Abacus Primary School

Computing Policy

Written by: Sue Lee

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Intent:

At Abacus Primary School we want children in Computing to become confident in

- Understanding and applying their knowledge of computer science and make use of Computing in their everyday lives.
- Analysing problems in computational terms and to develop progression of skills that follows a sequence to build on previous learning.
- Evaluating and applying information technology, including new or unfamiliar technologies across a range of subjects.
- Being a responsible and creative user of information and communication technology

Implementation

We help them to achieve this through our Curriculum Drivers where teachers will also ensure they are delivering lessons that promote

Communication: Teacher modelling and opportunities for peer to peer learning.

Independence: Children will be selecting and using the appropriate equipment.

Engagement: A variety of resources and activities are used in the lesson.

Wellbeing: E-Safety will be a key focus in every lesson and children will be given the opportunity to share work.

The Purpose of this policy

The use of computers and computer systems is an integral part of the National Curriculum and knowing how they work is a key skill for everyday life. In an increasingly digital world there now exists a wealth of software, tools and technologies that can be used to communicate, collaborate, express ideas and create digital content. At Abacus Primary School we recognise that children are entitled to a broad and balanced computing education with a structured and progressive approach to learning how computer systems work, the use of IT and the skills necessary to become digitally literate and participate fully in the modern world.

Roles and responsibilities

Subject leader:

- To offer help and support to all members of staff (including teaching assistants) in their teaching, planning and assessment of computing.
- To provide colleagues opportunities to observe good practice in the teaching of computing.
- To maintain resources and advise staff on the use of digital tools, technologies and resources.
- To monitor classroom teaching or planning following the schools monitoring program.
- To monitor the children's progression in computing, looking at examples of work of different abilities.
- To manage the computing budget.
- To keep up-to-date with new technological developments and communicate information and developments with colleagues.
- To lead staff training on new initiatives.
- To attend appropriate in-service training
- To have enthusiasm for computing and encourage staff to share this enthusiasm.
- To keep parents and governors informed on the implementation of computing in the school.
- To liaise with all members of staff on how to reach and improve on agreed targets
- To help staff to use assessment to inform future planning.

Class teachers:

Individual teachers will be responsible for ensuring that children in their classes have opportunities for learning computing and using their knowledge, skills and understanding of computing across the curriculum.

They will plan and deliver the requirements of the National Curriculum for Computing to the best of their ability. We set high expectations for our children and provide opportunities for all to achieve, including girls and boys, children with educational special needs, children with disabilities children from all social and cultural backgrounds, and those from diverse linguistic backgrounds.

The class teacher's role is a vital role in the development of computing throughout the school and will ensure continued progression in learning and understanding, and create effective learning environments. The class teacher will also:

- secure child motivation and engagement
- provide equality of opportunity using a range of teaching approaches and techniques
- use appropriate assessment techniques and approaches
- set suitable targets for learning as outlined in the inclusion policy.
- maintain up to date assessment records

Governing Body:

Through consultation with the Headteacher and the Computing subject leader the Governors will need to have a full understanding of the implications of the extensive and changing uses of IT and computing in the curriculum and society to be able to give their fullest support in all matters related to the implementation of ICT in the school.

How the subject is taught across the school

The teaching of computing within the classroom situation can be approached in a number of different ways:

- Whole class and large group teaching,
- Small group work – organised by comparable ability, mixed ability, friendship or randomly.
- Individual teaching – to include one-to-one teaching.

Effective teaching regardless of the organisation requires a wide range of techniques to be utilised by the teaching staff. These include explaining, instruction, questioning, observing, assessing, diagnosing and providing feedback.

Class teachers are encouraged to lead whole class lessons demonstrating the use of software using: a large computer screen, interactive whiteboard, laptops or visualizer. Where one child is used to demonstrate or teach a skill to others, the teacher will ensure that this is of benefit to all those involved.

A wide range of styles are employed to ensure all children are sufficiently challenged:

- Children may be required to work individually, in pairs or in small groups according to the nature or activity of the task.
- Different pace of working.
- Different groupings of children - groupings may be based on ability either same ability or mixed ability.
- Different levels of input and support.
- Different outcomes expected.

The subject leader will review teachers' computing plans and examples of children's work to ensure a range of teaching styles are employed to cater for all needs and promote the development of IT and computing capability.

Organisation

Early Years

At Abacus Primary School, computing is taught through the EYFS Framework and should be centred around play-based, unplugged (no computer) activities that focus on building children's listening skills, curiosity and creativity and problem solving. Children gain confidence, control and language skills through opportunities such as 'programming' each other using directional language to find toys/objects, creating artwork using digital drawing tools, controlling programmable toys, watching a video clip or listening to music.

Outdoor exploration is an important aspect and using digital recording devices such as cameras and microphones can support children in developing communication skills.

Key Stage 1

By the end of key stage 1 children should be taught to:

- 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
- Use logical reasoning to predict and computing the behaviour of 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

By the end of key stage 2 children should be taught to:

- 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
- 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 world-wide 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.

How the subject is planned for?

Modules are planned in line with the National Curriculum and allow for clear progression and designed to enable children to achieve stated objectives. Children's progress towards these objectives will be recorded by teachers as part of their class recording system. Staff will follow the scheme of work provided by the Computing Leader, with objectives set out in the National Curriculum and use the same format for their weekly planning sheet. Although for some modules it might be more appropriate to plan a block of lessons rather than weekly.

A minority of children will have individual teaching and learning requirements which go beyond the provision for that age range and if not addressed, could create barriers to learning. This could include G&T children, those with SEND or those who have EAL. Teachers must take account of these requirements and plan, where necessary, to support individuals or groups of children to enable them to participate effectively in the curriculum and assessment activities. During any teaching activities, teachers should bear in mind that special arrangements could be made available to support individual children. This is in accordance with the school inclusion policy. These children should be identified

and discussed at progress meetings to ensure that appropriate provisions and/or interventions are effective.

Inclusion

Equal Opportunities

We will ensure that all children are provided with the same learning opportunities regardless of social class, gender, culture, race, disability or learning difficulties. As a result, we hope to enable all children to develop positive attitudes towards others. All children have equal access to computing and all staff members follow the equal opportunities policy. Resources for SEND children and gifted & talented will be made available to support and challenge appropriately.

Physical Abilities

IT and computing can support learners with physical disabilities by enabling them to access the curriculum alongside their peers. It is particularly helpful for learners who find it difficult to record or access their school work using conventional methods.

Special Educational Needs

We believe that all children have the right to access IT and computing. In order to ensure that children with special educational needs achieve to the best of their ability, it may be necessary to adapt the delivery of the computing curriculum for some children (Appendix 1)

We teach IT and computing to all children, whatever their ability. Computing forms part of the National Curriculum to provide a broad and balanced education for all children. Through the teaching of computing, we provide opportunities that enable all children to make progress. We do this by setting suitable challenges and responding to each child's individual needs. Where appropriate IT can be used to support SEN children on a one-to-one basis where children receive additional support.

Resources

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible computer systems by investing in resources that will effectively deliver the strands of the National Curriculum and support the use of IT, computing and digital literacy across the school. Teachers are required to inform the Computing subject leader of any faults as soon as they are noticed. Resources if not

classroom based are in the library and Tech area. A service level agreement with Ergo and Javalin is currently in place to help support the subject leader to fulfil this role both in hardware & software.

Computing network infrastructure and equipment has been sited so that:

- Every classroom from FS to Y6 has a computer connected to the school network and a whiteboard with sound and video facilities.
- There is a laptop trolley containing laptops for children to use.
- Each class has access to I-pads across the key stages.
- Internet access is available in all classrooms
- The Tech area 3 desktops and printer access.
- Children may use IT and computing independently, in pairs, alongside an adult or in a group with a teacher.
- Each class has a visualiser, digital camera and class iPad
- Printer facilities are available across the network via three colour photocopiers.
- Each class has an allocated slot one afternoon per week for teaching computing as a discrete subject.

Assessment arrangements.

This will be in line with the whole school Assessment policy.
Teachers regularly assess progress through observations and evidence. Key objectives to be assessed are taken from the National Curriculum to assess computing each term. Assessing computing is an integral part of teaching & learning and key to good practice.

Assessment should be process orientated - reviewing the way that techniques and skills are applied purposefully by children to demonstrate their understanding of computing concepts. As assessment is part of the learning process, it is essential that children are closely involved.

Assessment can be broken down into;

- Formative assessments are carried out during and following short focused tasks and activities. They provide children and teaching staff the opportunity to reflect on their learning in the context of the agreed success criteria. This feeds into planning for the next lesson or activity.
- Summative assessment should review children's ability and provide a best fit 'level'. Independent tasks provide opportunities and scope for children to demonstrate their capability throughout the term. There should be an opportunity for review and identification of next steps. Summative

assessment should be recorded for all children – showing whether the children have met, exceeded or not achieved the learning objectives.

We assess the children's work in computing by making informal judgments as we observe the children during lessons. Once the children complete a unit of work, we make a summary judgment of the work for each child as to whether they are working towards, expected or working above the expectations of the unit.

- Children are encouraged to save all work in their network file as a record of their achievement and progression in computing.
- Work may also be recorded in class curriculum journals.
- We report through target and end-of-year reports to parents on their child's progress in computing informing what children know, understand and can do, and indicate what their next steps are to improve.

Home school partnership opportunities

Parents are encouraged to support the implementation of IT and computing where possible by encouraging use of IT and computing skills at home for pleasure, through home-learning tasks and use of the school website. Parents will be made aware of issues surrounding e-safety and encouraged to promote this at home and given opportunities to attend computing workshops.

Impact - How will this policy be monitored and reported?

Monitoring computing will enable the subject leader to gain an overview of IT and computing 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 (see role of the subject leader) There will be an annual review of this policy by the Computing subject leader with some input from staff. Our Computing subject leader is currently Miss Lee.

When it will next be reviewed.

The review date is September 2025

Does this policy need to be read in conjunction with any other policy?

This policy should be read with the whole school E-Safety policy and Acceptable Use Policy.

Appendix 1

SEND and Computing

1. Recommended strategies to support differentiation:

a) QFT

- Clear and simple instructions, breaking down longer instructions and giving one at a time.
- Tasks are clearly explained, modelled or scaffolded, and staff check for understanding.
- New learning broken down into small steps.
- A list of key vocabulary for a particular topic or lesson is put up and staff teach the meaning of each word.
- A range of aids and resources is easily accessible to support learning and aid independence, such as letter and number charts, word banks of high frequency and topic words, number lines/squares, calculators, dictionaries, computer and internet access (where appropriate).
- Visual cues and prompts, visual timetables are used.
- There are opportunities for flexible grouping and pairing, for example by ability and mixed ability, including buddy systems/study buddies.
- Homework and independent tasks are differentiated to present an equal level of challenge to all pupils.

Additional School Intervention and Support

- There is increased differentiation of activities and materials at group/individual level.
- Teaching approaches involve visual and practical resources.
- Pre-teaching of vocabulary and key concepts is used.
- Regular group or individual intervention support is provided by the teacher/other adult.
- Any support provided by an additional adult must continue to be planned and monitored by the teacher.
- Timetable planning allows for required interventions to be implemented consistently.
- Increased use of alternative methods where pupils to demonstrate and record their learning, e.g matching labels to pictures/diagrams/maps,

mind-maps, iPads, PowerPoint presentations, making posters, oral presentations, role-play.
- There is increased use of appropriate technology to support learning.
- Interventions as advised in the pupil's individual plan/One Plan.
- Staff attend consultation sessions with Educational Psychologists or Specialist

b) <u>High Needs</u>

- Strategies will be followed from within the child's EHCP or from any specialist advice received.

2. <u>Recommended Assessment Tools, Resources and Interventions:</u>

- Assessment - Sheffield Computing Progression Framework (includes revised P-scales up to KS1)
- Resources - https://sendcomputing.info/

3. <u>Monitoring SEND</u>

- SEND will be routinely monitored as part of subject monitoring during the academic year.
- The subject leader will use a checklist of recommended strategies above to identify good practice through their observations, climate walks, conversations with pupils and work scrutiny.
- The subject leader will use Target Tracker data (and One Plan data where relevant) to identify progress of SEND pupils in their subject, as well as evidence from exercise books and other sources.

SEND Monitoring for Computing	
Class: **Monitoring Activity:**	**Number of SEN Support:** **Number of IPRA/EHCP:**
Recommended Strategies	**Comments**
Quality First Teaching: • • • • • • • •	
Additional School Support: • • • • • • • •	
Resources/Interventions: • • •	

General comments:

N.B. Feedback will be given using the school format of two stars and a wish and may include reference to SEND monitoring if relevant.