

*Individual Growth, Individual People'*

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# Computing Curriculum Policy

(Formerly known as ICT Curriculum Policy)

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## 1. Introduction

Computing continues to become an increasingly common feature of everyday life. In its many guises is something that requires everyone to be familiar with the vocabulary associated with it and equipped with the knowledge and skills to access or use it. Manufacturers of modern computing devices seem to rely on users to use them intuitively as they provide limited paper-based instructions on their use. New users therefore need to be comfortable exploring technology safely and have the skills necessary to access help by electronic means.

The National Curriculum which was launched in September 2014, placed a greater emphasis on the development of modelling, control and programming skills.

## 2. What is Computing?

At Newark Orchard computing is taught both directly and indirectly through the curriculum and through everyday experience.

2.1 A high-quality computing curriculum equips pupils to use and understand computers and technology so that they can better function in the areas of communication and creativity. 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. Building on this knowledge and understanding, pupils are equipped to use information technology to create programmes, 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 to them and to be able to remain a safe participant in the online world.

2.2 The aims of the specific teaching of computing are to ensure that, as far as a child's ability allow they:

- Can analyse problems in computational terms and have repeated practical experience of writing computer programmes in order to solve such problems.
- Can evaluate and apply information technology including new or unfamiliar technologies, analytically to solve problems.
- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Are responsible, competent, confident and creative users of information and communication technology.

It also teaches them how to use software packages to:

- Word process

- Desktop publish
- Create and manipulate images
- Animate
- Add to, edit and create databases
- Add to, edit and create spread sheets
- Create presentations
- Create, edit and compose sounds and music
- Create, manipulate and edit images
- Create, manipulate and edit video
- Control devices
- Gather and analyse data using electronic sensors
- Use computers to model ideas
- Program computers to make choices and decisions

2.3 The following objectives relate to the acquisition of knowledge, skills and understanding of the use of computing more generally and are not specifically related to a particular piece of software:

- To give children access to hardware and software that assist them in acquiring early technological and communication skills such as switch activation, on-screen eye tracking and choice making using Big Macs, different types of inputs and SEN Switcher, etc.
- To teach children to log onto desktop and laptop computers and access software packages suitable for specific tasks including accessing the internet.
- To teach children how to phrase search requests using 'search engines' to find specific information and begin to assess the credibility of the results.
- To teach children how to use the internet and 'social media' safely and how to report any concerns.
- To familiarise children with a wide range of digital devices used to capture and communicate sounds, images, video and text.
- To teach children how to access or load information from data devices and other hardware connected to a computer and in the cloud.
- To teach children how to save information to a computer and become aware of cloud-based services.
- To teach children how to access and send email.

2.4 The aims of the indirect teaching of computing are:

- To familiarise children with the language and use of technology by integrating developments in computing with both the delivery of lessons and their extracurricular experiences.

- To provide students with the opportunity to explore and use a range of digital devices to develop their intuitive use of technology.
- To promote the use of computing as time saving tools or tools which provide high quality results.
- To acknowledge the use of computing as a means of entertainment and provide some experience of this use.
- To provide opportunities for children to engage with computer based independent learning activities to develop a range of skills.

2.5 For some children the use of specific and sometimes specialised computing is promoted as part of the Total Communication policy. It is our aim to stay informed about developments in technology so that such developments in software and devices can be evaluated for use by children who might benefit from its use in terms of enhancing their ability to communicate or accelerate their learning. For these children there exists the specific objective:

- To teach children the skills required to access and use existing, new and emerging technologies where this might provide them with the ability to communicate more effectively.

2.6 For some children the inclusion of computing may enable them to accelerate their rate of knowledge acquisition, their ability to record their thoughts or evidence their involvement in an activity. The judicious inclusion is considered to balance both the pupils' needs to gain both the skills to use and opportunities to access such resources, without becoming isolated from their peers by its use.

### **3. The Language of Computing**

It is seen as vitally important that the language of computing is taught specifically and that staff continue to maintain a professional awareness of the developments in the use of it for social, entertainment and work, domestic and industrial purposes so that they can maintain a contemporary vocabulary related to the area.

### **4. Contemporary Applications of Computing in Delivery**

4.1 In liaison with other Subject Coordinators to be mindful of adding to their resources in order to reflect current developments in the use of computing and to enhance both the quality of teaching and learning, as budgets allow.

4.2 The Computing Coordinator in consultation with the SLT will make decisions about changes in the use or acquisition of technology for whole school use. Such decisions will result in changes to subject development plans and may result in changes to the School Improvement Plan.

4.3 Where new technology or software is introduced, staff will be given access to suitable support or training in its use as required.

## **5. Monitoring and Review**

The monitoring of the standards of computing is the responsibility of the Subject Coordinator and the Leadership Team. The coordinator is also responsible for supporting colleagues in the teaching of computing, keeping informed about current developments in the subject and for providing a strategic lead for the direction of the subject in school. The Coordinator will regularly discuss progress towards the objectives set out in the subject action plan with the Deputy Head.

## **6. Evidence and Pupils Work**

Moderation of student work will be through work scrutiny of their topic books. There will also be lesson observations and learning walks as well as the monitoring of displays.

## **7. Safeguarding Children: Online Safety**

The use of technology in schools brings great benefits. To live, learn and work successfully in an increasingly complex and information-rich society, our children must be able to use technology effectively. The use of these exciting and innovative technology tools in school and at home has been shown to raise educational standards and promote pupil achievement. Yet at the same time we recognise that the use of these technologies can put young people at risk within and outside the school.

The school has developed a separate policy which details our approach to online safety and safeguarding children and staff when using technology both within and beyond the school. This includes reference to the online safety elements of the National Curriculum for Computing and the statutory Relationships and Health Education curriculum. It takes into account the government's '[Teaching online safety in schools](#)' guidance and '[Education for a Connected World](#)' from the UK Council for Internet Safety.

## **8. Health and safety**

Both staff and children are aware of the need for health and safety to be kept in mind when using technology. Signs displaying relevant warnings are displayed around the school and regular attention is drawn to the issue of safe use of equipment. In particular, the following safety issues have been considered when using technology in school:

*Comfort* - users should be comfortably positioned with easy access to all equipment.

*Space* - There should be enough space around a workstation including special educational equipment and peripherals.

*Seating* – this has been chosen so that it is the correct height for knees to fit comfortably under the desk.

*Monitors* - These should be moved to suit the needs of the users.

*Keyboards* - Users should have the option to have their keyboard flat or tilted and move it to a comfortable position.

*Laptops* - These have been chosen for their versatility and mobility. Students are able to access them in a variety of situations and they remain mobile and without cables.

*Cables* - Are covered and secure. Children are not to connect or unplug electrical equipment.

All pupils are taught to handle equipment correctly and to switch computers on and off using the correct procedures. The dangers of electricity are stressed and all of the above are presented so as to ensure the pupils respect the equipment and respect other people's work on the computer. All users are also reminded of the need to take regular breaks when using electrical equipment.

**' Please also be aware of the school's policy on E Safety when reading this document'**