Potential barriers and possible strategies to overcome these for learners with SEND in Maths

	Cognition & Learning	Communication & Interaction	Social, emotional & mental health	Physical, sensory & medical
Examples	Includes specific learning difficulties e.g. dyslexia, dyscalculia This applies to pupils working 'significantly below year group expectations' e.g previous KS	Disordered language development Speech disorders Social interaction difficulties, including ASC	May struggle with emotional awareness/regulation, lack social skills Maths anxiety which impacts resilience and self-esteem Selective mutism	Visual/hearing impairments Physical disabilities
Barriers to learning in maths	Processing speed Fluency recall (declarative and procedural fluency) Struggles to apply known facts in different contexts Fundamental lack of understanding of number e.g. 2 means the quantity 2 Problems accessing word and reasoning problems	Problems with unknown words in reasoning questions Inability to verbalise/explain reasoning and processes May find learning declarative facts by rote very easy but then unable to apply these in problems Possible sensory issues with manipulatives May struggle to record learning	The speed of some parts of lessons may produce anxiety The use of timers and timed tests Anxiety related to chanting out loud Anxiety about getting the answer wrong (as maths is often very right/wrong)	May be unable to use manipulatives Visual impairment would limit representations used
Suggested strategies and support	Small steps of learning are used but can be broken down into even smaller steps for these learners Lessons broken into manageable cognitive chunks (teacher model,	Small steps of learning used (WR – but these can be broken down into even smaller steps) Lessons broken into manageable chunks (teacher model, shared	Rather than using a countdown timer, we might use a stop watch where they write down their time when they finish.	Carefully selected manipulatives that the pupil is able to use themselves or ask an adult to move.

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	shared practice, individual practice, plenary, repeat) Frequent retrieval practice Sentence stems to aid memory and provide a scaffold (Consistency across all staff using agreed stem sentences and vocabulary). Delivering instructions one by one (now and next boards) Flexible pairings and groupings to allow some peer support and independence Visual scaffolds of procedures provided Manipulatives used to teach and support learning Varied representations (including known real-life ones) used alongside manipulatives Pre-topic checks of previous learning Modelling – I do, we do, you do	practice, individual practice, plenary, repeat) – frequent brain breaks Frequent retrieval practice Delivering instructions one by one Visual scaffolds of procedures provided Manipulatives used to teach and support learning and to support multi-sensory approach Varied representations (including known real life ones) used alongside manipulatives Consider placement in the classroom so that they can hear and see well Calm and quiet environment Eliminant non-essential copying from the board Check pupils understand instructions Emphasise subject specific language	Lessons broken into manageable chunks (teacher model, shared practice, individual practice, plenary, repeat) – frequent brain break Minimise teacher talk for long periods of time – break this up with variation – independent work, whiteboards, partner talk... Use of open-ended investigation type questions. For harder questions, supply the answer with the question – can you work out how to get to this answer? Use of 'numberless' questions Small steps of learning used (WR – but these can be broken down into even smaller steps) Sentence stems to aid memory and provide a scaffold (Consistency across all staff using agreed stem sentences and vocabulary).	Use of interactive technology that can be manipulated in place of concrete manipulatives Ensure seating location means they can access the board and see/hear the teacher easily Eliminant non-essential copying from the board and where needed ensure font size and type is accessible Text-speech apps Address pupils by name to get attention Slopes Cue cards to access tasks

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	Print out visuals from the board to allow for easier access Access to own versions of modelled examples as well as that on the learning wall Access to key vocabulary Coloured overlays and paper where suitable		Flexible pairings and groupings to allow some peer support and independence Delivering instructions one by one Visual scaffolds of procedures provided Manipulatives used to teach and support learning Varied representations (including known real life ones) used alongside manipulatives Short, precise instructions – perhaps shown visually	