



Inclusive strategies to
support pupils with
SEND in Science



Bebrave 

Bebrilliant 

Believe 

Cognition and learning

Memory



- ★ Use practical investigations to allow children to discover and repeatedly explore learning for themselves, consolidating their understanding.
- ★ Offer additional thinking time to formulate responses and act upon instructions.
- ★ Offer short, personalised instructions in the correct task sequence.
- ★ Provide visuals to support vocabulary.
- ★ Offer pre-teaching sessions to make the unfamiliar feel familiar.
- ★ Encourage the pupil to make a checklist/steps to success.
- ★ Provide equipment checklists.
- ★ Using digital cameras or similar technology to record each stage of designing and making, then sequencing the photos, can be a useful tool to aid pupils' memory of the stages of completing the work.
- ★ Display step-by-step reminders of key processes.
- ★ Display wallcharts and posters, useful spellings, memory cards
- ★ Use talking pegs, talking tins, I pads to records children's ideas and learning
- ★ Strategies, including using ICT based records, are used to reduce the need for pupils to rely on their short or long-term memories.
- ★ Use techniques, such as mind-maps, word maps and images, to record ideas and learning

Task Organisation



- ★ Offer a visual task timeline.
- ★ Offer a Workstation approach.
- ★ Ensure equipment is well organised and easily accessible.
- ★ Use of visual time prompt such as timers.
- ★ Provide equipment checklists and task management boards.
- ★ Easily accessible equipment and resources.
- ★ Tasks to be broken down into smaller, manageable steps – use of task management boards.
- ★ Ensure equipment is well organised and clearly labelled; (object of reference, pictures, words).

Concentration



- ★ Offer a visual task timeline.
- ★ Sensory breaks built into timetable.
- ★ Use of a table top timer to show how long the child has to work for.
- ★ Ask the child to explain in their own words what they are learning/their task.
- ★ Break larger tasks into small steps and offer a motivator for successful completion of each one.
- ★ Keep focused activities short and intersperse with child-led activity.
- ★ Daily repetition of activities and routines so that they become familiar and predictable.
- ★ Avoid abstract contexts. Provide a range of concrete starting points, materials and techniques.

Information Processing



- ★ Allow additional thinking time to process and react to instructions/information.
- ★ Explore the learning style of the pupil and ensure you reflect their processing style in your teaching style and resources. Ensure you offer a range of teaching styles within your QFT.
- ★ Resources to support structure of tasks e.g task management boards, recorded instructions, visual instructions.
- ★ Individual workstations to lower visual and sensory stimuli.

Recognition and Recording







- ★ Assess whether the pupil has a gap in their learning experiences and understanding. If this is the case, ensure strategies that are implemented are interactive, multisensory and reflect early learning experiences.
- ★ Alternative methods of recording such as mind maps, the use of ICT, filming, photographs.
- ★ Children can dictate work using immersive reader.
- ★ Children can present their work in a variety of ways, not just in writing.
- ★ Remember that the focus is on the science learning and therefore any way this can be communicated is useful.
- ★ Pictorial representations of scientific ideas and theories can easily show the underpinning learning.

Application



- ★ Ensure the environment is language rich.
- ★ Ensure new concept teaching is linked to previous learning.
- ★ Offer concrete, pictorial and then abstract representations of the same concept.
- ★ Multisensory writing.
- ★ Explicitly teach and revisit vocabulary where the words is linked to the symbol.

Communication and Interaction

<p>Social interaction Communication</p> 	<ul style="list-style-type: none"> ★ Working scientifically can be carried out in varying sized groups which can be chosen to support the individual child. Adult support within this can support children ★ Introduce specific my turn/your turn activities so that the pupil can work collaboratively with another to complete a task. ★ Teach inference skills explicitly in context. 'It is hot in here.' What might that mean I need you to do to help?' ★ Always give a clear role/purpose in group work. Provide a brief check-list of what that role looks like/involves ★ Model 'wondering aloud': 'I can see that Daniel has tears in his eyes. I wonder if this is because he is sad. I will go and see if I can help him.' ★ Give the pupil a clear role such as listener/speaker and signpost the information that they need to collect ★ Surround with positive peer role models and explicitly narrate their behaviours ★
<p>Verbal/non-verbal Communication</p> 	<ul style="list-style-type: none"> ★ Use partner talk strategies if the child has a peer or adult that they can talk to. ★ Visual instructions to support understanding ★ Use of Makaton signing if appropriate ★ Objects of reference to aid understanding and following routines where appropriate ★ Use technology to support where appropriate ★ Allow the exploration of the world around them and give opportunities to share their discoveries in the way they choose ★ Core word boards to allow non-verbal learners join in with discussions and sharing ideas
<p>Receptive and Expressive language</p> 	<ul style="list-style-type: none"> ★ Introduce pre-teaching of targeted subject specific vocabulary ★ Provide opportunities for overlearning vocabulary ★ Make vocabulary mats available as a tabletop resource with supporting visuals ★ Support the pupil to create a personalised vocabulary bank/dictionary containing visual supports ★ Adult modelling of vocabulary ★ My turn/ your turn approach to learning vocabulary and definitions ★ Retelling talk for writing texts
<p>Attention</p> 	<ul style="list-style-type: none"> ★ Sit the child near the front and make frequent eye contact. Consider who they are sitting next to (positive peer role model) ★ Reduce language. Keep instructions as short as possible and break them into small steps and give one at a time ★ Task management boards ★ Reduce visual and noise distractions ★ Gain attention through saying child's name before giving instructions

Listening



- ★ Give the child a question to ask prior to the lesson or give them an answer to a question that will be asked during the lesson. This can promote active listening. When first introduced make sure you ask the question early in the lesson, slowly, this time can be extended
- ★ Allow child extra time to process the language they are being told
- ★ Say child's name before giving instructions
- ★ Think about seating plan to minimise distractions

Social, Emotional and Mental Health

Regulation



- ★ Feelings charts
- ★ Staff trained in emotions coaching
- ★ Safe spaces for withdrawal
- ★ 5-point scale charts used
- ★ Emotions cards
- ★ Sensory diet and use of sensory manipulatives
- ★ A low-arousal area is planned for pupils who may need it and is available for use by all pupils. The area only needs to have immediately relevant materials/resources to minimise distraction

Self Esteem





- ★ Encourage other pupils to compliment the target pupil. This can be introduced whole class via peer marking approach
- ★ Openly acknowledge and model that it is okay to make mistakes. During adult led activities role play making a mistake and talk through how to recover
- ★ Scaffolded learning where pupils can succeed
- ★ Having clear success criteria so pupils can recognise success
- ★ Task management boards
- ★ Visual timetables
- ★ To begin with offer small, private praise
- ★ When approaching a new learning activity/approach support the pupil to identify the skills and strengths that they already have that they can bring to the task. Work on developing metacognition skills would support this

Anxiety





- ★ Give prior warning when learning about science topics which may involve loud sounds or sudden movement
- ★ 1:1 or small group reading/talk partners to help build confidence
- ★ Task management boards
- ★ Visual timetables
- ★ Use of timers
- ★ Worry monsters/jars/wellbeing-emotions plaques
- ★ 5-point scale charts
- ★ Mindfulness activities
- ★ Give prior warning to any changes in lessons




<p>Resilience</p> 	<ul style="list-style-type: none"> ★ Re-read familiar texts ★ Growth mindset approach ★ Structured and repetitive sequences of lessons ★ Visual timers ★ Visual timetables ★ Task management boards ★ Modelling making mistakes ★ Explore scientists who made key discoveries through mistakes
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<p>Self-confidence</p> 	<ul style="list-style-type: none"> ★ 1:1 or small group reading to help build confidence ★ Re-read familiar texts ★ Growth mindset approach - modelling making mistakes ★ Structured and repetitive sequences of lessons ★ Visual timers ★ Task management boards
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Physical and/or Sensory needs

<p>Fine Motor Skills</p> 	<ul style="list-style-type: none"> ★ Consider the scientific equipment being used with lessons and the children's ability to use them accurately – include support where necessary ★ Use of alternative methods of recording including mind maps and use of ICT ★ Pencil grips and a range of writing tools ★ Writing slopes ★ Adapted tools such as training scissors ★ Larger pencils ★ Finger gym activities to 'warm up' the hands before writing/fine motor skills ★ Use different writing tools for darkness, grip and ink flow ★ Offer tools to support the correct posture for writing and drawing ★ Pupils with poor motor control may gain confidence and achieve success through writing/drawing on the computer. ★ Large tweezers and pipettes
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<p>Gross Motor Skills</p> 	<ul style="list-style-type: none"> ★ Include large gross motor gestures/actions as a support for remembering key content information or subject specific vocabulary ★ Use of alternative methods of recording including mind maps, use of IT/immersive reader and dictation ★ Writing slopes ★ Adaptive seating e.g. wobble cushion, physio chair, fidget chair bands ★ Room for pupils with mobility difficulties to leave the site of an accident
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<p>Hearing impairment</p> 	<ul style="list-style-type: none"> ★ Use of sound meters to show sound visually within specific lessons about sound ★ Provide a note taker (adult or peer) to record key information ★ Include opportunities for repetition in lesson time ★ Use open-ended questions to check understanding ★ Appropriately placed seating within the classroom ★ Use of hearing loops etc – if appropriate ★ Reduced background noises within the class e.g. fans, radiators etc ★ Pre-teach of vocabulary ★ High level of visual support or Makaton for the spoken word ★ Use of subtitles if watching video stimulus ★ Kinaesthetic approaches are used, such as supporting teacher talk with visual aids; using subtitled or audio described film/video
<p>Visual Impairment</p> 	<ul style="list-style-type: none"> ★ Allow many opportunities to explore the world scientifically through their other senses where able ★ Consider producing materials for all pupils in an accessible font size (at least 14 point) and typeface (eg Arial) to reduce the amount of modification needed ★ Provide electronic copies of resources for older pupils so they can put them into their preferred format themselves on their own computers ★ Allow work to be completed on electronic device and written feedback to be given in the same way ★ Offer coloured overlays and printed materials on pastel coloured paper ★ Increase line spacing (at least 1.5) ★ Enlarged writing lines/text ★ Raised line paper ★ Clear font type (normally sans serif, such as Arial or Comic Sans) ★ alternatives to written recording are offered, e.g drawing, scribing, word processing, mind maps, digital images, video, voice recording ★ When teaching use visual, tactile, auditory resources ★ Screen filters to cut down glare ★ Grooved syringes, tactile tape measures, enlarged scales on measuring equipment
<p>Sensory processing</p> 	<ul style="list-style-type: none"> ★ Consider lessons with loud sounds etc prior to teaching it and take actions to minimise distress. ★ Multi-sensory approaches ★ Explore the use of different coloured overlays and paper ★ Recognise support needed for different sensory aspects e.g. a child with a visual sensory need would benefit from reduced visuals within their text/on the flipchart etc. A child with an auditory sensory need may benefit from sitting near the door so that they can withdraw from the room if the noise level gets too high ★ Individualised sensory timetables with regular sensory breaks to reduce sensory arousal ★ Have sensory resources available that will support focus and meet sensory needs – ear defenders, wobble cushions, fiddle toys, jewellery, sensory boxes