



Christ the King RC Primary School

Computing Curriculum Overview 2020-21



Geography/History links

Other curriculum links

Year Group	Digital Literacy	Computer Science	Information Technology	Byte Size & Fun
Year 1	<p>Modern Tales (<i>English link</i>) Using the vehicle of the children's stories, the children will learn to navigate the rules of online safety and communication. The children will make animations based on an online situation they may encounter.</p> <p>My Online Life (<i>English / Maths link</i>) This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety.</p>	<p>What is a Computer? In this unit children will learn about the different parts of a computer and iPad. They will learn new skills, tips and tricks. The children will be able to see the inner working of a computer and build their own. Includes a range of continuous provision activities.</p> <p>Friend the Robot In this unit children will learn all about computational thinking and problem solving with a variety of unplugged activities and online coding games.</p>	<p>Mini-Beasts (<i>Science & Music links</i>) Children will use technology to classify minibeasts. In this activity the children will learn about gathering and presenting information. They will then make their own David Attenborough style nature documentary. Includes a range of continuous provision activities.</p> <p>News Presenter (<i>English link</i>) In this activity children will become news reporters. They will be given a series of break news stories based on popular traditional tales. The children will film short clips using green screen before sharing/saving their work.</p>	<p>Animate with Shapes Children will learn the basic skills of stop-frame animation and produce a simple animated movie.</p> <p>Drawing Maths (<i>Maths link</i>) This activity blends art and maths. The children will master an art app while exploring shape, numbers and problem solving.</p> <p>Email Me In this unit children will learn about online communication and sending their first email.</p>
Year 2	<p>Online Buddies (<i>English link</i>) This activity will explore what friendship means online. The children will learn about the do's and don'ts of communicating over the internet.</p> <p>My Online Life This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety.</p>	<p>Code-a-Story (<i>English link</i>) The children will write a basic story with illustrations. They will then turn this into an animated story using visual coding. The activity will introduce new concepts such as conditional language, repeat loops and debugging.</p> <p>Making Games Using Scratch, the children will create a simple game. They will create sprites and learn the basics of using visual coding.</p>	<p>Story Land (<i>English link / History link</i>) The children take the role of authors to write the sequel to popular children's stories. They then create illustrations for their story and record them self - reading it in order to create an audiobook to publish online.</p> <p>Presentations & Typing The children will learn to use presentation software and develop their keyboard skills.</p> <p>Stop Motion Studio In this activity the children will create</p>	<p>Heads Up The children play a computing focused game of charades and then create their own version.</p> <p>Maths Madness (<i>Maths link</i>) The children take part in a maths scavenger hunt and then create their own version by creating QR codes and maths videos.</p>

			stop motion animated films. They will create their own characters, script, backgrounds and learn how to animate and edit footage.	
Year 3	<p>Online Detectives (<i>History / Geography link</i>)</p> <p>This activity is designed to support children in mastering the art of advanced internet searching. They will learn new tricks to improve their searches while they try to solve puzzles and challenges.</p> <p>My Online Life</p> <p>This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety.</p>	<p>Dancing Robots</p> <p>The children will use some of Scratch Jr's more advanced coding blocks to create their own interactive dancing robot game. The children will learn the important skills of critical thinking, problem solving and debugging.</p> <p>Programming with Robots (<i>History link</i>)</p> <p>Robots can be found almost everywhere. In this unit the children explore the history of robots and then get to program a robot around a maze.</p>	<p>Rainforests (<i>Geography link</i>)</p> <p>The children will explore rainforests through new Virtual Reality (VR) apps. They will also create their own interactive learning games for younger children to play.</p> <p>Be Digitally Awesome</p> <p>This unit is all about ensuring the children possess core skills with word processing, spreadsheet and presentation apps.</p>	<p>Keyboard Adventures</p> <p>In this activity the children will master the art of using a keyboard and short cuts with a series of fun activities.</p> <p>T-Shirt Designer (<i>Art & Design link</i>)</p> <p>The children will become illustrators and design their own t-shirts.</p> <p>Crumble</p> <p>In this unit the children will be introduced to the creative power of the Crumble kit. They will create and program awesome inventions!</p>
Year 4	<p>Fake or Real? (<i>English link / History link</i>)</p> <p>Fake news is a serious concern and in this activity children will learn how they can sort the truth from the lies. Making videos to show what they have found out.</p> <p>My Online Life</p> <p>This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety.</p>	<p>Hour of Code</p> <p>The class will sign up for Hour of Code and work through various challenges. The class can also choose to take part in global coding events.</p> <p>Games Designer (<i>English / DT link</i>)</p> <p>The children will learn all about the career of games designer. They will play games, write reviews and then design and prototype their own game. Finally, they will pitch their game idea to the class.</p>	<p>Dinosaurs (<i>History link</i>)</p> <p>In this activity the children will make their own summer blockbuster. They will learn all about filming techniques and storytelling skills.</p> <p>Endangered Animals (<i>Various cross-curricular links</i>)</p> <p>The children will learn online research skills, create illustrations and posters to raise awareness of our planet's endangered animals. The children will also get involved with environmental campaigns. They will make a class film about how making small changes can help e.g. air pollution and turning off your engines.</p>	<p>Wizard School</p> <p>The children will undertake a series of creative challenges based around the Harry Potter books.</p> <p>Minecraft Challenges</p> <p>Who is the best at building? The children take part in a series of maths / Minecraft challenges.</p>
Year 5	<p>YouTuber (<i>English link</i>)</p> <p>Every child wants to be a "YouTuber". In this activity children will learn about what that means, the positives and negatives, safety tips and they will create their own video blog (vlog).</p>	<p>Girls v Boys: STEM Challenges (<i>Various cross-curricular links</i>)</p> <p>This activity will pit the girls against the boys in a series of creative STEM challenges. They will tackle code,</p>	<p>Making AR Games</p> <p>In this activity the children will be introduced to the world of Augmented Reality (AR). They will then be set the task of designing and creating game that uses AR.</p>	<p>Video Game Music Composer (<i>Music link</i>)</p> <p>The children will learn about audio recording and will write and record their own songs. The class can combine these into a class album.</p>

	<p>My Online Life This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety.</p>	<p><i>maths, art, DT</i> and lots of problem solving.</p> <p>Web Designer In this activity the children will learn about the history of the web, basic HTML, how to create their own graphics and how to publish their own website.</p> <p>Lost in Space (Maths link) In the first part of this activity the children will create a galaxy quiz coded in Scratch. The second part is all about using programmable robots to complete a series of coding space themed challenges.</p>	<p>Binary Messages This activity introduces binary code. It explains what binary code is and how it is used. The children then challenge each other to solve word problems by using binary code.</p>	<p>Podcaster Children will produce their own podcasts. Podcasting is a wonderful way of allowing children to share their work and experiences with a potentially huge audience over the Internet. Schools are increasingly using the internet to promote what they do, and to celebrate the achievements of their children, and podcasting is an excellent way of doing this.</p>
<p>Year 6</p>	<p>Online Safety Dilemmas (English link) In this activity the children will become online safety ambassadors. They will be given modern day dilemmas. Dilemmas that children face every day online and asked to produce a series of “what to do” videos to explain how to cope online.</p> <p>My Online Life This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety.</p>	<p>Chicken Run - Crossy Roads The children will create their own version of the popular app Crossy Roads using visual coding. They will learn about decomposition and how to evaluate games.</p> <p>Coding Playground Children will be introduced to text-based programming and how apps are made. They will complete self-paced programming challenges. Finally, the class can explore connecting programmable toys and drones.</p>	<p>VR Worlds The class will explore Virtual Reality (VR) and how it can be used in the classroom. The children will also build their own VR world.</p> <p>Money (Maths link) The children will explore money, stocks and shares through a series of challenges and games. Creating a spreadsheet and digital book to explain the importance of understanding how money works.</p>	<p>Maths Solve IT Club (Maths link) Children will produce their own digital guide to being a maths genius. Making videos and animations showing how to solve various maths problems. This is an opportunity to connect with other schools.</p> <p>Quiz Show Host The children will create quizzes using a variety of apps.</p> <p>Digital Careers The children will explore a range of digital careers and content creation apps by taking on creative challenges.</p>

Foundation Stage One - Computing Planning

Referring to Development Matters

Characteristics of Effective Learning – in ICT Experiences

<p>Playing and Exploring – Engagement</p> <ul style="list-style-type: none"> • Showing curiosity about objects • Engaging in open-ended activity • Showing particular interests • Pretending objects are from their experiences • Representing their experiences in play • Taking on a role in their play • Acting out experiences with other people • Initiating activities 	<p>Active Learning – Motivation</p> <ul style="list-style-type: none"> • Showing high levels of energy, fascination • Maintaining focus on activity for long period 	<p>Creating and Thinking Critically – Thinking</p> <ul style="list-style-type: none"> • Thinking of ideas • Finding new ways to do things • Making links and noticing patterns in their experiences
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Prime Areas of Learning:

Area of Learning	Learning Objective(s)	ICT Experiences	Outcome (<i>I Can...</i>)
<i>Personal, Social and Emotional Development</i>	<ul style="list-style-type: none"> • Can play in a group, extending and elaborating ideas e.g. building up a role-play activity with other children • Initiates play, offering cues to peers to join them • Children are confident to try new activities (ELG) • Children will choose the resources they need for their chosen activity (ELG) 	<p>Role-play area - using telephones, keyboards, computers, tills, walkie-talkies.</p> <p>Choosing to play with the classroom computer, selecting a program to play independently.</p> <p>Navigating the Interactive whiteboard, using a program independently, taking turns with others.</p>	<p><i>I can...use equipment in my play correctly</i></p> <p><i>I can...make games using equipment I have seen being used from my experiences</i></p> <p><i>I can...share resources and take turns with the equipment</i></p> <p><i>I can...use a computer confidently</i></p>
<i>Communication and Language</i>	<ul style="list-style-type: none"> • Listens to stories with increasing attention and recall • Maintains attention, sits quietly during appropriate activity • Listen to stories accurately anticipating key events and respond to what they hear with relevant comments (ELG) • Children follow instructions involving several ideas or actions. (ELG) • Uses language to imagine and recreate roles and experiences in play situations. • Introduces a storyline or narrative into their play. 	<p>Listening Area – CD stories, nursery rhymes and songs. Children to learn how to work buttons on CD player and change CD to their preference and listen to audio.</p> <p>Watch, listen and read E-books on the Smartboard, learn how to use the interactive whiteboard to turn pages and listen to audio.</p> <p>Using the Bee-Bots, giving instructions on how to navigate the Bee-Bot.</p>	<p><i>I can...use a CD player correctly to listen to what I like</i></p> <p><i>I can...use the smartboard to read an E-book</i></p> <p><i>I can...use a Bee-Bot correctly and tell another child how to move it</i></p> <p><i>I can...use a flip cam correctly to film my friends in our game</i></p> <p><i>I can...use a camera correctly to take pictures or film my friends in our game</i></p>

	<ul style="list-style-type: none"> • Children express themselves effectively showing awareness of the listeners needs (ELG) 	Using Flip cam or digital camera to film role-play/drama scenarios and watch back on the computer, assess speaking.	<i>I can...say how my speaking was when watching myself back on the smartboard/computer</i>
<i>Physical Development</i>	<ul style="list-style-type: none"> • Handles objects with increasing control • Children show good control and co-ordination in small scale movements (ELG) • Shows an understanding of how to transport and store equipment safely. 	<p>Learning to move the mouse on a computer</p> <p>Handling flip cams and digital cameras steadily.</p> <p>Learning how to respect and take care of expensive technical equipment.</p>	<p><i>I can...use a mouse on a computer to get to what I want to do</i></p> <p><i>I can...hold cameras correctly and use them with care</i></p> <p><i>I can...look after equipment and put them away carefully</i></p>

Specific Areas of Learning:

Area of Learning	Learning Objective(s)	ICT Experiences	Outcome (I Can...)
<i>Literacy</i>	<ul style="list-style-type: none"> • Enjoys and increasing range of books • Begins to read words and simple sentences • Knows that information can be retrieved from books and computers. • Children read and understand simple sentences (ELG) • They use phonic knowledge to decode regular words and read them aloud accurately. (ELG) • Give meaning to marks they make as they draw, write and paint • Children use their phonic knowledge to write words in ways that match their spoken sounds. (ELG) 	<p>Watch, listen and read E-books on the Smartboard, learn how to use the interactive whiteboard to turn pages and listen to audio.</p> <p>Using interactive whiteboard – various phonic programs, navigating the game to read and spell words and sentences. Selecting correct answers.</p> <p>Using Google search engine to find answers to our questions (topic based or general curiosities)</p> <p>Using RM Colour Magic on the interactive whiteboard or on the computer. Making marks with the smartboard pens or the mouse.</p> <p>Children use the keyboard to type words onto their creation.</p>	<p><i>I can...use the smartboard to read an E-book</i></p> <p><i>I can...use the smartboard for a phonic activity and choose the right answer</i></p> <p><i>I can...find out an answer to a question by typing it into Google</i></p> <p><i>I can...use the pens on the smartboard to make marks, draw pictures, write letters</i></p> <p><i>I can...use the mouse on the computer to paint a picture</i></p> <p><i>I can...use the keyboard on a computer to type some words I know</i></p>
<i>Mathematics</i>	<ul style="list-style-type: none"> • Shows an interest in numerals in the environment • Recognises some numerals of personal significance • Recognises numerals 1-5 and then to 10 • Children count reliably with numbers from 1-20 	<p>Using the digital camera, go on a number hunt, take pictures of numbers they spot.</p> <p>Do the same with shapes, take pictures of shapes they can see.</p> <p>Look at signs around the school, are there any numbers? Look at signs on the smartboard, where do you see these signs?</p>	<p><i>I can...find numbers all around and use a camera to take a picture</i></p> <p><i>I can...find shapes all around me and take pictures of them</i></p> <p><i>I can...see numbers in different places</i></p>

	<ul style="list-style-type: none"> Shows awareness of similarities in shapes in the environment Measures short periods of time in simple ways Children use everyday language to talk about size, weight, capacity, position, distance, time and money. (ELG) 	<p>Using a Bee-Bot, put next to a number line. Can you make the Bee-Bot go to a number?</p> <p>Experimenting with calculators, typing in numbers making patterns, adding numbers</p> <p>Playing with stop watches, experimenting with measuring time</p> <p>Playing with tills in the role play area with money</p> <p>Mathematical programs on the computer and smartboard</p>	<p><i>I can...make a Bee-Bot go to a number I recognise</i></p> <p><i>I can...use a calculator to explore numbers</i></p> <p><i>I can...use a stopwatch to play with numbers and time</i></p> <p><i>I can...recognise some coins when playing with the tills</i></p> <p><i>I can...play a maths game on the computer or smartboard</i></p>
<i>Understanding of the World</i>	<ul style="list-style-type: none"> Knows how to operate simple equipment e.g. turns on CD player and uses remote control Shows an interest in technological toys with knobs or pulleys or real objects such as cameras and mobile phones Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. Completes a simple program on the computer Uses ICT to interact with age-appropriate computer software Children recognise that a range of technology is used in places such as home and schools. (ELG) They select and use technology for particular purposes (ELG) 	<p>Provide a range of materials and objects to play with that work in different ways for different purposes, for example, egg whisk, torch, other household implements, pulleys, construction kits and tape recorder.</p> <p>Walkie-Talkies, Bee-Bots, Tuff Cams, Flip Cam, Digital Camera, Stopwatches, Roamer, Remote Control Cars, Musical toys, old mobile phones, educational laptops.</p> <p>Computer and Interactive Whiteboard.</p> <p>Laptops.</p>	<p><i>I can...use a CD player correctly to listen to what I like</i></p> <p><i>I can...experiment with different toys and learn how they work</i></p> <p><i>I can...use a computer to play a game I like</i></p> <p><i>I can...say how things work from my experiences</i></p> <p><i>I can...say what things are used for different things and use this in my play</i></p>
<i>Expressive Arts and Design</i>	<ul style="list-style-type: none"> Sings a few familiar songs Imitates movement in response to music Explores and learns how sounds can be changed Begins to build a repertoire of songs and dances Explores what happens when they mix colours 	<p>CD players and selection of CDs with music from different countries. <i>(Music link)</i></p> <p>2Simple computer program – music, experiment with making a sequence of music, how sounds can be changed.</p> <p>Using a simple paint program on the smartboard, children can experiment mixing colours.</p>	<p><i>I can...dance to different types of music in time to the beat/rhythm</i></p> <p><i>I can...sing familiar songs that I have heard on the CD player</i></p> <p><i>I can...Mix colours on the smartboard using a program</i></p>

	<ul style="list-style-type: none"> • Children sing songs, make music and dance and experiment with ways of changing them. (ELG) • Children use what they have learnt about media and materials in original ways thinking about uses and purposes. (ELG) 	Digital cameras, flip cams to take pictures of film of singing and dancing sequences.	<i>I can...film my friends singing and dancing using a flip cam or digital camera</i>
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Assessment:

Observing children in their play – writing up what they do and refer to learning objectives and characteristics of effective learning for individual assessment files.

Using video footage that the children may have taken in their play, or film that an adult has captured of their play.

Pictures of children engaged in their play activities.

Audit of ICT resources provided and review if they are still appealing to the children and change where necessary.

LEARNING OBJECTIVES / ICT EXPERIENCES TO BE HIGHLIGHTED EACH TERM:

AUTUMN = BLUE

SPRING = YELLOW

SUMMER = PINK