Aintree Davenhill Planning Overview

Subject: Computing **Term:** Spring 1

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Topic	**Nursery Rhyme Coding (CS) Shape Hunt (Byte Size & Fun)**	**News Presenter (IT)**	**Code a Story (CS)**	**Dancing Robot (CS)**	**Inventors & Designers (CS)**	**Binary Messages (IT)**	**Fun with Code & Electronic (CS)**
Lesson 1	**Nursery Rhyme Coding** (CS) Sequence events in a story and explain the importance of sequencing. (CS) Move objects on a screen to sequence events in a story. (IT) Save / Share work.	(DL) To understand what is 'news' and where it can be found. (DL) To understand the terms 'online' and 'offline'. (IT) To add an image/selfie to a document. (IT) To add text to a document.	(IT) I can find and open an application on a device. (CS) I can use commands to move a sprite. (CS) I can sequence instructions (programming blocks).	(IT) To photograph, upload and animate a drawing. (IT) To improve the quality and presentation of their work by using text editing and formatting techniques. (CS) Understand that games, apps and software are created by writing programs and that coding is the act of writing those instructions to create programs.	(IT) To understand the skills required to design a new product. (IT) To brainstorm and use a digital drawing application to create concept artwork. (IT) To add images, text and audio to a digital document and present and idea. (IT) To use a rubric to evaluate a product.	(CS) To understand what binary is and how computers use it (CS) To convert binary into decimal. (IT) To independently add various forms of digital media to a document.	(CS) To identify and describe the parts and functions of the BBC Micro:bit. (CS) To create a simple physical interface using cardboard and foil. (IT) To document the making process in a pupil journal.
Lesson 2	**Nursery Rhyme Coding** (CS) Sequence instructions to create an algorithm. (CS/IT) Move objects on a screen to sequence events in a story.	(DL) To identify logos in the world around us. (IT) To use a paint application and various paint tools. (IT) To export and save an image.	(CS) To identify a bug in a sequence of programming blocks. (CS) To debug a simple program. (CS) To create a simple program.	(CS) To understand there are different types of commands used in programs. (CS) To know that a flow chart is a way of writing instructions (algorithms). (CS) To debug a simple flow chart. (CS) To use logical reasoning to predict what commands could be to achieve a desired effect.	(DL) To sign in to an online account. (IT) To use a 3D application and tools to create a key ring. (IT) To master basic 3D digital skills.	(CS) To understand how information (data) can be sent as binary numbers. (CS) To convert a binary message into text. (CS) To convert a text message into binary code.	(CS) To use more advanced Micro:bit coding on the MakeCode platform. (CS) To write and test a program for the Micro:bit reaction game. (CS) To debug and iterate on their code based on testing results.
Lesson 3	**Nursery Rhyme Coding** (CS) Learn to follow an algorithm. (IT) Open an application and create a digital drawing. Use various drawing (IT) tools.	(IT) To understand there are different types of applications on a computer. (IT) To use a keyboard to type a short story. (IT) To format text, changing size, colour and font.	(CS) To add a repeat command to a simple program. (CS) To understand how repeat programming blocks could be used. (IT) To use audio to explain the understanding of a concept.	(CS) To give a series of directional commands to create a program within a game. (CS) To identify bugs (errors) in programs and predict outcomes. (CS) To know that debugging means fixing errors.	(CS) To use decomposition skills to break a task/problem into smaller, more manageable tasks. (IT) To create a 3D model based on a 2D sketch. (IT) To share screenshots/screen recordings of 3D models.	(IT/CS) To create a script that explains binary and acts as a tutorial for others. (IT) To create a screen recording guide using Seesaw or an alternative application. (IT) To generate a QR code that links to a digital piece of work.	(CS) To explore how the micro:bit can be used to produce sound. (CS) To design and create a cardboard guitar with touch sensors using foil. (IT) To document the design and making process in a pupil journal.
Lesson 4	**Nursery Rhyme Coding** (CS) Learn to follow an algorithm. (CS) Experiment with controlling a range of 'toys' using remote controls and do this with purpose and direction. (CS) Give instructions to a programmable toy/robot.	(IT) To locate and use a camera on a digital device. (IT) To record a short video clip. (IT) To save a video clip and import it into a document.	(CS) To record audio within Scratch Jr. (CS) To use the 'play audio' command block within a simple program. (CS) To write a simple algorithm that solves a problem. (IT) To record the screen of a device (screen recording).	(CS) To know that a repeat command/loop is a sequence of instructions executed repeatedly. (CS) To be able to read an algorithm and turn it into a program. (CS) To turn a program into a series of instructions (written algorithm).	(CS) To discuss inputs and outputs on digital devices. (CS) To create a simple circuit with an input and an output. (CS) To create algorithms for completing a task.	(IT) To plan and layout a poster, including text, images and a QR code. (IT/DL) To source copyright-free images to use in a digital document. (IT) To create and save a QR code that links to a digital video.	(CS) To understand how to use input and output functions in the MakeCode platform. (CS) To write a program that plays music on the Micro:bit when touch sensors are activated. (CS) To test and debug their musical instrument code.
Lesson 5	**Nursery Rhyme Coding** (CS) Use logical reasoning to predict the outcome of actions/instructions. (CS) Give instructions to a programmable toy to reach a destination.	(DL) To practice inference skills. (IT) To use multiple tools in a paint application. (IT) To use a microphone to record voice.	(CS) To use the 'say' block within a simple program. (CS) To use logical reasoning to predict the outcome of a program. (CS) To convert simple programs to written algorithms.	(IT/CS) To use drawing tools and create a sprite in Scratch Jr. (CS) To use logical reasoning to try and re-create a program. (IT) To take screenshots of their work and share them.	(CS) To label the parts of a Micro:bit. (CS) To connect a Micro:Bit to a device. (CS) To create a Micro:Bit program and test with the simulator.	(IT) To create rows and columns in a spreadsheet with title text (IT) To enter data into a spreadsheet (IT) To explain how a spreadsheet can help organise and analyse data	(CS) To design a target game that incorporates simple electronics and coding. (CS) To create the physical components of the target game using cardboard, paper, and foil. (IT) To plan and document their design process in a pupil journal.
Lesson 6	**Shape Hunt (Byte Size & Fun)** (IT) To use digital devices safely in the classroom. (IT) To independently take photos. (IT) To independently choose an application for a particular purpose. E.g. use a camera to take photographs of appropriate objects. (IT) To move images on a screen and sort objects based on their properties.	(IT) To understand data is information on a computer. (IT) To move objects on a screen to sort data. (DL) To post a positive comment on a classmate's online work.	(CS) To independently use previous learning and create a simple program. (CS) To revisit computer science vocabulary used and record understanding. (IT) To export and save a digital document.	(CS) To create an input in a program (clickable button). (CS) To use send and receive commands within a program. (IT) To screenshot or screen record on a device and upload to a document.	(CS) To explain that the micro:bit is a tiny computer. (CS) To explain that computers need to be given sets of instructions (an algorithm) in the form of a program. (CS) To give the micro:bit instructions in code to make a name badge using the LED display output. (IT) To design and create a housing (holder) for the name badge.	(IT) To enter data into a spreadsheet. (IT) To perform basic calculations using formulas. (IT) To create and interpret graphs based on data.	(CS) To write a program that interacts with the target game interface (including a variable and boolean logic). (CS) To test and debug the target game code to ensure it works correctly. (CS, IT) To document the coding process and reflect on their learning in a pupil journal.

Aintree Davenhill Planning Overview

Subject: Computing **Term:** Spring 2

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Topic	**Technology and Me (DL) Beats & Rhythms (Byte Size & Fun)**	**What is a Computer? (CS)**	**My Online Life (DL)**	**Online Detectives (DL)**	**Fake or Real (DL)**	**Lost in Space (CS)**	**My Online Life (DL)**
Lesson 1	**Technology & Me** (DL) To look at examples of technology and think about how they can help us (DL) To understand the term 'digital technology.' (DL) To discuss using technology safely (IT/MS) To take photographs	(IT/DL) To understand what a computer is and how it can be used. (CS/IT) To sort objects based on their properties. (IT) To add a photograph and text to a document.	(DL) To understand that people can choose different pictures online to what they look like in real life. (DL) To explain why someone might want to change their appearance online and describe ways people might make themselves look different online. (DL) To recognise issues online that might make me feel sad, worried, uncomfortable or frightened. (DL) To know who I can go to for help and how to ask for help.	(DL) To use an online tool to create an avatar. (DL) To understand why it is essential to protect your identity online. (DL) To use a search engine for fact-checking.	(DL) To explain what Fake News is. (DL) To explain how social media is used to help Fake News Spread.	(CS) To decompose a problem and sequence the steps required to solve it. (CS) To write a flowchart algorithm to create a program.	(DL) To describe ways in which media can shape ideas about gender. (DL) To identify messages about gender roles and make judgements based on them. (DL) To challenge and explain why it is important to reject inappropriate messages about gender online. (DL) To describe issues online that might make them or others feel sad, worried, uncomfortable or frightened. To know and give examples of how to get help, both on and offline. (DL) To explain why they should keep asking until they get the help they need.
Lesson 2	**Technology & Me** (IT) To discuss "What is a computer?" (Digital device) (IT) To explore what computers can do (IT/MS) To experience logging on to a computer and opening an app/application (IT) To move and sort items on a digital device	(CS) To understand that an app or computer game is called a program. (DL) To open and navigate a website. (DL) To use a search engine to find and save an image. (IT) To insert an image, text and audio into a document.	(DL) To understand the risks of communicating with unknown individuals online. (DL) To recognise the importance of asking permission before sharing personal information. (DL) To identify trusted adults to consult when unsure about online interactions. (DL) To acknowledge the right to refuse online requests or sharing without consent. (DL) To learn the impact of online actions on personal and others' digital footprints.	(DL) To understand what a browser is and how they are used. (DL) To understand the three main inputs for a search engine. (DL) To use a reverse image search.	DL) To analyse data and make informed judgements about the validity of that data.	(CS) To use the internet to research and develop a set of questions and answers. (DL) To create a strong password and safe username for an online application.	(DL) To show they understand their responsibilities for the well-being of others in their online social group. (DL) To explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming). (DL) To demonstrate how they would support others (including those who are having difficulties) online. (DL) To demonstrate ways of reporting problems online for themselves and their friends.
Lesson 3	**Technology & Me** (IT) To discuss how we can communicate with computers. (DL) To discuss the rules to keep us safe. Based on Digiduck's Big Decision story book. (IT) To discuss how we use digital devices at home. (IT) To use digital drawing tools.	(IT) To find and open an app. (CS) To use logical reasoning to predict the outcome of actions/instructions. (CS) To debug instructions if required. (CS) To create a simple program.	(DL) To explain what bullying is, how people may bully others and how bullying can make someone feel. (DL) To explain why anyone who experiences bullying is not to blame. (DL) To talk about how anyone experiencing bullying can get help.	(DL) To understand the term 'digital footprint'. (DL) To use a search engine and enter keywords. (DL/IT) To save an image from the internet and insert it into a document. (DL) To perform a reverse image search using Google Lens.	DL) To use a search engine and be aware that not everything they read online is correct. (DL) To identify Fake News Stories.	(CS) To independently sign in to an online account. (CS) To choose sprites from the Scratch graphic library. (CS) To use an output program block. (CS) To set up a variable.	DL) To explain how they are developing an online reputation which will allow other people to form an opinion of them. (DL) To describe some simple ways that help build a positive online reputation.
Lesson 4	**Technology & Me** (IT/MS) To log on to a computer and open an app/application (DL) To use a search engine (Google).	(IT) To find and open an app. (CS) To use logical reasoning to predict the outcome of actions/instructions. (CS) To debug instructions if required. (CS) To create a simple program.	(DL) To discuss why and how online safety rules help us stay safe. (DL) To understand how those rules/guides can help anyone accessing online technologies. (DL) To contribute to creating a set of class online safety rules.	(DL) To improve online searches and use of keywords. (DL) To search for images and apply advanced filters. (DL) To understand why some images have copyright protection.	(DL) To evaluate information presented to them to make informed choices about what is Fake News.	(DL) To sign into an online account. (CS) To understand how a conditional statement can be used in a program. (CS) To change the value of a variable.	DL) To describe how to capture bullying content as evidence (e.g. screen-grab, URL, profile) to share with others who can help them. (DL) To identify a range of ways to report concerns both in school and at home about online bullying.
Lesson 5	**Beats & Rhythms** (IT/MS) Learn to open and close apps. (IT/MS) Plug in headphones and control the volume on a device. (IT) Explore making sounds and music using a digital device. (IT/MS) Use a digital device safety and respectfully.	(CS) To use logical reasoning to predict the outcome of actions/instructions. (CS) To debug instructions if required. (CS) To create a simple program with repeat blocks. (CS) To create a sprite (character).	(DL) To understand that lots of devices at home and in school that connect to the internet. (DL) To understand types of personal information. (DL) To understand who can help with online issues. (DL) To create a secure password.	(DL) To independently choose keywords to conduct internet searches. (DL) To independently conduct a reverse image search. (IT) To use a microphone and record audio clips.	(DL) To evaluate information presented to them to make informed choices about what is Fake News.	(DL) To sign into an online account. (CS) To debug a broken program. (CS) To independently add conditional statements and change a variable.	DL) To use search technologies effectively. (DL) To explain how search engines work and how results are selected and ranked. (DL) To demonstrate the strategies they would apply to be discerning in evaluating digital content. (DL) To demonstrate how some online information can be opinion and offer examples.

							(DL) To explain how and why some people may present 'opinions' as 'facts' (DL) To define the terms 'influence', 'manipulation' and 'persuasion' and explain how they might encounter these online (e.g. advertising and ad targeting). (DL) To demonstrate strategies to enable them to analyse and evaluate the validity of 'facts' and explain why these strategies are important. (DL) To identify, flag and report inappropriate content.
Lesson 6	**Beats & Rhythms** (CS) Sequence events in a repeating dance routine / explain the importance of sequencing. (CS) Move objects on a screen to sequence events. (MS) Record a short video clip.	(CS) To create a simple algorithm. (CS) To create a program based on an algorithm. (CS) To test and debug a program.	(DL) To use a digital device to search the internet. (DL) To understand how keywords can be used. (DL) To use a browser and navigate websites. (DL) To discuss AI images and fake news stories.	(DL) To conduct independent internet research. (DL) To gather text and images (copyright-free) from the web. (IT) To create a one-page slide and present facts and research creatively.	(DL) To be critical in their analysis of data. (DL) To explain what Fake News is.	(CS) To independently add improvements to a program. (CS) To program a programable robot.	DL) To describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warning) and describe their performance. (DL) To assess and action different strategies to limit the impact of technology on their health (e.g. night shift mode, regular break, correct posture, sleep, diet and exercise). (DL) To explain the importance of self-regulating their use of technology: to demonstrate the strategies they use to do this (e.g. monitoring my time online, avoiding accidents).
Lesson 7							(DL) To use different password for a range of online services. (DL) To describe effective strategies for managing passwords (e.g. password managers, acronyms, stories). (DL) To know what to do if their password is lost or stolen (DL) To explain what app permissions are and give some examples from the technology or services they use. (DL) To describe simple ways to increase privacy on apps and services that provide privacy settings. (DL) To describe ways in which some online content targets people to gain money or information illegally: to describe strategies to help them identify such content (e.g. scams, phishing).
Lesson 8							(DL) To demonstrate the use of search tools to find and access online content which can be reused for them. (DL) To demonstrate how to make references to and acknowledge sources they have used from the internet.