Year 5

Computing and Digital Skills

Islington Computing

	Apps:	Web Resources:	LGfL resources:	Digital devices:
Computer Science </>	Scratch Jr Kodable Lightbot Tynker (subscription Tickle SPRK lab	Scratch Code.org PurpleMash 2Code (subscription) Barefoot BBC Computing/ Science clips Kodu Micro:bit	J2Code Virtual Experiments Python Tutor Web Tech Tutor	Makey Makey Sphero Micro:bit Lego Wedo
Digital Literacy @	Safari Chrome Pic Collage	Switched On Online Safety Thinkuknow (Hector's World) BBC KS2 Computing Creative Commons Tomato Spider spoof website	US Online 12 rules for responsible use	Laptops Desktops iPad Tablets
Information Technology	J2Launch Apple Pages/ Numbers	Dance Mat typing (BBC) 2Simple 2Type PurpleMash Brown Bear typing Primary Games Arena Microsoft Word/ Excel Google Docs/ Sheets	J2e5 Weather Station J2Webby Help-A- Victorian Child J2data	Data Loggers iPad Tablets Microphones Sound buttons

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</> Computer Science

National Curriculum

Unplugged:

- ❖ Solve problems by decomposing them into smaller parts
- ❖ Use logical reasoning to explain how some simple algorithms work
- ❖ Detect and correct errors in algorithms and programs
- ❖ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems

Coding/Programming:

- ❖ Use sequence, selection and repetition in programs
- ❖ Work with variables
- ❖ Work with various forms of input and output

Key Skills/Objectives

- Explore/ refine procedures using repeat to achieve solutions to problems
- Explore instructions to control software or hardware with an input using 'if then' commands
- Explore a simulation to then control a physical system using inputs and different outputs
- Identify problems and identify a solution for a program
- Write down the steps required to achieve the outcome that is wanted and refer to this when programming
- Predict the outputs for the steps in an algorithm
- Use the process: plan, program, test and review
- Write a program which follows an algorithm to solve a problem for a digital device
- Group commands as a procedure to achieve a specific outcome within a program
- Understand how sensors can be used to measure input in order to activate a procedure or sequence and talk about applications in society

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Supporting Units of Work

Islington:

- Scratch Yr 5/6 Games
- Makey Makey Projects
- Switched On Computing: Kodu

Additional Documents:

- Scratch: Progression Yr 3-5

Barefoot:

- Network Hunt
- Viking Raid Animation (Scratch)
- Investigating Inputs (Scratch)
- Investigating Outputs
- Maths Quiz – Selection (Scratch)
- Solar System Simulation (Scratch)
- Kodu Tinker
- Use selection (Kodu)
- Maths Quiz – Variables (Scratch)
- Classroom Sound Monitor (Scratch)

Examples of Cross Curricular Links

- Use Scratch to create Maths games, simulations and quizzes
- Use **BBC Planet Dinosaur** game to build your own simulation of a planet
- Use a function machine in Maths to demonstrate a model exploring input and output (rules and variables)
- Use LGfL virtual experiments or BBC science clips to support science curriculum
- Use Makey Makey to create music or explore parts of the body for a science project
- Use Kodu to create landscapes and program different items for an art project
- Use Micro:bit to create a scrolling banner for an English project

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@ Digital Literacy

National Curriculum

- ❖ Use technology safely, respectfully and responsibly
- ❖ Recognise acceptable / unacceptable behaviour
- ❖ Identify a range of ways to report concerns about content and contact
- ❖ Understand how computer networks, including the internet, can provide multiple services and the opportunities they offer for communication and collaboration
- ❖ Use search technologies effectively
- ❖ Appreciate how search results are selected and ranked

Key Skills/Objectives

- Use the internet as a tool for research
- Choose the most appropriate search engine for the task, refining as necessary
- Recognise reasons that people might publish inaccurate content and check validity.
- Identify and ignore/cancel unwanted advertising and malicious downloads in the form of, popups, video, banners, hyperlinked objects
- Identify whether a file has copyright or can be legally downloaded and whether these can be used in their own work
- Discuss the differences between an open blog and a forum for a closed community
- Understand that you should not publish other peoples' material without their permission
- I can explain in simple terms the differences between a network, the internet and the world wide web

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Switched On Online Safety:

- ✓ Unit 5.1 - We are Year 5 rule writers
- ✓ Unit 5.2 - We are responsible for our online actions
- ✓ Unit 5.3 - We are content evaluators
- ✓ Unit 5.4 - We are protecting our online reputation
- ✓ Unit 5.5 - We are respectful of copyright
- ✓ Unit 5.6 - We are game changers

SWITCHED ON Online Safety

Examples of Cross Curricular Links

- Use j2e5 to create a presentation, then publish to the school blog so others can comment on their work.
- Compare Google and Bing searches to see which is most accurate and efficient.
- Use Barefoot resources to discuss how the internet works
- Create a poster on Pic Collage and then share data via airdrop or online cloud such as Seesaw

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Information Technology

National Curriculum

- 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.

Remember to:

- give pupils opportunities to publish their written work digitally
- provide sharing opportunities across the wider community
- share tips with parents/carers

Key Skills/Objectives

- I can use 'AND', 'OR', '=<' and '=>' to search a database
- I can design questions to search a large database
- I can check for accuracy by checking data, using different views, search tools and graphing
- I can build and use databases to support my work
- I can enter formulae into a spreadsheet and modify the data, (simple calculations + -/ x total)
- I can make predictions and changes and check results.
- I can use 'SUM' to calculate the total of a set of numbers in a range of cells
- I can create graphs and charts from data in a spreadsheet
- I can change data in a spreadsheet to answer 'what if...?' questions and check predictions
- I can investigate changes in sound / light/temperature levels using data logging, using continuous logging, snapshot functions and logging over time.

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Examples of Cross Curricular Links

- Explore Victorian Census data and create a spreadsheet to calculate Victorian workers' wages using HeLP-A Victorian Child - LGfL resource
- Search a large pre-prepared database of the planets and stars to compare them according to a range of criteria
- Children create a simple database to record responses from parents/grandparents or carers about their favourite things.
- In Maths, use a spreadsheet to calculate the cost of ingredients for biscuits, answering questions about price or quantity changes

Examples of Cross Curricular Links

- Use a data logger to graph the change in temperature as water boils
- Use a data logger to graph the change in temperature as ice melts
- Use a data logger to measure sound levels during an investigation into sound insulators
- Use a data logger to measure sound levels at different times of the day or in different areas of the school
- Use Weather station data to track weather data over time
- Children record and analyse the results of an experiment stretching elastic bands