



Computing Policy November 2024

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Section 1 Leadership and management

Fern Academy Trust's vision for Computing

The vision

We see Computing as an important tool to help bring our children's learning to life;

- to enhance the experiences that are possible as we learn,
- to extend learning and experiences out beyond our school,
- as a communication tool for communication between all members of our community and those outside it.

Reviewing the vision and policy

All members of staff within Fern Academy Trust are responsible for feeding ideas into the on-going development of our vision. We live in an exciting world where technology is developing at a faster rate than ever before. More people are switched on to the possibilities that Computing has for them and it is our policy to make use of developing technologies in the best possible way to enhance the experience of all members of our school community.

This policy is reviewed annually or more often if significant changes in technology arise. This policy, and all revisions, are ratified by the governing body.

Our strategy to achieve the vision

Strategic leadership of computing

Day to day responsibility for the delivery of the computing curriculum rests with class teachers.

The Computing Lead is responsible for developing Fern Academy Trust's strategy for computing considering opinions expressed by all members of the school community, particularly classroom-based staff. This development is also informed by external factors and developments in technology.

Environmental impact

Fern Academy Trust takes seriously all issues relating to the environment and this is no less true with computing. We strive to ensure that all purchasing decisions are backed by sound research and guidance so that every piece of computing equipment will last as long as possible.

With the assistance of our technical support providers we strive to ensure that the life of any piece of computing equipment is extended as long as is reasonably possible without making unnecessary demands on technical support or causing unnecessary problems in lessons.

At the end of their useful life we ensure that computer equipment is disposed of in an environmentally friendly way, safely and securely, after any data has been removed.

Safeguarding

Fern Academy Trust has highly developed policies on Online Safety. Please see that policy.

Communication strategy

Our websites www.fernacademytrust.co.uk, www.marlbrooks.school.com, www.st-martins-hereford.com and www.wellingtonpsn.greenhousecms.co.uk are used primarily as a window on our Trust for those that are not already a part of our community.

Our website is provided for us by Greenhouse School Websites and managed on a day to day basis by our Computing Lead and staff where they have specific messages to communicate. Class teachers regularly contribute to their class pages to communicate to parents the work of their children.

Each school within the Trust uses a SMS texting system to send urgent messages to parents' mobiles.

Section 2 Planning

Whole-school planning for Computing

The following is a breakdown of the latest (2014) Computing Curriculum with guidance on how the objectives are covered.

Key Stage 1

By the end of Key Stage 1 children should 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.
 - o Think of a cup tea, what steps need to be taken to make it? What decisions have to be made? Do you want milk? Do you want sugar?
 - o Program a Bee-Bot through a maze, write down the instructions first, plan the instructions.
 - o Program a Pro-Bot to travel to a specific point. What instructions do you need to include in order for it to get there? Links to maths, measuring, angles, turns.
- Create and debug simple programs.
 - o Why does my cup of tea not taste right? Is it too sweet, too milky?
 - o Bee-Bot and Pro-Bot, where has it gone wrong, where does it need to change?
 - o Flowol 4. Why are the lights not working?
- Use logical reasoning to predict the behaviour of simple programs.
 - o If I put in two spoons of sugar will I like my cup of tea?
 - o If I put in these instructions where will the Bee-Bot/Pro-Bot end up?

- o Discovery Education Coding. Where will the image icon end up?
- o Logic. Moving the turtle?
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
 - Create a folder and save work.
 - Use technology safely and respectfully, keeping personal information private; know where to go for help and support when they have concerns about material on the internet.
 - o CEOP
 - o Hector the Protector
 - Recognise common uses of information technology beyond school.
 - o Learning Platform
 - o Create a poster on publisher for all the technology they use at home.

Key Stage 2

By the end of Key Stage 1 children should 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.
 - o What steps are required to make a cup of tea?
 - o Probots, around the rally track or to check points around the fairground.
 - o Trip to a centre that uses controls.
- Use sequence, selection and repetition in programs; work with variables and various forms of input and output.
 - o Probots, repetition to draw shapes.
 - o Flowol, using mimics such as the greenhouse – when the temperature reaches a set point the water needs to come on, when the light drops below a set reading the lights need to come on.
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
- Draw out the algorithms (processes) for making a cup of tea, the tea is too sweet because the decision to add sugar wasn't given a chance to follow on so it kept on adding.
- Understand computer networks including the internet; how they provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration.

- o Using email to chat to peers and to communicate on joint projects together.
- o Using VC equipment to communicate globally.
- o Use the learning platform to save work to, retrieving it and editing it in a variety of locations e.g. home and school.
 - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.
- o Using advanced searches.
 - o Google is not the internet it is simply a search engine and there are others (Bing has a simple list of short cuts for advanced searches).
 - Use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour.
 - o CEOP training.
 - o Hector the Protector
 - 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.
 - o Minibeast search – photograph the minibeast, upload to a computer. Another child views the uploaded images and creates a spreadsheet of what has been found. This has been analysed.
 - o Tablets to find facts.
 - o Internet to retrieve images.
 - o Cameras/iPads to create a digital image.

The Computing curriculum has been divided into 5 main areas of Planning. These are:

Handling Data, Online-Safety, Multimedia, Programming and Technology.

Within these areas are planning grids that show the progression in each of these strands for the teachers to follow.

Planning for Computing for inclusion

We recognise the advantages of the using of Computing for pupils with additional needs and we use Computing to:

- address pupil’s individual needs
- increase access to the curriculum
- improve language skills

We promote equal opportunities for computer usage.

The school monitors the level of access to computers in the home environment to ensure no pupils are unduly disadvantaged.

Computer hardware, software and peripherals used in the trust are chosen to ensure that they are non-discriminatory and promote equal opportunities.

Curriculum leadership

Leadership of learning and teaching with Computing

All class teachers and subject leaders play a role in guiding the development of Computing resources which help to extend and enhance learning within specific subject areas.

Discussion takes place on an on-going basis between class teachers and subject leaders with the Computing Lead and senior management team as to how resources might best be developed.

Fern Academy Trust buys into a number of key cross-curricular digital content packages which are primarily to support learning across the curriculum rather than develop Computing capability. In particular the use of Discovery Education Coding which the Trust uses to fulfil its Programming elements of the curriculum. These are used consistently across the school and are monitored by the Computing Lead.

Evaluating learning and teaching with Computing

All class teachers are responsible for the on-going evaluation of their own teaching and their children's learning.

Computing is heavily linked to learning in all subjects and is therefore constantly under review along with those other subjects.

The Computing Lead has responsibility for monitoring the teaching of Computing. This is carried out through an examination of:

- Scrutiny of children's work
- Observations of lessons where Computing capability is being developed
- Pupil Voice

Section 3 Learning

Teaching and the learning process

Our planned curriculum includes opportunities for children to develop their Computing capability. Teachers need to be clear about what the learning objectives are to develop that capability, and assess children's progress in learning techniques, applying these techniques in their learning and in developing their higher order thinking making qualitative judgements about when and when not to use Computing.

Computing use for learning and teaching

In addition, children make use of Computing to enhance their learning across the curriculum regardless of whether the activity helps develop Computing capability.

A range of digital learning resources are available in and out of school for this purpose (see section 6 of this policy).

Learning with Computing beyond the school

All children are encouraged to make use of Computing outside school.

Homework which specifically makes use of Computing is set from time to time. Children are encouraged to make use of their own Computing facilities at home to complete home-based tasks. When this happens, such use is celebrated and shared back in school.

Section 4 Assessment of Computing capability

Assessment, recording and reporting of Computing capability

We recognise that assessment is central to classroom practice. Effective assessment establishes what a child knows, understands and can do. It also informs the planning of future learning and enables a school to review the effectiveness of the curriculum and teaching.

All teachers report annually to parents, describing progress in Computing. This report contains comments on the child's progress, achievement, strengths, weaknesses and next steps.

Fern Academy Trust uses:

- *Assessment grids*
- Statements in the grids are highlighted regularly on a “best fit” basis to record on-going assessment.
- See below for a Year 3 example of a termly assessment grid.

	Online-Safety	Programming	Handling Data	Multimedia	Technology in our Lives
Year 3	<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.
AUTUMN Working at greater depth within the expected Y3 standard					
AUTUMN Working at the expected Y3 standard					
AUTUMN Working towards the expected Y3 standard					
SPRING Working at greater depth within the expected Y3 standard					

SPRING Working at the expected Y3 standard					
SPRING Working towards the expected Y3 standard					
SUMMER Working at greater depth within the expected Y3 standard					
SUMMER Working at the expected Y3 standard					
SUMMER Working towards the expected Y3 standard					

Section 5 Professional development

Planning for professional development

Identifying individual staff skills and needs

Individual development needs are also communicated to the Computing Lead on an on-going basis.

All teachers are encouraged to identify specific Computing skill needs in the performance management process. The same may be suggested for teachers in this process by the appraiser.

Identifying whole-school Computing development needs

Whole school development needs are often associated with the introduction of technology new to the school, or with the development of already existing resources. These needs are considered at the point of introducing technology when training and support are built into the Computing action plan and the school's professional development plans.

Review

Monitoring and evaluating the Impact of professional development

The Computing Lead monitors the impact of professional development activities with due regard for the effect on learning and teaching and with “value for money” in mind.

Future professional development and performance management reviews build on the results of this evaluation of support provided.

Section 6 Provision

Provision

Physical environments: Computing kit and its deployment

Each class at Marlbrook has the use of 15 dedicated laptops and iPads. The laptops link to the computer network by fully updated wireless technology; Key stage 2 is now covered by Wireless-N, permitting more reliable connections at up to 600Mbps, using advanced MIMO (multiple input, multiple output) technology to increase wireless network range and throughput, permitting simultaneous, multiple applications—such as streaming HD video, audio, file transfers, VoIP calls, HD gaming, and music downloads.

There are also PCs situated in the administrators and secretary’s office and library. All Laptops and PCs have broadband internet access. This is supported by one file server and one internet server in all of the Trust’s schools. All teaching staff have a laptop and each class has a digital camera – in Marlbrook 90 iPads are used and in the other schools in the Trust iPads are currently used to document Learning Journeys in the EYFS. All schools in the Trust have put in place funding plans to invest in more iPads across their schools to further the Computing possibilities for the children.

All classrooms within the Trust have interactive whiteboards.

The Trust uses networked photocopier/printers.

We also have classroom sets of data loggers, 5 digital microscopes, a set of 6 BeeBots per class in KS1, controllable floor turtle (roamer), Visuali T shirts, Greenscreen apps on various iPads, Microbits and Parrott Drones for physical coding.

We recognise that Computing capability is best developed when there is a real reason both to develop and apply the particular aspect of Computing and when children have access to resources as a normal part of their learning. For this reason, we endeavour to ensure that Computing resources are as accessible to children as possible in their normal learning environment.

Each child is allocated an iPad to enhance their learning. Children in KS2 have individual usernames and passwords to access their laptops. This is for online safety and monitoring purposes.

Each member of staff is allocated a laptop for their own school use while they are employed by our school. This is for professional use and is used as indicated in the school’s online-safety policy.

Each classroom is fitted with an **interactive large screen**. This is connected to a laptop

Digital cameras are allocated to each class. These are loaned between classes when appropriate.

The following are available for use by all classes and schools within the Trust:

- **iPads** – currently 120 in Marlbrook for use across the school – Wellington and St Martin’s have ongoing plans to increase IT equipment and for more iPads for pupils.
- **Digital audio recorders and microphones**
- **Datalogging kit (EasySense)**
- **Control equipment (FloGO)**
- **WebCams** for video conferencing, animation, etc
- **Videoconferencing equipment.**

Digital learning resources

The school’s software map makes clear how the core Computing software is used to support the development of Computing capability throughout the Trust. This will be subject to change to represent the shift to iPad use across the Trust.

	EYFS	KS1	KS2
Text Editing and Multimedia Word Processor / DTP	Early Essentials / 2Simple infant toolkit	Early Essentials / 2Simple infant toolkit	MS Word
	Clicker 5	MS Word (and Publisher)	MS Publisher
Text Editing and Multimedia Multimedia	2Create a Story	MS PowerPoint	MS PowerPoint
	ActivInspire	ActivInspire	ActivInspire
Digital Image Paint / Drawing programs	Early Essentials	Early Essentials / 2Simple Infant Toolkit	Revelation Natural Art
	ActivInspire		
Digital Image Photo editing	2Create a Story	PhotoScape	PhotoScape
	2Paint a PComputingure EasyScope	MS PhotoStory	MS PhotoStory
Digital Image Animation	2Animate	2Animate	Digital Movie Creator 3
	Digital Movie Creator 3	Digital Movie Creator 3	Windows Movie Maker
	2Create a Story		Digital Movie Creator 3
Digital Image Video Editing	Beep	Digital Movie Creator 3	Windows Movie Maker
	EasyScope		Movie Plus (Serif)
Sound and Music Sound capture and editing	Talking Faces (Inclusive Technology free download)	ActivInspire (capture only)	Audacity
	Music Tool kit (2Simple)	Audacity http://.audio.lgfl.org.uk	http://.audio.lgfl.org.uk www.findsounds.com
Sound and Music Music Composition Software	Music Box Musical Leaps and Bounds	Compose World	Music Toolkit (2Simple)
	Q+D: Noisy Things, Musical Monsters , Beep, Beep Beep	Music Tool kit (2Simple)	Dance eJay
Electronic Communication Email + Video		Outlook Exchange	Outlook Exchange
		VLE	VLE

Exchanging and sharing information

Finding things out	Research Internet & CD ROM	Internet Explorer	Internet Explorer	Internet Explorer
		Espresso	Espresso	Espresso
		CD ROMs as appropriate	CD ROMs as appropriate	
	Information Handling Database		Early Essentials	Inspire Data
		Flexi Tree 3	2Simple Infant Toolkit	Textease Branch or
			Textease / Granada Branch	Granada Branch
	Information Handling Graphing	Early Essentials / 2Simple Infant Toolkit	Early Essentials / 2Simple Infant Toolkit	Appropriate Numeracy ITPs
		My World, ActivInspire		MS Excel

In addition, many applications are available to support learning in all subjects throughout the school.

In particular Fern Academy Trust subscribes to a number of on-line digital resources which are available throughout. Some of them are also available for pupil use outside school.

These are:

- Espresso (www.espresso.co.uk)
- Scratch (<https://codejr.org/scratchjr/index.html>)
- Audio Network (www.audionetwork.nen.gov.uk)
- Times Table Rock Stars (<https://trockstars.com/login>)
- Seesaw (<https://app.seesaw.me/#/login>)

Management information systems (Scholar Pack)

Scholar Pack is used as our core school information management system by staff in terms of attendance, data management for assessment and data analysis purposes which is mirrored through the trust.

Our resident on-site expert is our school administrator.

Management of Computing resources

Procurement

All procurement decisions are informed by the learning and teaching agenda.

We make use of local purchasing agreements in order to achieve best value with procurement.

We endeavour to consider the total cost of ownership when making procurement decisions.

No equipment is connected to our network unless it has been approved by our technical support provider.

Software licenses and on-line content subscriptions are often purchased, where possible, through local authority bulk purchasing arrangements to achieve substantial discounts.

Every effort is made to ensure that equipment is disposed of safely and in an environmentally friendly way at the end of its useful life. (see section 1b above)

Technical support

We receive technical support from:

- *Focus Networks* (<https://focusnetworks.co.uk/>)

We receive visits from our engineer for 3 days a week. The precise nature of the support we receive can be found in the support level agreement.

Technical faults are reported to the engineer via the website Portal login used by Focus Networks.

Urgent issues are reported to the Computing Lead who communicates them to our technical support service. In such cases problems are solved either remotely or with an additional visit.

Our technical support provider is well placed to hold conversations with all providers of Computing solutions to the school and is usually able to solve any issues.

Our Engineer, together with the Computing Lead, constantly monitors the effectiveness of solutions and advises on further development and replacement.

Data security and safeguarding

Please see the school's online safety policy.