



## Lostwithiel School

### Strategies for supporting pupils with Special Educational Needs in Maths

# SOCIAL EMOTIONAL MENTAL HEALTH IN MATHS

#### *Strategies for supporting learners who struggle with attention and/or lack confidence/struggle with change and transition:*

- ✓ **Adult Support:** All adults who work with these children will nurture a positive, supportive, trusting relationship with them and will be available for support during the lesson.  
Live marking will take place wherever possible to enable learners to see if they are on track which can motivate them and boost their confidence.
- ✓ **Strategies for scaffolding learning:**  
Time: extra time will be given for the child to process new information and instructions  
Learning Environment: Teachers will:
  - Consider the seating arrangements to engage all learners and maximise access to resources – the location of the individual child will accommodate their needs as comfortably as possible.
  - Consider that circles and grouped tables can be a barrier to attention on learning for some children.
  - Space in another area of the school may be offered to some children so tasks can be rehearsed orally and broken down into manageable steps. Maths resource areas will be made accessible for all children to use.

Pre-warning of change: Daily maths lessons should follow the agreed Lostwithiel School format so all children know what to expect within a lesson; all pupils will be very familiar with a typical daily Maths lesson format. Changes that are made to the seating plan or organisation of the lesson will be shared with the child beforehand through a social script/the use of visuals/at the start of the day or day/s before

#### Time to talk:

- All children will feel confident enough to talk and contribute as maths lessons follow a metacognitive approach with open ended questions used as much as possible. Teachers will use their expert knowledge of the class and their teacher judgement to decide which children to pose particular questions to.
- All children's ideas are heard. Children are given time to talk with a partner so they then have the confidence to speak in front of the whole class. Mistakes are seen as part of the learning process. Incorrect answers are not referred to as 'wrong answers' but used as a discussion point, so not to lower any child's confidence.

#### **Supporting resources available include:**

- Now & Next boards
- Maths manipulatives
- Dojos and recognition boards
- Home/school communication
- TIS support group/individual support
- Visual timetable



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- Visual timers
- Maths display boards, showing the journey of the maths unit
- Silent Solo - TTYP
- Pre-teaching of new mathematical learning/vocabulary
- Time out/sensory breaks available throughout the lesson for specific children



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# COMMUNICATION AND INTERACTION IN MATHS

**Strategies for supporting learners who struggle to retain vocabulary and/or comprehension:**

- ✓ **Adult Support:** Adults will:
  - Drip feed key vocabulary throughout the school day during transitions.
  - Use mathematical language within other subject areas wherever possible to embed the language
  - Pre-teach key language/vocabulary before it is introduced to the whole class. This will give learners greater confidence within lessons.

- ✓ **Strategies for scaffolding learning:**

Supporting resources available include:

- Talking tins
- Now & Next boards
- Visual timetables
- Visual support materials
- SALT support
- Independent think time (silent solo) and discussion in a trusted pair (TTYD) or small group of mathematical problems/questions/their ideas before feeding back to the whole class
- Maths walls in all classes with key vocab and current mathematical learning displayed and changed regularly
- Maths walls with key vocab and sentence stems to support problem solving and reasoning
- Flashback retrieval activities at the start of each lesson to help embed learning and reduce the 'forgetting curve'.
- Maths sentence stems built into lessons to introduce key vocabulary/concepts/rules – My turn, your turn approach to help children retain the information, or sentence stems included within Flashbacks. Actions to introduce new vocabulary are used alongside this where possible.
- New vocabulary displayed on learning walls.
- Positive praise/dojos/recognition boards used to praise attempts at communicating within lessons
- Open ended questions used as much as possible with lessons, to allow all children to contribute to lessons confidently and without fear.
- Use of whiteboards to communicate ideas visually, as well as oral communication.



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# SENSORY AND PHYSICAL Strategies for supporting learners who have sensory and/or physical issues in Maths:

✓ **Adult Support:** All adults who work with these children will nurture a positive, supportive, trusting relationship with the them and will be available for support during the lesson.

✓ **Strategies for scaffolding learning:**

Learning Environment: consideration is given to the size of the group and the fact that learners may benefit from smaller groups or individual groups. Consideration is given to the lighting in the room if learners would benefit from reduced glare on interactive whiteboards and computer screens. Consideration is given to seating plans and where particular children are sat in the room.

Limiting external noise that may distract learners from the learning in hand. Reducing background noise will optimise the mathematical learning environment. Background noise can affect the clarity of speech heard, as well as the child's attention to tasks and behaviour in the classroom. It affects many children, not just children with hearing loss: it can affect children with attention and behaviour disorders, children with language delays, bilingual children, and children with auditory processing disorder. Being mindful of and making attempts to minimise background noise benefits the entire class. Decreasing background noise increases all students' access to clear speech. This allows students to increase their attention and participation, while decreasing their frustration level (and the negative behaviours that can often accompany frustration).

Sensory breaks: Planned and unplanned sensory breaks will be used and there will be a breakout space available throughout the lesson to be accessed when necessary.

#### **Supporting resources available include:**

- Adults scribing ideas
- Laptops/ICT support
- Bands for chairs
- Visual support materials
- Sensory diet (including regular movement breaks)
- Move and sit cushions
- Fidgets
- Pencil grips
- Funfit type exercises
- Headphones



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# COGNITION AND LEARNING IN MATHS

***STRATEGIES FOR SUPPORTING LEARNERS WHO STRUGGLE TO ACCESS LESSONS BECAUSE OF LITERACY AND/OR NUMERACY BASED DIFFICULTIES AND/OR THOSE WHO REQUIRE ADDITIONAL TIME TO DEVELOP CONCEPTUAL UNDERSTANDING:***

- ✓ **Adult Support:** Adults will:
  - Use strategies such as modelling, demonstrating and initiating to help learners understand concepts.
  - Use small group provision where necessary.
  - Encourage active participation through a scaffolded experience and use of open-ended questions and time to think and discuss.
  - Consider a learner's prior attainment in maths as some learners may have gaps in others subjects but not in maths or is stronger in some mathematical areas than others. Children should only receive focused support in the necessary areas of learning.
  
- ✓ **Strategies for scaffolding learning:**
  - Children will be provided with visual and practical aids. All lessons will provide pictorial representations of mathematical concepts.
  - Teachers will break down content into small steps. All lessons begin with a warm-up activity.
  - Mastery learning: All lessons follow the mastery approach which ensures all learners are able to engage in the learning, no matter their prior attainment levels. The mastery approach ensures each learner is confident with a concept before moving onto the next. We aim to have all children within whole class teaching, having access to quality first teaching with the class teacher; this ensures inclusivity for all learners.
  - In Maths lessons, all learners work towards a common outcome with teaching and learning tailored and scaffolded to meet individual needs. Some learners, however, will have a personalised approach with specific learning outcomes and provision to develop their specific skills.
  - Pre- teach: Individual pupils may work with a TA prior to the lesson, pre-teaching the concept and mathematical vocabulary so they are prepared prior to the lesson, rather than differentiating within the lesson.
  - Children who are working below age related expectations may take part in a small group or 1-1 intervention for a short period of time, working in a highly practical way. This intervention focuses on key mathematical skills and objectives that are crucial to support mathematical understanding.

**Supporting resources available include:**

- Dyslexia support resources including: coloured overlays, talking tins.



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- Adults or a more confident peer reading worded questions for the children who have poor literacy skills (in particular the lowest 20% of readers). This relieves the pressure of trying to decode the language.
- Ability to 'draw' the word problem so learners have an image to refer to.
- Learning objectives already in maths books or pre-printed so children focus on the planned objective/skill being taught
- Pre-teach
- Focused group work with adult support
- Access to learning support materials: maths manipulative trays on tables or labelled trays for older children to freely access within lessons This includes number lines/squares, tens frames, counters, place value counters, Base Ten, bead strings). All teachers to factor in the use of manipulatives into their lessons, particularly with younger children. These concrete objects allow learners to be shown concepts or ideas in a hands-on format. With abstract maths, concrete manipulatives provide the learner a 'window' in, to make sense of the problem at hand by touching them, playing with them, exploring the patterns and relationships which make a huge difference between understanding for depth or just for procedure. These resources and visual representations should be scaffolded to develop independence.
- CPA: Mathematical concepts are introduced to learners in Concrete, then Pictorial, then Abstract ways. Learners should be confident in one before being presented with the next. Learners lacking confidence in one of these, return to using the previous to support their learning. This process should be used as a bridge to working in the abstract.
- Talking tins
- Now & Next boards
- Visual timers
- Visual timetable
- Visual prompts
- All maths lessons follow a metacognitive approach with use of silent solo and TTYP, allowing children time to process information and give responses to questions
- Independent think time and discussion in a trusted pair or small group of mathematical problems/questions before feeding back to the whole class
- Maths Walls in all classes with key vocab and current mathematical learning displayed and changed regularly
- Maths Talk walls with key vocab and sentence stems to support problem solving and reasoning
- Maths sentence stems built into every lesson to introduce key vocabulary/concepts/rules – My turn, your turn approach to help children retain the information.
- 'We are learning....' Shared and repeated at the start of every maths lesson.
- Positive praise/dojos/recognition boards used in lessons.
- Open ended questions used as much as possible with lessons, to allow all children, whatever their ability, to contribute to lessons confidently and without fear