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RAF BENSON COMMUNITY PRIMARY SCHOOL

POLICY DOCUMENT

SUBJECT: Computing Policy

[Original Signed] Signed:	Date:
Headteacher	
Policy has been adopted/reviewed by Governing Body:	
[Original Signed] Signed:	Date:
Chair of Governors	

Computing Vision

At RAF Benson Community Primary School we value the contribution that Computing can make for the benefit of all children, staff, parents and governors. We strive to provide safe Computing opportunities in all subjects to motivate and inspire pupils and raise standards across the curriculum. Everyone in our school community will become lifelong learners equipped to meet developing technology with confidence, enthusiasm and the skills that will prepare them for a future in an ever-changing world.

Computing changes the lives of everyone. Through teaching Computing we equip children to participate in a rapidly changing world where work and leisure activities are increasingly transformed by technology. We enable them to find, explore, analyse, exchange and present information. We also focus on developing the skills necessary for children to be able to use information in a discriminating and effective way. Computing skills are a major factor in enabling children to be confident, creative and independent learners.

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.

Aims

It is the aim of our School

- To provide all pupils with their National Curriculum entitlement.
- To develop children's individual Computing capability to the best of their ability both in skills and understanding, as well as knowledge.
- To ensure children's Computing experiences are progressive, coherent and relevant as they move through our school.
- To apply their Computing skills and knowledge to their learning in other areas.
- To allow all staff and children to gain confidence in, and enjoyment from, the use of Computing.
- To explore their attitudes towards Computing and its value to them and society in general. For example, to learn about issues of security, confidentiality and accuracy.
- To stimulate interest in new technologies.
- To encourage pupils to contribute to and enhance their school work and homework.
- To use Computing to keep parents informed of all aspects of school life.
- To support staff so that they are able to adapt to the continually changing challenges presented by Computing and in so doing ensure that our pupils receive an Computing education in line with their ability, access and needs.

Teaching and Learning

As the aims of Computing are to equip children with the skills necessary to use technology to become independent learners, the teaching style that we adopt is as active and as practical as possible.

Computing needs to address the following three areas:

- Computer Science
- Information Technology
- Digital Literacy

We teach a balanced curriculum involving 'skills' lessons, based on the Purple Mash Scheme of work, which develop children's computing capabilities to support teaching across the curriculum.

The progression statements for the Computing curriculum is based on Lancashire's progression framework and they work on a 2 year cycle and children will come across the skills in a variety of contexts therefore further developing and embedding their computing skills

Teachers use the statements within the progressions documents to weave into their other curriculum areas and also, when appropriate, take advantage of the units of work from Purple Mash.

Teachers submit termly unit plans, modified to fit in with other areas of the curriculum, such as History and Geography, and ability of pupils. For example, children might research a History topic or investigate a particular issue on the internet. In Science children might use the computer to model a problem or collate evidence through digital imagery. We encourage the children to explore ways in which the use of Computing can improve their results, for example, how a piece of writing can be edited or how the presentation of a piece of work can be improved by moving text about etc.

We recognise that all classes have children with widely differing abilities. This is especially true when some children have access to computers at home, while others do not. We provide suitable learning opportunities for all children by matching the challenge of the task to the ability and experience of the child.

EYFS

Computing is taught in the Reception class as an integral part of the curriculum covered throughout the year. The children have the opportunity to use the class computer, iPads, a digital camera, floor robots, CD player, headphones and numerous interactive programmes with the interactive whiteboard. Computing learning is planned and assessed using the Early Learning Goals. During this phase, they gain confidence to develop their ability to use the computer to find activities of their own choice.

Years 1 - 6

The teaching of Computing is taught everyday through cross-curricular subject links. Children in Years 1 to 6 are timetabled for at least one visit per week to the Computer suite.. Classes may visit the Computer suite for additional sessions during the week to carry out Computing-based work in other subject areas. In addition to this all children have access to iPads for use in all curriculum areas. Additionally there are opportunities to use computer technology in extra-curricular activities.

There are Interactive Whiteboards (IWBs) and Visualisers in every class, these are used throughout the day for whole class teaching. IWBs are also used in group activities by teachers or TAs or for collaborative activities by pupils. Whiteboards are also regularly used by pupils themselves to participate in the class or group lesson, or demonstrate what they have learned or to display work they have done. The IWB is connected to a main classroom computer, which is on the school network with its shared work area and to the wider Internet. Visualisers are used for a range of purposes including assessment for learning.

The intention to use such resources appears in all teachers' daily and topic planning, and is marked clearly. Subject leaders regularly monitor teachers' planning for Computing, and observe the use of Computing in lessons. Subject leaders also ensure that Computing is used appropriately and throughout the teaching of their subject areas, monitoring of this takes place regularly. Teachers are supported through the curriculum via scheduled Computing insets and a part time teacher who specialises in Computing.

Inclusion

Pupils with special educational needs are encouraged to use the technology available in school to support their independence and develop their interests and abilities. All pupils have access to the use of Computing regardless of gender, race, cultural background or any physical or sensory disability. Pupils with learning difficulties can be given greater access to the whole curriculum through the use of computer technology.

Children who are considered as more able in this area will be given tasks that will appropriately challenge and stretch their thinking and development.

Resources

The school has a computer suite equipped 16 PCs. We have a number of iPads (29) which are accessible to children and a further 11 being used by staff. All devices have internet access. Each classroom has a minimum of 1 desktop computer or teacher laptop and Interactive White Board. The school also has two PCs in the staff room with internet and network access. We have video recorders (including flip-cams), Beebots and a range of different software and apps. Children save work to their own profile on the school shared drive.

The overall maintenance of technology equipment and broadband is supported by the Site Manager, School, Schools Broadband and 123ICT. All staff are responsible for ensuring that all equipment is looked after and faults reported in the book in the office which his regularly checked for issues.

Assessment and Recording

Teachers assess children's work in Computing by making informal judgments as they

observe them during lessons and using the criteria given within each unit of work. Pupils' progress is monitored by the class teacher and work samples are put in the Computing work samples folder. Summative assessments are made in Terms 3, and 6 to analyse attainment progress to set actions to move children's learning on.

Teachers use the statements in Focus Education to support their assessment of Computing

Children joining school

Due to the high mobility of our pupils, our child-selected topic approach makes it less likely that children will repeat areas of the computing curriculum that they have previously covered. In the event where topic titles are repeated, different aspects will be covered and the child may become the 'expert' and look to develop their computing knowledge and skills.

Appropriate Legislation, including copyright and data protection.

All software loaded on school computer systems must have been agreed with the Computing co-ordinator before being loaded. All our software is used in strict accordance with the licence agreement.

Roles and responsibilities

ICT Co-ordinator

The Computing Co-ordinator will be responsible for:

- Raising standards in Computing as a National Curriculum subject
- Facilitating the use of Computing across the curriculum in collaboration with all subject co-ordinators.
- Providing and organising training to keep staff skills and knowledge up to date.
- Advising colleagues about effective teaching strategies, managing equipment and purchasing resources.
- Monitoring the delivery of the Computing curriculum and reporting to the Headteacher on the current status of the subject.

The Subject Co-ordinator

Subject co-ordinators should identify where Computing should be used in their subject schemes of work. Subject co-ordinators will work with the Computing coordinator to ensure that all National curriculum statutory requirements are being met with regard to the use of ICT within curriculum subjects.

The Classroom teacher

Each class teacher has a responsibility to plan and teach appropriate Computing activities and monitor and record their pupils' progress

Monitoring and review

The monitoring of the standards of the children's work and of the quality of teaching in Computing is the responsibility of the Computing subject leader who reports to the Leadership Team. This is achieved through: work sampling, monitoring of planning and lessons, discussion with staff and pupils and looking at Computing displays. The Computing subject leader is also responsible for supporting colleagues in the teaching of

Computing, for keeping them informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school.

Computing programmes of study: key stages 1 and 2

National curriculum in England

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.

Aims

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- 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.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.
Schools are not required by law to teach the example content in [square brackets].

Subject content

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 precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Key stage 2

Pupils should be taught to:

- design, write and debug 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
- use logical reasoning to explain how some simple algorithms work 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
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

A year 1 computer user	A year 2 computer user	A year 3 computer user
Algorithms and programming • I can create a series of instructions. • I can plan a journey for a programmable toy. Information technology • I can create digital content. • I can store digital content. • I can retrieve digital content. • I can use a web site. • I can use a camera. • I can record sound and play back. Digital literacy • I can use technology safely. • I can keep personal information private.	Algorithms and programming • I can use a range of instructions (e.g. direction, angles, turns). • I can test and amend a set of instructions. • I can find errors and amend. (debug) • I can write a simple program and test it. • I can predict what the outcome of a simple program will be (logical reasoning). • I understand that algorithms are used on digital devices. • I understand that programs require precise instructions. Information technology • I can organise digital content. • I can retrieve and manipulate digital content. • I can navigate the web to complete simple searches. Digital literacy • I use technology respectfully. • I know where to go for help if I am concerned. • I know how technology is used in school and outside of school.	Algorithms and programming • I can design a sequence of instructions, including directional instructions. • I can write programs that accomplish specific goals. • I can work with various forms of input. • I can work with various forms of output. Information technology • I can use a range of software for similar purposes. • I can collect information. • I can design and create content. • I can present information. • I can search for information on the web in different ways. • I can manipulate and improve digtal images. Digital literacy • I use technology respectfully and responsibly. • I know different ways I can get help if I am concerned. • I understand what computer networks do and how they provide multiple services. • I can discern where it is best to use technology and where it adds little or no value.

A year 4 computer user	A year 5 computer user	A year 6 computer user
Algorithms and programming • I can experiment with variables to control models. • I can give an on-screen robot specific instructions that takes them from A to B. • I can make an accurate prediction and explain why I believe something will happen (linked to programming). • I can de-bug a program. Information technology • I can select and use software to accomplish given goals. • I can collect and present data. • I can produce and upload a pod cast. Digital literacy • I recognise acceptable and unacceptable behaviour using technology.	Algorithms and programming • I can combine sequences of instructions and procedures to turn devices on and off. • I can use technology to control an external device. • I can design algorithms that use repetition & 2-way selection. Information technology • I can analyse information. • I can evaluate information. • I understand how search results are selected and ranked. • I can edit a film. Digital literacy • I understand that you have to make choices when using technology and that not everything is true and/or safe.	Algorithms and programming • I can design a solution by breaking a problem up. • I recognise that different solutions can exist for the same problem. • I can use logical reasoning to detect errors in algorithms. • I can use selection in programs. • I can work with variables. • I can explain how an algorithm works. • I can explore 'what if' questions by planning different scenarios for controlled devices. Information technology • I can select, use and combine software on a range of digital devices. • I can use a range of technology for a specific project. Digital literacy • I can discuss the risks of online use of technology. • I can identify how to minimise risks.