



Gainford CE Primary Primary School



Computing Policy

Article 29 Convention on the Rights of the Child (Goals of education): Children's education should develop each child's personality, talents and abilities to the fullest.

At Gainford C E Primary School our Christian ethos permeates all areas of the curriculum. We value and nurture each child enabling and promoting their development as computer literate and digitally safe individuals.

'Computers are now part of everyday life. For most of us, technology is essential to our lives, at home and at work. 'Computational thinking' is a skill children must be taught if they are to be ready for the workplace and able to participate effectively in this digital world'.

(Simon Peyton-Jones, Chairman, Computing At School)

1. Curriculum Aims

Our curriculum aims to ensure that all 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 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 and Foundation Stage

Computing is taught in the EYFS as an integral part of one of the seven areas of learning (Understanding the World: Technology). Children have free access to various forms of IT throughout the school day.

Key stage 1

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices
- 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.

Key stage 2

- Pupils should be taught 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.

2. Entitlement

All of our children are entitled to a continuous and progressive computing curriculum, which meets their individual needs.

The computing curriculum has been planned using national curriculum guidance and in conjunction with LA advice. Teachers will be encouraged to make cross-curricular links especially in the teaching of IT. However, many aspects of computer science will need to be taught discretely.

3. Special Needs and Inclusion

Pupils with special educational needs have the same computing entitlement as all other pupils and are offered the same curriculum. However, particular application/tools are used for:

- Pupils with learning difficulties need to be motivated to practice basic skills regularly and intensively. They will benefit from the use of programs which practice skills is set in the context of an enjoyable and motivating scenario
- Pupils with physical disabilities and communication difficulties
- Pupils of high ability who may be extended through the use of programs which offer challenge and opportunities for investigation.

4. Equal Opportunities

Staff must be aware of, and guard against any bias based on gender, racial or any other stereotypes. All pupils should have equal access to Computing.

5. Assessment and Monitoring

- We assess computing using stranded sheets with areas of Computing broken down for each year group from Year 1 to Year 6. In the Early Years assessments are made against statements in the Early Years Foundation Stage curriculum

- Teachers make a judgement against the statements and record whether a child is Emerging, Developing or Secure within a particular year group (Please refer to the Assessment and Reporting Policy for further information with regard to points allocated to each grading used to monitor pupil progress)
- This is recorded at the end of each term on the Excel tracking system (called Pupil Progress without Levels) that is located in School Documents on the Durham Learning Gateway.
- From this, data pupil attainment and progress can be calculated and next steps in learning determined. Attainment and Progress of cohorts and groups of children can also be analysed using this system.

6. Reporting

Information about children's progress with regard to computing is communicated to parents at parents evenings and in their individual annual reports.

7. Resources

Hardware and software resources are reviewed annually. Teachers report any resource shortfalls or possible extension requirements to the Computing Coordinator.

8. Responsibilities

Class teachers are responsible for:-

- Differentiating and adapting lessons to cater for all ability levels, ensuring SEN (Special Educational Needs), G & T (Gifted and Talented) and EAL (English as an Additional Language) are suitably challenged to meet their needs.
- Incorporating IT, where appropriate, when planning classroom activities.
- Understanding and utilising the range of software available in school and its use in relation to cross curricular activities.
- Loading and running programs.
- Using computer peripheral devices.

- Recognising and dealing with common faults and mistakes that can arise when using computing hardware and software.
- Maintaining own knowledge and skills of computing in accordance with educational developments.
- Ensuring children are responsible, respectful and safe when using IT.
- Reporting problems or faults to ITSS.

The Computing coordinator is responsible for:-

- Assisting Senior Management with coordinating, developing and implementing the schools policy on Computing.
- Promoting and overseeing staff INSET activities relating to Computing development.
- Developing strategies for the efficient deployment of existing computing resources in the school.
- Consultation with the Head Teacher and staff regarding Computing objectives.
- Keeping abreast of and understanding and current technology, developments and trends relating to Computing and its use in Education by attending network meetings.
- Liaising with Durham County staff and other educational establishments on matters relating to Computing.
- Arranging for the upgrading or replacement of hardware and software as appropriate.
- Organising/managing the duties of the technician who visits school weekly.
- Completing school action plans and evaluations.
- Updating school policies relating to the teaching of Computing

The Headteacher is responsible for the schools compliance with the Data Protection Act and part of the role is that of Senior Information Risk Officer (SIRO), dealing with management of information and the schools data protection policy.

All staff are responsible for protecting the data they use as part of their job.

The Headteacher is the schools e-safety officer, responsible for the e-safety policy and delivery of Digital Literacy.

9. Maintenance

Maintenance is carried out by the school's technician who visits the school once a week to give technical support and maintain the network to its optimum capability. In addition, he completes network tasks as designated by the Computing Co-ordinator. Any issues arising from use of Computing equipment/software need to be recorded on the school gateway. The Computing Co-ordinators will decide on whether issues can be dealt with using co-ordinator knowledge or by the technician.

10. Health and Safety

When working with tools, equipment and materials, in practical activities and in different environments, including those that are unfamiliar, pupils should be taught:

- to never look into the projector lens
- the appropriate and safe use of all equipment, especially scanners and photocopiers due to the bright lights.

11. Staff Development

To implement this vision effectively, all staff need to be confident in all areas of the computing curriculum. Staff who have identified areas of development in computing will be identified and through communication between the Computing co-ordinator and the Headteacher, relevant course will be located or training brought into/held at school.

Training will also be offered on new hardware and software purchased. In addition, the Computing co-ordinator and/or other staff will be able to support staff members in using various programmes.

The Computing Co-ordinator keeps up to date with the latest technological advancements and curriculum developments by attending conferences, network and school cluster meetings. Information is then fed back to the rest of the school during staff meetings.

12. Computing Management Information

The school uses SIMS Assessment Manager, which both the Head Teacher and staff can use to input data and assess pupil achievement against school targets.

13. School Liaison Transition

The school will regularly use IT to transfer information from school to school. However, it is appreciated that paper based mail still has to be used and is, on occasion, the only acceptable method to use.

14. Legislation in Computing

When appropriate legislation appertaining to the use of IT changes, the Computing Co-ordinator will discuss this with all members of staff

Software copyright is a serious issue and is taken seriously by Gainford CE Primary School. Only software which we have purchased the correct user site license will be loaded onto all stations in the Computing Suite so that staff know it is acceptable to use on all machines.

Legislation covering computing in schools includes :-

The Copyright, Designs and Patents Act 1988

The Computer Misuse act 1990

The Data Protection Act 1998

The Freedom of Information Act 2000

The Protection from Harassment Act 1997

The Malicious Communications Act 1988

Section 127 of the Communications Act 2003

Public Order Act 1986

The Defamation Acts of 1952 and 1996

The school also has policies on :-

- e-safety
- Data Protection
- Anti – Bullying
- Acceptable use Policies
- iPad and Laptop usage policy

15. Home/ School Links

To foster these links, the school has its own website to promote the school, showcase the children's work and inform the parents of termly dates etc. In addition, the Durham Learning Gateway can be used by staff and pupils to enhance learning at both home and school.

The school posts newsletters on the school website and also e-mails them to parents who have requested this facility.

When taking children on residential visits, or returning to school outside of regular school hours, school staff will keep parents updated by using a school mobile phone

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To be Reviewed: October 2017 (2 yearly)

Author: Mr. Darren Martin – Computing Lead

	e-Safety	Programming	Handling Data	Multimedia	Technology in our Lives
Year 1	<ul style="list-style-type: none"> • I can keep my password private. • I can tell you what personal information is. • I can tell an adult when I see something unexpected or worrying online. • I can talk about why it's important to be kind and polite. • I can recognise an age appropriate website. • I can agree and follow sensible e-Safety rules. 	<ul style="list-style-type: none"> • I can give instructions to my friend and follow their instructions to move around. • I can describe what happens when I press buttons on a robot. • I can press the buttons in the correct order to make my robot do what I want. • I can describe what actions I will need to do to make something happen and begin to use the word algorithm. • I can begin to predict what will happen for a short sequence of instructions. • I can begin to use software/apps to create movement and patterns on a screen. • I can use the word debug when I correct mistakes when I program. 	<ul style="list-style-type: none"> • I can talk about the different ways in which information can be shown. • I can use technology to collect information, including photos, video and sound. • I can sort different kinds of information and present it to others. • I can add information to a pictograph and talk to you about what I have found out. 	<ul style="list-style-type: none"> • I can be creative with different technology tools. • I can use technology to create and present my ideas. • I can use the keyboard or a word bank on my device to enter text. • I can save information in a special place and retrieve it again. 	<ul style="list-style-type: none"> • I can recognise the ways we use technology in our classroom. • I can recognise ways that technology is used in my home and community. • I can use links to websites to find information. • I can begin to identify some of the benefits of using technology.
Emerging (Have just started to cover the concept)					
Developing (Has achieved approx. 50% of the statements)					
Secure (Has achieved nearly all)					
Mastery Exhibits skills with confidence and independence					

	e-Safety	Programming	Handling Data	Multimedia	Technology in our
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Year 2	<p>personal information private.</p> <ul style="list-style-type: none"> • I can describe the things that happen online that I must tell an adult about. • I can talk about why I should go online for a short amount of time. • I can talk about why it is important to be kind and polite online and in real life. • I know that not everyone is who they say they are on the Internet. 	<p>backward and turn) and physically follow their instructions.</p> <ul style="list-style-type: none"> • I can tell you the order I need to do things to make something happen and talk about this as an algorithm. • I can program a robot or software to do a particular task. • I can look at my friend's program and tell you what will happen. • I can use programming software to make objects move. • I can watch a program execute and spot where it goes wrong so that I can debug it. 	<p>collect information, including a camera, microscope or sound recorder.</p> <ul style="list-style-type: none"> • I can make and save a chart or graph using the data I collect. • I can talk about the data that is shown in my chart or graph. • I am starting to understand a branching database. • I can tell you what kind of information I could use to help me investigate a question. 	<p>ideas in different ways.</p> <ul style="list-style-type: none"> • I can use the keyboard on my device to add, delete and space text for others to read. • I can tell you about an online tool that will help me to share my ideas with other people. • I can save and open files on the device I use. • 	<p>classroom.</p> <ul style="list-style-type: none"> • I can tell you why I use technology in my home and community. • I am starting to understand that other people have created the information I use. • I can identify benefits of using technology including finding information, creating and communicating. • I can talk about the differences between the Internet and things in the physical world.
Emerging (Have just started to cover the concept)					
Developing (Has achieved approx. 50% of the statements)					
Secure (Has achieved nearly all)					
Mastery Exhibits skills with confidence and independence					

<p>Year 3</p>	<ul style="list-style-type: none"> • I can talk about what makes a secure password and why they are important. • I can protect my personal information when I do different things online. • I can use the safety features of websites as well as reporting concerns to an adult. • I can recognise websites and games appropriate for my age. • I can make good choices about how long I spend online. • I ask an adult before downloading files and games from the Internet. • I can post positive comments online. 	<ul style="list-style-type: none"> • I can break an open-ended problem up into smaller parts. • I can put programming commands into a sequence to achieve a specific outcome. • I keep testing my program and can recognise when I need to debug it. • I can use repeat commands. • I can describe the algorithm I will need for a simple task. • I can detect a problem in an algorithm which could result in unsuccessful programming. 	<ul style="list-style-type: none"> • I can talk about the different ways data can be organised. • I can search a ready-made database to answer questions. • I can collect data help me answer a question. • I can add to a database. • I can make a branching database. • I can use a data logger to monitor changes and can talk about the information collected. 	<ul style="list-style-type: none"> • I can create different effects with different technology tools. • I can combine a mixture of text, graphics and sound to share my ideas and learning. • I can use appropriate keyboard commands to amend text on my device, including making use of a spellchecker. • I can evaluate my work and improve its effectiveness. • I can use an appropriate tool to share my work online. 	<ul style="list-style-type: none"> • I can save and retrieve work on the Internet, the school network or my own device. • I can talk about the parts of a computer. • I can tell you ways to communicate with others online. • I can describe the World Wide Web as the part of the Internet that contains websites. • I can use search tools to find and use an appropriate website. • I think about whether I can use images that I find online in my own work.
<p>Emerging (Have just started to cover the concept)</p>					
<p>Developing (Has achieved approx. 50% of the statements)</p>					
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	<p>e-Safety</p>	<p>Programming</p>	<p>Handling Data</p>	<p>Multimedia</p>	<p>Technology in our Lives</p>
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<p style="text-align: center;">Year 4</p>	<ul style="list-style-type: none"> • I choose a secure password and screen name when I am using a website. • I can talk about the ways I can protect myself and my friends from harm online. • I use the safety features of websites as well as reporting concerns to an adult. • I know that anything I share online can be seen by others. • I choose websites, apps and games that are appropriate for my age. • I can help my friends make good choices about the time they spend online. • I can talk about why I need to ask a trusted adult before downloading files and games from the Internet. • I comment positively and respectfully online and through text messages. 	<ul style="list-style-type: none"> • I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts. • I can use an efficient procedure to simplify a program. • I can use a sensor to detect a change which can select an action within my program. • I know that I need to keep testing my program while I am putting it together. • I can use a variety of tools to create a program. • I can recognise an error in a program and debug it. • I recognise that an algorithm will help me to sequence more complex programs. • I recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design and Technology. 	<ul style="list-style-type: none"> • I can organise data in different ways. • I can collect data and identify where it could be inaccurate. • I can plan, create and search a database to answer questions. • I can choose the best way to present data to my friends. • I can use a data logger to record and share my readings with my friends. 	<ul style="list-style-type: none"> • I can use photos, video and sound to create an atmosphere when presenting to different audiences. • I am confident to explore new media to extend what I can achieve. • I can change the appearance of text to increase its effectiveness. • I can create, modify and present documents for a particular purpose. • I can use a keyboard confidently and make use of a spellchecker to write and review my work. • I can use an appropriate tool to share my work and collaborate online. • I can give constructive feedback to my friends to help them improve their work and refine my own work. 	<ul style="list-style-type: none"> • I can tell you whether a resource I am using is on the Internet, the school network or my own device. • I can identify key words to use when searching safely on the World Wide Web. • I think about the reliability of information I read on the World Wide Web. • I can tell you how to check who owns photos, text and clipart. • I can create a hyperlink to a resource on the World Wide Web. • I can recognise that websites use different methods to advertise products
<p>Emerging (Have just started to cover the concept)</p>					
<p>Developing (Has achieved approx. 50% of the statements)</p>					
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	e-Safety	Programming	Handling Data	Multimedia	Technology in our Lives
Year 5	<ul style="list-style-type: none"> • I can choose a secure password and screen name. • I protect my password and other personal information. • I can explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult. • I know that anything I post online can be seen, used and may affect others. • I can talk about the dangers of spending too long online or playing a game. • I can explain the importance of communicating kindly and respectfully. • I can discuss the importance of choosing an age-appropriate website, app or game. • I can explain why I need to protect my computer or device from harm. 	<ul style="list-style-type: none"> • I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program. • I can refine a procedure using repeat commands to improve a program. • I can use a variable to increase programming possibilities. • I can change an input to a program to achieve a different output. • I can use 'if' and 'then' commands to select an action. • I can talk about how a computer model can provide information about a physical system. • I can use logical reasoning to detect and debug mistakes in a program. • I use logical thinking, imagination and creativity to extend a program. 	<ul style="list-style-type: none"> • I can use a spreadsheet and database to collect and record data. • I can choose an appropriate tool to help me collect data.. • I can present data in an appropriate way. • I can search a database using different operators to refine my search. • I can talk about mistakes in data and suggest how it could be checked. 	<ul style="list-style-type: none"> • I can use text, photo, sound and video editing tools to refine my work. • I can use the skills I have already developed to create content using unfamiliar technology. • I can select, use and combine the appropriate technology tools to create effects that will have an impact on others. • I can select an appropriate online or offline tool to create and share ideas. • I can review and improve my own work and support others to improve their work. 	<ul style="list-style-type: none"> • I can describe different parts of the Internet. • I can use different online communication tools for different purposes. • I can use a search engine to find appropriate information and check its reliability. • I can recognise and evaluate different types of information I find on the World Wide Web. • I can describe the different parts of a webpage. • I can find out who the information on a webpage belongs to • I know which resources on the Internet I can download and use. • I can describe the ways in which websites advertise their products to me.
Emerging (Have just started to cover the concept)					
Developing (Has achieved approx. 50% of the statements)					
Secure (Has achieved nearly all)					
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	e-Safety	Programming	Handling Data	Multimedia	Technology in our Lives
Year 6	<ul style="list-style-type: none"> • I protect my password and other personal information. • I can explain the consequences of sharing too much about myself online. • I support my friends to protect themselves and make good choices online, including reporting concerns to an adult. • I can explain the consequences of spending too much time online or on a game. • I can explain the consequences to myself and others of not communicating kindly and respectfully. • I protect my computer or device from harm on the Internet. 	<ul style="list-style-type: none"> • I can deconstruct a problem into smaller steps, recognising similarities to solutions used before. • I can explain and program each of the steps in my algorithm. • I can evaluate the effectiveness and efficiency of my algorithm while I continually test the programming of that algorithm. • I can recognise when I need to use a variable to achieve a required output. • I can use a variable and operators to stop a program. • I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen. • I can use logical reasoning to detect and correct errors in a algorithms and programs. 	<ul style="list-style-type: none"> • I can plan the process needed to investigate the world around me. • I can select the most effective tool to collect data for my investigation. • I can check the data I collect for accuracy and plausibility. • I can interpret the data I collect. • I can present the data I collect in an appropriate way. • I use the skills I have developed to interrogate a database. 	<ul style="list-style-type: none"> • I can talk about audience, atmosphere and structure when planning a particular outcome. • I can confidently identify the potential of unfamiliar technology to increase my creativity. • I can combine a range of media, recognising the contribution of each to achieve a particular outcome. • I can tell you why I select a particular online tool for a specific purpose. • I can be digitally discerning when evaluating the effectiveness of my own work and the work of others. 	<ul style="list-style-type: none"> • I can tell you the Internet services I need to use for different purposes. • I can describe how information is transported on the Internet. • I can select an appropriate tool to communicate and collaborate online. • I can talk about the way search results are selected and ranked. • I can check the reliability of a website. • I can tell you about copyright and acknowledge the sources of information that I find online. • I know that websites can use my data to make money and target their advertising
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