Computing Progression Framework

Numbering system

Subject.Year.Strand.Statement

Text shown in **bold** is a key term, and is defined in the Glossary.

DOMAIN: COMPUTER SCIENCE						
KEY STAGE 1						
Year 1						
Sub-strand	**Progression statement**	**What to look for guidance (Working towards expectations)**	**What to look for guidance (Meeting expectations)**	**What to look for guidance (Exceeding expectations)**	**Relevant *Switched on Computing* unit(s)**	***Switched on Computing* badge**
Problem solving	C.1.1.1. Understand what algorithms are.	The child can understand that goals can be achieved by following a **sequence** of steps. The child can understand that simple, real-world problems, such as making a pizza or a smoothie, can be solved by following a **sequence** of steps in order. *(E.g. In 1.1, recognise that the Bee Bot can get to its destination through following a sequence of steps.* *In 1.2, understand that the steps of a recipe should be followed in cookery.* *In 1.4, think about the steps they follow to group or sort things.)*	The child can understand **algorithms** as **sequences** of instructions in everyday contexts. The child can take real-world problems and then plan a **sequence** of steps to solve these. The problems could be moving a Bee Bot from one point to another, or making some simple food items like a sandwich, smoothie or pizza. *(E.g. In 1.1, recognise a set of directions as an algorithm.* *In 1.2, recognise the steps of a recipe as an algorithm.* *In 1.4, realise that there are algorithms for grouping or sorting things.)*	The child can appreciate the need for precise and unambiguous instructions in **algorithms**. The child can use increasingly precise and unambiguous instructions in creating **sequences** of instructions. These should typically be for real-world problems such as recipes or moving a Bee Bot. *(E.g. In 1.1, know that instructions for a Bee Bot need to be precise.* *In 1.2, know that the steps of a recipe need to be precise and unambiguous.* *In 1.4, recognise that to group or sort things, a computer or robot would need very precise instructions.)*	1.1, 1.2, 1.4	Problem solver 1
	C.1.1.2 Understand how algorithms are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	The child can program floor turtles using individual instructions according to a plan. The child can program a Bee Bot, or similar floor robot, one instruction at a time, pressing the movement buttons, then Go, then clearing at each step. *(E.g. In 1.1, give the Bee Bot single instructions.)*	The child can program floor turtles using **sequences** of instructions to implement an **algorithm**. The child can create a Bee Bot (or similar) **program** using a number of steps in order before pressing the Go button. The length of the child's **programs** might increase over the year. *(E.g. In 1.1, create a Bee Bot program, implementing the complete algorithm for their solution.)*	The child can appreciate that programming a **digital device** involves **commands** in a formal language. The child can show some understanding of Bee Bot instructions being taken from a very specific, clearly defined language, in which each **command** produces a certain, predictable **output**. There should be some sense of the child developing an understanding of a programming language as a way in which people can give **commands** to **digital devices**. *(E.g. In 1.1, recognise that the Bee Bot only accepts a small number of different commands.)*	1.1	Problem solver 1

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KEY STAGE 1

Year 1

Sub-strand	Progression statement	What to look for guidance (Working towards expectations)	What to look for guidance (Meeting expectations)	What to look for guidance (Exceeding expectations)	Relevant *Switched on Computing* unit(s)	*Switched on Computing* badge
Programming	C.1.2.1.Create and debug simple programs.	The child can give instructions, one at a time, to a floor turtle. The child can create a **program** for a Bee Bot by entering instructions one at a time, literally stepping through their code as they do. This level of interaction allows the child to correct bugs in their **programs** as they arise. *(E.g. In 1.1, give the Bee Bot instructions one at a time.)*	The child can give a **sequence** of instructions to a floor turtle. The child can create a Bee Bot **program** using a **sequence** of instructions before running it using the Go button. The length of the child's **programs** might be expected to increase over the course of the year. *(E.g. In 1.1, give the Bee Bot a complete program.)*	The child can give a **sequence** of instructions to a floor turtle, correcting mistakes. The child can run programs on a Bee Bot as a quite lengthy **sequence** of instructions. The child can work out where bugs are in their **program,** reset the Bee Bot and enter corrected code. Typically, the child will need to have some way to record their programs before entering them, such as a whiteboard, Bee Bot instruction cards or the Blue Bot app. *(E.g. In 1.1, give the Bee Bot a complete program, and then debug this to correct any errors.)*	1.1	Programmer 1
Logical thinking	C.1.3.1. Use logical reasoning to predict the behaviour of simple programs.	The child can make predictions about what a **program** will do. The child can make a prediction of what they think a **program** will do next. This could be a **program** (perhaps for a Bee Bot) that they or their peers have written, or it could be a familiar piece of **software** (including computer games). The child could use an audio recorder or video camera to capture their predictions. *(E.g. In 1.1, predict what another child's Bee Bot program will do when run.)*	The child can give explanations for what they think a **program** will do. The child can explain to the teacher, and to peers, what they think a **program** will do. This could be a **program** they or their peers have written, or it could be a familiar piece of **software** (including computer games). The child could use an audio recorder or video camera to capture their explanations. *(E.g. In 1.1, explain what their own or another child's program will do before it is run.)*	The child can give logical explanations for what they think a **program** will do. The child should be able to give carefully reasoned explanations of what a **program** will do under given circumstances, including some attempt at explaining why it does what it does. The **program** could be one they themselves have written or it could be a computer game or a familiar piece of **software**. The child could use an audio recorder or video camera to record their explanation. *(E.g. In 1.1, give a logical explanation for what a Bee Bot program will do and defend that explanation when questioned.)*	1.1	Logical thinker 1

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DOMAIN: DIGITAL LITERACY						
KEY STAGE 1						
Year 1						
Sub-strand	**Progression statement**	**What to look for guidance (Working towards expectations)**	**What to look for guidance (Meeting expectations)**	**What to look for guidance (Exceeding expectations)**	**Relevant *Switched on Computing* unit(s)**	***Switched on Computing* badge**
E-safety	C.1.1.1. Use technology safely and respectfully.	The child can acknowledge the need to stay safe when using technology. The child can understand that they need to be kept safe when using technology. E.g. They should be required to use filtered SafeSearch when looking for images on the **web**. *(E.g. In 1.3, 1.4 and 1.6, they can keep safe when searching for images.)*	The child can keep themselves safe while using digital technology. The child can understand that they need to keep safe when using digital technology. E.g. They should know to use filtered SafeSearch when looking for images on the **web** and that they should close the lid of a laptop (or similar action) if they find inappropriate images. *(E.g. In 1.3, 1.4 and 1.6, close the laptop lid (or similar) and tell a teacher if they find inappropriate images.)*	The child can keep safe and show respect to others while using digital technology. The child can understand that they need to keep safe when using digital technology. E.g. They should know to use filtered SafeSearch when looking for images on the **web** and close the lid of a laptop (or similar action) if they find inappropriate images. They should know to respect others' rights, including privacy and intellectual property when using computers, so should not look at someone else's work or copy it without permission. *(E.g. In 1.3, 1.4 and 1.6, close the laptop lid (or similar action) and tell a teacher if they find inappropriate images, and only copy images where they have permission to do so.)*	1.3, 1.4, 1.6	E-safety 1
	C.1.1.2. Keeping personal information private.	The child can understand that some information should be kept private. The child should understand that some information is personal and should only be shared by those who they or their parents trust. E.g. The child should recognise that audio or video recordings they make in school are personal. *(E.g. In 1.2 and 1.5, know that some video and audio should be kept private.)*	The child can understand that information on the internet can be seen by others. The child should be aware that information stored on the **web** or transmitted via the internet is available to other people. E.g. They should know that the images they find online can be found by others too, and that the queries they type in can be seen by those who run the search engine they use and the school's **network**. *(E.g. In 1.3, 1.4 and 1.6, realise that the images they search for can be seen by others.)*	The child can start to understand what information about themselves should be kept private. The child should understand that personal information should be kept private: it should not be posted online to a public audience and should only be shared privately with those who the child (or their parents) would trust. E.g. The child should recognise that audio or video recordings they make in school should not normally be posted online. *(E.g. In 1.2 and 1.5, understand that their video and audio recordings should not normally be posted online.)*	1.2, 1.3, 1.4, 1.5, 1.6	E-safety 1

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DOMAIN: DIGITAL LITERACY						
KEY STAGE 1						
Year 1						
Sub-strand	**Progression statement**	**What to look for guidance (Working towards expectations)**	**What to look for guidance (Meeting expectations)**	**What to look for guidance (Exceeding expectations)**	**Relevant *Switched on Computing* unit(s)**	***Switched on Computing* badge**
E-safety	C.1.1.3. Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	The child can understand what to do if they see disturbing content online at school. The child should know to close the laptop lid or turn the tablet over if they find content, such as inappropriate images, which might disturb them or other children. They should know to tell their teacher if this happens in school. *(E.g. In 1.3, 1.4 and 1.6, know to close the laptop lid or turn the tablet over and tell a teacher if they find inappropriate images.)*	The child can understand what to do if they see disturbing content online at home or at school. The child should know to close the laptop lid or turn the tablet over if they find content, such as inappropriate images, which might disturb them or other children. They should know to tell their teacher or their parents if this happens. *(E.g. In 1.3, 1.4 and 1.6, know to close the laptop lid or turn the tablet over and tell a teacher or their parents if they find inappropriate images.)*	The child can understand what to do if they have concerns about content or contact online. The child should know to close the laptop lid or turn the tablet over if they find content, such as inappropriate images, which might disturb them or other children; if someone they don't trust contacts them online; if someone makes inappropriate contact online. They should know to tell their teacher or their parents if this happens, and be aware that they could talk to another trusted adult or to Childline about this. *(E.g. In 1.3, 1.4 and 1.6, know to close the laptop lid or turn the tablet over and tell a teacher, their parents, another trusted adult or ChildLine if they find inappropriate images.)*	1.3, 1.4, 1.6	E-safety 1
Using IT beyond school	C.1.2.1. Recognise common uses of information technology beyond school.	The child can name some uses of IT beyond school. The child can mention some of the ways in which IT is used beyond school. Examples could be watching videos, creating paintings, typing stories, listening to music or audio books, sending messages. *(Examples could include video in 1.2, painting and e-books in 1.3, audio in 1.5 and e-cards in 1.6.)*	The child can show an awareness of how IT is used for communication beyond school. The child can mention some of the ways in which IT is used to communicate beyond school. E.g. They might know that some people use social media such as Facebook, email, video calls or online greetings to say happy birthday to their friends. *(E.g. In 1.6, be aware that many people send greetings online rather than using cards now.)*	The child can show an awareness of how IT is used for a range of purposes beyond school. The child can name a number of purposes for which IT is used beyond school. E.g. They might know that modern TVs use digital technology, that books are often available in a digital format, that music is often recorded using computers and that people often communicate using computers these days. *(E.g. In 1.2, know that TV uses digital technology. In 1.3, be aware of e-books. In 1.5, be aware that audio is recorded digitally. In 1.6, be aware that some people send e-cards rather than paper cards now.)*	1.2, 1.3, 1.5, 1.6	Beyond School

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DOMAIN: INFORMATION TECHNOLOGY						
KEY STAGE 1						
Year 1						
Sub-strand	**Progression statement**	**What to look for guidance (Working towards expectations)**	**What to look for guidance (Meeting expectations)**	**What to look for guidance (Exceeding expectations)**	**Relevant *Switched on Computing* unit(s)**	**Switched on Computing badge**
Creating content	C.1.1.1. Use technology purposefully to organise, store and retrieve digital content.	The child can store content on **digital devices**. The child can use a range of digital technologies to store digital content. These might include laptop computers, tablets, smartphones, digital cameras, video cameras and audio recorders. Projects might include videoing one another cooking, creating content for an e-book or an audio book, creating a greetings card. *(E.g. In 1.2, film a child cooking.* *In 1.3, save their work.* *In 1.4, import images and save their work.* *In 1.5, record audio.* *In 1.6, import images and save their work.)*	The child can use digital technology to store and retrieve content. The child can use a range of digital technologies to store and access digital content. These might include laptop computers, tablets, smartphones, digital cameras, video cameras and audio recorders. Projects might include videoing one another cooking, developing an e-book or an audio book, creating a greetings card. *(E.g. In 1.2, film and upload a child cooking.* *In 1.3, open the e-book, import illustrations, add them to the e-book and save their work.* *In 1.4, retrieve previous work, import further illustrations and save their work.* *In 1.5, open the template, record audio, import it to the computer and save their work.* *In 1.6, open the card template, find images online and save their work.)*	The child can use digital technology to organise, store and retrieve content The child can use a range of digital technologies to store, access and organise digital content. Typically, they can use a laptop computer, tablet or smartphone to help organise content, such as by moving this between one document and another or by moving content within the file system or on a document. Projects might include videoing one another cooking, developing an e-book or an audio book, creating a greetings card. *(E.g. In 1.2, film and upload a child cooking.* *In 1.3, import illustrations, add them to the e-book and save their work.* *In 1.4, import illustrations, use PowerPoint to organise these according to the tasks, and save their work.* *In 1.5, record audio and import it to the computer, add audio to the correct pages in their presentation and save their work.* *In 1.6, find images online, add them appropriately to their e-card and save their work.)*	1.2, 1.3, 1.4, 1.5, 1.6	Content creator 1
	C.1.1.2. Use technology purposefully to create and manipulate digital content.	The child can create content on a **digital device**. The child can create their own original digital content using handheld devices. These would typically be digital cameras, video cameras and audio recorders, but the equivalent apps on a smartphone or tablet might be used. Projects might include videoing one another cooking or making recordings for an audio book. *(E.g. In 1.2, film digital video.* *In 1.5, record original digital audio.)*	The child can create original content using digital technology. The child can create their own original digital content using a range of technologies. These might include laptop computers, tablets, smartphones, digital cameras, video cameras and audio recorders. Projects might include videoing one another cooking, developing an e-book or an audio book, creating a greetings card. Look for some indication of the child's creativity in this work. *(E.g. In 1.2, film digital video.* *In 1.3, create an original painting.* *In 1.5, create original digital audio.* *In 1.6, type their own text.)*	The child can create and edit original content using digital technology. The child can create and edit their own original digital content using a range of technologies. Content-creation technology might include laptop computers, tablets, smartphones, digital cameras, video cameras and audio recorders, although editing is likely to take place on laptops or tablets. Projects might include videoing one another cooking, developing an e-book or an audio book, creating a greetings card. Look for some indication of the child's creativity in this work as well as evidence that they have edited content. *(E.g. In 1.2, film digital video and edit this on the computer.* *In 1.3, create and edit an original painting.* *In 1.5, create original digital audio, using editing tools, if available.* *In 1.6, type and edit their own text.)*	1.2, 1.3, 1.5, 1.6	Content creator 1