

Adaptations to remove potential barriers in the curriculum Subject: Science

Potential barrier	Strategies to overcome barrier
Difficulty with recording information or literacy difficulties	<ul style="list-style-type: none"> • Use alternatives to written recording – for example peer recording, groups with allocated scribe role, drawing, adult scribing, word processing on laptop, mind maps, digital images, videos, voice recordings, use of Puppet Ed to record information. • Provide topical work banks and picture cards that the learners can point or refer to when explaining scientific processes. • Scaffold learning to make it accessible for all. Eg. Focus on recording only the key part of learnt information within an experiment linked to the LQ, or use a template to focus written recording • note take to film explaining answers • Prepare tables for children to record information into. • Allow additional time to complete the work with brain breaks when needed • Sentence starters
Difficulty with retaining vocabulary	<ul style="list-style-type: none"> • Use visual prompts to direct children • Give one or two instructions at a time. Represent each one on a finger • Pre-teach key vocabulary, then ensure consistently used and embedded and applied, using visual reminders to support • Practical and hands on learning • Use voice recordings, photos, prepared grids etc as evidence of learning • Provide word banks that are accessible throughout the science topic.
Reading	<ul style="list-style-type: none"> • Reading with a peer who can read to them • Adapted text at their reading level so they can fluently read and retrieve information independently • Use ICT – use ipad to re – read information to pupil though lesson

Processing questions	<ul style="list-style-type: none"> • Given opportunity to discuss the answers to questions in pairs, before the teacher requests verbal answers • Prepare pupils to contribute to feedback sessions, visual prompts • Use sentence starters to support answering structures
Working and long term memory	<ul style="list-style-type: none"> • Reduce the amount of material to be remembered and repeat and display important information • Retrieval practice within planned topics • Use of memory aids- posters, working wall, provocation areas, word banks • Mental processing and explanations of complex tasks and concepts are simplified • Activities are structured so that children can use available resources such as word banks • Keep instructions short and use visual prompts eg. Lists, diagrams. • Break tasks into manageable chunks and steps • Check in that the child/ren knows what to do • Avoid cognitive overload and not rushing through content • Simple visuals that avoid cognitive overload
Attention and Focusing	<ul style="list-style-type: none"> • Create a working classroom environment that is calm and simple. eg clear routines, organised workspace • Use preferential seating and proximity to engage all children- can you access target children? • Plan movement breaks and classroom jobs • Reduce the “I do” and more focus on the “We do” • Reduce cognitive overload and too much talk • Practical and engaging learning opportunities
Maths	<ul style="list-style-type: none"> • Provide templates to help with drawing tables and graphs • Ask children to talk through what graphs and tables are showing • Represent data in more concrete methods eg. Numicon, concrete graph with resources • Use flexible grouping or peer support • Allow additional time to complete tasks ‘with numbers’ • Use concrete apparatus to help eg. Number lines • Check mathematical language is understood • Use adaptive scales and equipment which are clearer to process
Change and transition eg for outside tasks	<ul style="list-style-type: none"> • If session doesn’t always follow the same lesson format and structure, prepare children in advance by explaining how the lesson will run • Segment the lesson into manageable chunks that are achievable for the child

<p>Visual Prompts</p>	<p>Use visual prompts to support the pupil's learning eg</p> <ul style="list-style-type: none"> • Pictorial task cards • Writing frames give the children a starting point to build on • Word mats to keep relevant vocabulary close to hand • Working walls • Task plans- provide instructions for a task visually using the headings What do I need? What do I need to do? What happens after that?
<p>Working for independence</p>	<p>All pupils should be able to participate in classroom learning and activities. Plan for involvement by:</p> <ul style="list-style-type: none"> • Providing plenty of opportunity for pupil participation • Carefully scaffold questions to build confidence • Ensure that you and other adults hold back, give thinking time, time to process and talk • Make explicit links to previous learning • Ensure that pupils are familiar with a range of resources they need to use • Provide supportive handouts • Ensure individual is facing the board or seated in preferred seating position
<p>For pupils believed to be Dyslexic</p>	<p>Use of the EEF five core principles of good teaching for pupils with SEND:</p> <ul style="list-style-type: none"> • Explicit instruction • Cognitive and metacognitive strategies • Scaffolding • Flexible grouping • Using technology <p>Consider pupil's learning preferences recorded in Learning toolkit.</p>