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| Cognition and Learning**Dyscalculia** |
| **Universal Descriptor****Wave 1** | **Identification and Assessment** | **Teaching and Learning** **Strategies, Resources and Physical Environment**  |
| Schools and Settings may notice in maths:Work avoidanceLow level behaviour (tapping pencil)Poor concept of number e.g. oneness of one, twoness of twoWeak number recognition (value and symbols) Delay in rote counting Poor one to one correspondenceWeak understanding of patternPoor understanding of time, money and estimationPoor understanding of sequencesPoor number formationPoor organisation of number work (lots of crossing out) Poor understanding of place valueSmall amounts of work producedLack of instantaneous recognition of common number arraysConfusion around operations (symbols +, -, x, ÷)Confusion around application in number problemsPoor organisational skillsDifficulties remembering sequences and large chunks of informationLack of retentionPoor concentrationLow self-esteem | AssessmentHearing checked at GPSight checkEvidence gathering of persistent difficulties acquiring basic mathematical skills despite practical first hand opportunities and overlearning. Observations by SENDCo or trained staffTalking to parentsPupil discussed at pupil progress meetingsConcerns raised by pupil, family, staff | **Quality First Teaching** with a specific consideration for children with dyscalculia/a dyscalculic profile. The class/subject teacher is accountable for the progress of the children and young people within the mainstream class. Curriculum tasks should be modified as required. **Curriculum and Teaching Methods:** * Small steps teaching based on the principles of overlearning
* Breaking tasks into chunks
* Brain breaks including allowing the pupil to move
* Additional time for processing
* Alternative forms of recording routinely used
* Differentiated questioning and targeted simplified level/pace
* Use of visual, auditory & kinaesthetic approaches
* Routine feedback
* Boosting self-esteem at every opportunity
* Relate number concepts to everyday life

**Organisational Adjustments:*** Maths groups led by the Teacher
* Flexible grouping
* Seating
* Overlearning using practical materials
* Ensuring basic concepts are secure before moving on

**Specialist resources and intervention strategies:*** Practical materials which clearly demonstrate the relative value of number, e.g. Numicon, Dienes.
* Using ICT to support

Identify any **specific training** needs for staff**Transitions:** thorough and timely preparations made for transition, both between year groups and between settings | **Additional support is available from:*** Learning Support Service Specialist Teachers - access for informal advice if required

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| **Targeted Descriptor****Wave 2** | **Identification and Assessment** | **Teaching and Learning****Strategies, Resources and Physical Environment** |
| **Despite quality first teaching some or all of these descriptors continue to present in maths:**Work avoidanceLow level behaviour (tapping pencil)Poor concept of number e.g. oneness of one, twoness of two.Weak number recognition - value and symbolsDelay in rote counting Poor one to one correspondenceWeak understanding of patternPoor understanding of time, money and estimationPoor understanding of sequencesPoor number formationPoor organisation of number work (lots of crossing out) Poor understanding of place valueSmall amounts of work producedLack of instantaneous recognition of common number arraysConfusion around operations (symbols +, -, x, ÷)Confusion around application in number problemsDifficulties remembering sequences and large chunks of informationLack of retentionPoor concentrationLow self-esteem | Basic maths skills check to set a baseline to inform intervention.Continued evidence gathering of persistent difficulties acquiring basic mathematical skills despite practical first hand opportunities and overlearning. Observations by SENDCo or trained staffTalking to parentsPupil discussed at pupil progress meetingsConcerns raised Monitoring progress through regular review meetings  | **Quality First Teaching** with a specific consideration for children with dyscalculia/a dyscalculic profile. The class/subject teacher is accountable for the progress of the children and young people within the mainstream class. Curriculum tasks should be modified as required. **Curriculum and Teaching Methods:** * Small steps teaching based on the principles of overlearning
* Breaking tasks into chunks
* Brain breaks including allowing the pupil to physically move
* Additional time for processing
* Differentiated questioning and targeted simplified level/pace
* Use of visual, auditory & kinaesthetic approaches
* Routine feedback
* Boosting self-esteem at every opportunity
* Relate number concepts to everyday life and specific areas of interest

**Organisational Adjustments:*** One to one or small group interventions to address targeted skills
* Maths groups led by the Teacher
* Overlearning using practical materials

**Specialist resources and intervention strategies:*** Practical materials which clearly demonstrate the relative value of number
* Using ICT to support
* Pastoral clubs to boost self-esteem
* Task board

Identify any **specific training** needs for staff**Transitions:** thorough and timely preparations made for transition, both between year groups and between settings | **Additional support is available from:*** Learning Support Service Specialist Teachers - access for informal/formal advice recommended
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| **Bespoke Descriptor****Wave 3** | **Identification and Assessment** | **Teaching and Learning** **Strategies, Resources and Physical Environment** |
| **Despite quality first teaching and Wave 2 Intervention, some or all of these descriptors continue to be persistent in maths lessons. The pupil may present with a discrepancy with other areas of the curriculum:**Work avoidancePoor at subitising Low level behaviour (tapping pencil)Poor concept of number e.g. oneness of one, twoness of two.Weak number recognition - value and symbolsDifficulty in rote counting Poor one to one correspondenceWeak understanding of patternMay mask difficultiesPoor understanding of time, money and estimationPoor understanding of sequencesPoor organisation of number work (lots of crossing out) Poor understanding of place valueSmall amounts of work producedLack of instantaneous recognition of common number arraysConfusion around operations (symbols +, -, x, ÷)Confusion around application in number problemsDifficulties remembering sequences and large chunks of informationLack of retentionPoor concentration Low self-esteem | Regular assessment on entry and exit to intervention with midterm check as appropriate Regular monitoring of pupil’s numeracy to ensure transfer of skills following interventionRobust review with Specialists, Class Teacher, TA and SENDCo  | **Quality First Teaching** with a specific consideration for children with dyscalculia/a dyscalculic profile. The class/subject teacher is accountable for the progress of the children and young people within the mainstream class. Curriculum tasks should be modified as required. **Curriculum and Teaching Methods:** * Small steps teaching based on early concepts with these being built upon through overlearning
* Regular checking by the class teacher to ensure understanding of concepts
* Breaking tasks into chunks
* Brain breaks including allowing the pupil to physically move
* Additional time to complete tasks
* Use of visual, auditory & kinaesthetic approaches
* Relate number concepts to everyday life and specific areas of interest.
* Positive praise around small steps of success.
* Emphasising pupil’s strengths in other areas.
* Focus on maths skills for life for pupils with the most persistent difficulties e.g. time, measurement and money.
* Differentiated questioning and targeted simplified level/pace.

**Organisational Adjustments:*** One to one or small group interventions to address targeted skills
* Maths groups led by the Teacher
* Lots of overlearning using practical materials
* Use of games and IT to add variety to overlearning
* Table top visual prompts to show methods of calculation
* Maths vocabulary mats
* Multisensory approach
* Over learning
* Tasks broken down
* Concepts given in a stepped format
* Highly skilled staff
* Ensuring mastery of basic skills before moving on

**Specialist resources and intervention strategies:*** Involvement of Specialist to identify difficulties and suggest strategies to support
* Practical materials which clearly demonstrate the relative value of number.
* Use of ICT to support
* Bespoke programme

A **monitoring system** should be in place to assess the pupil’s needs, plan and identify outcomes, implement support and monitor and evaluate progress, for example an Individual Education Plan, SEN Support Plan or One Page ProfileRegular, i.e. at least termly, **planned reviews** including the parent and pupil should take placeIdentify any **specific training** needs for staff**Transitions:** thorough and timely preparations made for transition, both between year groups and between settings**For further information:**Service Leader: Learning Support Servicehelen-lss.bacon@rotherham.gov.uk | **Additional specialist support should be sought from:**Consultancy / advice and guidance from specialist teachers, such as those from Learning Support Service |