Curriculum Intent: How we aim to meet the range of SEND needs with out teaching

Subject: Computing

To make ICT lessons inclusive, teachers need to anticipate what barriers to taking part and learning particular activities, lessons or a series of lessons may pose for pupils with particular SEN and/or disabilities. So in your planning you need to consider ways of minimising or reducing those barriers so that all pupils can fully take part and learn. In some activities, pupils with SEN and/or disabilities will be able to take part in the same way as their peers. In others, some modifications or adjustments will need to be made to include everyone .For some activities, you may need to provide a 'parallel' activity for pupils with SEN and/or disabilities, so that they can work towards the same lesson objectives as their peers, but in a different way − eg using specialist software or equipment to communicate through signs or symbols. Occasionally, pupils with SEN and/or disabilities will have to work on different activities, or towards different objectives, from their peers.

Additional thoughts re supporting SEND pupils in Computing (Including pupils with SEN and/or disabilities in primary ICT)

<u>The use of technology to train or rehearse:</u>

Early technology to support pupils with SEN was often based on a drill and practice approach and there is still plenty of this software around, often intended to help pupils gain literacy and numeracy skills. Although technology like this has its place, it should only be used when needed. Too often this technology has taken centre stage. Before considering using these systems, refer to the Becta guidance on individual learning systems (ILS) (McFarlane, 1999).

<u>The use of technology to assist learning:</u>

This technology removes barriers to communication and interaction and includes switches, text readers and speech and communicator devices, such as the well-known technology used by Stephen Hawking. Using keyboard shortcuts instead of a mouse, or using a foot-controlled mouse, a head-controlled mouse or a wireless mouse, enables all pupils to be involved in creating databases or graphic plans. Screen filters may help with glare.

<u>The use of technology to enable learning:</u>

This technology plays an active role in the learning process, perhaps by asking questions, intervening in an activity or presenting interactive scenarios or simulations. It transforms learning rather than simply modifying the learning context. An interesting example is Kar2ouche: Social Communication,2 which allows pupils with an autistic spectrum disorder (ASD) to 'walk their way' through scenarios involving social communication in everyday situations. The package contains tools that adults can use to create appropriate scenarios

1. All children have common needs—for example, the need to receive effective teaching.
2. Some children have specific needs that are shared with a similar group—for example, pupils with a hearing impairment need access to means of audiological support.
3. All children have individual needs—for example, pupils with a Speech and Language Disorder may benefit from pre-teaching of vocabulary and scaffolded talk opportunities.

The following strategies are pedagogical approaches that will be used in our subject to support all students, but particularly those students with SEND. Strategies have been linked with areas of particular need but are not exclusive in supporting students with this area of need.

These strategies will be used flexibly in response to individual needs and used as the starting point for classroom teaching for all pupils

The following will be employed alongside and in addition to the needs and strategies:

Cognition and Learning

1. Opportunity for pupils to choose which technology best suits them
2. Modelling ideas on an IWB – imitating a pupils to demonstrate.
3. Accessibility function- supporting pupils with text to speech and speech to text.
4. Home learning – support for pupils easily found, links added for extra resources
5. Pre teaching – flipped learning , surveys to access pre-knowledge
6. Assessment – kahoot/ quizzes etc identify gaps and areas where support is needed.

Communication and Interaction

1. Using TEAMS to record lessons and playback/ record pupil work to train or rehearse
2. Partnering pupils to share ideas and support – pupil subject specialists/ digital leaders.
3. Allowing time in lessons for pupils to go back to lesson prompts i.e. pre-recorded videos
4. Posters, skill check ins, vocab support clear and visible for all.

Social, Emotional & Mental Health

1. Surveys – opportunities to share thoughts and opinions
2. E Safety advice
3. Website – information provided to staff, pupils and parents
4. Collaborative working

Sensory and Physical

1. Review of IT equipment to adapt ie coloured keyboards, different trackballs, headphones, switches, text readers, speech and communication devices etc
2. Screen overlays/ screen filters or different coloured backgrounds on presentations.
3. Specialise equipment – sip and puff
4. Unplugged activities
5. Physical computing opportunities

Maintaining an inclusive learning environment

Maintaining an inclusive learning environment	ICT
Sound and light issues For example: • background noise and reverberation are reduced • sound field system is used, if appropriate • glare is reduced • there is enough light for written work • teacher's face can be seen – avoid standing in front of light sources, eg windows • pupils use hearing and low vision aids, where necessary, and • video presentations have subtitles for deaf or hearing-impaired pupils and those with communication difficulties, where required.	**Sound and light issues** There is effective and quiet ventilation in the computer room. Computer monitors are positioned to reduce glare. Interactive whiteboards are non-reflective to reduce glare.
Seating Pupils' seating and the main board position are planned for the shape of the room. Pupils can see and hear clearly, as necessary: • the teacher • each other, and • the board/TV/screens. Seating allows for peer or adult support. There is room for pupils with mobility difficulties to obtain their own resources, equipment and materials. Furniture is suitable. Consider the choice of chairs and desks, eg adjustable height tables, raised boards.	**Seating** Check classrooms are not cluttered with ICT equipment. Make sure pupils with motor impairments have appropriate assistive technology and software to support them and enough space to use it. There should be adequate space at computer desks for pupils to work off-screen, collaboratively and on paper. Seating should allow all pupils in the class to communicate, respond and interact with each other and the teacher in discussions. Avoid the need for copying lots of information. For example, notes on interactive whiteboards can be printed off for all pupils.

Maintaining an inclusive learning environment	ICT
Resources Storage systems are predictable. Resources are: • accessible, eg within reach, and • labelled clearly to encourage independent use, eg using images, colour coding, large print, symbols, Braille, as appropriate.	**Resources** Consider using a wireless keyboard and mouse to facilitate teacher-pupil interaction with minimal disruption. Is there one dedicated computer for assistive technology/specialist software, or can pupils with SEN and/or disabilities move between the resources? Provide assistive resources, such as templates or diagrams, to support pupils' input.
Displays Displays are: • accessible, within reach, visual, tactile • informative, and • engaging. Be aware of potentially distracting elements of wall displays.	**Displays**
Low-arousal areas 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.	**Low-arousal areas** Pupils on the autistic spectrum may become deeply involved in working in isolation on a computer. They will benefit from clear preparation and support when returning to a group.

Maintaining an inclusive learning environment	ICT
Health and safety Health and safety issues have been considered, eg trailing leads secured, steps and table edges marked. There is room for pupils with mobility difficulties to leave the site of an accident. Remember that pupils with an autistic spectrum disorder (ASD) may have low awareness of danger.	**Health and safety** Check the room in terms of health and safety, eg in relation to wires and cables. Make sure anti-repetitive strain injury (RSI) measures and practices are in place. Make sure all pupils have appropriate breaks in tasks such as data entry. Pupils are protected from, and taught how to deal with, abusive behaviour such as cyber-bullying – helping to maintain their psychological well-being. ICT offers a wide range of possibilities for responses, many of them visual. Ensure that the audio channel is also offered. A sound recording linked to a simple presentation can be highly effective.
Unfamiliar learning environments Pupils are prepared adequately for visits.	**Unfamiliar learning environments**

Multi-sensory approaches, including ICT	ICT
Multi-sensory approaches Pupils' preferred learning styles are identified and built on: • when teaching – eg visual, tactile, auditory and kinaesthetic approaches are used, such as supporting teacher talk with visual aids; using subtitled or audio-described film/video • for recording – alternatives to written recording are offered, eg drawing, scribing, word processing, mind maps, digital images, video, voice recording, and • to promote security and aid organisation – eg visual timetables are used to show plans for the day or lesson; visual prompts for routines, such as how to ask for help; shared signals are developed so that pupils can convey their understanding, uncertainty or need for help.	**Multi-sensory approaches** Choose resources and tasks that support alternative ways of communicating, eg presentations that use relevant digital video- or audio-editing software.

Multi-sensory approaches, including ICT	ICT
ICT ICT is used to support teaching and learning. Accessibility features are used to include pupils with SEN and/or disabilities, as appropriate, eg: • keyboard shortcuts instead of a mouse • sticky keys • a foot-controlled mouse, a head-controlled mouse or a wireless mouse • screen filters to cut down glare • increased font sizes for screen extension – in any case, fonts used in printed material should not be smaller than 12 pt (24 pt for screen presentations) • clear font type (normally sans serif, such as Arial or Comic Sans) • appropriate contrast between background and text, and/or • a talking word processor to read out text. Pupils with poor motor control may gain confidence and achieve success through writing/drawing on the computer. Predictive text can encourage pupils to use a more extensive vocabulary and attempt 'difficult' spellings. It can be enhanced by using subject-specific dictionaries.	**ICT** Consider access to, and coordination of, ICT resources to enable pupils to complete tasks successfully. For example: • using symbol-processing software or a picture communicator for pupils with speech and language communication needs • using head switches, touch screens, or an alternative mouse or keyboard for pupils with reduced motor skills, or • adjusting the screen resolution, or using a bigger screen, for pupils with a visual impairment.

Managing peer relationships	ICT
Grouping pupils All forms of pupil grouping include pupils with SEN and/or disabilities. Manageable mixed-ability grouping or pairing is the norm, except when carefully planned for a particular purpose. Sequence of groupings is outlined for pupils. The transition from whole-class to group or independent work, and back, is clearly signalled. This is particularly helpful for pupils on the autistic spectrum.	**Grouping pupils**
Managing group work and discussion Pupils move carefully from paired discussion to group discussion – the language necessary for whole-class discussion work may be a barrier for pupils who find it difficult to express themselves in public. Paired and small group discussions provide opportunities for all to take part. Pupils are assigned specific roles (eg chair, writer, reporter, observer) which gives all pupils something to do and keeps them focused.	**Managing group work and discussion**
Developing responsibility Pupils with SEN/disabilities are: • given opportunities to initiate and direct projects, with support as appropriate, and • involved as equal contributors in class/school governance and decision making.	**Developing responsibility** Use collaborative tools like blogs, wikis and podcasts to enable pupils to make a positive contribution.

Adult-pupil communication	ICT
Teachers' communication Language is clear, unambiguous and accessible. Key words, meanings and symbols are highlighted, explained and written up, or available in some other way. Instructions are given clearly and reinforced visually, where necessary. Wording of questions is planned carefully, avoiding complex vocabulary and sentence structures. Questions are prepared in different styles/levels for different pupils – careful preparation ensures all pupils have opportunities to answer open-ended questions. Alternative communication modes are used, where necessary, to meet pupils' communication needs, eg signing, Braille. Text, visual aids, etc are checked for clarity and accessibility. For example, some pupils might require adapted printed materials (font, print size, background, Braille, symbols); some may require simplified or raised diagrams or described pictures.	**Teachers' communication** ICT skills are demonstrated clearly and progressively.
Pupils' communication Alternative communication modes, such as sign or symbol systems, are encouraged, and pupils' contributions are valued. Advice is sought from the SENCO, a speech and language therapist, local authority advisory staff, and/or the pupil themselves on the best way of using such communication modes in lessons. Discussion of experiences and investigations is encouraged to help pupils understand them.	**Pupils' communication** Exploit the possibilities of encouraging talk in front of a computer screen between pupils who are nervous about face-to-face discussion and eye contact. Presentations to the group that involve ICT resources can raise prestige and improve social communication by having a role outside the classroom, eg for presentations to parents or the induction of younger pupils into a new year group.

Adult-pupil communication	ICT
Pupil-teacher interaction Where appropriate, pupils are allowed time to discuss the answers to questions in pairs, before the teacher requests verbal responses. Pupils with communication impairments are given: • time to think about questions before being required to respond • time to explain, and • respect for their responses to questions and contributions to discussions. Additional adults prepare pupils to contribute to feedback sessions, where necessary.	**Pupil-teacher interaction**