

# SUBJECT GUIDANCE

## Computing

### Introduction

The use of information and communication technology is an integral part of the National Curriculum and is a key skill for everyday life. Computers, tablets, programmable robots, digital and video cameras are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. At Nether Kellet 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.

### Aims

- Provide a relevant, challenging and enjoyable curriculum for computing for all pupils.
- Meet the requirements of the national curriculum programmes of study for computing.
- 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.
- 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.

### Rationale

The school believes that computing

- Gives pupils immediate access to a rich source of materials.
- Can present information in new ways which help pupils understand, access and use it more readily.
- Can motivate and enthuse pupils.
- Can help pupils focus and concentrate.
- Offers potential for effective group working.
- Has the flexibility to meet the individual needs and abilities of each pupil.

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## Objectives

### Early years

It is important in the Foundation Stage to give children a broad, play-based experience of computing in a range of contexts, including outdoor play. Computing is not just about computers; 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.

### 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.

## Planning

Computing is taught as part of our themed curriculum, as such it is planned for in medium term plans linking computing skills with the theme. Each term a specific aspect of computing is the focus for teaching skills with all relevant computing skills used and applied across the curriculum. Computing skills are taught by the computing subject leader and are reinforced through application throughout all teachers' lessons.

## Resources and Access

The school has made significant investment in computer technology. Children now have access to a class set of laptops and a set of i-pads that allow for whole class paired work. The school server and wi-fi systems have been updated to increase speed and efficiency. The school acknowledges the need continually to maintain, update and develop its Teachers are required:

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- to inform the computing leader of any faults as soon as they are noticed.
- A service level agreement with Ed-IT is currently in place to ensure smooth running of the network and hardware.

Resources, if not classroom based, are located in the library.

- Computing network infrastructure and equipment has been sited so that every classroom has a laptop connected to the school network and an interactive whiteboard with audio, DVD and video facilities.
- There is a computer suite in the library of 6 desktops.
- YR has two PCs in class.
- There is a laptop trolley in school containing 30 laptops with Internet access available to use in classrooms.
- There are i-pad safes with 17 i-pads for children's use and for staff to use with children 1:1 and in small groups.
- Each class from Year 1 to Year 6 has an allocated slot across the week for teaching of specific computing skills led by a specialist teacher.

Additional Hardware:

- colour printers
- scanner
- digital cameras
- children's hand held cameras
- digital blue microscope
- a visualiser
- sensing equipment for science: sound, temperature, light
- video recorder
- electronic keyboards
- headphones
- calculators
- robot (cars, Bee-Bots)
- tech lego

Software

We are equipped with all the latest recommended software and update frequently. This includes Microsoft Office, Purple Mash software, Maths Packs, ITPs, Paint programs, Science Simulations and Concept Cartoons, Scratch programming software and many APPs for i-pads to support learning and teaching.

### Health and Safety and Safeguarding

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

(For safeguarding see E-safety and Anti-Bullying Policies)

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## Monitoring and Reviewing

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. The subject leader gives the head teacher an annual summary in which she evaluates the strengths and weaknesses in the subject and indicates areas for further improvement. The subject leader has specially allocated time for carrying out the vital task of reviewing samples of the children's work and for visiting classes to observe the teaching.

## Security

- The computing technicians employed by school are responsible for regularly updating anti-virus software.
- The schools' internet access is protected by the Lancashire CC firewall.
- The head teacher has the rights to alter access rights to specific websites and this is done with safeguarding at the forefront of decisions.
- 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 are 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 are displayed in all computing areas.

Policy written June 2016

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