

REMOVING BARRIERS FROM THE SCIENCE CURRICULUM

Strategies to remove potential barriers in the curriculum

Subject: Science

| Potential Barrier | Adaptations to Teaching |
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| <p>Difficulty with recording information or literacy difficulties</p> | <ul style="list-style-type: none"> · Use alternatives to written recording. Eg. Drawing, scribing, word processing, mind maps, digital images, videos, voice recordings · Provide topical work banks, picture cards and widgeits · Scaffold learning to make it accessible for all. Eg. If writing up the method for their experiment, a learner with barriers to writing could verbally explain it for an adult to scribe, note take or film explaining answers. QR codes? · Prepare tables for children to record information into · Allow the use of templates · Allow additional time to complete the work · Provide lists of key concepts or vocabulary spelling |
| <p>Difficulty with retaining vocabulary</p> | <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. Widgeit planner. · Build a subject specific vocabulary guide (target sheets and wall display) · Pre-teach key vocabulary, then ensure consistently used and embedded and applied · Retrieval practice - sticky questions · 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. |
| <p>Reading</p> | <p>Reading with a peer who can read to them Ta/teacher reading</p> <ul style="list-style-type: none"> · use simpler sentence with WIDGETS as individual child appropriate |
| <p>Processing questions</p> | <ul style="list-style-type: none"> · Given opportunity to discuss the answers to questions in pairs or with TA, before the teacher requests verbal answers · Prepare pupils to contribute to feedback sessions, visual prompts |

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| <p>Working and long term memory</p> | <ul style="list-style-type: none"> ● Reduce the amount of material to be remembered and repeat and display important information ● Retrieval practice - sticky questions ● Use of memory aids- knowledge organisers, posters, working wall, (widgeits) ● Mental processing and explanations of complex tasks and concepts are ● simplified as appropriate ● Activities are structured so that children can use available resources such as word banks ● Using a digital images to capture each stage of an investigation, or important findings can be used to build a visual record ● 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 |
| <p>Attention and focusing</p> | <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? · Reduce the I do and more focus on the we do · Reduce cognitive overload and too much talk · Practical and engaging learning opportunities |
| <p>Visual prompts</p> | <p>Use visual prompts to support the pupil's learning:</p> <ul style="list-style-type: none"> · Pictorial task cards · Writing frames/worksheets give the children a starting point to build on · Word mats to keep relevant vocabulary close to hand as appropriate · Working walls and target sheets |
| <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! |



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