**Computing Policy**

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**The Brow Community Primary School**

**COMPUTING POLICY**

**Responsibilities**

The member of school responsible for computing is Mrs Cottam. They are responsible for delivering staff development and training, recording incidents, reporting any developments and incidents and liaising with the local authority and external agencies to promote computing and e-safety within the school community. He/she may also be required to deliver workshops for parents.

**Statement of Intent**

The use of computers and computer systems is an integral part of the National Curriculum and knowing how they work is a key life skill. 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 The Brow School we recognise that pupils are entitled to a broad and balanced computing education with a structured, progressive, approach to the 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

At The Brow Community Primary School Primary School all children follow a broad and balanced curriculum that includes all of the National Curriculum subjects, SMSC and Religious Education. Our broad and balanced curriculum also includes Design Technology, History, Geography, Art, Music, Physical Education, Spanish and Personal Social and Health Education.

At The Brow Primary School, we recognise that pupils are entitled to quality hardware and software and a structured and progressive approach to the learning of the skills needed to enable them to use it effectively. The purpose of this policy is to state how the school intends to make this provision.

Our aims in **teaching computing** are that all children learn to:

• Provide a relevant, balanced, challenging and enjoyable curriculum for Computing for all pupils.

• Meet the requirements of the national curriculum programmes of study for computing.

* Develop pupil’s computational thinking skills that will benefit them throughout their lives.

• Use computing as a tool to enhance learning throughout the curriculum.

• To respond to new developments in technology.

• To equip pupils with the confidence and capability to use computing throughout their later life.

• To enhance learning in other areas of the curriculum using computing.

• To develop the understanding of how to use computing safely and responsibly.

• Find enjoyment in computing.

• Discuss their work using appropriate vocabulary.

We regard computing as an important subject because:

* It is an essential life skills necessary to fully participate in the modern digital world.
* It enables the pupils to become creators of digital content rather than simply consumers of it.
* It provides access to a rich and varied source of information and content.
* It can motivate and enthuse pupils.
* It offers opportunities for communication and collaboration through group working both inside and outside of school.
* It has the flexibility to meet the individual needs and abilities of each pupil.

**Implementation**

The new 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.

The school believes that computing gives pupils immediate access to a rich source of materials and can present information in new ways which help pupils understand, access and use it more readily. Computing has the flexibility to meet the individual needs and abilities of each pupil.

Planning and teaching EYFS In the EYFS (Early Years Foundation Stage) is important as it gives children a broad, play-based experience of computing in a range of contexts, including outdoor play. Early years learning environments should feature computing scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to ‘paint’ on the whiteboard or program a toy. Recording devices can support children to develop their communication skills.

*The National Curriculum prescribes that by the end of Key Stage 1 pupils should be taught:*

• 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.

As the school develops its resources ( see hardware audit and action plan) and expertise to deliver the computing curriculum, progression documents will be planned in line with the national curriculum and will allow for clear progression. Modules at each year group 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 on OTrack. Staff will follow medium term plans with objectives set out from the national curriculum.

We recognise that all classes have children with widely differing computing abilities. This is especially true when some children have access to equipment 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. We provide access to computing hardware to support learning or homework tasks via lunchtime clubs or after school where necessary. We achieve this in a variety of ways

• Setting common tasks which are open-ended and can have a variety of responses.

• Setting tasks of increasing difficulty (not all children complete all tasks).

• Grouping children by ability in the room and setting different tasks for each ability group.

• Providing resources of different complexity that are matched to the ability of the child.

• Using classroom assistants to support the work of individual children or groups of children.

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 practical as possible. While at times we do give children direct instruction on how to use hardware or software, the main emphasis of our teaching in computing is for individuals or groups of children to use computers to help them in whatever they are trying to study.

**Impact**

Assessment and recording assessment and feedback to pupils is usually carried out by observation and oral feedback during lessons. From EYFS through to Year 6 pupils are required to show their progression in their cloud files and through selected case studies completed by staff. Progression and achievement is tracked against learning objectives and the computing curriculum progression documents. Photographic records, observations and some work may be kept until the end of the year 6.

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 is 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.

The school’s appointed subject leader will oversee the continuity of the subject and the progression of teaching and learning within annual and medium-term plans. The monitoring of the standards of the children’s work and of the quality of teaching in computing is the responsibility of the subject leader. The subject leader is also responsible for supporting colleagues in the teaching of computing, for keeping informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. They will encourage staff and pupils to be creative and advise teachers on suitable materials and resources. The subject leader gives the head teacher and governors an annual summary report in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement. Evidence will be kept from year to year.

**Staff training**

The computing subject leader will assess and address staff training needs as part of the annual development plan process or in response to individual needs and requests throughout the year. Individual teachers should attempt to continually develop their own skills and knowledge, identify their own needs and notify the subject leader. Teachers will be encouraged to use IT and computing to produce plans, collaborate using Google docs, reports, communications and teaching resources.

**Learning environment**

Activities are organised at the teacher’s discretion and according to the availability of resources. The school acknowledges the need continually to maintain, update and develop its resources and to make progress towards a consistent, compatible PC system by investing in resources that will effectively deliver the strands of the national curriculum and support the use of computing across the school. Teachers are required to inform the computing leader of any faults as soon as they are noticed. Computing activities may be carried out individually, as a small or large group, or as a whole class activity. Planning for computing is provided for in medium and long-term plans. Each classroom has some computing resources including PCs and IPads. There is a central store of a computing hardware which is shared between the classes. Resources if not classroom based are located in the upper Key Stage Two classrooms. A service level agreement with Brindley Services is currently in place to help support the subject leader to fulfil this role both in hardware and audio-visual. Computing network infrastructure and equipment has been sited so that

• Every classroom from nursery to Year 6 has a laptop connected to the school network and an interactive whiteboard with audio and DVD facilities.

• There are two trolleys one with 15 laptops and 20 IPads in each.

• Each class from Year 1 to Year 6 allocates one teaching session per week for teaching of specific computing skills.

• There is an iPad charging trolley with the capacity to hold up to 30 iPads.

• There are 6 iPod touches also in use throughout EYFS and KS1.

• The laptop trolleys and iPads are available for use throughout the school day as part of computing lessons and for cross-curricular use.

Along with the computers, the school has the following: **Hardware :** colour printers , scanners , video recorder , Beebots, programmable toys, control models, data loggers, microscopes, sensors, voice recording equipment such as tin lids and podcasting equipment’s.

**Software :** a word processing packages, painting/drawing software , music composition packages, multimedia programs, spreadsheets/database programs , control programs, photo editing software, video editing software and a various selection of paid and free apps on the IPads.

We also purchase yearly subscriptions to online learning portals including DB Primary, Purple Mash, Timetables Rockstars and Spelling Shed.

Our School employs a qualified technician. He is responsible for installation of new software, maintenance of hardware and offers support to staff where difficulties arise. The technician is in school every fortnight for a half a day (pm).

The school promotes the displaying of computing work in classrooms. It can influence how children feel about their environment, convey standards and promote high expectations. We use displays to celebrate achievement and support teaching and learning. Displays should communicate, stimulate interest, celebrate children’s work, reflect the ethos of the school and respond to the children’s interests

**Health and safety**

Certain health and safety concerns are inherent with computing ( see risk assessment and Esafety policy and AUPs) , including the storage of materials and tools and the use of equipment within lessons. Children are instructed in the correct use of equipment and the specific dangers of accessing online materials. Children are supervised at all times during activities. All electrical appliances in school are tested accordingly. It is advised that staff should not bring their own electrical equipment in to school but if this is necessary, then the equipment must be PAT tested before being used in school. This also applies to any equipment brought in to school by, for example, people 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 ICT technician, bursar or head teacher who will arrange for repair or disposal. A risk assessment covering the use of hardware and online materials has been conducted and is updated as needed.

The Computing technician will be responsible for regularly updating antivirus software. Use of 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’. All pupils and parents will be aware of the school rules for responsible use of computing and the Internet and will understand the consequence of any misuse. The agreed rules for safe and responsible use of computing and the Internet will be displayed in all computing areas.

**Equal opportunities and Inclusion**

Equal opportunities are addressed in the whole school Equality Policy and care is taken in lessons to ensure all pupils are provided opportunities to experience the range of activities on offer. We plan to provide for all pupils to achieve, including boys and girls, higher achieving pupils, gifted and talented pupils, those with SEN, pupils with disabilities, pupils from all social and cultural backgrounds, children who are in care and those subject to safeguarding, pupils from different ethnic groups and those from diverse linguistic background.

The contribution of computing is threaded through the core curriculum as Computing contributes to teaching and learning in all curriculum areas. For example, children might research a history topic by on the Internet. Children who are learning science might use the computer to model a problem or to analyse data. 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. Graphics work links in closely with work in art, and work using databases supports work in maths, while the Internet proves very useful for research in humanities subjects. Computing enables children to present their information and conclusions in the most appropriate way. English ICT is a major contributor to the teaching of English. Through the development of keyboard skills and the use of computers, children learn how to edit and revise text. They learn how to improve the presentation of their work by using desk-top publishing software. Maths Many ICT activities build upon the mathematical skills of the children. Children use computing in mathematics to collect data, make predictions, analyse results, and present information graphically. They also acquire measuring techniques involving positive and negative numbers, and including decimal places. SMSC, Citizenship and British Values Computing makes a contribution to the teaching of SMCS and citizenship as children learn to work together in a collaborative manner. They develop a sense of global citizenship by using the Internet and email. Through the discussion of moral issues related to electronic communication, children develop a view about the use and misuse, and they also gain a knowledge and understanding of the interdependence of people around the world.

**Parents and the wider community**

Our school embraces an enrichment offer and participate in whole school and community events in partnership with SID. Yearly Esafety events are organised including family learning events. There is a planned programme of enrichment events across the academic year which involves all children and parents. 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. Link Governors are invited to take a particular interest in computing in the school and seek to improve and drive forward the aims as set out in this policy.