



Computing Policy

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The importance of the subject

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The core of computing is **computer science**, in which pupils are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use **information technology** to create programs, systems and a range of content. Computing also ensures that pupils become **digitally literate** – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Intent: what is our curriculum aspiring to achieve?

- For all children at Walkley to access a digital literate, computing curriculum
- To ensure that all children are engaged in computing lessons
- For children to feel safe, supported and empowered to use technology in a responsible way
- To allow children to think in a digital literate way
- To be able to present information and multimedia independently, in a range of ways
- To children to analyse, read, create and present data
- To design, program, debug and run algorithms for a particular purpose

At Walkley we want pupils to be in charge of technology and not passive to it. Technology is everywhere and will play a pivotal part in students' lives. Therefore, we want to model and educate our pupils on how to use technology positively, responsibly and safely. We want our pupils to be creators not consumers and our broad curriculum encompassing computer science and digital literacy reflects this. We want our pupils to understand that there is always a choice with using technology and as a school we utilise technology to model positive use. We recognise that the best prevention for a lot of issues we currently see with technology is through education. Building our knowledge in this subject will allow pupils to effectively demonstrate their learning through creative use of Technology. We recognise that technology can allow pupils to share their learning in creative ways. We also understand the accessibility opportunities technology can provide for our pupils. Our knowledge rich curriculum has to be balanced with the opportunity for pupils to apply

their knowledge creatively which will in turn help our pupils become skilful computer scientists. We encourage staff to try and embed computing across the whole curriculum to make learning creative and accessible. We want our pupils to be fluent with a range of tools to best express their understanding and hope by Upper Key Stage 2, children have the independence and confidence to choose the best tool to fulfil the task and challenge set by teachers.

Implementation: what do we do to deliver our intent?

Curriculum Planning

The computing curriculum is delivered through the Learn Sheffield Computing Curriculum. A map and detailed overviews can be seen in this folder. This is split into 5 distinct areas;

- **Key Skills**
- **Programming**
- **Understanding and Sharing Data**
- **Communicating with Text and Images**
- **Communicating with multimedia.**

Year	Digital Literacy, Online Safety and ICT				Computational Thinking	
	Strand 0 Key Skills	Strand 1 Communicating: Text and Images	Strand 2 Communicating: Multimedia	Strand 3 Understanding & Sharing Data	Strand 4 Programming A	Strand 5 Programming B
1	What is a Computer?; Mouse & Keyboard Skills; Logging on; Opening & saving work; Organising files; Searching for information	1.1 How do I use the school computer independently?	2.1 How do I record sounds and pictures?	3.1 How do I present data using pictures?	Algorithms; Programs; Sequence	
					4.1 What is an algorithm?	5.1 What is a program?
2		1.2 How do I use a computer as a writer?	2.2 How do I create a multimedia story?	3.2 What is a branching database?	Algorithms; Programs; Debugging	
					4.2 How do I improve my algorithms?	5.2 How do I improve my programs?
3		1.3 What makes a good poster?	2.3 How do I use a computer as a musician?	3.3 How do we use databases to find out information?	Sequence; Repetition; Input	
					4.3 How do I use repetition in programs?	5.3 How do I use forever loops in programs?
4		1.4 How do I use a computer as an artist?	2.4 What makes an excellent multimedia story?	3.4 How is data shared online?	Decomposition; Selection	
					4.4 How do I write efficient programs?	5.4 How do I use selection in a program?
5		1.5 How do we collaborate online?	2.5 How do I create a radio advert or podcast?	3.5 How do I find and share data safely and responsibly?	Inputs and Outputs; Variables	
					4.5 How do I program physical systems?	5.5 How do I use variables in programs?
6		1.6 How do I use a computer to present information effectively	2.6 What makes an excellent film?	3.6 Why do we use spreadsheets?	Variables; Operators	
					4.6 How do I build complex physical systems?	5.6 How do I design complex programs?

E-Safety

E Safety is taught discretely through Key Skills, as well as through the Sheffield RSHE Curriculum. Being online is an integral part of children and young people's lives. Social media, online games, websites and apps can be accessed through mobile phones, computers, laptops and tablets – all of which form a part of children and young people's online world. The internet and online technology provides new opportunities for young people's learning and growth, but it can also expose them to new types of risks. At Walkley E-safety forms a fundamental part of schools' and colleges' safeguarding and child protection measures. Please see the schools E-Safety policy for more information

Planning for computing

Using the Sheffield scheme, we created a centralised long term planning, allowing all staff to collaborate and share their flow of work.

We divided up the 5 units into a minimum of 5 Learning Objectives allowing teachers to take the time required to teach the units effectively. Teachers then created individual medium term plans building up to a final project in their unit (eg, piece of art, simple program, sortable database).

Computing – Autumn term – Communicating Text and Images: What makes a good poster

Week 1 – What makes a successful poster?	Week 2 – How do I insert text into a document?	Week 3 – How do I insert images into a document?	Week 4 – What should I include in my poster?	Week 5 – creating my poster	Week 6 –evaluating my poster
LO: To be able to evaluate what makes a successful poster - I can remember to: - look at examples of posters - Say what I like about them - Say what can be improved - Use ideas for my own poster	LO: To be able to insert text into a poster - type accurately - insert word art - change the font - change the colour - change the size	LO: To be able to insert and edit an image - type what you want an image of - right click on the image to copy it - right click on the image to paste it - resize and move the image	LO: To be able to design an effective poster - discuss what is important about being a good friend - plan out the words to include on your poster - plan the images to use in your poster - use a poster template to layout your ideas	LO: To be able to create an eye catching poster - insert text into my poster - insert images into my poster - make sure the information stands out - make my poster colourful and vibrant	LO: to be able to refine and evaluate the effectiveness of my poster - evaluate the success of others - describe the process needed to create a process - say what I like about my finished poster - say what I found challenging
Children look through examples of posters from google classroom set up Work in pairs to open power point from google classroom and evaluate each poster – printout of ppt given for children to annotate	Children work step by step to open google slides and insert first word art, followed by text boxes – practice how to resize, change colour and change font Children can practice by	Children open their practice google slides and practice adding images by copying and pasting from image search	Recap on lesson one – what makes a good poster Brainstorm aspects of friendship Children use design template to create a friendship poster design, focusing on what text to	Children use focus skills to create posters using google slides – work individually but sitting in mixed ability pairs Posters should include images and text as well as background colour	Gallery walk – open posters and allow children 10 minutes to walk around and view them Use a template to evaluate the finished poster

Structure of Subject Lessons

Computing lessons can be taught in a variety of ways at Walkley

- unplugged
- using a windows laptop and activboard
- using a class iPad and Activboard,
- using a set of 30 iPad Minis
- using a set of 32 iPads
- using a set of 34 Google Chromebooks.

Children have access to Windows, Google and Apple products to enhance digital literacy, allowing children to be aware of different uses of technology for different purposes. Each child has a windows and google account. The google account links in with our google classroom remote learning and homework online platform

Unplugged computing is the collective noun given to activities that are designed to teach computational thinking skills, computing concepts, procedures and processes without the use of any digital technology. For example, activities may make use of resources such as playing cards, string and playdough.

As our equipment is now available on a booking system, we don't have a distinct hour for computing anymore. This is now taught as part of creative curriculum, and staff can book out devices for blocks of lessons.

Y1 – Y6 Teach Computing on a dedicated timetable aiming for an hour of week, with 25 specific Learning Objectives covered over the academic year.

Lessons are often modelled on the activboard using mirroring software, allowing children to see concepts and ideas taught by the teacher. This is also used to showcase good practise across the classroom.

Children are well drilled in “flip your iPads” or “Close your lids” – ensuring children are not distracted whilst the teacher is talking. This helps promote a healthy screen time.

Homework

Computing skills can be explicitly encouraged and developed during the curriculum homework. These are set with each new unit and should encourage the development of skills already taught at school. Good examples of this are the production of posters, animations and spreadsheets and podcasts. Spellings and Maths are taught through online platforms and children should be encouraged to access these independently and safely.

EYFS

In EYFS, as of Sept 2021, Technology’s distinct assessment area has been removed from the new framework. However, prerequisite skills for computing in the National Curriculum will be taught through other areas of learning, these include controlling simple equipment, exploring how things work and learning about rules and online safety.

Computing			
Three and Four-Year-Olds	Personal, Social and Emotional Development		• Remember rules without needing an adult to remind them.
	Physical Development		• Match their developing physical skills to tasks and activities in the setting.
	Understanding the World		• Explore how things work.
Reception	Personal, Social and Emotional Development		• Show resilience and perseverance in the face of a challenge. • Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of ‘screen time’.
	Physical Development		• Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
	Expressive Arts and Design		• Explore, use and refine a variety of artistic effects to express their ideas and feelings.
ELG	Personal, Social and Emotional Development	Managing Self	• Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. • Explain the reasons for rules, know right from wrong and try to behave accordingly.
	Expressive Arts and Design	Creating with Materials	• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Each EYFS class has access to iPads, Beebot Robots and talking tins. They also make use of our large Activ Panel using the pens provided. Once the children have learnt how to control the equipment we encourage them to use it independently.

Impact: how do we ensure that children are learning?

Using the Learn Sheffield Computing Curriculum, teachers, support staff and pupils are constantly aware of the learning taking place throughout the lesson.

- Each unit has a minimum of 5 Learning objectives to be taught.
- Each cohort has a floor book that will take them from Year 1 to Year 6
- Each unit a snapshot of pita 1 2 3 work, pita 4 work, and pita 5 work is taken. Examples of work are placed in the floor book to show a spread of outcomes as well as progression over the school years.
- Computing is assessed in accordance with the school's assessment policy and recorded on the school Pita grids. This enables teachers to make regular termly assessment of progress for each child and we pass this information on to the next teacher at the end of each year.
- Teachers observe, question, listen, intervene and modify tasks in order to support the learning needs of all children. Children are encouraged to take on active role in the assessment process by stating their opinions, discussing their work and identifying what has gone well and what needs further development against the success criteria outlined to them.
- In key stage 1 and 2 this may be RAG rated as in other subject areas. Assessments will be made on learning processes and skill development as well as final outcomes. Children's progress in Computing is reported to parents through the pupil annual report and parental consultation meetings.

Responsibilities

- Teaching staff have a responsibility to ensure computing sessions are planned, delivered and assessed as outlined in the policy.
- Teaching assistants have a responsibility to deliver planned sessions and provide feedback to teaching staff regarding the progress, engagement, misconceptions and achievements of the children
- Supply teachers have a responsibility to ensure computing lessons are planned, delivered and assessed as instructed by teachers in line with the computing policy.
- Subject leaders and SLT have a responsibility to monitor whole school application of the computing policy by all staff and ensure observed practice is effective. They will also deliver CPD when necessary.

Monitoring and review

The computing subject leader is responsible for monitoring and evaluating the standards of teaching, learning, assessment and achievement across the school. Time has been made available to examine planning, teaching, hold pupil conversations and assessment and help further support teachers in school as well as being able to report to SLT.

The leader is responsible for supporting colleagues in the teaching of computing, for being informed about current developments in the subject, and for providing a strategic lead and direction in the subject throughout the school.

The subject leader follows standard school procedures to evaluate the strengths and weaknesses in the subject and are responsible for highlighting areas for improvement. The

subject leader monitors the standards of children's work by reviewing samples of children's work and uses these to feedback to staff and the SLT of achievements, progression and areas for development throughout the school in this subject.

Policy to be reviewed September 2023.