	**North Wootton Academy** **Priory Lane** **North Wootton** **Kings Lynn** **Norfolk** **PE30 3PT**
Name of policy:	**Computing**
Lead member of staff with responsibility for this policy:	Craig Blackmur
Date of implementation:	January 2022
Details of dissemination:	The policy is available for all staff, visitors, pupils and parents on the school website.
Linked Policies:	Curriculum Policy, Online Safety, Safeguarding, Blended Learning
Frequency for review:	Annually

North Wootton Academy
Computing Policy

Rationale

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world...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

However, as the power of an online education enables our pupils to explore the world beyond the fours wall of the classroom, it inevitably allows elements of the outside world to enter the safety of the learning environment that we create; elements that at times are unwanted, unsuitable and can potentially endanger our pupils and therefore Annex C of Keeping Safe in Education (2017) explains:

The use of technology has become a significant component of many safeguarding issues. Child sexual exploitation; radicalisation; sexual predation: technology often provides the platform that facilitates harm. An effective approach to online safety empowers a school or college to protect and educate the whole school or college community in their use of technology and establishes mechanisms to identify, intervene in and escalate any incident where appropriate

Introduction

This policy is a statement of the aims, principles and strategies for the use of Information and Communications Technology at North Wootton Academy. It sets out a framework to give guidance on planning, teaching and assessment on a cross-curricular basis in appropriate contexts and as a tool to enhance and enrich the learning process.

This policy should be read in conjunction with the scheme of work for Information and Communication Technology, which sets out in detail what children in different classes and year groups will be taught.

Intent

Our intent is to provide a high-quality computing education which equips children to use computational thinking and creativity to understand and change the world through digital means. This vision directly links with our school vision to prepare children for a successful future through academic strength, and a knowledge of how they can contribute towards making it better. We recognise that our pupils' lives, both socially and vocationally, will increasingly take place within a digital medium and therefore, this subject is seen as vital in developing a broad range of knowledge and skills that will enable not only digital competence but also ensure an understanding of how to be a responsible online citizen.

Implementation

Computing is taught within weekly lessons as we believe regular practice is key to developing digital literacy.

In the lower school this is mainly through the class teacher whilst in the upper school, one teacher within each phase is a specialist to deliver the content to multiple classes; this ensures that the level of

knowledge, confidence and competence of the teaching can be maximised, something that is very important in a subject in which the pupils can uniquely be the most knowledgeable in the room.

Currently, teachers use the 'Key Chain' scheme of work to inform the planning of their computing lessons, this is a new SOW as we are currently making the transition from RisingStars. The school still uses 'Online Safety' by Rising Stars; one unit from each scheme of work is completed half termly. Within the Early Years, the use of SMART crew is also common in Online Safety lessons as they provide child friendly visuals to support their learning.

The school has a computing suite and children also have access to ipads and laptops, ensuring that children can use computers for a range of purposes and that it is used across the wider curriculum, as well as in explicit computing lessons.

Within the upper school, all pupils have a school email and online OneDrive and this is used to enable collaborative work throughout the school week including home learning. As all the school systems, including these accounts, are monitored through Netsweeper, this provides an excellent training ground in which to practise their 'netiquette.'

Impact

Wherever possible, pupil's work is stored within an e-portfolio which will stay with the child as they progress through the school.

Their digital literacy is demonstrated through their competence in completing each unit of work. The children will document their work throughout their learning and then summative assessment will be used to record attainment using the mark book.

Online safety is assessed through formative assessment and an annual pupil voice and e-safety tests, which the children complete when receiving own accounts.

Our computing curriculum also ensures that children 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.

Definition of ICT

Information and communication technology plays an increasingly significant role in society. It is therefore vital that our young learners are equipped to utilise technology in order to enhance their development as they become confident individuals, successful learners, responsible citizens, effective contributors and facilitate the process of lifelong learning. ICT comprises the knowledge, skills and understanding needed to employ information and communications technologies appropriately, securely and fruitfully in learning, employment and everyday life.

ICT is more than 'computers' as it embraces peripherals such as cameras, scanners, projectors, whiteboards, control equipment and programmable toys.

Aims

The aims of ICT are to enable children:

- develop confidence and find pleasure in using ICT

- recognise the appropriate uses of and be confident with ICT
- aspire to the highest possible standards of achievement
- enhance, extend and enrich their learning across the whole curriculum
- develop ICT skills, knowledge, understanding and the confidence and practical capability to apply these in future learning
- to integrate ICT with structured play in the foundation stage
- increase independent learning
- increase their motivation and self-esteem by improving the presentation of their work, particularly for those pupils with special educational needs
- develop collaborative and investigative skills, abilities and understanding
- communicate locally and globally using the Internet, including e-mail
- use ICT to develop partnerships beyond the school
- value the scope and limitations of ICT in the wider world
- develop the ability to adapt to the rapid technological changes taking place in society
- to provide all children with an understanding of E Safety. See E-Safety section in this policy
- to make all children aware of their online identities

Objectives

The school will seek to deliver the National Curriculum through the programmes of Study for Information Technology as detailed in the school's curriculum guidelines for ICT.

We will seek to achieve the aims by:

- gaining experience of ICT as appropriate through cross curricular activities in a variety of contexts and through the specific teaching of I.C.T. skills
- develop related skills and encourage their use throughout all areas of the curriculum
- meet the requirements of the National Curriculum delivering, monitoring, assessing and recording ICT skills by ensuring coverage, progression and continuity within and across key stages.

Roles and Responsibilities

The roles and responsibilities with regard to ICT are as follows:-

The Principle & SMT are responsible for -

- ensuring there is a shared vision for ICT within the school
- ensuring consistent implementation of ICT Policy
- ensuring staff access to ICT and identifying ICT support needed by individual staff

ICT Co-ordinator is responsible for -

- the day-to-day implementation of the ICT Policy and aspects of the ICT development plan as well as the implementation of an ICT scheme of work
- reviewing the ICT policy & Scheme of Work
- ICT monitoring which includes classroom observations, discussions with staff, scrutiny of work and planning and discussions with pupils
- co-ordinating the integration of ICT into the curriculum, ensuring continuity and progression throughout the year groups
- co-ordinating ICT training for staff to raise awareness, build on experience and develop confidence

- working with subject co-ordinators and staff to encourage the use of ICT as a teaching & learning tool across the Curriculum
- overseeing equipment maintenance and liaising with our ICT technician
- co-ordinating the purchase and allocation of ICT resources depending on budget priorities

Teachers are responsible for -

- reporting ICT faults
- the assessment of pupils
- meeting the statutory requirements
- curriculum development
- implementing the policy and practice
- All subject co-ordinators are responsible for integrating effective use of ICT into the scheme of work for their subject.

Our Parents and Carers

North Wootton Academy has links with the community through our regularly updated school website, FaceBook page, Parent Mail system and Tapestry. Our website has information, resources and links for parents and carers. All newsletters are regularly updated onto the site. We encourage our parents and carers to be kept well-informed of ICT developments in our school. All new developments are discussed in newsletters and on the school website. Parents and carers are invited to view our policies if the need arises and as a school, we have hosted parent workshops specifically focusing on ICT.

Teaching and learning style

As the aims of ICT 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 ICT is for individuals or groups of children to use computers and Ipads to help them in whatever they are trying to study. So, for example, children might investigate a particular issue on the Internet or within Science they might use the computer to model a problem or to analyse data. We encourage the children to explore ways in which the use of ICT 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 re-arranging text or changing the font etc.

We recognise that all classes have children with widely differing ICT abilities. This is especially true when some children have access to ICT 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 achieve this in a variety of ways, by:

- 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);
- providing resources of different complexity that are matched to the ability of the child;
- when available using classroom assistants to support the work of individual children or groups of children.

Delivery of ICT

The new Early Years Foundation Stage curriculum came into force in September of 2021, with a few marked changes. The 'Technology' strand has now been removed from 'Understanding the World' and has not been replaced with any updated guidance. Computing and technology are still vitally important subjects to deliver to Reception children. Not only will teaching a well-planned Computing curriculum

ensure that children enter Year 1 with a strong foundation of knowledge, but Computing lessons in the EYFS also ensure that children develop listening skills, problem-solving abilities and thoughtful questioning — as well as improving subject skills across the seven areas of learning.

We live in a technological world and there is no escape from the reality that technology is integrated into the lives of young children. Just as we ensure the children in our care are ready for the adult world by teaching them maths and literacy, we should also make sure that they are fluent in computer literacy and all-important e-safety.

Within our setting, we ensure the children are exposed to technology regularly and have the opportunity to learn how to be safe when using it.

Learning with ICT at Key Stage 1

The National Curriculum defines that: "*During key stage 1 pupils explore ICT and learn to use it confidently and with purpose to achieve specific outcomes. They start to use ICT to develop their ideas and record their creative work. They become familiar with hardware and software.*" The National Curriculum states that within Key Stage 1, children will be able to:

- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
- Create and debug simple programs.
- Use logical reasoning to predict the behaviour of simple programs.
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
- Recognise common uses of information technology beyond school.
- 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.

Breadth of Study

During the key stage, pupils will be taught the knowledge, skills and understanding through:

- working with a range of information to investigate the different ways it can be presented
- exploring a variety of ICT tools
- talking about the uses of ICT inside and outside of school

The knowledge, skills and understanding of ICT (addressed in the National Curriculum) are planned and taught as part of the ICT Scheme of Work, which is regularly reviewed and used by all staff. New developments will be trialled and embedded if successful.

Learning with ICT at Key Stage 2

That National Curriculum defines that:

'*During Key Stage 2 pupils use a wider range of ICT tools and information sources to support their work in other subjects. They develop their research skills and decide what information is appropriate for their work. They begin to question the plausibility and quality of information. They learn how to amend their work and present it in a way that suits its audience.'*

The National Curriculum states that within Key Stage 2 children will be able to:

- Design, write and debug 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.
- Use logical reasoning to explain how some simple algorithms work 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.
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.
- 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.
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Breadth of study

During the key stage, pupils should be taught the knowledge, skills and understanding through:

- working with a range of information to consider its characteristics and purposes
- working with others to explore a variety of information sources and ICT tools
- investigating and comparing the uses of ICT inside and outside school.

Cross curricular ICT

ICT contributes to teaching and learning in all curriculum areas, both supporting and enriching the child's learning experiences. ICT enables children to present their information and conclusions in the most appropriate way.

ICT offers children opportunities to develop their use of language. Both language development and learning in ICT are reinforced and clarified by: speculating, discussing, explaining and comparing, listening and reading, predicting, sequencing ideas and suggesting alternatives.

ICT provides opportunities for children to develop mathematical skills through working with numerical data to real situations.

Assessment in ICT

Teachers assess children's work in ICT 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 the teacher makes a summary judgement about the work of each pupil in relation to the National Curriculum levels of attainment, and records these attainment grades. We use this as the basis for assessing the progress of the children and to pass information on to the next teacher at the end of the year.

Work samples are also collected by teachers, once an objective has been completed. This enables the teacher to gather a range of evidence supporting their teacher judgment which can be used to demonstrate a mixture of abilities within a class.

Inclusion

At North Wootton Academy we teach ICT to all children, whatever their ability. ICT forms part of our school curriculum policy to provide a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. In some instances, the use of ICT has a considerable impact on the quality of work that children produce; it increases their confidence and motivation. When planning work in ICT, we take into account the targets in the children's Individual Education Plans (IEPs).

Health and Safety

Children should not be responsible for moving heavy equipment around the school. They may load software but should not be given the responsibility of plugging in and switching machines on without a member of staff present. When working with tools, equipment and materials, in practical activities and in different environments, pupils should be taught:

- about hazards, risks and risk control.
- to recognise hazards, assess consequent risks and take steps to control the risks to themselves and others.
- to ensure that all equipment is in good working order and not presenting a risk to any individual.

Resources

Our school has 30 Ipads for classroom use, in addition to a computer room with a network of computers for 30 children. Our academy has recently purchased a set of 18 laptops and a charging cabinet which is mobile and can be used in any area of the school. Each member of staff is also provided with an Ipad and a laptop. The school has Internet access for all computers. Teachers and children have access to the 'computer library' of software packages.

Along with the computers, the school has the following:

See audit

Monitoring and review

The monitoring of the standards of the children's work and of the quality of teaching in ICT is the responsibility of the ICT subject leader. The ICT subject leader is also responsible for supporting colleagues in the teaching of ICT, for keeping informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The ICT subject leader gives the headteacher an annual summary report in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement.

Links to the school development plan

- The Computing Subject Leader/team produces an action plan each term.
- An audit of resources is undertaken yearly to ensure that hardware and software are kept as up-to-date as possible and that obsolete or broken machines are scrapped or repaired.

Curricular Overview

The Computing curriculum therefore has two branches of study. The first has an academic focus on developing an understanding, ability and confidence to support their use of technology within their education; the second has a PSHE or Pastoral focus in which the pupils are taught how to work safely with this technology and in particular how to stay in the increasingly online environment in which to complete these actions. Therefore, the school's Computing Curriculum can be viewed as follows:

Academic Aims
North Wootton Academy aims to ensure that all our 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 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

Pastoral Aims

- Personal data, personal security and the digital right of others
- Digital footprint, digital legacy and the THINKing before you post
- Online Relationships: Stranger Danger within an online world
- Safe-searching and age-related appropriateness of site

Curriculum Resources

Keeping Children Safe in Education 2017 outlines the need for pupils to be explicitly taught how to safe online and that this be part of an integrated approach. As such, the school using two schemes of work, one from Rising Stars and the other from KeyChain Computing:

- Keychain computing forms the basis of the school's Academic Curriculum
- Switched on Online Safety forms the basis of the school's Pastoral Curriculum

In regard the latter, teachers are asked to follow this Programme of Study in a prescribed manner to ensure that there is a clear and integrated approach to the teaching of online safety.

Cross-Curricular Links

- Included in the school's approach to SRE as part of Growing up with Tom and Yasmin; sexting etc.
- Integrated in the school's PSHE Programme of Study using Think You Know as the Basis for Discussion.
- Use of the 'If in doubt, minimise and shout out' as internet searches are present in all subjects.

Entitlement to the Computing curriculum

All children should have access to the use of computing technologies regardless of gender, race, cultural background or physical or sensory disability. Where use of a school device proves difficult for a child because of a disability, the school will endeavour to provide specialist equipment and software/apps to enable access. Children with learning difficulties can also be given greater access to the whole curriculum through the use of these technologies. This may result in them having their own ipad or laptop to use within school. Their motivation can be heightened and they are able to improve the accuracy and presentation of their work. This in turn can raise self-esteem.

Planning for Computing in the early years needs to be considered carefully if children are to begin to gain confidence in the use of a variety of technologies as soon as they start attending school. A range of appropriate hardware, software and activities needs to be offered.

Assessment and record keeping

- On-going formative assessment is an integral part of good practice. Its main purpose is to enable the teacher to match work to the abilities and needs of the children and ensure progression in learning.
- In line with the school's ongoing assessment approach Key Computing Skills have been identified that cover the Academic elements of the curriculum. Teachers should assess module requirements with reference to children's knowledge, understanding and skills, but these skills are seen as a Key Performance Indicator of the child's success within this module.

- Each pupil has an e-portfolio either kept on the school network (KS1) or on GoogleDrive (KS2) in which weekly work is screenshot and pasted. In addition, the school's Non-Core Work Sample folder is used for teachers to place work using non-PC devices.
- For Reception it may not always be practical to keep samples of work, but observations and discussions should be recorded on Tapestry.
- The Computing lead is responsible for monitoring both the attainment and coverage of all Year groups. This is completed termly with two Pupil Outcome Reports submitted to the Principal: one in January and the second in June.
- The assessment of online safety knowledge is completed differently: For the majority of the school, the Online Safety Lead will monitor the teaching and knowledge of online safety through termly Pupil Voice Surveys. For those pupils in Key Stage 2 who have access to individualised online accounts, a short, online survey will be taken at the start of each year to ascertain that they have a sufficient grasp of basic online safety to enable them to use these accounts responsibly.

Supporting Infrastructure

NSIX Accounts and EMAT One Drive accounts

All pupils have an individualised Google of Education account and members of staff have OneDrive accounts. This enables them to work online in a safe and transparent manner as all accounts are monitored through the school's Netsweeper system. For members of staff, this is the only means of online communication to be used amongst staff when sharing data about the school or its pupil. It is also our ambition that all pupils will use their accounts for their daily online activity to enable the school to closely monitor their online actions. In the past, we have had a graduated and controlled access to Online provision (nsix), however due to the current climate, the children have been given access much sooner. During the global pandemic, children were given their nsix accounts, from reception all the way up to year 6, so that they were able to access their online learning when restrictions required them to do so. As an academy, we felt that this was necessary and that this will be the process which we take moving forwards.

Netsweeper Filtering System

Within our academy, we are using Netsweeper filtering systems which aims to limit and prevent unecessary and inappropriate content.

Whilst it is essential that governing bodies and proprietors ensure that appropriate filters and monitoring systems are in place; they should be careful that "over blocking" does not lead to unreasonable restrictions as to what children can be taught with regards to online teaching and safeguarding.

Keeping Children Safe in Education 2017

Present resource provision

The school has 30 computers in the ICT suite and 30 ipads situated in a trolley which can be moved to different areas of the school from the staffroom. The school has also recently purchased a set on laptops and charging cabinet which can be moved to all areas of the school.

There are computers located in the library, staffroom and office areas.

Each device has internet access and all the relevant applications needed to teach computing in school. If any problems arise, they are logged onto the ICT fault reporting excel spreadsheet which all members of staff can find on Public.

Classroom Provision

There is a variety of other ICT equipment in school including; Beebots, digital cameras, audio recording devices and headphones.

In addition to this, there is a variety of software and apps available for all devices.

To ensure that copyright laws are adhered to, staff, pupils and parents are not permitted to run software brought in from outside school on school devices. An Internet policy has been developed in order to allow the safe and efficient use of the Internet for both staff and pupils in an educational context.

Pupils and parents are asked to fill in an online safety form. Staff, governors and visitors have to fill in an ICT Code of Conduct form. Any person not directly employed by the school must sign an 'acceptable use of school ICT resources' form before being allowed to access the Internet on the school site.

The new computing curriculum has been implemented from September 2014. This includes an online safety scheme of work which progresses from Year 1 to Year 6.

In Computing, as with all subjects, in order to develop the continuity and progression of teaching and learning, a balance between whole class, individual and group work, and direct teaching, pupil investigation and skills practice should be planned throughout the school.

Staff confidence and expertise will be developed if requested through training sessions provided by the Computing Subject Leader, and external agencies. Support will be given, where possible, with Computing planning and teaching by the Computing Subject Leader.

Emerging technologies will be examined for educational benefit and a risk assessment will be carried out before use in school is allowed.

<u>Staff training</u>

Needs will be met by:

- Auditing staff skills and confidence in the use of information technologies regularly;
- Arranging training for individuals as required;
- The Computing Subject Leader should attend courses and networks to support and train staff as far as possible.
- Annual online safety training must be arranged and completed by all staff working with children as part of safeguarding children.
- All staff must be trained on professional conduct and safer working practices regarding technologies such as Twitter, Facebook, Blogging etc.

<u>Teaching children to evaluate Internet content</u>

- Pupils will be educated in the effective use of the Internet.
- The school will seek to ensure that the use of Internet derived materials by staff and by pupils complies with copyright law.
- Pupils should be taught to be critically aware of the materials they read and shown how to validate information before accepting its accuracy.
- Pupils will be taught how to report unpleasant Internet content eg. Using the CEOP Report Abuse Icon, Hector Protector or informing the relevant adult.

<u>E-mail systems</u>

- Pupils and staff may only use approved e-mail accounts on the school system.
- Pupils must immediately tell a teacher if they receive an offensive e-mail.
- Pupils must be taught about what personal information they should not put in an e-mail.
- Staff to pupil e-mail communication must only take place via a school e-mail address or from within the learning platform and will be monitored.

- Unknown incoming e-mails should be treated as suspicious and attachments not opened unless the author is known.

Assessing risks

The school will take all reasonable precautions to prevent access to inappropriate material. However, due to the international scale and linked Internet content, it is not possible to guarantee that unsuitable material will never appear on a school computer. Neither the school nor Norfolk Children's Services can accept liability for the material accessed, or any consequences of Internet access.

Handling online safety complaints

- Complaints of Internet misuse will be dealt with by a senior member of staff.
- Any complaints about staff misuse must be referred to the Principal.
- Complaints of a child protection nature must be referred to the Senior Designated Professional for Safeguarding and dealt with in accordance with school child protection procedures.
- Pupils and parents will be informed of the complaints procedure.
- Pupils and parents will be informed of the consequences for pupils misusing the internet.

Review and evaluation procedures

All staff will be given the School Online Safety Policy and its importance explained. Staff should be aware that Internet traffic can be monitored and traced to the individual user. Discretion and professional conduct is essential.

The everyday use of communication technology is developing rapidly, with new technology being produced all the time. This policy therefore will be reviewed and revised on a yearly basis. The Computing Subject Leader will liaise regularly with staff, both at staff meetings and informally, to monitor the effectiveness of the policy and the Computing curriculum. Meetings with subject leaders will also ensure that the use of information technologies across the curriculum is planned for and evaluated.