

Provision Map for STEM based subjects

In planning lessons we need to consider ways of minimising or reducing barriers to learning so that all learners can fully take part and learn. In some activities, learners with SEN and/or disabilities will be able to take part in the same way as their peers. In others, some modifications or adjustments will need to be made to include everyone.

For some activities, we may need to provide a 'parallel' activity for learners with SEN and/or disabilities, so that they can work towards the same lesson objectives as their peers, but in a different way. Occasionally, learners with SEN and/or disabilities will have to work on different activities, or towards different objectives, from their peers.

Area of need	Provision/adaptations	Maths
Dyslexia	Working memory: • Re-cap of previous learning to enable working memory. This could be with a chart to build up each week's key learning in a very visual way. • Re-teaching of the main aspects of previously taught lessons with key information to ensure confusion does not occur. • Learning presented in small chunks. • Access to any visual aids from previous relevant learning. • Present information in a visual form with only the key information for the learner to remember. Processing time: • Additional time to talk through ideas and concepts. • Allow plenty of time for recall. • Repeat instructions using the same language New Vocabulary: • Word mats with pictorial aids if able. • Written prompts	• Many learners with dyslexia have strong visual and spatial reasoning skills. They tend to better understand maths concepts that are taught through manipulative or visual teaching strategies. Using lots of practical resources such as counters, bead strings, and multi-link cubes will be beneficial. • Adaptations for learning things like times tables that require good working memory and allow for jottings and observations to be written down by the learner. • Using teaching strategies like place value cards and grids helps develop an understanding of the value of digits. Playing cards, dice, and dominoes can be used for a whole variety of number games and reinforce the learning of visual number patterns. • Learners could find it difficult to grasp the significance of number patterns within a completed 100 square or understand the interval-based structure of a number line. Spending more time on using the concrete versions of number representations can help. • Some learners with dyslexia may benefit from spending longer on the concrete and pictorial stages before, or alongside, abstract

	• Stories presented in alternative styles such as storyboards. • Exaggerate new vocabulary by separating syllables • Use of mnemonics to help remember new vocabulary • Remember that STEM subjects have a language of their own and learning new STEM vocabulary can be a challenge. Words like difference, multiply, and divide can be confusing as they mean different things in a maths context. • Multi-sensory: • Use of talk partners • Visually draw concepts to aid understanding • Coloured overlays (also think about the colours of any IWB presentations) • Larger font where able Sequencing: • Repeat instructions and information • Sequencing frames • Written scaffolding to aid recording Recording: • Alternative methods of recording information including audio/visual to ensure key concepts are recorded. • Paired writing	representations. This helps secure their conceptual understanding. • To support counting, provide opportunities for learners to count objects frequently — manipulating and moving them as they count rhythmically. • Where possible, try linking maths to real life contexts that are practical and meaningful for the learner. For instance, paying for shopping when teaching money. When introducing shapes, relate them to real objects.
DCD	• Adaptations when motor skills are being used e.g. recording of information. • Adjustable height desks or standing desks can be used • Peer buddy within lessons • Specialist equipment available	• Use systems such as racks so that maths equipment can be checked out and checked back in. • Use adapted equipment where needed. • Prepared methods of recording such as a grid

	• Alternative methods of recording using audio/visual resources • Reduction of requirement to use fine motor skills such as pre-cut resources.	already drawn to aid the learner to focus on the task.
Autism	• Clear sequencing of lessons • Alternative methods of recording information such as use of technology • Task Management boards • Adapted ways of teaching concepts such as diagrams, stories, acting out processes, computer simulations, concept mapping, etc. • Simple audio recorders can be used instead of written notes during investigations or field trips.	• Learners on with ASD may struggle with word problems and need adaptation because of the following difficulties: ○ <i>Organizing</i> the order of operations in multiple-step word problems. ○ <i>Holding</i> information from one step while manipulating information from another step. ○ <i>Shifting</i> from one piece of information to a second piece of information. ○ Attending to the <i>relevant</i> information within the word problem. ○ Perseverating on <i>unimportant</i> information within the word problem. • <i>Controlling the impulse to solve</i> the first identified operation without understanding all of the steps involved.
SEMH	• Pre-teach of key concepts • The transition from whole-class to group or independent work, and back, is clearly signalled to allow time for processing. • Support to understand that other people will have different views. • Circle time discussions around different issues. • Clear expectations around behaviour when there are disagreements with others. • Silent debates where learners are requested to	

	put their views on post it notes to share their ideas to avoid conflict. • Thrive support to focus on social skills to enable discussions. • Assign learners particular roles within discussions so they have a clear purpose in the group and keeping them focussed. • Small groups supported by an adult to facilitate conversations.	
ADHD	• Standing desks • Adult support at the beginning of the lesson to ensure focus and understanding of key concepts. • Laptop to record any written work to enable the focus to be on understanding the concepts and belief systems. • Small chunks of information with key concepts in pictorial form. With limited calculations or questions on a page. • Avoid unnecessary visual stimuli. • Practical activity to remain physically active where possible. • Re-cap of previous learning to organise thoughts before the lesson. • Small tasks to ensure success. • Encourage learners to connect information or concepts being presented • Repeat directions individually • Use visual maps • Use flash cards as visual aids • Learners with ADHD tend to respond better to	• Concrete resources always available to reinforce learning. • Mind map of each concept to allow for chunks of information to be embedded.

	concrete learning experiences. They often have high levels of creativity and welcome the chance to learn independent.	
Dyscalculia	• Some learners may find the organisation of ideas into a logical way difficult and therefore will need support for this. • Adaptation of tables, data etc and support given for understanding. • Use of IT equipment to support understanding of concepts.	• Make learning multi-sensory. Use equipment, apparatus, visual aids, etc. • Make maths practical and where possible related to everyday experiences/the world. • Link facts and learning, so the learner has an anchor fact(s) to return to. • Get the learner to explain how they have come to an answer, whether right or wrong. This helps to understand thought processes, and to identify if, and where, these are breaking down. • Encourage children to explain to themselves and others how they have done a task. • Emphasise maths vocabulary, key words, syntax and basic mathematical rules. • Allow the use of a calculator to progress some mathematical thinking, particularly where arithmetical skills are impeding overall progress. • Use mnemonics to aid memory. • Encourage workings which show thought processes rather than just answers. • Minimise the need to copy down work from the board. Where unavoidable check it has been copied accurately.

		• Extra time when completing timed assessments.
Speech and Language	• Language is to be clear, unambiguous and accessible. • Key words to be written up with meanings/visual aids. • Instructions are given clearly and reinforced. • Careful preparation to ask questions in a variety of ways enabling learners with S&L difficulties to answer open ended questions. • Learners are allowed time to process and then answer the questions. • Adults to support learners to contribute to lessons. • Some learners will need tasks to be broken down into smaller sets of instructions. For example, give the first instruction, then once that is completed give more information – rather than presenting all the task requirements in one instruction.	• When developing word problems, it's helpful to use clear, unambiguous language and keep unnecessary information to a minimum to reduce cognitive load. Try representing the problem in images or ask an adult or peer to read the problem to them. • Explain concepts carefully. Get the child to develop their understanding by exploring new subject matter and explaining what they think they have been asked to do. • Explicit pre-teach of specific maths vocabulary and the concepts that it is linked to. • Time to answer open ended questions.
Moderate Learning Difficulties/Global Delay	• Tasks in short chunks to allow for processing and plenty of opportunity for embedding of learning. • Alternative ways to record their ideas such as audio/visual. • Use mind maps, bullet point lists, storyboards to record their learning. • Re-cap of previous learning to enable working memory. This could be with a chart to build up each week's key learning in a very visual way. • Learning presented in small chunks.	• Make learning multi-sensory. Use equipment, apparatus, visual aids, etc. • Make maths practical and where possible related to everyday experiences/the world. • Link facts and learning, so the learner has an anchor fact(s) to return to. • Get the learner to explain how they have come to an answer, whether right or wrong. This helps to understand thought processes, and to identify if, and where, these are breaking down. • Encourage children to explain to themselves and

	• Access to any visual aids from previous relevant learning. • Present information in a visual form with only the key information for the learner to remember. • Scaffolded work through use of writing frames. • New vocabulary selected for the key words and explicitly taught in pre-teach. • Show the learner a practical example of what you need them to do giving concrete examples. • Simple audio recorders can be used instead of written notes during investigations or field trips.	others how they have done a task. • Emphasise maths vocabulary, key words, syntax and basic mathematical rules. • Allow the use of a calculator to progress some mathematical thinking, particularly where arithmetical skills are impeding overall progress. • Use mnemonics to aid memory. • Encourage workings which show thought processes rather than just answers. • Minimise the need to copy down work from the board. Where unavoidable check it has been copied accurately. • Extra time when completing timed assessments. • Pre-teach of concepts.
Physical disability	• Alternative methods of recording their learning. • Specialist equipment e.g. tactile ridges on measuring glassware for learners with a visual impairment	