Computing Cycle A

There are three strands to cover across the year:

* Information Technology (the use of computers for functional purposes e.g. collecting, presenting info & using search technology.
* Digital Literacy (the safe & responsible use of technology including its advantages for collaboration & communication.
* Computer Science (understand how computers & networks work, including coding & programming).

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|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Year 1** | * 1. **Online safety**
 | **1.4 Lego Builders**Following & creating simple instructionsGeog | **1.5 Maze Explorers**Using direction keysCreating algorithmsInternet safety weekGeog/Ma | **1.6 Animated storybooks**Create, organise, store, manipulate and retrieve digital content.Art/Des/Eng/Hist | **1.7 Coding**Program design & computational thinking | **1.9 Tech outside School**Consider how technology is used outside of the school environment. |
| **Skills** | * I can keep my login information safe.
* I can save my work in a safe place e.g. ‘My Work’ folder.
 | * I can explain that an algorithm is a set of instructions.
* I know that an algorithm written for a computer is called a program.
* I can work out what is wrong when the steps are out of order in instructions.
 | * I can explain that an algorithm is a set of instructions.
* I can work out what is wrong when the steps are out of order in instructions.
* I can predict what is going to happen in a program e.g. where the BeeBot will go.
 | * I can add sound, pictures & text to a program e.g. 2Create a story.
* I can change content on a file e.g. text, sound & images.
* I can name my work.
* I can save my work.
* I can find my work.
 | * I can explain that an algorithm is a set of instructions.
* I can predict what is going to happen in a program e.g. where the BeeBot will go.
* I can change content on a file e.g. text, sound & images.
* I can name my work.
* I can save my work.
* I can find my work.
 | * I can say what tech is.
* I can say what examples of tech are in school and at home.
* I know a chair uses old tech and a smart phone uses new tech.
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| **Year 2** | **2.2 Online safety** | **2.5 Effective Searching**Investigate the Internet, the web, browsers and search enginesHist | **2.1 Coding**Program design & computational thinkingInternet safety week | **2.6 Creating Pictures**Painting tools to recreate famous artist’s styles.Art/Des/Hist | **2.8 Presenting ideas**Use a variety of software to manipulate and present digital content and information.Sci/Eng | **2.3 Spreadsheets**Beginning to understand manipulation of information.Ma |
| **Skills** | * I know the consequences of not searching online safely.
* I can share work & communicate electronically e.g display boards.
* I can report unkind behaviour & things that upset me online to a trusted adult.
* I can see where tech is used at school e.g ofiice.
 | * I know the consequences of not searching online safely.
* I can find info I need using a search engine.
* I can find data using specific searches e.g. 2 Investigate.
 | * I can explain an algorithm is a set of instructions to complete a task.
* I know I need to carefully plan my algorithm so it’ll work when I make it into code.
* I can design a simple program using 2Code that achieves a purpose.
* I can find & correct some errors in my program.
* I can say what will happen in a program.
* I can spot something in a program that has an action or effect.
* I understand that my creations e.g. programs in 2Code, need similar skills to the adult world e.g. The program used for collecting money for school trips.
 | * I can name, save and find my work.
* I can include photos, text & sound in my creations.
 | * I can use several programs to organise info e.g. binary trees such as 2Question or Spreadsheets as in 2Calculate.
* I can name, save & find my work.
 | * I can organise data e.g. using a database such as 2Investiagte.
* I can name, save & find my work.
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| **Year 3/4** | **3.2 Online Safety** | **3.1 Coding**Explore program design and put computational thinking into practice. Designing before coding | **.5 Email**Communicating safely on the internetEng/ | **3.4 Touch Typing**Eng/Hist | **3.9 Presenting: PowerPoint**Intro to PowerPoint skillsAll areas |
| **Skills** | * I can create a secure password.
* I can explain the importance of having a secure password & not sharing it with others.
* I can explain the negative consequences of not keeping passwords safe.
* I understand the importance of keeping safe online & being respectful.
* I can use communication tools e.g. 2Email respectfully.
* I can report unacceptable content & contact online in more than one way to a trusted adult.
 | * I can make a real-life situation into an algorithm for a program.
* I can design an algorithm carefully, thinking about what I want it to do & how I can turn it into code.
* I am able t design a program thinking logically about the sequence of steps required.
* I can experiment with timers in my programs.
* I can experiment with the effect of using repeat commands.
* I can identify the difference in using the effect of a timer or repeat commands in my code.
* I can identify an error in my program & fix it.
* I can read programs with several steps & predict what it will do.
 | * I can explain the importance of having a secure password & not sharing it with others.
* I can explain the negative consequences of not keeping passwords safe.
* I can use communication tools e.g. 2Email respectfully.
* I can create purposeful content & attach this to emails.
* I can use 2Email to respond to others appropriately & attach files.
* I can identify different ways that the internet can be used for communication.
 | * I can carry out searches to find digital content on a range of online systems, e.g. within Purple Mash or on an internet search engine.
 | * I can present data & info using different software such as 2Question (branching database) or 2Graph (graphing tool).
* I can create purposeful content & attach this to emails.
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| **Year 5/6** | **5.2 Online safety** | **5.1 Coding**Program Design | **5.8 Word Processing: MS Word**Using MS Word and developing skillsInternet safety weekEng/His/Sci | **MS Excel**Spreadsheets – taught through Maths.Ma | **5.5 Game Creator**Designing, programming & evaluating Art & Des/Eng |
| **Skills** | * I know the importance of computer networks and how they help solve problems & enhance communication.
* I recognise the main dangers that can be perpetuated via computer networks.
* I can explain what personal information is & know strategies for keeping this safe.
* I can use the most appropriate form of online communication according to the digital content e.g. 2Email, 2Blog & Display Boards.
* I can create purposeful content & attach this to emails.
* I can search precisely when using a search engine e.g. by adding or removing words to help find a better result.
* I can explain in detail how accurate, safe & reliable the content is on a webpage.
* I have a secure knowledge of online safety rules taught at school.
* I can demonstrate the safe & respectful use of different online technologies/services.
* I always relate appropriate online behaviour to my right to have personal privacy.
* I know how to not let my mental wellbeing or others be affected by use of online tech/services.
 | * I can make more complex real-life problems into algorithms for a program.
* I can test & debug my programs as I work.
* I can convert algorithms that contain sequence, selection & repetition into code that works.
* I can use sequence, selection, repetition, & some other coding structures in my code.
* I can organise my code carefully e.g. naming variables & using tabs. I know this will help me debug more efficiently.
* I can use logical methods to identify the cause of any bug with support to identify the specific line of code.
 | * I can make appropriate improvements to digital work I have created.
 |  | * I can test & debug my programs as I work.
* I can make appropriate improvements to digital work I have created.
* I can comment on how successful a digital solution is that I have created.
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Foundation Stage: Spend time looking at laptop keys and the mouse – making marks on Purple Mash drawing packages. Look at how laptops are different to iPads – how iPads swipe and laptops you use the mouse/keypad etc.

Spend time investigating Mini Mash games and Cbeebies games to become IT confident.