Computing Curriculum: Long Term Progression Plan Year B

FRITWELL
C of E
SCHOOL
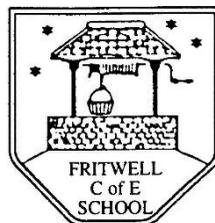
Threshold concepts:

Code: developing an understanding of instructions, logic and sequences.
Connect: developing an understanding of how to safely connect with others.
Communicate: using apps to communicate one's ideas.
Collect: developing an understanding of databases and their uses.

Stage	NC	Term1	Term2	Term 3	Term 4	Term 5	Term 6
Rec	CS	**Unit: Computers around us.** Common devices Computers outside school (Collections of electronic devices on table in classroom). Extension a visit to the school office to view other uses of computers		**Unit: Algorithms** Sequencing events e.g. journey to school Remote control devices I/O plan a route and order instructions example how to get dressed in the morning.		**Unit: Algorithms – Building Blocks** Lego or similar construction type materials building Following instructions to build example - car or house. Make mistakes and debug Following number sequences	**Unit: Bee Bots** Programmable toys: BlueBot I/O Mats e.g. shapes, roads Apps: BlueBot Hardware: IPads Software: App Blue Bot **Unit: Code Safari** Help your animal reach its destination using directional arrows to solve the problem Hardware: IPads Software: App Code Safar1
	DL		**Unit: Mouse and Typing Skills**		**Unit: Paint** (Postman Pat) or 2 Paint		**Unit: Publish** Linked to topic work. Text and picture based

| | | | Children explore the jigsaws and quizzes. These can be topic linked. Children will familiarise themselves with mouse and keyboard through exploration.

Hardware: Laptops Website http://www.bbc.co.uk/cbeebies/puzzles/age-and-needs/pre-school#filter

http://primarygamesarena.com/Topics/Mouse-Control
or
Software: 2 Type | | Children to create a picture of their choice either using brushes, stamps could be linked to topic

Hardware: Laptops Website http://www.bbc.co.uk/cbeebies/makes/postman-pat-make-a-picture | | Hardware: Laptops Software: 2 Publish |

| Sticklebacks | CS | | **Unit: Efficient Algorithms** Find the fish efficient algorithms to reach fish. Arrow tiles on paper, PE: Obstacles in hall best route

Unit: Kodable Kodable

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 | | **Unit: BlueBot** Program the BlueBot to reach specific goals using directional keys on the bot then extend this using the iPad to program

Hardware: IPads Software: App: BlueBot

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 | | **Unit: Scratch Jr-** Using Scratch Jr explore 7 activities where children explore Scratch Jr to find the answers on how to recreate demonstration.

https://www.coderkids.com/blog/scratchjr-projects-for-kids

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 |

	DL	**Unit; Logging on VJ Unit: 2 Publish 2 Create a Story** Create a document adding pictures and text. Linked to topic work Hardware: Laptops Software: 2 publish / 2 Create a story use technology purposefully to create, organise, store, manipulate and retrieve digital content		**Unit: Paint a Picture** Create a picture. Linked to topic work. Autumn / Fireworks Hardware: Laptops Software: iPads use technology purposefully to create, organise, store, manipulate and retrieve digital content		**Unit: Navigate Websites VJ** 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	

| Seahorses | CS | | | **Unit: Kodable**
Self-directed software where children work their way through challenges using direction tiles

Hardware: Laptops
Website:
https://www.kodable.com/

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 | | **Unit: Box Island**
Use directional arrow keys to collect the stars. Logical algorithmic problem solving

Hardware: IPads, Chromebooks
Software: App: Box Island

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 | | **Unit: Scratch Jr**

http://code-it.co.uk/wp-content/uploads/2019/06/KS1SpaceGameUSEMODIFYCREATE.pdf

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 |

| | DL | **Unit: Art**
Learn basic features
Text, Insert picture,
shape, text box link
this to art -Twinkl Unit

Hardware: Laptops
Software: Website

Hardware: Laptops
Software: MS Paint
/MS PPT

use technology
purposefully to create,
organise, store,
manipulate and
retrieve digital content | | **Unit: Animate**
Create a story with
drawn pictures and
add sound effects /
recordings

Hardware: IPads
Software:

use technology
purposefully to create,
organise, store,
manipulate and
retrieve 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 | | **Unit: Book Creator**
Children create a book
based on topic work.
Import photos, camera
text, sound and
shapes. Recap on
IPad skills

Hardware: IPads
Software: Book
Creator

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 | |

Stingrays	CS		**Unit: Code Academy** **Set up teacher account** **My email and D…** 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		**Unit: Scratch 'Frere Jacques** Coding music with loops in Scratch 'Frere Jacques' Hardware: Laptops Software: Scratch online or program Use Unit Plan on TIO portal Account Details User Name-Fritwell5 Password – 5Fritwell 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		**Unit: Cargo-bot Block world** Starts of with tutorials, then simple tasks and then move on to more complex algorithms. How to teach Guide https://edtech4beginners.com/2016/03/19/edtech-tutorial-how-to-use-the-app-cargobot-to-teach-programming/ 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

	DL	**Unit: Emails** Learn how to send / receive an email. Add attachments ad compose an email to **Unit: Draw** Children create a pictures based on Everyone can draw - https://tayasui.com/sketches/tutorials/ Hardware: IPads Software: APP Tayasui Sketches School Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		**Unit: Picture** Children learn how to take pictures / screen shots using camera. Then import into Photo and modify picture, crop, add filters etc. Use other photo apps Hardware: IPads - Camera Software: Photo / Adobe Photoshop Fix / Repix Extension- Import a picture into Skitch and annotate use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		**Unit: Green Screen Movie** Topic linked: Film, including still photos, sounds Hardware: IPads Software: App Do Ink Green Screen App: iMotion use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	

	CS		Unit: Scratch 'Frere Jacques' Coding music with loops in Scratch 'Frere Jacques' Hardware: Laptops Software: Scratch online or program Use Unit Plan on TIO portal Account Details User Name-Fritwell5 Password – 5Fritwell 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		Unit: Code combat Self-directed software where children work their way through challenges using either Python or Java script Hardware: Laptops Software: Web based – https://codecombat.com/ Online link - for Year 6 **TIO to create account** 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		Unit: Kodu Recap on basic moving to advanced Kodu programming. Create a Skyscraper Game Hardware: Laptops Software: Kodu 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
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	DL	**Unit: Garage Band Everyone can create music W**ork your way through booklet Hardware: iPads Software: Garage Band design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts		**Unit: AR** Hardware: IPads Using the solar System as a stimulus to create. See PPT Software: App: ARMAKR 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		**Unit: Introduction into Excel and Web Research** Learn how to create a table with formulae +, - , x and divide. Use this and calculate total cost of ingredients in recipe divide per person. Compare ingredients in 3 supermarkets children to display their findings in a format TWINKL Hardware: Laptops Software: MS Excel use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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 Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	