



Abacus Primary School

Computing Policy 2019

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Computing and ICT Policy

Introduction

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 pupils 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. The purpose of this policy is to state how the school intends to make this provision.

Rationale

The school believes that IT, computer science and digital literacy:

- are essential life skills necessary to fully participate in the modern digital world.
- allows children to become creators of digital content rather than simply consumers of it.
- provides access to a rich and varied source of information and content.
- communicates and presents information in new ways, which helps pupils understand, access and use it more readily.
- can motivate and enthuse pupils.
- offers opportunities for communication and collaboration through group working both inside and outside of school.
- has the flexibility to meet the individual needs and abilities of each pupil.

Aims

- To enhance, enrich and extend teaching and learning across the curriculum using IT and computing.
- To provide a broad, balanced, challenging and enjoyable Computing curriculum for all pupils.

- To develop pupil's computational thinking skills that will benefit them throughout their lives.
- To meet the requirements of the national curriculum programmes of study for computing at Key Stage 1 and 2
- To respond to new developments in technology
- To equip pupils with the confidence and skills to use digital tools and technologies throughout their lives.
- To enhance and enrich learning in other areas of the curriculum using IT and computing.
- To develop the understanding of how to use computers and digital tools safely and responsibly (also see E-Safety Policy and Acceptable Use Policy)

The National Curriculum for computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- Are responsible, competent, confident and creative users of information and communication technology.

Objectives

Early years

It is important in the foundation stage to give children a broad, play-based experience of IT and computing in a range of contexts, including outdoor play. Computing is not just about computers. Early years learning environments should feature IT scenarios based on experience in the real world, such as in role play. 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 and controlling programmable toys.

Outdoor exploration is an important aspect and using digital recording devices such as video recorders, cameras and microphones can support children in developing communication skills. This is particularly beneficial for children who have English as an additional language.

Key Stage 1

By the end of key stage 1 pupils 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 pupils 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.

Resources and access

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 located in the library and Tech area. A service level agreement with Ergo 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, DVD and video facilities.
- There is a laptop trolley containing laptops for pupil use.
- Each class has access to I-pads across the key stages.
- Internet access is available in all classrooms
- The Tech area has an interactive whiteboard and 3 desktops.
- Pupils may use IT and computing independently, in pairs, alongside an adult or in a group with a teacher.
- Each class has a visualiser and digital camera
- Printer facilities are available across the network via a single colour photocopier.
- Each class has an allocated slot one afternoon per week for teaching computing as a discrete subject.
- A governor will be invited to take a particular interest in IT and computing in the school.

Planning

As the school develops its resources and expertise to deliver the computing curriculum, modules will be planned in line with the national curriculum and will allow for clear progression. Modules will be designed to enable pupils to achieve stated objectives. Pupil progress towards these objectives will be recorded by teachers as part of their class recording system. Staff will follow medium term plans with objectives set out in the national curriculum and use the same format for their weekly planning sheet.

A minority of children will have particular 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 pupils 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 pupils. This is in accordance with the school inclusion policy. These children should be identified and discussed at pupil progress meetings to ensure that appropriate provisions and/or interventions are effected.

Teaching and Learning

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 pupil 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:

- Pupils 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.

Assessment

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 pupils to demonstrate their understanding of computing concepts. As assessment is part of the learning process, it is essential that pupils are closely involved.

Assessment can be broken down into;

- Formative assessments are carried out during and following short focused tasks and activities. They provide pupils 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 pupils' ability and provide a best fit 'level'. Independent tasks provide a number of opportunities and scope for pupils to demonstrate their capability throughout the term. There should be an opportunity for pupil review and identification of next steps. Summative assessment should be recorded for all pupils - showing whether the pupils 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 pupil as to whether they have yet to obtain, obtained or exceeded the expectations of the unit.

- Pupils are encouraged to save all work in their network file as a record of their achievement and progression in computing.
- We report through target and end-of-year reports to parents on pupil's progress in computing informing what pupils know, understand and can do, and indicate what their next steps are to improve.

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 pupils have equal access to computing and all staff members follow the equal opportunities policy. Resources for SEN 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 pupils.

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 pupils 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.

Safeguarding

Abacus Primary School is committed to safeguarding and promoting the welfare of its pupils and expects all staff and volunteers to share this commitment.

Roles and Responsibilities

The role of the Headteacher:

- To ensure the Early Years Foundation Stage Curriculum and the National Curriculum is implemented,
- To determine the ways IT and computing should support, enrich and extend the curriculum,
- To be a promoter and facilitator of IT and computing within the school,
- To encourage and support a coordinated approach to IT and computing development, thus ensuring staff will use IT confidently,
- To make available the necessary resources to continue the development of IT and computing within the school,
- To support the subject leader in matters relating to the use and development of IT and computing across the curriculum,
- to work to achieve equal opportunities in the use of IT and computing throughout the school.

The role of the Computing 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 programme.
- 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.

The role of the Class Teachers:

Individual teachers will be responsible for ensuring that pupils 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 pupils and provide opportunities for all to achieve, including girls and boys, pupils with educational special needs, pupils with disabilities pupils 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 pupil 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

The role of the Governors:

- 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.

On line Access

This will be in line with the whole school E-Safety policy and Acceptable Use Policy.

Health and Safety

The school is aware of the health and safety issues involved in children's use of IT and computing.

All fixed electrical appliances in school are tested by a Local Authority contractor every five years and all portable electrical equipment in school is tested by an external contractor every twelve months.

It is advised that staff should not bring their own electrical equipment in to school but, if this is necessary, equipment must be PAT tested before being used in school. This also applies to any equipment brought in to school by, for example, visitors running workshops, activities, etc. and it is the responsibility of the member of staff organising the workshop, etc. to advise those people. All staff should visually check electrical equipment before they use it and take any damaged equipment out of use. Damaged equipment should then be reported to the subject leader or head teacher who will arrange for repair or disposal.

In addition:

- children should not put plugs into sockets or switch the sockets on.
- trailing leads should be made safe behind the equipment
- liquids must not be taken near the computers
- magnets must be kept away from all equipment
- safety guidelines in relation to IWBs will be displayed in the classrooms
- e-safety guidelines will be set out in the e-safety policy & Acceptable Use Policy

Security

We take security very seriously. As such:

- use of IT and computing will be in line with the school's 'acceptable use policy'. All staff, volunteers and children must sign a copy of the schools AUP.
- parents will be made aware of the 'acceptable use policy' at school entry and ks2.
- all pupils and parents will be aware of the school rules for responsible use of IT and computing and the internet and will understand the consequence of any misuse.

Home School Links

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.

Monitoring

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 is an annual review of this policy by the Computing subject leader. A major review involving all staff will take place every three years.

Our Computing subject leader is currently Miss Lee.