



**Family, Faith and Fascination**

# **Computing Policy**

**Boutcher C.E. Primary School**

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| Reviewed by: | Sophie Bradford |
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| Last reviewed during: | Autumn 2020 |
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| Next review due by: | Autumn 2022 |
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**Boutcher C.E. Primary School Computing Policy**

**Introduction:**

At Boutcher we understand that our children are of the digital age; constantly exposed to new and exciting technology. We want all children to leave Primary Education as confident and creative users of computing equipment and programmes who keep themselves safe in the digital world. We believe all children should be ready, able and excited by the prospect of working with new technology in the future.

## **Aims**

At Boutcher C.E. Primary School, we aim to

- provide a relevant, challenging and enjoyable curriculum for ICT and Computing for all pupils
- develop pupil's computational thinking skills to benefit them throughout their lives
- meet the requirements of the National Curriculum Programmes of Study for Computing at Key Stage 1 and Key Stage 2
- use computing as a tool to enhance learning throughout the curriculum
- respond to new developments in technology
- develop the understanding of how to use computers and digital tools safely and responsibly

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

## **Rationale**

The school believes that IT, computer science and digital literacy

- are essential life skills necessary to fully participate in the modern digital world.
- allow children to become creators of digital content rather than simply consumers of it
- provide access to a rich and varied source of information and content
- communicate and present information in new ways, which help pupils understand, access and use it more readily
- can motivate and enthuse pupils
- offer opportunities for communication and collaboration through group working
- have the flexibility to meet the individual needs and abilities of each pupil

## **Equal Opportunity**

We aim to promote equal opportunities for, and have high expectations of, all pupils irrespective of age, race, gender, background, physical/sensory ability, intellect and special educational needs.

We aim to personalise our curriculum, where appropriate, in order to fully engage and motivate all our pupils.

We analyse data from our monitoring procedures and are aware of any vulnerable groups and target support where appropriate.

We have high expectations of all our children and aim to overcome any potential barriers to their learning.

*For further information please refer to the Equal Opportunities Policy.*

## **Content and Progression**

### **Early Years Foundation Stage**

At the Early Years Foundation Stage (for Boutcher C.E. Primary School, the Reception class), the Early Learning Goals framework is used as the basis for planning opportunities for Computing.

It is important in the foundation stage to give children a broad, play-based experience of ICT in a range of contexts, including outdoor play. Computing is not just about computers. Early years learning environments should feature ICT scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to explore using non computer-based resources such as controllable Beebots and Bigtrak vehicles. Recording devices such as talking postcards can support children to develop their communication skills. This is particularly useful in supporting children who have English as an additional language.

Computing will be taught in a variety of ways in the Foundation Stage through many areas of the Early Years Foundation Stage curriculum. Computing will be used to help with and alongside Mathematics, Creative Development, Physical Development and Communication, Language and Literacy.

In **Key Stage 1** and **Key Stage 2** children will be taught to:

|  | <b>Key Stage 1</b> | <b>Key Stage 2</b> |
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| <p><b>Computer Science</b><br/>(How computers work and how to write algorithms, solve problems and write computer programs)</p>        | <ul style="list-style-type: none"> <li>• understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>• create and debug simple programs</li> <li>• use logical reasoning to predict the behaviour of simple programs</li> </ul> | <ul style="list-style-type: none"> <li>• design, write and debug programs that accomplish specific goals including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>• use sequence, selection and repetition in programs; work with variables and various forms of input and output</li> <li>• use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> </ul>  |
|  | <b>Key Stage 1</b>  | <b>Key Stage 2</b>  |
| <p><b>Information Technology</b><br/>(How computers work and how to write algorithms, solve problems and write computer programs.)</p> | <ul style="list-style-type: none"> <li>• use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> </ul>   | <ul style="list-style-type: none"> <li>• 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</li> <li>• use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>• 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</li> </ul> |

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| <p><b>Digital Literacy</b><br/>(How to understand digital information and interact with it safely and appropriately.)</p> | <ul style="list-style-type: none"> <li>• 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.</li> </ul> | <ul style="list-style-type: none"> <li>• use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul> |
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## Organisation and Delivery

Computing is taught weekly in all classes across the school as a discrete subject. There are also opportunities to apply these skills in other lessons, particularly Mathematics, Science, Literacy and the Foundation Subjects.

The first Autumn term unit of work in all year groups must be based on E-Safety and Digital Literacy. We use the SWGfL Digital Literacy & Citizenship Curriculum Materials as well as their new EVOLVE materials to support the teaching of this. In the Spring Term every class participates in Safer Internet Day, run by the Safer Internet Centre

We use a mixture of Rising Stars Switched on Computing units together with Code.org courses to deliver the curriculum.

In EYFS and Key Stage 1, children become familiar with the basics of switching equipment on and off; logging on and off, and selecting specific programs to open, before progressing to a combination of the Switched On Computing units of study and Code.org Courses.

For further information on the curriculum see Curriculum Policy and Curriculum Coverage Grids.

## Progress and Achievement

Teachers assess children's work in Computing by making informal judgements as they observe them during lessons. On completion of a piece of work, the teacher marks it and comments as necessary. At the end of a unit of work s/he makes a summary judgement about the work of each pupil in relation to the National Curriculum objectives and records these attainment grades as Secure, Developing, Emerging, Below Year Group Expectations or Greater Depth. Children are also encouraged to self-assess. Self-assessment could take the form of traffic lighting or thumbs during plenaries, verbal feedback or peer marking/editing.

Targets for each learner, group of learners or class will be set by the class teacher. These targets will be discussed with the learner as appropriate.

Computing work is saved on the school network, on Google Classroom or within the Code.org site as appropriate.

For each lesson, teachers will collect a sample of work from children working at different aptitudes (below average/average/above average). Children will self-assess their learning by responding to directed questioning at the end of each session. Class books will show evidence of outcomes during the lessons together with a range of reflective comments from the children.

**A s s e s s m e n t**  
Assessment will be part of a continuous process which both reinforces teacher/pupil planning and provides clear information for others. Assessment is monitored termly by co-ordinators.

### **Teaching Computing to Children with Special Educational Needs and Disability (SEND) and those who are Gifted & Talented (G&T)**

We strive to meet the needs of all children, ensuring that they meet their full potential and remain challenged academically. The provision for children with SEND and those who have been identified as G&T is set out in the relevant policies.

For Computing we offer appropriately differentiated learning activities and resources.

Teachers have the responsibility to ensure that those children who are identified at G&T are suitably challenged in Computing lessons.

All children working below age-related expectations will receive additional support. In some instances, the use of IT has a considerable impact on the quality of work that children produce; it can increase confidence and motivation, allowing access to parts of the curriculum and resources that may not otherwise have been available to them.

### **Resources & Outside Agencies**

There are a wide range of programmes and computing equipment available to all pupils throughout the school, namely: laptops, Chromebooks, iPads, iPods, Beebots and Bigtrak vehicles, LegoWedo, dataloggers and other programmable hardware.

The school has links with a number of outside agencies and specialist teachers to promote and enhance the delivery of the computing curriculum, including:

- Code.org
- Rising Stars Computing Curriculum: Switched on Computing
- Safer Internet Centre
- SWGfL Project EVOLVE

Technical support is provided by ICT Educational Services.

There are a wide range of programmes and computing equipment available to all pupils throughout the school, namely: desktop PCs, laptops, iPads, iPods, Beebots and LegoWedo, and other programmable hardware.

In the ICT Suite, there is:

- a laptop trolley containing 15 chromebooks
- a laptop trolley containing 9 laptops
- a charging case for 16 iPads

In the end classroom upstairs (currently Y5 2020) there is a laptop charging trolley containing 16 chromebooks

In the third classroom along upstairs (currently Y6 2020) there is a laptop charging trolley containing 16 chromebooks.

All computers, laptops and iPads have access to the Internet. A range of carefully curated software and iPad apps are available for use on the relevant equipment.

The school has links with a number of outside agencies and specialist teachers to promote and enhance the delivery of the computing curriculum, including:

- Code Club Pro
- Rising Stars Computing Curriculum: Switched on Computing
- Code.org
- Childnet

Technical support is provided by ICT Educational Services. On-site support is split ½ day on Monday and ½ day on Friday.

## **Management of ICT:**

### **Backing Up Data**

Backups of all school data is carried out weekly by our ICT technician through ICT Education Services. A remote backup of the data on the server and the data on the office server is taken off site each night. There is a rotation of tapes. This enables us to recover all of our data in the event of computers being stolen, damages or having an error beyond immediate repair.

### **Care of Equipment**

The individual in whose care it is trusted should maintain all ICT equipment in a clean and serviceable state.

- All equipment should be switched off at the end of the working day
- Any technical fault should be reported immediately to the ICT Coordinator and through the shortcut on the School Desktop to ICT Educational Solutions by filling in the form and registering a ticket.

### **Software**

Under no circumstances are any staff allowed to bring software into school to use. A site licence is needed before any software can be used on our computers. These are in place for all items of software the school has purchased.

The ICT and Computing technician is responsible for regularly updating anti-virus software.

### **Use of Internet**

All staff will follow the guidelines in the E-Safety Policy.

Use of ICT, Computing and the Internet will be in line with the school's Acceptable Use Policy. All staff, volunteers and children must sign a copy of the school's AUP.

All pupils will be aware of the school rules for responsible use on login to the network and will understand the consequences of any misuse.

The agreed rules for safe and responsible use of ICT, Computing and the Internet will be displayed in all ICT and Computing areas.

### **Data Protection**

All staff will ensure all data is stored in appropriate files/areas on the server so that it is accessible only to those who have access rights.

**Date: Autumn 2020**

### **Review**

This policy is viewed biannually in line with other curriculum policies by staff and governors.

**To be reviewed: Autumn 2022**

**Covid-19 Response Addendum to the Computing Policy: November 2020**

### **Immediate Response to School Closure:**

When school closed as part of the national lockdown in March 2020, we moved teaching and learning to the online platform, Google Classroom. This platform was new to both staff and children. Training sessions were held in school before Lockdown commenced, supported by clear, step-by-step guides and videos linked to from Google Classroom.

Where children were having difficulty accessing Google Classroom, Class Teachers in the first instance and the Computing Lead in the second instance spoke with parents to resolve issues with connectivity.

As a staff, we identified children who did not have access to online learning due to lack of technology. We reconfigured our oldest laptops to run as Chromebooks and loaned them to these children so that they were able to complete the work set.

We also enabled office staff and teaching staff to log on to our system remotely so they could access our network when working from home.

The Computing Lead with the support of the IT Consultant ensured that all Staff were trained in using Google Classroom to set and assess work for all classes and in how to schedule Google Meetings for video conferencing with colleagues and with all classes.

Class video calls took place weekly as whole-class meets from the end of April until half term. From the second half of the Summer term onwards, teachers began smaller video group meets where they could work within identified groups on specific aspects of their learning.

In terms of the Computing Curriculum, Lockdown meant that children were required to rapidly develop their skills in Information Technology and Digital Literacy to enable their engagement with online learning however, it was decided that we would not require children to undertake new learning in the Computer Science aspect of the Computing

Curriculum. Instead, children in Key Stage 2 were given the option to continue with their assigned courses on Code.org if they wished.

At the end of the Summer Term, teachers took note of those children who had not regularly engaged with Google Classroom in spite of regular telephone calls, video meets and emails. This was followed up on return to school.

### **Return to School Response with Social Distancing Restrictions:**

Upon return to school, we are determined to minimise risk and spread of Covid, so we are ensuring our working environment is as safe as possible. Cleanliness and sanitisation routines have been established around the use of equipment with cleaning materials available on each laptop charging trolley as well as the iPad charging unit. Devices are wiped down after use and before being put back on charge.

As a priority, staff discussed the importance of e-safety in computing sessions as well as making sure that all children felt confident using equipment and had adequate resources at home. Class teachers collated data on technologies available at home and identified children who would benefit from borrowing a school laptop.

Our IT Consultant configured the next-oldest set of laptops to work as Chromebooks for potential loan as we had found their battery life to be very poor due to their age and thus were becoming obsolete for school use. These reconfigured laptops are now available to loan out to families who either do not have technology to work on or who do not have enough equipment for the number of children in their family.

Thanks to a grant from the Gomm Foundation, we have been able to buy 32 new Chromebooks to replace obsolete laptops. We have upgraded our Server so it is better able to cope with our increased reliance on our network, and will function better should schools have to go into Lockdown again and our staff need to log on to our system remotely. We have purchased webcams so each Teacher PC is able to participate in a video conference. We have also installed solid state hard drives in our Teacher PCs which should enhance their performance and keep them working better for longer.

From September 2020, we decided to run all homework through Google Classroom to enable all children to become confident users of our online learning platform. Any child who does not upload their homework is supported to do so in class on a Monday morning and this has helped staff to identify whether lack of engagement is due to lack of technology or issues with confidence and to deal with this through laptop loan or through support and training.

As part of our return to school planning, all children completed a Questionnaire which gave us further insight into attitudes to home learning as well as being back at school. Our analysis of this data helped us to design our approach to online learning both within a normal school routine and in the event of another Lockdown.

We began teaching this academic year by ensuring that all children understand how to access work on Google Classroom and can upload their work – independently in KS2 or with parental support in KS1 and EYFS. Our next priority was to cover key elements of e-safety (also part of our PSHE curriculum). Once these elements have been covered, teachers will start teaching the relevant course content on Code.Org or through specified courses on Switched On Computing.

In terms of enriching our offer, a visitor log-in with a password which is changed after each use has been set up to enable virtual School Visits. So far this term, we have had two story-telling events, a virtual Governor walkthrough, an assembly for the outgoing Prime Warden of the Dyers' Guild and a virtual author visit.

Assemblies and our weekly Service are conducted over video link using Google Meet within our Classroom and Spanish is taught in our virtual classroom over video link too.

**Monitoring and evaluation, including assessment:**

Children's understanding, knowledge and skills are assessed through observation, discussion, questioning and group participation. Children will be encouraged to talk about and reflect on their own experiences and opinions, especially with a view to e-safety and Digital Literacies, and some written work and examples of online work will be collected as part of a class 'scrap' book.

Teachers will use the whole class feedback sheet where appropriate to address the learning and build on knowledge, concepts and misconceptions from the lesson taught. Feedback will be given at the start of the next lesson and children can respond to any errors that need following up.

**Future Plan for School Closure:**

In the event of another Lockdown, we will set work through Google Classroom with clear expectations of what participation is expected and how and when work is to be handed in.

Teaching will be delivered through a combination of materials posted on Classroom which could include Powerpoints; video links; pre-recorded videos and pre-arranged video conferences.

Feedback will be through the comment and messaging facilities on Google Classroom; small group video conferences may be arranged where appropriate.

Teaching staff will make a final check on children who may not have access to a device and will arrange to loan a device where possible.

In the event of children being required to self-isolate from school, work will be made available through Google Classroom. Children will continue to access the same lessons as the rest of the class, although the delivery of the content might vary or be adapted to be suitable for a home learning environment.

Should the whole class not be able to attend school, our intention is that children will continue to be provided with weekly lessons, continuing with the objectives from their current learning across the curriculum. Lessons will be accessible to all children and adaptations made if necessary.

Teaching staff and office staff will be set up to log into the school network remotely.

In the event of a teacher being unable to plan and teach their own class, the subject coordinator will ensure the content is being taught and tasks set accordingly. It is the responsibility of the subject leader to monitor the standards of children's work and support teachers in their teaching of this subject. We will ensure we teach science via video calls, PowerPoints and presentations and set activities and tasks for children to complete and upload via Google Classroom.

Regular Staff Meetings including CPD will be scheduled using Google Meet.

IT Support will be provided by our IT Consultant, ICT Educational Services.

### **Response to Black Lives Matter (BLM):**

At Boutcher, we have always been committed to providing all children with an equal entitlement to all areas of the curriculum. We are developing our understanding and responding to the BLM movement by ensuring we have positive role models for all our children and ensuring all children feel represented.

We recognise that this is going to be an ongoing and crucial part of our school future and we are working together as a school community to ensure we are being as aware, effective, respectful and sensitive as possible.

We want all children to feel they are positively represented and have opportunities to find out and explore the lives of significant individuals that have made an impact in the world we live in. If you can see it, you can be it.

As part of their learning using Code.org, children watch short videos presented by role models from a broad range of cultures and ethnicities. We want to be part of a truly unbiased and anti-racist society where children see themselves as the future and are equipped with the necessary skills and knowledge from the wider world.

