

**Computing Policy**

**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, 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 (National Curriculum, 2014).

**Aims**

We aim to:

* Enable children to use and apply their ICT knowledge, skills and understanding confidently and competently in their learning and everyday contexts.
* Enable them to become more independent and discerning users of technology, recognising opportunities and risks and using strategies to stay safe.
* Build confidence in all children in their use of ICT equipment.
* To extend and enhance learning in all subject areas of the Early Years Foundation Stage Curriculum and the National Curriculum through use of ICT as a teaching and learning tool.
* Enable children to recognise that ICT affects the way in which people live and work safely.
* To develop the understanding of how to use ICT and computing safely and responsibly.

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.

**Early Years Foundation Stage**

Nursery and Reception children follow the Early Years Outcomes and for guidance refer to the Development Matters in the Early Years Foundation Stage (EYFS) as set out by The British Association for Early Childhood Education. The Understanding of the World area of learning; forms the foundations of later work in science, history, geography and computing. For the purposes of this policy and scheme of work practitioners will deliver the Technology objectives from the EYFS.

Learning will be provided by the four core principles for the Foundation Stage:

* A unique child.
* Positive relationships.
* Enabling Environments.
* Learning and Development.

Children will develop skills, knowledge and understanding of the following Early Years Outcomes Objectives within Technology:

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| Age | Early Years Outcomes |
| 22-36 months | * Seek to acquire basic skills in turning on and operating some ICT equipment.
* Operates mechanical toys.
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| 30-50 months | * Knows how to operate simple equipment eg turns on CD player and uses remote control.
* Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones.
* Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.
* Knows that information can be retrieved from computers.
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| 40-60+ months | * Complete a simple program on a computer.
* Uses ICT hardware to interact with age appropriate computer software.
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| Early Learning Goal | * Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.
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**KEY STAGE 1 AND KEY STAGE 2**

Computing can be divided into three areas. Computer Science, Information Technology and Digital Literacy (which includes esafety). The aims for the new computing curriculum as identified in the Program of Study as issued by the Department for Education have been categorised into these three areas detailed below.

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| Area | Key Stage 1 Aims | Key Stage 2 Aims |
| Computer Science (CS) | 1. Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. 2. Create and debug simple programs.3. Use logical reasoning to predict the behaviour of simple programs.  | 4. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. 5. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. 6. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. 7. Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web. 8. Appreciate how [search] results are selected and ranked.  |
| Information Technology (IT) | 1. Use technology purposefully create, organise, store, manipulate and retrieve digital content.  | 2. Use search technologies effectively. 3. 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  |
| Digital Literacy (DL) | 1. Recognise common uses of information technology beyond school. 2. Use technology respectfully and safely, 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.  | 3. Understand the opportunities [networks] offer for communication and collaboration. 4. Be discerning in evaluating digital content. 5. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.  |

**Assessment**

Teachers are required to keep an up to date assessment record of each child’s skills by classroom monitor. Subject Leader will monitor work produced alongside teacher’s information to validate assessment judgements.

**Policy updated September 2017**

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