



Eleanor Palmer Primary Computing Policy

Computing at Eleanor Palmer

This policy sets out our aims, principles and strategies for Computing at our school, following the statements set out in the National Curriculum and going beyond this through rich opportunities in which children can develop and apply their skills in real-life contexts. Digital technology plays a growing part in our everyday lives. At Eleanor Palmer, our Computing curriculum is designed so that children learn excellent digital literacy, build a thorough knowledge of key skills in computer science so they can problem solve, learn strategies needed to navigate the online world safely, and are confident to take this subject forward into secondary school and beyond. We know that these are vital life skills in modern society and we are dedicated to making our pupils ready for the next stage in their learning, as well as prepared for the increasing interaction that they have with the world online. Computing is taught by class teachers and specialists, interlinking the skills of the subject within our curriculum, as seen in our Computing progression map.

What principles underlie the teaching of Computing at Eleanor Palmer?

Our curriculum is sequenced so that children build the **skills to use technology safely and discerningly**. Every class starts each term with a new online safety focus, considering different skills and knowledge that build in an age-appropriate way. When lessons use technology, whether as part of Computing or the wider curriculum, children are reminded of the tools they need to stay safe online. Our teaching ensures that children know what to do when they encounter a problem, which is linked to sessions given to parents on how they can support their children at home. **Problem solving** is embedded in teaching in every year group, encouraging the confidence to have a go, teaching strategies to adjust and develop approaches and building increasing resilience. We also want our children to be digitally **creative**, having engaged with a range of software and technology that links widely to their topic and broader learning. We have partnerships with expert Computing teachers across Camden and beyond, who support us to respond to new developments in technology.

At Eleanor Palmer, we understand that Computing goes beyond being a discrete subject. Children bring their Computing learning into the wider curriculum, and where effective, links are made to focused topics to enable children not only to develop their skills, but to understand the real life application for which they are learning them. Children's learning is enriched by wider opportunities, such as designing and recording digital music alongside Camden Music Service, writing and recording interviews with the team from Sky Kids News and planning coding projects alongside Lego. Children also have the opportunity to use their skills in practical settings outside of the school day, including Code Club (open for all) and Research Club, designed to support the needs of disadvantaged learners.

Computing covers three key areas – Computer Science, Online Safety and Digital Literacy. Full details of content and progression are in our 'vertical' curriculum plan – at the end of this document. This maps out how learning is sequenced so that knowledge builds logically from Nursery to Year 6. Because core knowledge and skills are sequenced in this way, build upon and revisited, working memory is freed up so that children can solve increasingly complex problems as they progress.

Computer Science

- In EYFS, children use iPads and Beebots to develop language of control and direction.
- Throughout KS1, they develop sequences of instructions, moving to Scratch Junior in Year 2.
- In KS2, children use more advanced sequences of commands, creating detailed algorithms, animations and games using variables and more complex scoring systems.
- Children encounter a wide range of technology and teaching, enriched by the team at Camden City Learning centre, who work with all classes from Nursery to Year 6. Their specialist teachers help our team to build bespoke units that meet the needs of our learners, such as designing and making their own app in Year

6, programming an animation of invertebrates in Year 2 or using physical objects to plan a series of movements in Nursery. This closely links to other curriculum areas to maximise learning potential.

Digital Literacy

- Throughout their time at Eleanor Palmer, children will develop their ability to work on iPads, Chromebooks and laptop computers, accessing the network and cloud based software independently from Year 3.
- Google Classroom became a valuable tool during periods of Home Learning. Our expertise in this, alongside the suite of Google resources, is now used to share home learning where it is appropriate. Tools are also used to enrich learning within the classroom, such as in collaborative online projects, sharing media for children to explore at their own pace and presenting work.
- Children will be taught to use a range of software, often producing outcomes linked to their topics, such as presenting WWII newspapers in Year 6, and filming Amazon documentaries in Year 5.

Online Safety

- Keeping children safe and helping them keep themselves safe is a core purpose of our school. We teach children about being aware of the potential dangers of working online, particularly using search engines, fake news, digital footprint and online reputation.
- Children are taught about the responsibilities that they have being a digital citizen, and build their knowledge of protecting themselves as well as supporting others. This links closely with our Wellbeing Curriculum, taught throughout the year in every class.
- We lead sessions each year focussing on online safety for parents - these often coincide with online safety week in school.
- Full details about how we teach children to be safe online, and how we support parents in doing so, can be found in our Online Safety policy.

The practicalities of planning and resourcing

We have 45 laptops and 45 Chromebooks, split over three trolleys located in the Junior Resource Area. We also have a trolley of 30 iPads in the Photocopier Resource Room. All equipment can be booked for class use via a booking system, which can be found on Google Drive. All year groups have a class login. This means they can save in a specific file on the network, which will be aided in KS1 and become more independent in KS2. We also have a set of BeeBots and ProBots to teach early programming in KS1, alongside early experiences using a 'code-a-pillar' in Early Years.

Teachers are expected to log faults themselves at <http://www.camdensitss.org.uk/log-a-fault>, which is monitored by our IT technician service.

Inclusion

Eleanor Palmer is an inclusive school. Special care is taken by staff to ensure that all children have equal opportunity to succeed in Computing. Enrichment opportunities, such as Research Club, ensure that children from disadvantaged backgrounds have the opportunity not only to use technology, but to discuss their learning and progress with members of staff from the team in an engaging way. Children's individual strengths and needs are taken into account to ensure that learning is adapted to individual needs, where appropriate. Technology is used to support children with SEN and adapt the curriculum to make it more accessible to them, e.g. through accessing teacher's IWB notes on a tablet, by using research driven technology to support children in their writing or through reinforcing mathematical skills by accessing fluency programmes online. Teachers are clear on what the core knowledge is, and focus on adapting teaching to ensure this is secured and developed. TAs are trained in the use of technology to support children with SEN and strategies are identified in children's 'My Plan', e.g. using Clktr to type their writing, or using Strip Design to create social stories or a weekly timetable. The differing backgrounds children have in computing capability may offer challenge to teachers. Children who have access to a variety of technology outside school often have greater skills. By observing children's developing computing capability, teachers ascertain what tasks and expectations would best support their learning, in order to ensure that all children achieve.

COMPUTING AT ELEANOR PALMER

EARLY YEARS

COMPUTING TEACHING AND LEARNING AT ELEANOR PALMER

At Eleanor Palmer, computing is taught by class teachers, making links with other curriculum subjects where they are natural and engaging, and teaching discrete lessons where this will be more effective.

At the heart of computing is computer science, which is enriched by termly visits to the Camden City Learning Centre - a specialist centre in our borough where our children are able to work alongside a wide range of specialist teachers with an ever-developing set of equipment. Computing also shares deep links with maths, science and design technology, so we often encompass some or all these areas in larger STEAM projects. Classes learn computing using our suites of laptops and iPads, and Bee-bots and Probots.

Online safety is valued by everyone in our school community and we aim for all children to leave Eleanor Palmer with the knowledge and skills to stay safe online. We review online safety on a regular basis during assemblies, in lessons and on an individual basis.

ENRICHMENT

Termly visits to the City Learning Centre (CLC)

NC CONTENT - PUPILS IN EYFS SHOULD BE TAUGHT TO . . .

- recognise that a range of technology is used in places such as homes and schools
- select and use technology for particular purposes
- know how to operate simple equipment
- show an interest in technological toys with knobs or pulleys, or real objects
- show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images

NURSERY KEY LEARNING

COMPUTER SCIENCE

Explore action and response with electronic toys and through games that develop instructional language e.g. Simon Says

Explore programming using BeeBots

Move graphics on screens within a game context (2Simple, Busy Things)

ONLINE SAFETY

Understand that the internet can be accessed by people around the world and that it can be used to communicate and find things out

Consider safe boundaries for using digital equipment and the internet - how much time should we spend and which trusted adults help us

DIGITAL LITERACY

Take ownership of work by typing their name on an iPad

Take photographs and talk them through with others, tell stories using pictures

RECEPTION KEY LEARNING

COMPUTER SCIENCE

Start to use the language of control - turn, left, right, forwards, backwards, stop, go and wait

Make choices using remote control devices, cameras and iPads

Programme BeeBots with increasing independence

Use iPads to record learning, independently

ONLINE SAFETY

Learn more about communicating online, knowing how and why, and understanding that we can say no online just as we do in real life

Understand that people can be unkind online, as in real life, and that we should always speak to a trusted adult about this

Begin to search for information online with adult support

Know that some information is personal (name, age, address, school) and know who we should and shouldn't share this with

DIGITAL LITERACY

Understand the parts of computers and networks, exploring the keyboard, mouse and home screen

Type a key word into a search engine



COMPUTING AT ELEANOR PALMER

KEY STAGE 1

NC CONTENT - PUPILS IN KS1 SHOULD BE TAUGHT 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/movements or new images
- know that information can be retrieved from computers.

ENRICHMENT

Termly visits to the
City Learning Centre (CLC)



YEAR 1 KEY LEARNING

COMPUTER SCIENCE

Verbally then physically sequence a series of instructions for a Beebot, making predictions.
Manipulate objects on screen to develop a game (Busy Things, Tunnel Trouble, Maze)

ONLINE SAFETY

Discuss how we might be made to feel when we're online and which trusted adults we'll speak to if we're uncomfortable.
Know that things we put on the internet can be copied and begin to explore the concept of ownership.
Search independently for a key word or phrase.
Create a series of rules for behaviour that keeps us safe online, including learning about passwords.

DIGITAL LITERACY

Use a whole class login to access the network.
Learn about website permissions and how to choose 'no'.
Explore when and why email might be used to communicate, first with people we know.

YEAR 2 KEY LEARNING

COMPUTER SCIENCE

Control ProBots for a specific purpose, writing instructions and exploring alternatives.
Add animation and audio to games created in 2D1Y.
Edit an existing file on Scratch Junior, adding controls and values to control a sprite.
Manipulate objects on screen, linking to physical programming completed on J2E Turtle.

ONLINE SAFETY

Understand that things online can be true or untrue, including people's online identity.
Discuss the benefits and difficulties of online information lasting a long time.
Give examples of bullying behaviour online.
Review and discuss rules that keep us safe online.
Know about the variety of devices we can connect to the internet and how these can be protected by passwords.

DIGITAL LITERACY

Type a short email to someone.
Explore a website to find information: scrolling, selecting a new page, navigating back.
Understand that we need to save our work and that it belongs to us, but things we find online belong to others.



COMPUTING AT ELEANOR PALMER

KEY STAGE 2

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NC CONTENT - PUPILS IN KS2 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

YEAR 3 KEY LEARNING

COMPUTER SCIENCE

Programme Probots and Scratch Junior with independence, including advanced sequences of commands and editing these programmes to change, extend or stop.

Explore the repeat command to make algorithms more efficient on 2Code

ONLINE SAFETY

Explore the idea of our online identity, considering the effects this might have in real life and online

Search online for information about ourselves, discussing what we should and shouldn't share online

Know that people do not always know who they communicate online with in real life, but they may connect over similar interests; highlight the risks

Know what online bullying is and how this may happen, including who to speak to if it does

Use key phrases to search for information online, evaluating the reliability of sites

Explain why spending too much time online can have a negative impact

Understand and give reasons why a password is important and how/why it should be kept secure

Know why copying someone's work from the internet can cause problems

DIGITAL LITERACY

Explore communication through use of blogs - writing their own entries for the website

Take account of purpose, audience and tone when writing emails

Understand how to open different software independently on computers, including the save and open function

YEAR 4 KEY LEARNING

COMPUTER SCIENCE

Plan systematic and efficient ways to programme a sequence, using a wider range of commands in Flowol, 2Code and Scratch, including forever, when and if

ONLINE SAFETY

Discuss appropriate ways to conduct yourself online, knowing that the identity of who we speak to may not always be true

Understand that others can find information about you online and how this could have been created, copied or shared by others

Know how and where online bullying may take place and how to report this

Evaluate the difference between opinions and facts in what we find online, considering when each one is useful

Describe some of the ways we are encouraged to buy online, including in-app purchases

Review how technology use needs a healthy limit, considering that it may distract us from other things

Consider what a 'strong' password is and understand how and why internet use may be monitored

DIGITAL LITERACY

Understand how to open and save a file through the network

Increase speed of touch typing through 2Type

Consider how the internet is now a main source of news

ENRICHMENT

Termly visits to the City Learning Centre (CLC)



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COMPUTING AT ELEANOR PALMER

KEY STAGE 2

YEAR 5 KEY LEARNING

COMPUTER SCIENCE

Programme both digitally and physically to complete a specific series of commands efficiently, including a scoring game in Scratch
Work to a specific brief and for an audience, creating a series of levels each with a clear objective using Flowol
Plan and create an animated, multimedia presentation around a familiar narrative

ONLINE SAFETY

Understand how identity can be copied, modified or altered online, making responsible choices based on context
Make positive contributions to online communities
Search for an individual online and make a summary of the information, considering how fair our judgements are
Describe how to get help for someone who is being bullied online including how to block people
Develop healthy scepticism about what is found online, considering the terms mis-information, dis-information and hoax
Understand that technology can affect sleep and how this can be protected
Discuss how apps may read and share private information and how to make informed choices about whether we agree with this, including geolocation services
Assess and justify when it is suitable to use the work of others

DIGITAL LITERACY

Understand that email is not always used for good, considering the purpose of spam mail
Learn how to cite sources when we do use content found online
Develop confidence in a range of Microsoft Office programmes

ENRICHMENT

Termly visits to the City Learning Centre (CLC)

YEAR 6 KEY LEARNING

COMPUTER SCIENCE

Build and programme digitally to control a physical object using Scratch or Python
Create and sequence appropriate animations, audio and graphics to a purposeful brief
Peer test to improve a designed and published game

ONLINE SAFETY

Describe ways in which media can influence ideas about identity and gender, challenging those that are inappropriate
Understand responsibility for the well-being of both ourselves and others in an online community, asking for help when needed
Consider ways to build a positive online reputation and how this will be important in the future
Learn ways to evidence online bullying, such as recording or screen-grab functions, as well as learning a range of ways to deal with difficult online situations
Use search technology effectively, demonstrating ways to be discerning in evaluating online content
Describe common systems that regulate age-related content, such as PEGI ratings and parental warnings, considering why these are used and important
Understand what to do if you fear that a password has been lost or stolen

DIGITAL LITERACY

Review the use of Microsoft Office software alongside Google Drive, considering the positive and negative attributes of both
Write and send purposeful emails relating to an appropriate topic
Select a programme to present work digitally, having assessed purpose and audience

INTENDED OUTCOME BY THE END OF YEAR 6

Children will leave EP with a firm foundation of computing skills that will enable them to progress into young adulthood. They will have an awareness of the opportunities and risks associated with the online world, as well as the independence to make informed choices when faced with difficult situations.
Children will be confident at working digitally, in a range of computing software including those developed by Microsoft, Google and Apple.
They will be able to programme both physical and digital objects, understanding the terminology involved in these processes and how they are used in the wider world.

