

SEND – SCIENCE

Our Curriculum INTENT	At Unstone Schools Federation, we believe that science is a powerful tool for understanding the world. It is both a body of knowledge and a disciplinary approach to enquiry, helping children to ask questions, test ideas, and build reliable explanations based on evidence. Our science curriculum is designed to develop pupils' understanding of both: • Substantive knowledge: the key concepts and facts across biology, chemistry, and physics. • Disciplinary knowledge: the methods and processes used to work scientifically, such as observing, measuring, predicting, and evaluating. We ensure that pupils learn science in a logical and coherent sequence, revisiting and building on prior learning to strengthen long- term memory. Practical work is purposeful and carefully planned to support conceptual understanding. Children are taught to: • Ask meaningful scientific questions and plan ways to investigate them. • Collect and interpret data using appropriate tools and techniques. • Communicate findings clearly, using scientific vocabulary and reasoning. • Reflect on the reliability and limitations of their methods and conclusions. We also emphasise the importance of explicit vocabulary instruction, helping pupils to articulate their ideas with precision. Teachers model scientific thinking and guide pupils in making connections between ideas, fostering curiosity and confidence.			
Areas of Need	Cognition and Learning Support for learning difficulties may be required when children and young people learn at a slower pace than their peers, even with appropriate adaptive teaching. Learning difficulties cover a wide range of needs, including moderate learning difficulties (MLD), severe learning difficulties (SLD) and Specific Learning Difficulties (SpLD) encompassing a range of conditions including dyslexia, and dyscalculia.	Communication and Interaction Children with speech, language and communication needs (SLCN) have difficulty in communicating with others. This may be because they have difficulty saying what they want to, understanding what is being said to them or they do not understand or use social rules of communication. They may have difficulty with one, some or all of the different aspects of speech, language or social communication at different times of their lives. Autistic children are likely to have particular difficulties with social interaction.	Physical and sensory Some children require special educational provision because they have a disability which prevents or hinders them from making use of the educational facilities generally provided and they may require additional ongoing support and equipment to access all the opportunities available to their peers. Many children and young people with vision impairment (VI), hearing impairment (HI) or a multi-sensory impairment (MSI) will require specialist support and/or equipment to access their learning, or habilitation support.	Social Emotional and Mental Health Children may experience a wide range of social and emotional difficulties which manifest themselves in many ways. These may include becoming withdrawn or isolated, as well as displaying challenging, disruptive or disturbing behaviour. These behaviours may reflect underlying mental health difficulties such as anxiety or depression, self-harming, substance misuse, eating disorders or physical symptoms that are medically unexplained. Other children and young people may have disorders such as attention deficit disorder, attention deficit hyperactive disorder or attachment disorder.
Barriers	• Recall of instructions • Use of specific language	• Children may struggle to communicate their view and express opinions	• Recording information • Children who might not be able to touch or handle equipment	• Difficulty in taking turns and sharing ('air-time') • Difficulty with not succeeding

	• Delay between instruction and task results in forgetting • Accessing learning due to poor literacy, processing or cognitive skills	• Language and understanding difficulties • Sharing space and equipment with others • Working in a group	• Children with fine motor difficulties may find it difficult to use specific Science equipment e.g. crocodile clips • Difficulty in hearing instructions from teacher/peers • Use of tactile or strong-smelling resources • Managing practical investigations and resources	• Children who struggle may become upset/angry/withdrawn particularly in subject areas they find more difficult • Waiting and frustration especially when experiments don't work as planned • Managing practical investigations and resources
Suggested Provision	• Key words displayed and introduced prior to lesson • Use of shorter/less complex sentences in resources given • Pictorial representation • Constant retrieval opportunities and reinforcement • Reduction in verbal instruction • Writing frames and sentence stems available • Provide modified version • Use of voice recording • Relevant choice of program • Word/definition bank • Coloured paper and 'white' boards • Coloured overlays	• clear structure of lesson with minimal periods of inactivity • safe space and safe people identified for learning • Pre-teaching and consistency of rules and expectations • Writing frames and sentence stems available • Discuss answer with a partner first to allow processing time • Alternative ways of expressing views e.g. white board, filmed on iPad • Ensure any written information is also explained verbally • Use of simple instructions – small steps with modelling • Visual aids and dual coding • Own set of equipment where possible • Knowledge organisers in books.	• positioning in learning space • use of communication in print/signals • visual modelling • instruction in classroom before lesson • audio equipment • Provide additional ways to record info(video/ICT etc) • peer support • specialist and adapted equipment • Use of online resources to enable zoom in/out • Enlarged resources • Simplification of resources • Pre-prepared resources eg ready cut out images • Ear defenders	• Specific rules and expectations • Work on resilience • Time out/movement breaks • Have clear expectations of group work • Ensure consistency • Own set of equipment where possible • Ensure content being used in lesson is considered and approached in a sensitive manner • Therabands on chair legs • Adapted seating styles e.g. wobble cushion • Use of fiddle toy • Access to a safe space
Adaptive teaching ideas • Pre-teach vocabulary e.g. whilst getting equipment out • Re-cap vocabulary and skills e.g. whilst putting equipment away at the end of the lesson • Celebration of disabled key people in the field can show all pupils what is possible – without this, there is a risk of exclusion				

- Clarity of instruction, explanations and modelling are crucial
- Ensure resources are suitable for all
- Motivation is vital to bring about engagement – if it feels too hard or too easy it will not be motivating
- For many pupils with SEND, it is often the recording of the content rather than the content itself which provides the greatest level of challenge in lessons and this should be addressed in the planning and preparation for lessons.