WHEATLANDS PRIMARY SCHOOL

Computing Policy

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Purpose of Study

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.

Computing programme of Study, DfE, 2014

Computing Intent at Wheatlands

Wheatlands Primary School believes that every child should have the right to a curriculum that champions excellence, supporting pupils in achieving to the very best of their abilities. We understand the immense value technology plays not only in supporting the Computing and whole school curriculum but overall in the day-to-day life of our school. We believe that technology can provide: enhanced collaborative learning opportunities; better engagement of pupils; easier access to rich content; support conceptual understanding of new concepts and can support the needs of all our pupils.

We are committed to ensuring our pupils are continually developing their skills and knowledge as technology continues to advance. Our curriculum includes a focus on teaching pupils how to use technology safely and responsibly, and this premise is used to deliver teaching of technical skills and understanding of how technology is used, as well as the ability to apply the use of technology in contexts which our pupils can relate with. With all these elements combined we aim to develop 'digitally competent' learners for a digital age.

Wheatlands Primary School aims to ensure that all our pupils:

- Have access to a relevant, challenging and enjoyable Computing curriculum for all pupils.
- Meet the requirements of the National Curriculum Programmes of Study for Computing.
- Use ICT and Computing as a tool to enhance learning and progression throughout the curriculum.
- Are given the opportunity to respond to new developments in technology.
- To enable children to explore and become confident coders on a range of devices.
- To create opportunities for collaborative and independent learning.
- Are equipped with the confidence and capability to use ICT and Computing throughout their later life.
- Develop their understanding of how to use ICT and Computing safely and responsibly.
- Are responsible, competent, confident and creative users of information and communication technology.
- To enable children to understand and appreciate the value of computing and ICT in their everyday lives and their future working life as active participants in a digital world.

Present resource provision

- The school has 16-networked laptops timetabled for each year group to use and each class has a further 2 networked laptops within their classroom areas.
- Each year group has a set of iPads for the children to use, 108 in total. There are 5 in Nursery, 12 in Reception, 9 in Year 1, 9 in Year 2, 15 in Year 3, 19 in Year 4, 18 in Year 5, 19 in Year 6 and 2 allocated to SEN pupils. In addition to this there are 25 staff 1-Pads.
- Each machine has internet access and are reviewed as to which relevant applications and programs are needed to teach computing in school.
- Teachers and teaching assistants are required to inform the technician of any faults they notice with any of the equipment or software by sending an email outlining a job request for the technician.
- The school has a technician who can be contacted to assist in any IT issues. The technician visits school every week to complete any outstanding problems/job requests.
- Teachers also have an additional 'teaching' laptop.
- The Children have access to smartboards in class and they are used daily to support the children's learning.
- In addition to this the school has invested in a number of devices to support the teaching of Physical Computing. These include programmable toys; beebots, a sphero as well as a class crumble and micro-bit kit.

Curriculum

All children should have access to the use of computing technologies regardless of gender, race, cultural background or physical or sensory disability. Where use of a school computer proves difficult for a child because of a disability, the school will endeavour to provide specialist equipment and software to enable access. Children with learning difficulties can also be given greater access to the whole curriculum through the use of these technologies. Their motivation can be heightened and they are able to improve the accuracy and presentation of their work. This in turn can raise self-esteem.
Planning for Computing in the early years needs to be considered carefully if children are to begin to gain confidence in the use of a variety of technologies as soon as they start attending school. A range of appropriate hardware, software and activities needs to be offered. We will strive to ensure that all pupils follow the scheme of learning for computing and provide suitable challenges for the more able, as well as support for those who have emerging needs.

Early Years

We aim to provide our pupils with a broad, play-based experience of Computing in a range of contexts. We have identified areas of development from 2020 Development Matters, which we believe are prerequisite skills for computing within the national curriculum.

Personal, Social and Emotional development:

- Remember rules without needing an adult to remind them.
- 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:

- Match their developing physical skills to tasks and activities in the setting.
- Develop their small motor skills so that they can use a range of tools competently, safely and confidently.

Understanding the world:

- Explore how things work

Expressive Arts and Design:

- Explore, use and refine a variety of artistic effects to express their ideas and feelings.

KS1 and 2

Computing will be taught as a discrete curriculum subject according to the guidance in the National Curriculum for KS1 and KS2. There is a need for pupils to be taught stand-alone computing lessons but opportunities for developing computing across the curriculum should also be developed.

As a school, we have chosen the Teach Computing Scheme of Work from Year 1 to Year 6. We are confident that the scheme of work more than adequately meets the national vision for Computing. Furthermore, it gives excellent supporting material for less confident teachers.

The scheme of work supports our teachers in delivering fun and engaging lessons, which help to raise standards and allow all pupils to achieve to their full potential.

The computing curriculum is a spiralling curriculum achieving breadth and balance in the three core strands: 1. Digital Literacy 2. Computer Science and 3. Information Technology

Key Stage 1 outcomes

- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions.
- Write and test simple programs.
- Organise, store, manipulate and retrieve data in a range of digital formats.
- Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

Key Stage 2 outcomes

- Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- Use sequence, selection and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs.
- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
- Use logical reasoning to explain how a simple algorithm works and to detect and correct errors in algorithms and programs.
- Understand computer networks including the internet; how they can provide multiple services, such as the worldwide web; and the opportunities they offer for communication and collaboration.
- Describe how Internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely.
- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Teaching of Computing

Computing is taught through sequences of lessons, which lead with key concepts, terms and vocabulary in order for pupils to retain knowledge, make connections and build up a consistent understanding. Teacher modelling is an important feature in lessons as it provides a scaffold to novices, which can gradually be taken away. Scaffolded activities and extra resources, such as visual prompts, allow SEN pupils to reach the same learning goals as the rest of the class.

Our curriculum includes hands on physical computing, offering a tactile and sensory experience to engage children. When meeting more complex concepts, the semantic waves approach (unplug, unpack, repack) is used to bring problems to life within real world contextual examples to help the children gain a better understanding.

When teaching programming, teachers focus first on code ‘reading’ activities before code writing and there is a clear progression of skills between year groups.

Every lesson includes formative assessment, allowing teachers to map progression of knowledge and skills.

Assessment, recording and reporting of Computing

- All pupils from Y1-Y6 have a computing book as well as their own individual folders on the network where they can save digital artefacts.
- In addition to this, each class has a Seesaw account where digital work in progress can be uploaded and commented upon and in KS2, children are encouraged to upload and comment on their own work.
- These measures allow pupil's work to be accessed by the Computing lead and senior leadership to check on coverage and progress within each year group. Class teachers will also be able to check on previous learning enabling them to plan more effectively and pupil's will have greater opportunities for feedback.
- Formative assessment also includes 4 quick recall questions at the beginning of each lesson. From Summer term in Y2, responses to these will be recorded in books where written recording is planned.
- In KS2, summative assessments will be carried out digitally at the end of several identified knowledge-based units.
- For more practical units, a class rubric will be completed at the end of the unit identifying any children exceeding or requiring further support and consolidation.
- Teachers will use this data to inform termly assessments and report on a child's individual progress in computing as part of parents' evenings and annual reports.
- The computing lead will use this data to identify pupils who are underperforming or excelling in the subject to then work with teachers to implement targeted interventions or enrichment opportunities.

Safeguarding: Online safety

The following should be read in conjunction with Galileo's ICT and Online Safety Policy (2023)

Online safety has a high profile at Wheatlands Primary School for all stakeholders. We ensure this profile is maintained and that pupil needs are met by the following:

- All school staff complete online safety training annually so they are fully aware of current issues as well as their obligations and responsibilities.
- Through our computing, R.S.E, SMSC we teach our children online safety and digital citizenship as outlined in the Education for a Connected World Framework and this is regularly reinforced in other areas of the curriculum; we are committed to delivering a relevant up-to-date online safety curriculum, which is progressive from Early Years to the end of Year 6. There is a progression document in place and staff use Project Evolve to deliver and assess key objectives not covered by the SMSC, RSE or Computing curriculum.
- We take part in Safer Internet Day and hold Whole School Assemblies to reinforce this.
- Through our home/school links and communication channels, parents are kept up to date with relevant online safety matters, policies and agreements. They know who to contact at school if they have concerns.
- Staff and parents have Acceptable Use Policies, which are signed, and copies are freely available.
- Our online safety policy (part of our safeguarding policy) clearly states how monitoring of online safety is undertaken and any incidents/infringements to it are dealt with.
- Both pupils and staff have filtering and monitoring systems from One IT for all our online access.
- There are also data policies which stipulate how we keep confidential information secure.

Staff Training

Staff confidence and expertise will be developed if requested through training sessions provided by the Computing Lead, and external agencies. Support will be given, where possible, with Computing planning and teaching by the Computing Lead.

Needs will be met by:

- Auditing staff skills and confidence in the use of information technologies regularly.
- Arranging training for individuals as required.

- The Computing Lead should attend courses and support and train staff as far as possible.
- Computing staff meetings focussing on key areas such as pedagogy, curriculum updates or assessment strategies are held annually.

Monitoring

Monitoring enables the subject leader to gain an overview of Computing and ICT teaching and learning throughout the school. This will assist the school in the self-evaluation process identifying areas of strength as well as those for development. In monitoring the quality of Computing and ICT teaching and learning, the subject leader will:

- Observe teaching and learning in the classroom to monitor quality and arrange training for individuals as required.
- Carry out pupil voice to ensure pupils are retaining the 'Must Know,' knowledge and skills for computing.
- Complete work scrutinies to monitor the quality of pupils' work.
- Examine plans to ensure full coverage of the Computing and cross-curricular ICT
- Analyse data to identify trends, strengths and areas for improvement.

Health and Safety

- Children should not be responsible for moving heavy equipment around the school. They may load software but should not be given the responsibility of plugging in and switching machines on without a member of staff present.
- Staff are advised to not bring their own electrical equipment into school. All electrical appliances in school are tested accordingly. If staff feel it is necessary to bring their own electrical equipment into school, it must be PAT tested before being used in school.
- Food and drink should not be consumed near computing equipment.
- It is the responsibility of staff to ensure that classroom computing equipment is stored securely and that their class or themselves leave the equipment clean and tidy after use.
- Staff should ensure that the children are seated at the computers comfortably and be aware of the dangers of continuous use (e.g. eye/wrist strain etc).
- An adult should always supervise children when they are accessing information via the Internet. The service provider does filter information but staff are advised to take great care on the content accessed by children and are ultimately responsible for reporting unsuitable content accessed by pupils.

Security

- The technician is responsible for regularly updating anti-virus software.
- All pupils and parents will be aware of the school rules for responsible use of ICT, Computing and the Internet and will understand the consequences of any misuse.

Review and Evaluation Procedures

The everyday use of communication technology is developing rapidly, with new technology being produced all the time. This policy therefore will be reviewed and revised regularly. The Computing Lead will liaise regularly with staff, both at staff meetings and informally, to monitor the effectiveness of the policy and the Computing curriculum

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