SEND Provision in National Curriculum Subjects

MATHEMATICS

We want all children with SEND to be fully engaged in and enjoying learning, be included with peers, be at least NARE or making accelerated progress. Below is a list of the adaptions we make for children with SEND maths and for each broad and specific area of need. When planning we consider ways of minimising or reducing barriers to learning so that all learners can fully take part and learn. In some activities, children 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 provide a ‘parallel’ activity for learners with SEND so that they can work towards the same lesson objectives as their peers, but in a different way. Occasionally, and always to meet specific needs, children with SEND work on different activities or towards different objectives, to their peers

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| Broad Area of Need: | Communication and Interaction |
| Specific Area of Need: | * 1. Speech, language and communication needs.   2. ASD |

1.1 Speech, Language and communication needs

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| Provision / Adaptations |
| * Vocabulary pre-teaching and rehearsal in daily lessons. * Small group work to enable children to access * Use of concrete/visual representations to enable children to access maths linking them explicitly with appropriate vocabulary and stem sentences. * Use of stem sentences to enable children to articulate mathematical ideas. * Ask an adult or peer to read the problem to / with them and clarify understanding before attempting to solve * Use clear, unambiguous language and keep unnecessary information to a minimum to reduce cognitive load. * Give adequate response time to aural questions. |

1.2 ASD

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| Provision / Adaptations |
| **Maths:**  Many pupils with autism have ‘normal to above average algorithmic thinking ability’ but can struggle with reasoning and problem-solving because of:   * language processing deficits * difficulties in classifying problems by type * lack of knowledge of strategies and the use of ‘inefficient and overly complex procedures’ for calculation   Learners with ASD may struggle with word problems and need adaptation because of the following difficulties:   * *Organizing* the order of operations in multiple-step word problems; *Holding* information from one step while manipulating information from another step; * *Shifting* from one piece of information to a second piece of information; * Attending to the *relevant* information within the word problem; Focussing on *unimportant* information within the word problem. * Controlling the impulse to solve the first identified operation without understanding all steps involved.  Teachers can ensure they play to pupils’ strengths: the powerful declarative memory systems of pupils with autismDeliver a ‘spiral’ curriculum to interleave learning and devote time for rehearsal, and memorisation of key number facts and methods.Embed and secure declarative knowledge to free more time to learning problem solving strategies.Ensure the lesson structure, book work templates and routine is consistent to avoid overload. |

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| Broad Area of Need: | Cognition and Learning |
| Specific Area of Need: | 2.1 Moderate Learning Difficulties  2.2 Dyslexia (and Working Memory)  2.3 Dyspraxia (Developmental co-ordination disorder DCD) |

2.1 Moderate Learning Difficulties

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| Provision / Adaptations |
| * Small group working supported by same adult. * Re-cap of previous learning to enable working memory in daily lessons * Sign post learning journey using pyramid to explicitly link old and new learning. * Use simple visual representations from previous days learning to make those links explicit. * Keep range of visual representations limited choosing most effective to expose the underlying number structure or concept. * Chunk procedures into smaller steps. * Link small steps to concrete, visual representations to create ‘hooks’ for learning. |

2.2 Dyslexia (and Working Memory)

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| Provision / Adaptations |
| **Maths poses specific challenges to children with dyslexia. Strategies specific to maths are as follows:**  **Working Memory:**   * Re-cap of previous learning to enable working memory in daily lessons * Sign post learning journey using pyramid to explicitly link old and new learning. * Use simple visual representations from previous days learning to make those links explicit. * Keep range of visual representations limited choosing most effective to expose the underlying number structure or concept. * Chunk procedures into smaller steps. * Link small steps to concrte, visual representations to create ‘hooks’ for learning.   **Processing time:**   * Time to talk through ideas and concepts; time for recall; repeat instructions using the same language * Use of concrete, visual representations working towards abstract.   **New vocabulary:**   * Preteach vocabulary * Vocabulary teaching at the start of each lesson * Use of word mats linked to visual representations as appropriate. * Use of talk partners to explain understanding of new vocabulary.   **Sequencing:**   * Time allocated for recap, rehearsal of key concepts and procedures. * Old learning explicitly linked to new learning in lesson and book work.   **In addition children with dyscalcula may have the following barriers to learning in maths:**  All elements below are potential signs of possible dyscalculia  Reliance of counting in 1s  Challenges with counting backwards  Lack of understanding of place value  Poor retention of times tables, but better retention of 2, 5 and 10  Slow working speed  Weak overall mental arithmetic  Task avoidance and / or anxiety specific to maths  Inability to retain procedures and formulae   * Faciliate development of ‘number sense’ using subitizing specifically conceptual subitising to recognise groups within groups. * Mastering number programme to embed understanding of composition. * Use of stem sentences linked to visual representations, concrete materials to scaffold structures and composition of numbers. * Time focussed on memorisation of core facts. * Use of visual prompts, stem sentences to support understanding of key concepts. * Allow regular rehearsal, recall of declarative knowledge. |

2.3 Dyspraxia (Developmental co-ordination disorder DCD)

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| Provision / Adaptations |
| To support maths learning:   * Use concrete manipulatives such as denes, numicon, dice * All staff to understand that the child may have to repeat the activity many times to internalise and remember – pertinent for number bonds, times tables etc * All staff to understand that the child may shut down and use avoidance strategies if anxious - scaffold and support to break this cycle * Use kinaestheic and visual teaching strategies such as drawing, building, demonstrating and modelling * Use visual reference aids 100 square, times table facts, printed vocabulary * Provide lined paper / graph paper / squared paper as appropriate to the child to help organise thoughts for complex procedures such as long division * Use highlighters and coloured pens to colour code operations – ie addition = amber, subtraction = sky blue * All staff to be aware that the child may not know when they have made an error when copying numbers or writing dictated numbers – staff to check f/r the child as long as not contradictory to IEP or EHC * Allow or encourage the child to communicate answer in alternative ways such as using drawing or manipulatives. * Ensure that the child has enough time to practice and internalise key knowledge such as number bonds, times tables, place value * Provide scaffolding and model scaffolding of key ideas if organising of ideas is challenging * Adapt tables, data etc and support and check understanding, recapping frequently to check understanding is maintained |

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| Broad Area of Need: | Social, Emotional and Mental Health Difficulties |
| Specific Area of Need: | 3.1 Trauma  3.2 ADHD  3.3 Anxiety |

3.1 Trauma

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| Provision / Adaptations |
| Staff should be Note that the behaviours exhibited may also be very physical and the child may be in fight/flight mode which may be seen as an aggressive response.  Staff must build a relationship with the child and observe patterns of behaviour and possible triggers so they can support and redirect.   * Follow school guidance on adaptations for trauma. * Use concrete, pictorial representations of the maths to ensure the indviduals can access the abstract. * Supporting adults should have a clear understanding of the small step   progression (Use NCETM spines for reference)   * Work to establish a positive mindset around maths and culture of mistakes being opportunities for learning and ‘gold dust’ so we know what we need to recap or learn next. |

3.2 ADHD

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| Provision / Adaptations |
| Ensure a range of practical tasks to allow the learners to be active when in lesson.  Allow some activities where learners with ADHD are allowed to work alone. People with ADHD often feel group working is a challenge.   * Use standing desks as appropriate. * Consistent lesson design in independent work supports breaking learning into small chunks of information. * Provide pictorial cues to support learning of key concepts. * Provide physical activity within lessons. * Use physical activity at the outset of lessons to aid recall, rehearsal as well as organising thoughts and linking to previous learning. * Follow general school guidance on adaptations for ADHD. |

3.3 Anxiety

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| Provision / Adaptations |
| Staff should notethat the behaviours exhibited may also be very physical and the child may be in fight/flight mode which may be seen as an aggressive response.  Staff must build a relationship with the child and observe patterns of behaviour and possible triggers so they can support and redirect.   * Follow school guidance on adaptations for anxiety. * Use concrete, pictorial representations of the maths to ensure the indviduals can access the abstract. * Supporting adults should have a clear understanding of the small step   progression (Use NCETM spines for reference)   * Work to establish a positive mindset around maths and culture of mistakes being opportunities for learning and ‘gold dust’ so we know what we need to recap or learn next. |

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| Broad Area of Need: | Sensory and / or physical needs |
| Specific Area of Need: | 4.1 Hearing Impairment (HI)  4.2 Visual Impairment (VI)  4.3 Toileting  4.4 Multisensory impairment  4.5 Physical Disability |

4.1 Hearing Impairment (HI)

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| Provision / Adaptations |
| Follow general school guidance on hearing impairment.   * Pre teach vocabulary and stem sentences. |

4.2 Visual Impairment (VI)

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| Provision / Adaptations |
| Follow general school guidance on visual impairment.   * Support learning with a range if manipulatives and concrete apparatus * Use of large print measuring devices – eg protractor * Talking calculators * Braille rulers * Consider use of fonts on IWB – ensure that numbers look distinct from each other * Access to abacus for early counting activities |

4.3 Toileting

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| Provision / Adaptations |
| Follow general school guidance on toileting. |

4.4 Multi-sensory Impairment

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| Provision / Adaptations |
| Follow general school guidance on multi-sensory impairment. |

4.5 Physical Disability

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| Provision / Adaptations |
| Follow general school guidance on physical disability. |