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

City Learning Centre (CLC) visits in school. Early sequencing and programming activities using equipment; capturing data using iPads and planning early algorithms.

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

2023 2026 2019

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

2023 2026 2019

Computing at Eleanor Palmer

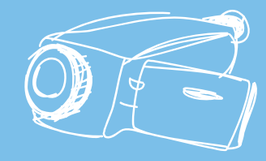
Key Stage 1

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 technologiesmovements or new images
- know that information can be retrieved from computers.

Enrichment

Visits to CLC. Programming using a wide range of physical equipment and developing knowledge of code. Progressing to block coding online.



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

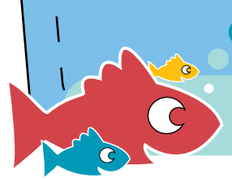
Control ProBots for a specific purpose, writing instructions and exploring alternatives
Add animation and audio to games created in 2DIY
Edit an existing file on Scratch Junior, adding controls and values to control a sprite
Manipulate objects on screen, linking to physical programming completed on J2E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

ONLINE SAFETY

Understand that things onine 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

00_000011000_011000_ 0011001100_000011
000_011000_00001100_0000111000_011000_
00001100_000011_000_011000_ 00001100_0000
11000_011000_00001100_000011000_011000_11
11100001100_000011000_011000_

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

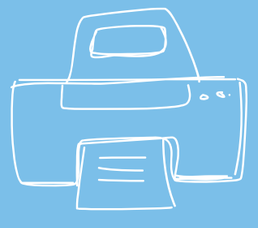
Discuss appropriate ways to conduct yourself online, knowing that the identity of who we speak to may not always be true
Understand that others can find information about you online and how this could have been created, copied or shared by others
Know how and where online bullying may take place and 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

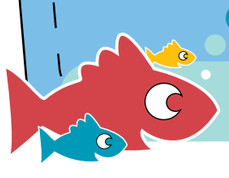
DIGITAL LITERACY

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

Development of computer science knowledge and ability using a growing range of tools, including Lego WeDo and Micro:bits.





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

Year 6 Key learning

COMPUTER SCIENCE

Build and programme digitally to control a physical object using Scratch or Python

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 rating 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

ENRICHMENT

Introducing new software including music technology linked to composition and performance. Development of App design and production.

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.