St Chad's CE School – Computing overview and Progression

'A Future with Hope' Jeremiah 29:11

Theme Key:							
Coding and Computational thinking	Spreadsheets	Internet and Email	Art and Design	Music	Databases and graphing	Writing and Presenting	Communication and networks

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	1.1 Introduction	1.3 Pictograms	1.5 Maze Explorers	1.6 Story books	1.4 Lego Builders	1.7 Coding
Year 2	2.1 Coding	2.2 Online Safety	2.3 Spreadsheets	2.6 Creating Pictures	2.7 Making Music	2.8 Presenting Ideas

1.1 introduction • Children can login. • Children have created their own avatar and understand why it is useful. • Children can add their name to a picture they created on the computer. • Children can save work. • Children can find their saved work. • Children can logout.	1.3 pictograms • Children can discuss and illustrate the transport used to travel to school. • Children can contribute to the collection of class data. • Children have used these illustrations to create a simple pictogram	1.5 Maze Explorers • Children know how to use the direction keys to move forwards, backwards, left and right. • Children know how to create a simple algorithm. • Children know how to debug their algorithm.
1.6 Storybooks • Children know the difference between a traditional book and an e-book. • Children can use the different drawing tools to create a picture on the page.	1.4 Lego Builders • Children know that an algorithm is a precise, step-bystep set of instructions used to solve a problem or achieve an objective.	1.7 Coding • Children know that for the computer to make something happen, it needs to follow clear instructions. • Children can explain what a block of code is.

• Children can add text to a page and change the colour, font and size of the text. • Children can add an animation to their picture. • Children can add a sound to the page.	• Children can follow instructions in a computer program. • Children understand how the order in which the steps of a recipe are presented affects the outcome. • Children can organise instructions for a simple recipe. • Children know that correcting errors in an algorithm or program is called 'debugging'	• Children can make a background design. • Children can add characters. • Children can use the drop-down menu to change backgrounds and characters. • Children can write a program that controls how a character will move. • Children can program a sound to play when objects collide.
2.1 Coding • Children are beginning to understand that the Repeat and Timer commands both make objects repeat actions but function differently and the type of object can affect which is the best command to use. • Children can explain what debug (debugging) means. • Children can debug simple programs • Children can explain why it is important to save their work after each functioning iteration of the program they are making. • Children can plan and use algorithms in programs successfully to achieve the desired a result. • Children can code a program using a variety of objects, actions, events and outputs successfully.	2.2 Online Safety • Children are beginning to understand how things can be shared electronically for others to see. • Children can open and send an email. • Children have discussed their own experiences and understanding of what email is used for • Children can give examples of things that they wouldn't want to be in their digital footprint.	2.3 Spreadsheets • • Children can explain what rows and columns are in a spreadsheet. • Children can open, save and edit a spreadsheet. • Children can add images from the image toolbox and allocate them a value. • Children can use tools in a spreadsheet to automatically total rows and columns. • Children can use a spreadsheet to solve a mathematical puzzle. • Children can create a table of data on a spreadsheet. • Children can use data to create a block graph manually
2.6 Creating pictures • Children can use 2Paint a Picture to create art based upon different styles. • Children can describe the main features of art that uses repeating patterns	2.7 Making Music • Children have used the different sounds within 2Sequence to create a tune. • Children have explored how to speed up and slow down tunes.	2.8 Presenting ideas • Children have examined a traditional tale presented as a mind map, as a quiz, as an e-book and as a fact file. • Children have made a quiz about a story.

• Children can combine more than one effect in 2Paint a Picture to enhance their patterns • Children can use the eCollage function in 2Paint a Picture to create surrealist art using drawing and clipart.	• Children can change the volume of the background sounds. • Children have uploaded and used their own sound chosen from a bank of sounds.	• Children can talk about their work and make improvements to solutions based on feedback received. • Children can use a variety of software to manipulate and present digital content and information. • Children can collect, organise and present data and information in digital content.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	3.1 Coding	3.2 Online Safety	3.4 Touch-type		3.6 Branching-databases	3.8 Graphing
Year 4	4.1 Coding	4.2 Online Safety	4.3 Spreadsheets	4.7 Searches	4.5 Logo	4.6 Animation

3.1 Coding • Children can use a flowchart design to create the code. • Children can describe what they did to make their vehicle change angle. • Children can show that their vehicles move at different speeds. • Children can set/change the variable values appropriately to create a timer. • Children can show how their character repeats an action and explain how they caused it to do so • Children can debug simple programs	3.2 Online Safety • Children can contribute to a concept map of all the different ways they know that the Internet can help us to communicate. • Children are beginning to understand how to search the Internet and how to think critically about the results that are returned. • Children have contributed to a class blog with clear and appropriate messages. • Children relate cyberbullying to bullying in the real-world and have strategies for dealing with online bullying including screenshot and reporting.	3.3 Touch-type • Children have developed ability to touch type the home, bottom, and top rows. • Children can use two hands to type the letters on the keyboard. • Children can use typing terminology

3.6 Branching databases • Children have used YES/NO questioning to play a simple game with a friend. • Children have contributed to a class branching database. • Children can select and save appropriate images. • Children can create a branching database. • Children know how to use and debug their own branching database	3.8 Graphing • Children can set up a graph with a given number of fields. • Children can enter data for a graph. • Children can produce and share graphs made on the computer	
4.1 Coding • Children can create an 'If/else' statement. • Children can show how a character repeats an action and explain how they caused it to do so. • Children can make a character respond to user keyboard input. • Children can explain what a variable is when used in programming. • Children can create an algorithm modelling the sequence of a simple event. • Children can make good attempts to break down their aims for a coding task into smaller achievable steps.	4.2 Online Safety • Children know that security symbols such as a padlock protect their identity online. • Children know the meaning of the term 'phishing' and are aware of the existence of scam websites. • Children can explain what a digital footprint is and how it relates to identity theft. • Children know what a computer virus is. • Children can give reasons for limiting screen time.	4.3 Spreadsheets • Children can add a formula to a cell to automatically make a calculation in that cell. • Children can use a series of data in a spreadsheet to create a line graph. • Children can use a spreadsheet to check their understanding of a mathematical concept.
4.7 Searches • Children can structure search queries to locate specific information. • Children have used search to answer a series of questions.	4.5 Logo • Children can follow simple Logo instructions to create shapes on paper. • Children can write Logo instructions for a word of four letters.	4.6 Animation • Children have put together a simple animation using paper to create a flick book. • Children can use the Onion Skin tool to create an animated image.

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5	5.1 Code	5.2 Online Safety	5.3 Spreadsheets		5.4 Databases	5.6 3D Modelling
Year 6	6.1 Code	6.2 Online Safety	6.4 Blogging		6.6 Networks	6.7 Quizzing

• Children can analyse the contents of a web page for clues about the credibility of the information.	• Children can create shapes using the Repeat function. • Children can use the Build feature.	• Children can use backgrounds and sounds to make more complex and imaginative animations. • Children have used ideas from existing stop motion films to recreate their own animation. • Children have shared their animations and commented on each other's work using display boards and blogs

Y5 Coding • Children can use sketching to design a program and reflect upon their design before creating code. • Children can explain what a variable is in programming.	Y5 Online Safety • Children know what Childnet SMART CREW is and have thought critically about the information that they share online both about themselves and others. • Children can use the SMART rules as a source of guidance when online.	Y5 Spreadsheets • Children can create a formula in a spreadsheet to convert m to cm and miles to km. • Children can use the 'how many' tool.

• Children can set/change the variable values appropriately. • Children can create a game which has a timer and score pad. • Children can use variables to control the objects in the game. • Children can create loops using the timer and If/else statements.	• Children have clear ideas about good passwords. • Children select keywords and search techniques to find relevant information and increase reliability	• Children can use a spreadsheet to work out the area and perimeter of rectangles. • Children can create simple formulae that use different variables • Children can use a spreadsheet to model a real-life situation and come up with solutions that can be practically applied.
Y5 Databases • Children understand the different ways to search a database. • Children can search a database in order to answer questions correctly. • Children have designed an avatar for a class database. • Children have successfully entered information into a class database. • Children know what a database field is and can correctly add field information.	Y5 3D Modelling • Children have adapted one of the vehicle models by moving the points to alter the shape of the vehicle while still maintaining its form. • Children have explored how to edit the polygon 3D models to design a 3D model for a purpose. • Children have refined one of their designs to prepare it for printing. • Children have printed their design as a 2D net and then created a 3D model.	
Y6 Coding • Children can plan a program before coding to anticipate the variables that will be required to achieve the desired effect. • Children can debug when things do not run as expected. • Children can follow flowcharts to create and debug code. • Children can adapt an existing text adventure to make it unique to their requirements	Y6 Online Safety • Children understand how what they share impacts upon themselves and upon others in the long-term. • Children know about the consequences of promoting inappropriate content online and how to put a stop to such behaviour when they experience it or witness it as a bystander.	Y6 Blogging • Children can work collaboratively to plan a blog. • Children can create a blog with a specific purpose. • Children understand that the way in which information is presented has an impact upon the audience. • Children can post comments and blog posts to an existing class blog.

	• Children can talk about the positives and negative aspects of technology and balance these opposing views.	
Y6 Networks • Children know the difference between the World Wide Web and the internet. • Children have researched and found out about Tim Berners-Lee. • Children have considered some of the major changes in technology which have taken place during their lifetime and the lifetime of their teacher/another adult.	Y6 Quizzing • Children have considered the audience's ability level and interests when setting the quiz. • Children have ideas about what sort of questions are best suited to the different question types. • Children have designed their own quiz based on one of the example databases. • Children have given and responded to feedback. • As a class, children have collaborated on a quiz	