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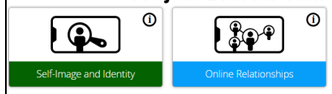
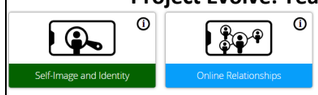
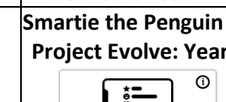
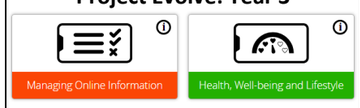
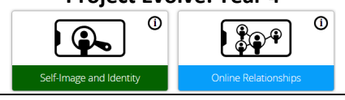
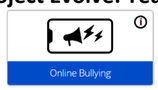
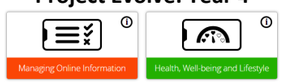
Clee Hill Community Academy Computing Long Term Plan

Cycle A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Computing Systems and networks	**Creating Media**	**Programming A**	**Data and Information**	**Creating Media**	**Programming B**
Class 2: Online safety coverage	**Project Evolve: Year 1** 	**Smartie the Penguin 1A** **Project Evolve: Year 1** 	**Project Evolve: Year 1** 	**Project Evolve: Year 1** 	**Project Evolve: Year 1** 	**Project Evolve: Year 1** 
Class 2	**NCCE: Year 1: Technology around us.** Recognising technology in school and using it responsibly **-Name 3 types of technology (computer, iPad, traffic lights, laptop, heating system).** **-Locate the on switch of a desktop PC.** **-Know that the shift key creates a capital letter**.	**NCCE: Year 2: Digital photography** Capturing and changing digital photographs for different purposes. **-Explain what I did to capture a digital photo** **-Explain why a photo looks better in portrait or landscape format** **-Use a tool to achieve a desired effect**	**NCCE: Year 1: Moving a robot** Writing short algorithms and programs for floor robots, and predicting program outcomes **-Program a 'robot'** **-Follow a set of simple instructions** **-Debug my program**	**NCCE: Year 2: Pictograms** Collecting data in tally charts and using attributes to organise and present data on a computer. **-Record data in a tally chart** **-Use pictograms to answer simple questions about objects** **-Explain what the pictogram shows**	**NCCE: Year 1 Digital writing.** Using a computer to create and format text, before comparing to writing non-digitally **-Know that the space key makes a space and backspace deletes text.** **-Know that where the font and size icons are and what they change font style and make it bigger or smaller.**	**NCCE: Year 2 Programming quizzes** Designing algorithms and programs that use events to trigger sequences of code to make interactive quiz. **-Change the outcome of a sequence of commands** **-Decide which blocks to use to meet the design** **-Debug my program**
Class 3 Online safety coverage	**Project Evolve: Year 3** 	**Smartie the Penguin 2A** **Project Evolve: Year 3** 	**Project Evolve: Year 3** 	**Project Evolve: Year 3** 	**Project Evolve: Year 3** 	**Project Evolve: Year 3** 
Class 3	**NCCE: Year 3: Connecting computers** Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks. **-Identify at least 2 networked devices around them (Network switch, server, wireless access point- see knowledge organiser).** **- Explain that different devices have different purposes. (smartboard for teaching, iPad for researching).**	**NCCE: Year 2: Digital photography** Capturing and changing digital photographs for different purposes. **-Explain what I did to capture a digital photo** **-Explain why a photo looks better in portrait or landscape format** **-Use a tool to achieve a desired effect**	**NCCE: Year 3: Sequencing sounds**https://teachcomputing.org/curriculum/key-stage-2/programming-a-sequence-in-music Creating sequences in a block-based programming language to make music using Sphero BOLTS **-Create a sequence of connected commands** **-Combine sound commands** **-Implement my algorithm as code**	**NCCE: Year 2: Pictograms** Collecting data in tally charts and using attributes to organise and present data on a computer. **-Record data in a tally chart** **-Use pictograms to answer simple questions about objects** **-Explain what the pictogram shows**	**NCCE: Year 3: Desktop publishing** Creating documents by modifying text, images, and page layouts for a specified purpose. **-Explain the difference between text and images.** **-Demonstrate how to change font size and colour on a desktop computer (through Word or Publisher).**	**NCCE: Year 2: Programming quizzes** Designing algorithms and programs that use events to trigger sequences of code /quiz. **-Change the outcome of a sequence of commands** **-Decide which blocks to use to meet the design** **-Debug my program**
Class 4: Online safety coverage	**Project Evolve: Year 4** 	**Project Evolve: Year 4** 	**Project Evolve: Year 4** 	**Project Evolve: Year 4** 	**Project Evolve: Year 4** 	**Project Evolve: Year 4** 
Class 4	**NCCE: Year 4: The internet** *Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.* **-Know that websites and their contents are created by people.** **-Know that information found online is not necessarily honest, accurate or legal.** **-Know what a URL address is and how to access a website.**	**NCCE: Year 5: Video production** Planning, capturing, and editing video to produce a short film. **-Use different camera angles** **-Use trim and crop to edit a video** **-Identify videos can be improved through and reshooting or editing**	**NCCE: Year 4: Repetition in shapes** Using a text-based programming language to explore count-controlled loops when drawing shapes. **-Be able to identify patterns of repetition in real life (brushing teeth, dance).** **-Explain how to use the repeat block in Scratch**	**NCCE: Year 5: Flat-file databases** Using a database to order data and create charts to answer questions. **-Outline how 'AND' and 'OR' can be used to refine data selection** **- Select an appropriate graph to visually compare data**	**NCCE: Year 4: Photo editing** Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled. **-Explain the uses for gathered data.** **-Explain the different ways that data may be gathered.**	**NCCE: Year 5: Selection in quizzes** Exploring selection in programming to design and code an interactive quiz. **-Identify the condition and outcomes in an 'if… then… else…' statement** **-Show that a condition can direct program flow in one of two ways** **-Identify the outcome of user input in an algorithm.**

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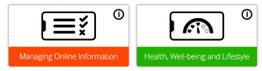
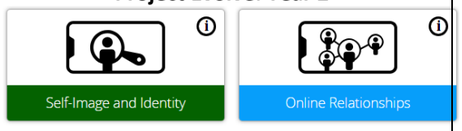
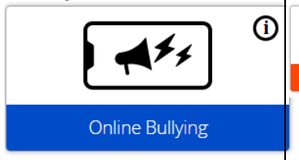
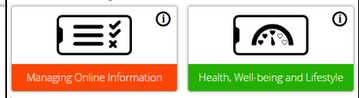
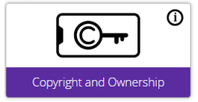
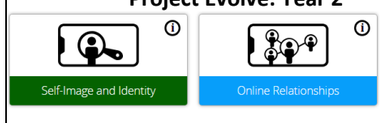
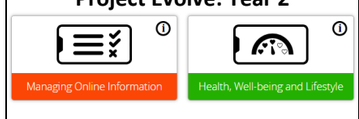
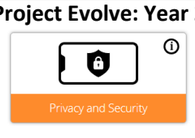
Class 5: Online safety coverage	**Project Evolve: Year 6** 	**Project Evolve: Year 6** 	**Project Evolve: Year 6** 	**Project Evolve: Year 6** 	**Project Evolve: Year 6** 	**Project Evolve: Year 6** 
Class 5	**NCCE: Year 6: Communication and collaboration** Exploring how data is transferred by working collaboratively online. **-Outline and evaluate methods of communicating and collaborating using the internet**	**NCCE: Year 5: Video production** Planning, capturing, and editing video to produce a short film. **-Use different camera angles** **-Use trim and crop to edit a video** **-Identify videos can be improved through and reshooting or editing**	**NCCE: Year 6: Variables in games** Exploring variables when designing and coding a game. **-Define a 'variable' as something that is changeable** **- Experiment with the value of an existing variable**	**NCCE: Year 5: Flat-file databases** Using a database to order data and create charts to answer questions. **-Outline how 'AND' and 'OR' can be used to refine data selection** **- Select an appropriate graph to visually compare data**	**NCCE: Year 6: 3D modelling** Planning, developing, and evaluating 3D computer models of physical objects. **-Use digital tools to modify 3D objects**	**NCCE: Year 5: Selection in quizzes** Exploring selection in programming to design and code an interactive quiz. **-Identify the condition and outcomes in an 'if… then… else…' statement** **-Show that a condition can direct program flow in one of two ways** **-Identify the outcome of user input in an algorithm**

Cycle B	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Computing Systems and networks	**Creating Media**	**Programming A**	**Data and Information**	**Creating Media**	**Programming B**
	Smartie the Penguin 1B **Project Evolve: Year 2** 	**Smartie the Penguin 1B Project** **Evolve: Year 2**  	**Project Evolve: Year 2** 	**Project Evolve: Year 2** 	**Project Evolve: Year 2** 	**Project Evolve: Year 2** 
Class 2	**NCCE: Year 2: Information technology around us** Identifying IT and how its responsible use improves our world in school and beyond. - **name the main parts of a computer** - **use a mouse to click and drag** - **type my name on a computer** - **save my work to a file and open it again**	**NCCE: Year 1 Digital painting** Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally **-Use the shape and line tools effectively** **-Choose appropriate paint tools and colours** **-Change the colour and brush sizes**	**NCCE: Year 2 Robot algorithms** Creating and debugging programs, and using logical reasoning to make predictions. **-Use 4 commands in a sequence including forwards/backwards/left turn/right turn.** **-Know when and how to debug programs.** **-Know a series of instructions (usually on a computer) is called an Algorithm**	**NCCE: Year 1 Grouping data.** Exploring object labels, then using them to sort and group objects buy properties **-Use a computer to write, add/remove text.** **-Alter font including size and style.** **-Name a group of objects using a label according to property (including size, shape or colour).**	**NCCE: Year 2 Digital music** Using a computer as a tool to explore rhythms and melodies, before creating a musical composition. **-Show how music is made from a series of notes.** **-Create music for a purpose, review and refine computer work.**	**Programming B - Programming animations** Designing and programming the movement of a character on screen to tell stories **-Show that a series of commands can be joined together.** **- Identify the effect of changing a value.** **-Explain that each sprite has a set of its own instructions.**
	Project Evolve: Year 2 	**Smartie the Penguin 2A** **Project Evolve: Year 2**  	**Project Evolve: Year 2** 	**Project Evolve: Year 2** 	**Project Evolve: Year 2** 	**Project Evolve: Year 2** 

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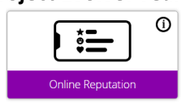
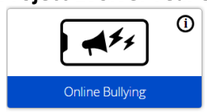
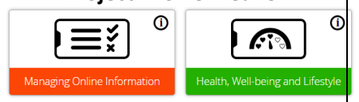
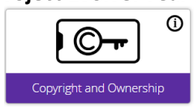
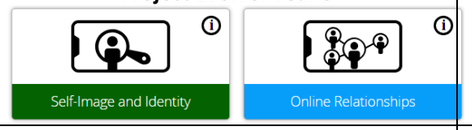
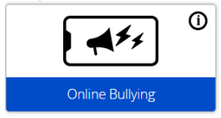
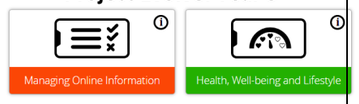
Class 3	**NCCE: Year 2 Information technology around us** Identifying IT and how its responsible use improves our world in school and beyond. - name the main parts of a computer - use a mouse to click and drag - type my name on a computer save my work to a file and open it again	**NCCE: Year 3 Stop-frame animation** Capturing and editing digital still images to produce a stop-frame animation that tells a story. -Explain that an animation is a sequence of pictures or images. -add other media to my animation	**NCCE: Year 2 Robot algorithms** Creating and debugging programs, and using logical reasoning to make predictions. -Use 4 commands in a sequence including forwards/backwards/left turn/right turn. -Know when and how to debug programs. -Know a series of instructions (usually on a computer) is called an Algorithm	**NCCE: Year 3: Branching databases** Building and using branching databases to group objects using yes/no questions. -To give an example of an open-ended question and a yes/no question. -Know that the objects in a branching database need to be split into similar sized groups.	**NCCE: Year 2Digital music** Using a computer as a tool to explore rhythms and melodies, before creating a musical composition. -Show how music is made from a series of notes. -Create music for a purpose, review and refine computer work.	**NCCE: Year 3 Events and actions in programs** Writing algorithms and programs that use a range of events to trigger sequences of actions. -Use codes to determine an outcome. -Evaluate and implement their designs.
	Project Evolve: Year 5 	**Project Evolve: Year 5** 	**Project Evolve: Year 5** 	**Project Evolve: Year 5** 	**Project Evolve: Year 5** 	**Project Evolve: Year 5** 
Class 4	**NCCE: Year 5 Systems and searching** Recognising IT systems in the world and how some can enable searching on the internet -Explain that computers can be connected together to form IT systems	**NCCE: Year 4 Audio production** Capturing and editing audio to produce a podcast, ensuring that copyright is considered. -Identify the uses for recorded audio (music, podcasts etc.). -Explain the ways that audio can be recorded and how to make it of high quality.	**NCCE: Year 4 Data logging** Recognising how and why data is collected over time, before using data loggers to carry out an investigation. -Choose a data set to answer a given question -Use data from a sensor to answer a given question -Identify the intervals used to collect data	**NCCE: Year 5 Introduction to vector graphics** Creating images in a drawing program by using layers and groups of objects. Duplicate objects using copy and paste -Recognise that vector images can be scaled without impact on quality	**NCCE: Year 4 Repetition in games** Using a block-based programming language to explore count-controlled and infinite loops when creating a game. -Explain the uses of repetition in programming and link this with the drawing of various shapes.	**NCCE: Year 5 Selection in physical computing** Exploring conditions and selection using a programmable microcontroller -Use a condition in an 'if...then...' statement to start an action -Create a condition-controlled loop
	Project Evolve: Year 5 	**Project Evolve: Year 5** 	**Project Evolve: Year 5** 	**Project Evolve: Year 5** 	**Project Evolve: Year 5** 	**Project Evolve: Year 5** 
Class 5	**NCCE: Year 5 Systems and searching** Recognising IT systems in the world and how some can enable searching on the internet -Explain that computers can be connected together to form IT systems	**NCCE: Year 6 Webpage creation** Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation. -Draw a web page layout that suits my purpose -Explain why I should use copyright-free images -Add content to my own web page	**NCCE: Year 6 Introduction to spreadsheets** Answering questions by using spreadsheets to organise and calculate data. -Apply an appropriate format to a cell -Construct a formula in a spreadsheet -Identify that changing inputs changes outputs	**NCCE: Year 5 Introduction to vector graphics** Creating images in a drawing program by using layers and groups of objects. -Duplicate objects using copy and paste -Recognise that vector images can be scaled without impact on quality	**NCCE: Year 6 Sensing movement** Designing and coding a project that captures inputs from a physical device. -Use the same variable in more than one location in a program	**NCCE: Year 5 Selection in physical computing** Exploring conditions and selection using a programmable microcontroller. -Use a condition in an 'if...then...' statement to start an action -Create a condition-controlled loop

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