills and supporting dyscalculic children. The system also contains resources for teaching time, money, shape and measurement. The Number Box provides TAs with a system to use with individuals for 1:1 teaching on a regular basis in order to establish basic concepts of number. It uses multi-sensory methods and comes complete with resources, record of achievement and instructions	It is designed to provide a progression of skills and a full record of work, showing successes and areas of difficulty. The system works in very small steps and can be used with pupils working at P levels up to level 2B. It can also be used with small groups from year 2 onwards for those pupils who need the continued support of practical resources.

Book of Numbers / Numberquest	9-14	Suitable for pupils with dyslexia. Not suitable for children who have pronounced mathematical difficulty.	Aimed at known weaknesses in this cohort, gives added practise in an adventure story format.
Stile Mathematics Program Stage 1 (There is also a Stage 2 programme)	Pupils functioning between P levels and Year 2	Carefully designed to appeal to children aged 5-9. It can be used for older children who need extra support with basic tasks, or for reinforcement. Tasks include matching familiar objects, progress to matching patterns and work up to adding and subtracting numerals to 20.	All exercises relate to National curriculum levels 1 and 2 and deal mainly with basic concepts in number work. Each concept is developed in small steps so that learning is reinforced as children progress.
Maths made Easy	Keystage 2	Worksheets	Clear presentation, useful for added practise and consolidation of skill.
Number World	Primary	Plenty of different ways of presenting work with entertaining illustrations. Clear layout not crowded. Clear instructions and games and activities that are easy to understand. Book 1 Counting, properties of number, sequencing Book 2: Place value, ordering, estimating and rounding, fractions and decimals, Book 3: addition and subtraction Book 4 : multiplication and division Book 5 Measures shape and space Book 6 solving problems and handling data	
WORD PROBLEMS: THE LANGUAGE OF MATHS by Leonie Ewing & Ian Ward QUED ISBN 1-898873-08-09 WWW.QED.UT.COM	Useful for differentiated response in the classroom. A progressive series of mathematics practise, activities and games for key stages 1 and 2. Progressive levels of ability in the same book from year 1 to year 4 work.	'The book uses a very imaginative and gradual approach to problem solving, introducing one concept at a time, using language and illustrations that are easily accessible and non-threatening. It is divided into eight steps, each comprising several examples that help to illustrate the section's learning objective.' Develops understanding of mathematical concepts. It is clearly illustrated and photocopiable A4 book (131pages). It deals with the number concepts of addition, subtraction and multiplication with tens and units.	'Promotes pupils' knowledge of what is in effect an additional language and, by using a range of exercises, encourages fluency and confidence in translation.'

<p>Target Maths is a</p> <p>£7 + VAT for a set of 120 double-sided cards</p>	<p>Designed to help and encourage children with SEN</p>	<p>This is a practical system designed to challenge children's ability to calculate target totals by choosing the appropriate number operations and applying them to the given numbers correctly.</p> <p>There are five sets of target cards, which are aimed at Years 4-7, and each set offers more challenge than the last, An example from Set 1 would be: Target number 3, other numbers 9, 4, 2. The suggested answer is $9 - (4 + 2) = 3$.</p> <p>Target Maths is an extremely useful tool in the teaching of addition, subtraction, multiplication and division.</p>	<p>It fulfils several needs at very different levels by providing small-step progress for the less able, by boosting the self-esteem of children who have emotional/behavioural difficulties, and by challenging the more able children, while at the same time encouraging improved group relationships and, very importantly, making learning fun!</p>
<p>Power of 2</p> <p>(Plus 1 is due to be published and focuses on earlier skills)</p>	<p>older primary and secondary.</p>	<p>The one-to-one coaching system for maths success With Power of 2, anyone can support students who are struggling to learn maths. Power of 2 is two people working together to develop maths skills. The student is someone who benefits from repeated practice and explanation. The coach is someone who works alongside the student and supports their learning. On each page there is a "script" for the coach to read, or this could be read by the student.</p>	<p>Power of 2 claims to show amazing results. It has increased the confidence of everyone who has used it. It has also increased their ability to use numbers. Power of 2 is so called because of the proven success of two people working together. It stems from the need of some people to have more reinforcement and practice than is often available.</p>
<p>Max's marvellous Maths group</p>	<p>Year 1</p>	<p>Max's marvellous Maths group The daily sessions will each last for 20-25 minutes over a period of 12 weeks. There are four sessions written for each week.</p>	<p>It is designed to be delivered by a teaching assistant. The target group is children in Year 1 who have been identified as in need of some extra support to enable them to keep up with their peers.</p>

Springboard	adapt materials and target re suitability for sen`	<p>Springboard materials can be downloaded from the Primary Strategy website</p> <p>Springboard is a catch-up programme for children in Years 3, 4, 5 and 7. The materials focus on key areas of number. They provide additional tuition for small groups of children outside the daily mathematics lesson (DML) during the weeks when these areas are being taught in the DML.</p> <p>Springboard aims:</p> <ul style="list-style-type: none"> • to support the identified children and to remedy particular weaknesses in number so that they are in a better position to access and benefit from the teaching programme in their Year and beyond; • to set the expectation that these children catch up with their peers; • to help teachers prepare a teaching programme enabling children to benefit fully from the main teaching programme for their Year as soon as possible. 	<p>This is a wave 2 intervention however the materials could be adapted for use with groups functioning at the designed level.</p> <p>The following sections will enable you to choose the most appropriate programme for the pupil you are working with.</p>
<u>Springboard 3</u>	Springboard 3 is intended for those children in Year 3 who have achieved Level 2C in the Key Stage 1 national tests in mathematics and who, with extra help, are likely to achieve Level 3 by the end of Year 4.	There is a detailed plan for each session, following the three-part lesson model developed by the National Numeracy Strategy and based on the teaching strategies outlined in the introduction to the <i>Framework for teaching mathematics from Reception to Year 6</i> . The programme includes detailed teaching points and key questions, and teaching objectives, vocabulary and resources are listed.	teaching objectives mainly from the Year 2 teaching programme, which children must meet if they are to tackle with confidence the key objectives of the Year 3 programme.
<u>Springboard 4</u>	Springboard 4 is intended for those children in Year 4 who achieved Level 2C in the Key Stage 1 national tests in mathematics and who, with extra help, are likely to catch up and achieve Level 3 by the end of Year 4.	There is a detailed plan for each session, following the three-part lesson model developed by the National Numeracy Strategy and based on the teaching strategies outlined in the Introduction to the Framework for teaching mathematics from Reception to Year 6. The programme includes detailed teaching points and key questions, and teaching objectives, vocabulary and resources are listed for each unit.	Each unit covers carefully selected teaching objectives mainly from the Year 3 teaching programme, which children must meet if they are to tackle with confidence the key objectives of the Year 4 programme.

<p><u>Springboard 5</u></p>	<p>Springboard 5 is for use in Year 5. It is intended specifically for children who, without extra help, are likely to achieve level 3 in mathematics at the end of Key Stage 2.</p>	<p>Some schools will receive funding to support the Springboard 5 initiative. Year 5 teachers in other schools may decide to deliver the course in full or to draw on the materials for use with children who do not have a sufficiently firm grasp of the groundwork required for the Year 5 teaching programme.</p>	<p>The materials have been designed as a stand-alone 10-week course to be delivered to children in groups of 8-12.</p>
<p><u>Springboard 6</u></p>	<p>Springboard 6 is a series of lessons designed to provide additional support in booster classes for children in Year 6 who, with intensive targeted support, can achieve level 4 in the Key Stage 2 national tests.</p>	<p>Experience has shown that many Year 6 children working just below the level 4 threshold can make the progress required to catch up by the time of the tests. Booster classes can help you to provide the help and support these children need. It is crucial for these children to reach the expected standard before entering Key Stage 3 if they are to fulfil their potential in mathematics and go on to achieve a good grade at GCSE.</p>	
<p><u>Springboard 7</u></p>	<p>Springboard 7 is designed for teaching in the autumn and spring terms of Year 7. Springboard 7 is designed for teaching in the autumn and spring terms of Year 7.</p>	<p>It complements but does not replicate the teaching materials for summer numeracy schools, which are based on the same set of teaching objectives. This means that pupils who would benefit from a catch-up programme in Year 7 but who did not attend a summer school will not be disadvantaged, while those who did attend a summer school should not feel that they are repeating lessons. You can read about and download the <u>Springboard 7 materials</u> from the mathematics strand of the Key Stage 3 area of the Standards Site.</p>	

<p>Primary National Strategy: Supporting Pupils with Gaps in Mathematical Understanding</p>	<p>A new Primary National Strategy publication, including extensive teaching materials, to support further development in working with children who have gaps in their mathematical understanding.</p>	<p>1 x 15min plus 5 x 5min</p> <p>"A leaflet, Targeting support: implementing interventions for children with significant difficulties in mathematics (http://www.standards.dfes.gov.uk/primary/publications/inclusion/wave3_leaflet/), giving further information about the new Primary National Strategy publication and the research background, is downloadable. The pack, Supporting children with gaps in their mathematical understanding (http://www.standards.dfes.gov.uk/primary/publications/inclusion/wave3pack/), has evolved into a revised form with many additional features incorporated.</p> <p>The guidance book which is part of the pack, <i>Using the pack</i>, includes case study material from the pilot as well as an outline for a staff meeting to support schools in beginning the process of familiarising staff with these new resources, and planning for Wave 3 mathematics provision.</p> <p>The Wave 3 pilot website (http://www.wave3.org.uk/) has been updated to host the new materials referenced to the updated tracking children's learning charts in an interactive form.</p>	<p>Useful teaching resources included as a free download.</p>
<p>Using models and images to support mathematics teaching and learning in years 1 to 3.</p> <p>A CD Rom and charts.</p>	<p>years 1-3</p>	<p>A CD showing short video clips of teachers and support assistants using the materials showing different models, images and problem-solving strategies. Key messages for each video clip are also included. It also includes annotating a unit plan for classes and a teaching assistant using the materials in a support session. In addition to the interactive teaching programmes you are able to download unit plans, resource sheets and support sessions. There are also 6 models and images charts which are also available electronically on www.standards.dfes.gov.uk/primary</p>	<p>This resource covers 6 key areas of mathematics in years 1-3. Ordering numbers, counting on and back, partitioning and recombining, addition and subtraction facts within 20, understanding of the four operations and problem-solving.</p>
<p>Staffordshire Maths test</p>	<p>7.0-8.7</p>	<p>Assessment linked to teaching programme</p>	<p>Standardised score and suggested programme</p>
<p>WRAT</p>		<p>Ensure concrete experiences continue to form the basis of all work. Child should have a maths ILP. (IEP Writer has suitable target bank for maths.) Consider a structured scheme if the child is working alongside his peers. (<i>John Hackney to be consulted on politic correctness of this strategy and help identify appropriate schemes-TAs need something to work with-greswell do use a scheme but don't know the name</i>) Use numbershark for consolidation. Use Book of numbers/numberquest for pupils with spld.</p>	<p>Standardised scores and two forms.</p>
<p>WOND</p>			<p>Standardised scores</p>

Basic Number Screening Test Bill Gillham and Kenneth Hesse Hodder and Staughton	7-12 years	linked to the numeracy strategy. Gives number age and standardised scores A quick assessment focussing on the processes involved in calculating and carrying out mental operations involving the number system. Can be followed up with the Basic number diagnostic test.	Standardised scores
PScales/NC Levels			Breaks down NC levels.
PIVATS	P levels to year 4	If pupil fails to make progress on P Scales.	breaks down Pscals, a means of tracking pupils achievement.
B-Squared	P levels to year 4	If pupil fails to make progress break down Pscals and finely tune experiences.	Precise targeted intervention
Spld Maths Checklist-	N/A		Identify possible cause for concern
Observation	N/A		Part of dynamic assessment
IEP Writer	available for all ages	Bank of adjustable smart targets	Smart targets on IEP
Previous reports by EP or AT	N/A		Background information
Sharma Maths Assessment	any age	Individualised Sharma Programme 1 x teacher and 3x S.S.A.. When all else fails. Requires 1 lesson with specialist teacher and daily consolidation with SSA	Detailed and structured assessment that could be the basis of intensive 1-1 intervention
Dyscalculia screening	up to 15	Attempts to isolate 'numerosity', the precise area of the brain 'wired' for maths. The software still has glitches. Once you start you can't stop. It is tedious. Doesn't really give useful ways forward in terms of teaching. I don't feel it discriminates between dyspraxia and dyscalculia as it is defined by the test.	I am not convinced that this boring tool is measured what it is claimed to measure.
Cracking the Code with Maths Ann Jones ISBN No. 1 872406 74 2	5-11 but could be used in year 7	There are quick and easy tests to cover reception, year 1/Y2, Y3/4, Y5/Y6 in 'basic no-frills maths.'	Claims to identify areas for IEPs and can be used as a screener.

Numicon	Foundation, keystage 1 and older pupils with special needs.	<p>Numicon® teaching activities are cumulative progressing in small steps, each activity builds on previous learning, some activities are revisited with an enhanced teaching focus as pupils progress, pupils can self-correct and thus their self-esteem is nurtured. The activities are playful and multi-sensory, pupils' language acquisition is supported throughout by the meaningful visual context of the Numicon® images and display number line on which each number is illustrated with Numicon® shapes.</p> <p>For teaching older children we recommend the purchase of a Year One Kit and a set of Foundation or At Home work cards. For 'travelling support teachers' who move around the school to teach different groups we also recommend the zig zag number line as it can stand on a table top and can be moved easily from place to place.</p>	<p>Helpful for children with many different barriers to learning.</p> <p>SENCOs and Support Teachers are finding their own ways of using Numicon® to help children understand fractions and decimals; coin equivalence when learning about money; and multiplication and division.</p>
Dyscalculia Guidance		<p>Definition and description of dyscalculia in the classroom. Practical activities and games are included grouped within specific areas of mathematics, which build foundation knowledge vital to the progress of dyscalculic pupils. All the activities are simple to use and involve readily available classroom resources.</p>	improved understanding
<p>Mathematics Solutions part A and B Jan Poustie Tel 01823 289559</p>		<p>An introduction to dyscalculia with a useful section on assessment, based on Sharma. Also has a questionnaire for students</p>	improved understanding
<p>Working with Dyscalculia Anne Henderson, Fil Cam and Mel Brough 01672 512914</p>		<p>Overcoming Barriers to Learning in Maths, recognising dyscalculia</p>	Improved teaching, learning and understanding