Coley Primary School's Curriculum

Computing

(Yr1-6)

<table>
<tr><td>Coley vision for computing</td><td colspan="2">Our pupils
enjoy and have equal access to technology, regardless of their background or educational need
develop their ability to think ‘computationally’ by:
breaking down problems into smaller steps (decomposition)
looking for similarities and differences among and within problems (recognising patterns)
focussing on important information only (abstraction)
following or developing a step-by-step solution (algorithms)
spotting and solving errors (debugging)
develop competence in coding for a variety of practical and inventive purposes
understand the connected nature of devices
are able to connect with others safely and respectfully
collect, organise, manipulate and present data effectively
communicate ideas well by using applications and devices throughout the curriculum</td></tr>
<tr><td>Aims:</td><td colspan="2">The national curriculum for computing 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.</td></tr>
<tr><td>National Curriculum</td><td>Key stage 1

Pupils 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.</td><td>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.</td></tr>
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Overview

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1	**Digital media** How we use technology in our classroom and in the wider world Multi-media – photographs self-portraits (art link)	**Coding** Programming beebots: programming and debugging eg. http://code-it.co.uk/beebot	**e-Safety** – taking and sharing photos, eg: Thinkuknow Jessie and Friends https://www.thinkuknow.co.uk/parents/jessie-and-friends-videos/	**Digital media** Multi-media – recording sounds using IT (music link)	**Coding** Programming beebots: planning and problem solving eg http://code-it.co.uk/beebot Y1	**e-Safety** –watching videos safely eg: Thinkuknow Jessie and Friends https://www.thinkuknow.co.uk/parents/jessie-and-friends-videos/ **Coding** Unplugged activities linked to instructional writing
Year 2	**e-Safety:** passwords and privacy **Digital media** – communication; Powerpoints linked to history	**Coding: algorithms and problem solving** eg. finding the shortest route with Bee-Bots. http://code-it.co.uk/beebot Y2 Bee-Bot app	**e-Safety** which websites are safe for me? Bookmarking and searching safely.	**Coding: sprites, movements and sound** eg Scratch Junior	**Digital media** collecting and presenting data using technology (data logging/ thermometers) linked to maths	**Coding: repeat and speak controls** eg. Scratch junior / J2Code
Year 3	**e-Safety:** being kind online. What should I do if someone isn't being kind? **Digital media** – using databases to collect, present and analyse data linked to science	**Coding: sequences** **CODE-it gold** Introduction to Scratch Guided project, eg. Magic Carpet http://code-it.co.uk/carpet	**e-Safety** using simple search technologies. Evaluating content: is everything on the internet true?	**Digital media** communication – using Word	**Coding: sequences** **CODE-it gold** Scene: choose monologue OR dialogue http://code-it.co.uk/goldscene	**Coding: sequences** **CODE-it gold** Game – ladybug munch http://code-it.co.uk/goldgame/ Shape – sequence http://code-it.co.uk/goldshape/
Year 4	**e-Safety:** searching online: how are results ranked? **Digital media** communication; Powerpoint (intermediate) linked to science or history	**Coding: repetition and loops** **CODE-it gold** Shape – exploring loops/ sequence to repetition http://code-it.co.uk/goldshape/	**e-Safety** playing games and age restrictions - CEOP	**Digital media** data logging, presenting and interpreting: linked to science (sound) and maths (line graphs)	**Coding: repetition and loops** **CODE-it gold** App – Toy Giveaway http://code-it.co.uk/goldapps/	**Coding: repetition and loops** **CODE-it gold** Game – helicopter http://code-it.co.uk/goldgame/

Year 5	**Networks:** what are the internet and the world wide web and how are they different? **e-Safety** sharing information and photos – where is my data and who has access?	**Coding: selection** **CODE-it gold** App – Making Choices / Wizard's Choice http://code-it.co.uk/goldapps/	**e-Safety** being smart online – using filters, pop ups and advertising **Digital media** Animation	**Coding: selection** **CODE-it gold** My Best Game: focussing on design http://code-it.co.uk/goldgame/	**Coding: selection** **CODE-it gold** Game: Diving Beetle / Cheese crush http://code-it.co.uk/goldgame/	**e-Safety** how should we behave online? Speaking up for others and ourselves (reporting, blocking and telling a trusted adult) CEOP
Year 6	**Networks:** our school server and network. Where is your information and how is it stored? **e-Safety**: being discerning about and using digital content; copyright	**Coding: procedures & variables** **CODE-it gold** Shape – basic procedures Shape – shape variables http://code-it.co.uk/goldshape/	**e-Safety** – digital footprint, personal privacy & App security settings **Digital media** Powerpoint (advanced)	**e-Safety** – using technology respectfully and responsibly. Preventing and dealing with online bullying. **Digital media** Spreadsheets and databases linked to geography	**Coding: procedures & variables** **CODE-it gold** Game – New Crab Maze http://code-it.co.uk/goldgame/	**Coding: independent project** Planning, designing and evaluating a game based on Crab Maze Extension: any game