Knowledge and Skills: Computing September 2025

Cottingley Village Primary School

Computer Science / Coding									
EYFS - Birth - 3	**EYFS – 3 & 4 Years**	**EYFS - Reception**	**EYFS ELG**	**Year One**	**Year Two**	**Year Three**	**Year Four**	**Year Five**	**Year Six**
To repeat actions that have an effect.	To explore how things work.	To talk about the steps involved in a process or task. Begin to summarise as they remember tasks, recounting what was important. To break a task down into smaller tasks To sequence a set of the instructions To explore practical situations and begin to notice patterns, observing and exploring similarities and differences		**3. Programming A – Moving a robot** -To explain what a given command will do - To understand that an algorithm is a series of instructions - To understand that digital devices work using programs to make something happen. - To combine forwards and backwards commands to make a sequence -To combine four direction commands to make sequences -To plan a simple program -To find more than one solution to a problem **6. Programming B - Programming animations** -To choose a command for a given purpose -To show that a series of commands can be joined together -To identify the effect of changing a value -To explain that each sprite has its own instructions -To design the parts of a project -To use algorithms to create a program - To check an algorithm to see if it works as planned.	**3. Programming A – Robot algorithms** -To describe a series of instructions as a sequence -To explain what happens when we change the order of instructions -To use logical reasoning to predict the outcome of a program -To explain that programming projects can have code and artwork -To design an algorithm -To create and debug a program that I have written **6. Programming B - programming quizzes** -To explain that a sequence of commands has a start -To explain that a sequence of commands has an outcome -To create a program using a given design -To change a given design -To create a program using my own design -To decide how my project can be improved	**3. Programming A - Sequencing sounds** -To explore a new programming environment -To identify that commands have an outcome -To explain that a program has a start -To recognise that a sequence of commands can have an order -To change the appearance of my project -To create a project from a task description **6. Programming B - Events and actions in programs** -To explain how a sprite moves in an existing project -To create a program to move a sprite in four directions -To adapt a program to a new context -To develop my program by adding features -To identify and fix bugs in a program -To design and create a maze-based challenge	**3. Programming A – Repetition in shapes** -To identify that accuracy in programming is important -To create a program in a text-based language -To explain what 'repeat' means -To modify a count-controlled loop to produce a given outcome -To decompose a task into small steps -To create a program that uses count-controlled loops to produce a given outcome **6. Programming B – Repetition in games** -To develop the use of count-controlled loops in a different programming environment -To explain that in programming there are infinite loops and count controlled loops -To develop a design that includes two or more loops which run at the same time -To modify an infinite loop in a given program -To design a project that includes repetition -To create a project that includes repetition	**3. Programming A – Selection in physical computing** -To control a simple circuit connected to a computer -To write a program that includes count-controlled loops -To explain that a loop can stop when a condition is met -To explain that a loop can be used to repeatedly check whether a condition has been met -To design a physical project that includes selection -To create a program that controls a physical computing project **6. Programming B – Selection in quizzes** -To explain how selection is used in computer programs -To relate that a conditional statement connects a condition to an outcome -To explain how selection directs the flow of a program -To design a program which uses selection -To create a program which uses selection -To evaluate my program	**3. Programming A – Variables in games** -To define a 'variable' as something that is changeable -To explain why a variable is used in a program -To choose how to improve a game by using variables -To design a project that builds on a given example -To use my design to create a project -To evaluate my project **6. Programming B - Sensing movement** -To create a program to run on a controllable device -To explain that selection can control the flow of a program -To update a variable with a user input -To use a conditional statement to compare a variable to a value -To design a project that uses inputs and outputs on a controllable device -To develop a program to use inputs and outputs on a controllable device

Creating digital Artefacts – Multimedia

EYFS - Birth to 3 Years / EYFS – 3 & 4 Yrs	EYFS - Reception	EYFS ELG	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
To understand that different media can be seen using a range of different technology e.g. videos, games and music	To communicate simple ideas through the use of images and sounds. To control a mouse / touch screen / pens to enter text or drawings in the correct place in a program. To use a range of technology to record simple sounds and voices.		**2. Creating media – Digital painting** -To describe what different freehand tools do -To use the shape tool and the line tools -To make careful choices when painting a digital picture -To explain why I chose the tools I used -To use a computer on my own to paint a picture -To compare painting a picture on a computer and on paper **5. Creating media – Digital writing** -To use a computer to write -To add and remove text on a computer -To identify that the look of text can be changed on a computer -To make careful choices when changing text -To explain why I used the tools that I chose -To compare typing on a computer to writing on paper	**2. Creating media – Digital photography** -To use a digital device to take a photograph -To make choices when taking a photograph -To describe what makes a good photograph -To decide how photographs can be improved -To use tools to change an image -To recognise that photos can be changed **5. Creating media - Digital music** -To say how music can make us feel -To identify that there are patterns in music -To experiment with sound using a computer -To use a computer to create a musical pattern -To create music for a purpose -To review and refine our computer work	**2. Creating media - Stop-frame animation** -- To explain that animation is a sequence of drawings and photographs -To relate animated movement with a sequence of images -To plan an animation -To identify the need to work consistently and carefully -To review and improve an animation -To evaluate the impact of adding other media to an animation **5. Creating media – Desktop publishing** -To recognise how text and images convey information -To recognise that text and layout can be edited -To choose appropriate page settings -To add content to a desktop publishing publication -To consider how different layouts can suit different purposes -To consider the benefits of desktop publishing	**2. Creating media - Audio production** -To identify that sound can be recorded -To explain that audio recordings can be edited -To recognise the different parts of creating a podcast project -To apply audio editing skills independently -To combine audio to enhance my podcast project -To evaluate the effective use of audio **5. Creating media – Photo editing** -To explain that the composition of digital images can be changed -To explain that colours can be changed in digital images -To explain how cloning can be used in photo editing -To explain that images can be combined -To combine images for a purpose -To evaluate how changes can improve an image	**2. Creating media - Video production** -To explain what makes a video effective -To identify digital devices that can record video -To capture video using a range of techniques -To create a storyboard -To identify that video can be improved through reshooting and editing -To consider the impact of the choices made when making and sharing a video **5. Creating media - Introduction to vector graphics** -To identify that drawing tools can be used to produce different outcomes -To create a vector drawing by combining shapes -To use tools to achieve a desired effect -To recognise that vector drawings consist of layers -To group objects to make them easier to work with -To apply what I have learned about vector drawing	**2. Creating media – Web page creation** -To review an existing website and consider its structure -To plan the features of a web page -To consider the ownership and use of images (copyright) -To recognise the need to preview pages -To outline the need for a navigation path -To recognise the implications of linking to content owned by other people **5. Creating media – 3D Modelling** -To recognise that you can work in three dimensions on a computer -To identify that digital 3D objects can be modified -To recognise that objects can be combined in a 3D model -To create a 3D model for a given purpose -To plan my own 3D model -To create my own digital 3D model

Data Handling

EYFS - Birth to 3 Years	EYFS – 3 & 4 Yrs	EYFS - Reception	EYFS ELG	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
To complete inset puzzles. To notice patterns and arrange things in patterns.	To describe a familiar route. To discuss routes and locations, using words like 'in front of' and 'behind'. To begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	To select, rotate and manipulate shapes in order to develop spatial reasoning skills. To continue, copy and create repeating patterns.		**4.Data and information – Grouping data** -To label objects -To identify that objects can be counted -To describe objects in different ways -To count objects with the same properties -To compare groups of objects -To answer questions about groups of objects	**4. Data and information – Pictograms** -To recognise that we can count and compare objects using tally charts -To recognise that objects can be represented as pictures -To create a pictogram -To select objects by attribute and make comparisons -To recognise that people can be described by attributes -To explain that we can present information using a computer	**4. Data and information – Branching databases** -To create questions with yes/no answers -To identify the attributes needed to collect data about an object -To create a branching database -To explain why it is helpful for a database to be well structured -To plan the structure of a branching database -To independently create an identification tool	**4. Data and information – Data logging** -To explain that data gathered over time can be used to answer questions -To use a digital device to collect data automatically -To explain that a data logger collects 'data points' from sensors over time -To recognise how a computer can help us analyse data -To identify the data needed to answer questions -To use data from sensors to answer questions	**4. Data and information – Flat-file databases** -To use a form to record information -To compare paper and computer-based databases -To outline how you can answer questions by grouping and then sorting data -To explain that tools can be used to select specific data -To explain that computer programs can be used to compare data visually -To use a real-world database to answer questions	**4. Data and information - Introduction to Spreadsheets** -To create a data set in a spreadsheet -To build a data set in a spreadsheet -To explain that formulas can be used to produce calculated data -To apply formulas to data -To create a spreadsheet to plan an event -To choose suitable ways to present data

Computing contexts – Computer Systems, Networks, the benefits of using technology and the opportunities it has on offer.

EYFS - Birth to 3 Years	EYFS – 3 & 4 Yrs	EYFS - Reception	EYFS ELG	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
- To use technology to view a range of different content.		- To use technology to view a range of different content. - To recognise common uses of technology beyond school.		**1. Computing systems and networks – Technology around us** -To identify technology -To identify a computer and its main parts -To use a mouse in different ways -To use a keyboard to type on a computer -To use the keyboard to edit text -To create rules for using technology responsibly.	**1. Computing systems and networks – IT around us** - To recognise the uses and features of information technology -To identify the uses of information technology in the school -To identify information technology beyond school -To explain how information technology helps us -To explain how to use information technology safely -To recognise that choices are made when using information technology - To understand how to use technology to communicate and send messages. - Begin to understand the opportunities using technology provides us. To use technology to find and collect information about a given theme. .	**1. Computing systems and networks – Connecting computers** -To explain how digital devices function -To identify input and output devices -To recognise how digital devices can change the way we work -To explain how a computer network can be used to share information -To explore how digital devices can be connected -To recognise the physical components of a network - To explain how technology has changed our lives and the opportunities it offers. - To ask questions and understand how to use technology to begin to answer these questions - To explain the way technology has changed our lives and the opportunities it offers.	**1. Computing systems and networks – The Internet** -To describe how networks physically connect to other networks -To recognise how networked devices make up the internet -To outline how websites can be shared via the World Wide Web (WWW) -To describe how content can be added and accessed on the World Wide Web (WWW) -To recognise how the content of the WWW is created by people -To evaluate the consequences of unreliable content - To understand how technology has improved the way in which we collect and use information. - Begin to analyse the information we find and make judgements abouts its accuracy	**1. Computing systems and networks - systems and searching** -To explain that computers can be connected together to form systems -To recognise the role of computer systems in our lives -To experiment with search engines -To describe how search engines select results -To explain how search results are ranked -To recognise why the order of results is important, and to whom - To explain the benefits and risks of using technology to communicate and send messages and do so safely and responsibly (linked with e safety curriculum) e.g. Text messages, emails, messaging APP's, social media APPs - To explain the benefits and limitations of using technology to find things out. (linked with Digital Literacy skills)	**1. Computing systems and networks - Communication and collaboration** -To explain the importance of internet addresses -To recognise how data is transferred across the internet -To explain how sharing information online can help people to work together -To evaluate different ways of working together online -To recognise how we communicate using technology -To evaluate different methods of online communication - To explain the benefits and risks of using technology to communicate and send messages and do so safely and responsibly (linked with e safety curriculum) e.g. Text messages, emails, messaging APP's, social media APPs. - To understand the legacy of the internet. .