Computing overview 2021-2022

Subject content KS1	**Pupils should be taught to:** understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions create and debug simple programs use logical reasoning to predict the behaviour of simple programs use technology purposefully to create, organise, store, manipulate and retrieve digital content recognise common uses of information technology beyond school use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.		
Year group	**Autumn 1 and 2**	**Spring 1 and 2**	**Summer 1 and 2**
1	**Basic Skills (taught throughout the year)** • Use passcode on a tablet and log in on laptop/PC. • Use home button on a tablet. • Develop coordination and motor skills in operation a mouse or roller pad on a laptop or PC. • Open a document or other file on a laptop/PC. • Open appropriate App or Home screen link on a tablet. • Take a photo and open camera roll on a tablet. • Follow a hyperlinked image to a website using a laptop or PC. • Follow links to find information • Use keyboard to find the letters of your name or basic spellings. (Encourage use of left and right hands.) • Use uppercase key for a capital letter. • Use space bar between words.		
	e-Safety- planned within PSHE / Citizenship using Somerset BYTE Awards **I am kind and responsible** Agree class internet rules based on personal responsibilities. Include cyberbullying messages in Anti-bullying week. **Programming 1 - CORE** Year 1 Move My Bee-Bot 3 sessions • Give instructions to partners • Use counters to investigate Bee-Bot movement • Draw 'town' in pairs • 'Write' programs to move around town • Use word algorithm **TIOL 2 – CHOICE** Year 1 Technology and My Toys 3 sessions • Complete and compare an offline and online jigsaw puzzle • Explore and retrieve information from a website • Discuss the devices children play games **Multimedia 1 – CORE** Year 1 Describing My Toys 3-5 sessions • Use online activity to add text to an image	e-Safety- planned within PSHE / Citizenship using Somerset BYTE Awards **I am safe** Keep personal details private, consider who you are talking to online and make sure a trusted adult knows what you are doing online. Use Safer Internet Day to focus on use of the internet and different technologies. **Programming 4 – CHOICE** Year 1 Debug My Programs in JIT 3 sessions • Explore JIT programming • Build and debug sequences • Complete 'Three Little Pigs' challenge • Draw initial of name **TIOL 1 - CORE** Year 1 Discovering My Technology 2 sessions • Play I Spy of technology • Work in groups to search out technology around the school and discuss purposes • Search for technology at home • Discuss who uses technology and why • Play I Spy of technology at home **Programming 6 – CHOICE**	e-Safety – planned within PSHE / Citizenship using Somerset BYTE Awards **I am healthy** Consider age-appropriate and healthy use of technology. Include consideration of time spent using technology and recognition of appropriate websites and games in Health week. **Handling Data 1 – CHOICE** Year 1 Counting My Information 4 - 5 sessions • Use 2Simple 2Count or online pictograph to record data • Use Venn diagrams to sort clipart and photographs • Take photographs of the different Venn diagrams **Multimedia 2 – CHOICE** Year 1 Filming in My Background 4–5 sessions • Present information to an audience using green screening. • Prepare/practise and record their green screen film • Review the films made **Handling Data 2 – CHOICE** Year 1 Present My Weather Information - 4 sessions

	• Record an image; upload it to a computer / check it is on camera roll of tablet • Use software or app to label photo • Create an interactive story • Present work to peers	**4 sessions** Play 'Go/Run button instructions' game • Meet Code-a-pillar and investigate segments • Select segments to investigate how far Code-a-pillar moves with one forward press and how much it turns with the right turn or left turn buttons • Use investigations to plan routes for Code-a-pillar to 'eat' Hungry Caterpillar food or alternatives based on suggestions for a Hunger Code-a-pillar • Become Code-a-pillar and give instructions to other Code-a-pillars • Create a story, sequence it as an algorithm and implement it as a program • Use the word algorithm (it is not expected they fully understand the word at this stage)	• Collect data about weather or shadows • Use 2Simple 2Count or online pictograph maker by Primary School ICT to create a pictograph		

2	**Recovery Objectives (From Y1)**				
	Digital Safety	**Programming**	**Handling Data**	**Multimedia**	**Technology in our Lives**
	• I can recognise an age appropriate website.	• I can use the word debug when I correct mistakes when I program.	• I can use technology to collect information, including photos, video and sound. • I can sort different kinds of information and present it to others.	I can save information in a special place and retrieve it again.	• I can use links to websites to find information.

Basic Skills (taught throughout the year)
- Use personal log in for online resources
- Open Apps and software
- Save and Open files and images
- Insert images within apps and software
- Use simple children's search engine eg Kiddle
- Use keyboard to enter text (index fingers left and right hand)
- Know when and how to use the RETURN/ENTER key.
- Use SHIFT and CAPS LOCK to enter capital letters
- Use DELETE and BACKSPACE buttons to correct text

Autumn 1 and 2	Spring 1 and 2	Summer 1 and 2
e-Safety- planned within PSHE / Citizenship using Somerset BYTE Awards **I am kind and responsible** Agree class internet rules based on personal responsibilities.	e-Safety- planned within PSHE / Citizenship using Somerset BYTE Awards **I am safe** Keep personal details private, consider who you are talking to online and make sure a trusted adult knows what you are doing online.	e-Safety – planned within PSHE / Citizenship using Somerset BYTE Awards **I am healthy** Consider age-appropriate and healthy use of technology.

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	Programming 1 OR 5 - CORE Year 2 Light up my Lightbot **or** Moving Around to Fix My Factory both 3 sessions • Follow instructions to move through obstacle course • Talk through algorithms • Work through levels of tasks • 'Write' programs with cards • Predict and debug sequences **Programming 2 – CHOICE** Year 2 Explore My Topic with a floor robot 3 sessions • Use floor robot to collect information about animals (or other topic) • Complete treasure hunt • Draw a letter • Draw a flight of stairs **TIOL 3 - CHOICE** Year 2 My Internet Search 5 sessions • Talk about the Internet • Use search engines to find specific information • Search and navigate through simple information sites • Use the internet (blog or school website) to share learning

Use Safer Internet Day to focus on use of the internet and different technologies. **Multimedia 1 – CORE** Year 2 Present My Information 4+1 sessions • Explore ways in which we can present information • Present information we have researched • Develop key board skills • Share the information with others using a class blog, school website, etc **Handling Data 1 – CORE** Year 2 Sorting My Birds 5 sessions • Investigate and sort bird pictures • Talk about types of data and how it can be collected • Make a decision tree • Generate questions • Collect, record & present data • Compare different ways to present information **Handling Data 3 – CHOICE** Year 2 My Habitat Investigation 2 sessions • Use photos to think about where snails like to live • Use photos and block graphs to show findings of investigation	Include consideration of time spent using technology and recognition of appropriate websites and games in Health week. **TIOL 1 - CORE** Year 2 Technology in My Life 2 sessions • Think about technology • Present the technology as a day timeline • Talk about the benefits of using technology • Look at a map of a town and talk about the different technologies that are used **Multimedia 3 – CHOICE** Year 2 My News Report 2/3 sessions • Plan and present a news report about an animal • Talk about how they save and retrieve the video • Provide feedback such as 'two stars and a wish' as they watch each other's videos

Subject content Key stage 2	**Pupils should be taught to:** design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts use sequence, selection, and repetition in programs; work with variables and various forms of input and output use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Year 3	**Recovery Objectives (from Y2)**				
	Digital Safety	**Programming**	**Handling Data**	**Multimedia**	**Technology in our Lives**
	• I can explain why I need to keep my password and personal information private.	• I can look at my friend's program and tell you what will happen.	• I talk about the different ways I use technology to collect information, including a camera, microscope or sound recorder.	• I can use the keyboard on my device to add, delete and space text for others to read.	• I can tell you why I use technology in the classroom. • I am starting to understand that other people have created the information I use.

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			• I can make and save a chart or graph using the data I collect. • I can talk about the data that is shown in my chart or graph. • I am starting to understand a branching database. • I can tell you what kind of information I could use to help me investigate a question.	• I can tell you about an online tool that will help me to share my ideas with other people. • I can save and open files on the device I use.	• I can identify benefits of using technology including finding information, creating and communicating. • I can talk about the differences between the Internet and things in the physical world.

Basic Skills (taught throughout the year)
- Navigate public drive to save and retrieve files
- Connect peripheral devices using USB lead
- Use images saved to camera roll within a variety of Apps
- Use Save and Save As on laptops and PCs
- Copy and rename files to edit on tablets
- Use safe search engine eg Primary ICT / Swiggle
- Use individual fingers to input text and use SHIFT key to type characters.
- Amend text by highlighting and using SELECT/DELETE and COPY/PASTE
- Swap between letters and symbol input on a tablet
- Add shapes and word art to documents and presentations

Autumn 1 and 2	Spring 1 and 2	Summer 1 and 2
e-Safety- planned within PSHE / Citizenship using Somerset BYTE Awards **I am kind and responsible** Agree class internet rules based on personal responsibilities. Include cyberbullying messages in Anti-bullying week. **Programming 1 - CORE** Year 3 Making My Program in Scratch 6 sessions Explore sprites Make things happen with individual blocks Create sequences Think through algorithm and program a dance Consider algorithm and program a knock knock joke Create animated story **Multimedia 1 – CORE** Year 3 Make My eBook 2 sessions Look at a selection of eBooks Learn how to create own eBook adding text, images, sound and hyperlinks Add a narration to eBook	e-Safety- planned within PSHE / Citizenship using Somerset BYTE Awards **I am safe** Keep personal details private, consider who you are talking to online and make sure a trusted adult knows what you are doing online. Use Safer Internet Day to focus on use of the internet and different technologies. **Programming 2 – CHOICE** Year 3 Making My Kodu Move 4 sessions Create algorithm and program to move a character in Kodu Add objects to Kodu Create simple game and give feedback to others **TIOL 1 - CORE** Year 3 My Safe Searching 3 sessions Search for information online and discuss the best ways to find answers	e-Safety – planned within PSHE / Citizenship using Somerset BYTE Awards **I am healthy** Consider age-appropriate and healthy use of technology. Include consideration of time spent using technology and recognition of appropriate websites and games in Health week. **Handling Data 1 – CORE** Year 3 Showing My Device Time 3 sessions Collect and show data on time spent playing games with 2Simple 2Graph or Easychart **Multimedia 3 – CHOICE** Year 3 Showing My Teeth (Word or Slides) 4 sessions Note-take information about teeth and use to create a report or a presentation Edit text by changing font etc and insert images Use word clouds to present vocabulary

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Year 4	• Share eBook with classmates and others • **TIOL 2 – CORE** Year 3 Scan My Code 2 sessions • Learn how to scan a QR code to retrieve information • Create own QR codes to link to information and resources • **Handling Data 2 – CHOICE** Year 3 My Top Trump Database 2 sessions • Play animal top trumps • Collect and sort data and information about animals • Use branching database to sort animals (optional) • Use 2investigate to record and interpret graph about animals	• Learn about the World Wide Web as part of the internet • Search for copyright safe picture and edit	• Create a timelapse film about the effects of cola on teeth

Recovery objectives (from Y3)

Digital Safety	Programming	Handling Data	Multimedia	Technology in our Lives
• I ask an adult before downloading files and games from the Internet. • I can post positive comments online.	• I can break an open-ended problem up into smaller parts. • I can put programming commands into a sequence to achieve a specific outcome.	• I can talk about the different ways data can be organised. • I can search a ready-made database to answer questions. • I can collect data to help me answer a question. • I can add to a database. • I can make a branching database. • I can use a data logger to monitor changes and can talk about the information collected.	• I can evaluate my work and improve its effectiveness. • I can use an appropriate tool to share my work online.	• I can talk about the parts of a computer. • I can tell you ways to communicate with others online. • I can describe the World Wide Web as the part of the Internet that contains websites. • I can use search tools to find and use an appropriate website. • I think about whether I can use images that I find online in my own work.

Basic Skills (taught throughout the year)
- Securely log on to tablet, laptop and PC devices
- Rename documents and other files
- Browse to a specified website
- Create hyperlink to a website
- Recognise appropriate online sources for clipart and images
- Acknowledge source of information / images
- Use a keyboard effectively, including the use of numbers
- Know how to use a spellcheck
- Be aware of keyboard shortcuts on laptops and PCs.
- Change font sizes and colour of text
- Use appropriate screen capture and insert in document or presentation

Autumn 1 and 2	Spring 1 and 2	Summer 1 and 2
e-Safety- planned within PSHE / Citizenship	e-Safety- planned within PSHE / Citizenship	e-Safety – planned within PSHE / Citizenship

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using Somerset BYTE Awards **I am kind and responsible**	using Somerset BYTE Awards **I am safe**	using Somerset BYTE Awards **I am healthy**
Agree class internet rules based on personal responsibilities. Include cyberbullying messages in Anti-bullying week	Keep personal details private, consider who you are talking to online and make sure a trusted adult knows what you are doing online. Use Safer Internet Day to focus on use of the internet and different technologies.	Consider age-appropriate and healthy use of technology. Include consideration of time spent using technology and recognition of appropriate websites and games in Health week.
Programming 1 - CORE Year 4 My Scratch Games 5 sessions • Make the Scratch cat move and change • Use Scratch to program keys and use them to 'draw' • Create a car racing game using their knowledge of 'if…then' commands in Scratch • Create their own game	**Programming 3 – CHOICE** Year 4 Knowing My Times Tables with Kodu 4 sessions • Create a terrain in Kodu and program an object to move on the terrain • Talk through the algorithm needed to make an object move around their terrain • Program an object to solve multiplication questions and collect points • Create a game for others	**Handling Data 1 – CORE** Year 4 Investigating My Sounds 3 sessions Consider difference between data and information • Measure sound levels in the classroom using a datalogger (discrete data) • Record outside noise and create a line graph to show the changing levels (continuous data) • Investigate insulators of sound
Multimedia 2 – CHOICE Year 4 Advertising My Game 4 sessions • Look at how computer games are advertised • Promote a game they have programmed, using screen capture and music creation software • Add a narration to their advert • Consider who owns online content	**TIOL 2 – CORE** Year 4 Where is My Information 2 sessions • *Talk about the school network and the different resources they can access,* • Consider a search query based on topic learning and identify the key words • Create a learning resource for others using hyperlinks to World Wide Web	**Multimedia 1 – CORE** Year 4 My Comic Book 5 sessions (choose from Comic Life / PowerPoint units) • Explore the conventions of comic books • Create their own comic book about their school • Share their comic books with classmates and provide feedback • Create a comic book to support Science learning
Handling Data 2 – CHOICE Year 4 My Favourite Games 2 sessions • Collect data about favourite games • Add data to graphing software / apps and use to interrogate data • Create branching database of characters (optional)and interpret graph about animals		**TIOL 3 - CHOICE** Year 4 Blog My Technology 3 sessions •Discuss how technology has changed over time •Talk about their favourite gadget and what it can do •Research information about gadgets •Write a blog post about a gadget for a class technology blog

Recovery objectives (from Y4)

	Digital Safety	Programming	Handling Data	Multimedia	Technology in our Lives
Year 5	• I can help my friends make good choices about the time they spend online. • I can talk about why I need to ask a trusted adult before downloading files and games from the Internet.	• I can use a sensor to detect a change which can select an action within my program. • I recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design and Technology.	• I can plan, create and search a database to answer questions. • I can choose the best way to present data to my friends. • I can use a data logger to record and share my readings with my friends.	• I can use photos, video and sound to create an atmosphere when presenting to different audiences. • I am confident to explore new media to extend what I can achieve.	• I can tell you whether a resource I am using is on the Internet, the school network or my own device. • I think about the reliability of information I read on the World Wide Web.

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				• I can use a keyboard confidently and make use of a spellchecker to write and review my work. • I can use an appropriate tool to share my work and collaborate online. • I can give constructive feedback to my friends to help them improve their work and refine my own work.	• I can tell you how to check who owns photos, text and clipart. • I can create a hyperlink to a resource on the World Wide Web.
• I comment positively and respectfully online.					

Basic Skills (taught throughout the year)
- Use a secure personal log in for a variety of online resources
- Combine appropriate apps through the use of the camera roll on a tablet
- Combine software to achieve effective outcomes.
- Work collaboratively on documents and presentations
- Create hyperlinks within and between documents
- Identify three online sources to check information
- Use keyboard to confidently input text, characters and numbers
- Use bullet points
- Add text boxes
- Move, resize and rotate shapes, text and pictures
- Use common keyboard shortcuts on laptops and PCs

Autumn 1 and 2	Spring 1 and 2	Summer 1 and 2
e-Safety- planned within PSHE / Citizenship using Somerset BYTE Awards **I am kind and responsible** Agree class internet rules based on personal responsibilities. Include cyberbullying messages in Anti-bullying week. **Programming 1 - CORE** Year 5 Scratch My Roman Numerals 5 sessions ▸ Review knowledge of Scratch ▸ Use Scratch to help count in number sequences ▸ Create a program that counts in number sequences ▸ Record voices to add to Scratch counting program ▸ Create a program to count in Roman numerals ▸ Combine counting programs **Handling Data 1 – CORE** Year 5 Discovering My Solar System 4 sessions • Collect, record and analyse data about planets using 2Investigate • Interrogate each other's databases	**e-Safety**- planned within PSHE / Citizenship using Somerset BYTE Awards **I am safe** Keep personal details private, consider who you are talking to online and make sure a trusted adult knows what you are doing online. Use Safer Internet Day to focus on use of the internet and different technologies. **Programming 2 – CHOICE** Year 5 Logo My Shapes 5 sessions ▸ Create a program to teacher the computer to draw a range of regular polygons ▸ Refine programs using procedures to make them more efficient ▸ Use procedures to create patterns of repeating regular polygons **TIOL 2 – CHOICE** Year 5 Exploring My World 2 sessions	**e-Safety** – planned within PSHE / Citizenship using Somerset BYTE Awards **I am healthy** Consider age-appropriate and healthy use of technology. Include consideration of time spent using technology and recognition of appropriate websites and games in Health week. **Programming 3 – CHOICE** Year 5 My Scratch Merry Go Round 4 sessions ▸ Use a motor to make a duck turn ▸ Add sound to a program ▸ Use Scratch to model what happens when a duck sees a cat ▸ Use tilt sensor and variable **Multimedia 1 – CORE** Year 5 Presenting My Persuasion 5 sessions • Consider keyboard and editing skills • Collect ideas on collaboration tool

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	• Compare with online database **TIOL 1 - CORE** Year 5 Improve My Web Detective Skills 3 sessions • Consider the difference between the Internet and the World Wide Web and how they are linked • Discuss how information online may not be accurate or reliable • Create a checklist to ensure that the information they are using is accurate	• Explore the world using Google Earth and look at the layers of information contained in the tool • Create and record a virtual tour from their home to school and another destination • Create a presentation about their dream destination **Multimedia 2 – CHOICE** Year 5 My Weather Forecast 3 sessions • Look at TV weather forecasts • Use data from weather websites to make prediction • Write a script for a weather forecast • Film using Greenscreen software/app • Record weather forecast as a sound file for podcasting	• Create strategy document and slide presentation as part of advertising campaign • Rehearse and present presentation providing feedback for friends **Handling Data 2 – CHOICE** Year 5 Measuring Rainfall and My Water Usage 3 sessions • Explore data to conserve water • Learn about computer modelling • Produce chart to show rainfall and interpret graph about animals

Recovery objectives (from Y5)

	Digital Safety	**Programming**	**Handling Data**	**Multimedia**	**Technology in our Lives**
Year 6	•	• I can refine a procedure using repeat commands to improve a program. • I can use a variable to increase programming possibilities. • I can use 'if' and 'then' commands to select an action.	• I can use a spreadsheet and database to collect and record data. • I can choose an appropriate tool to help me collect data.. • I can present data in an appropriate way. • I can search a database using different operators to refine my search. • I can talk about mistakes in data and suggest how it could be checked.		

Basic Skills (taught throughout the year)
- Securely access a variety of devices and online resources
- Store documents and videos online where they can be accessed by themselves and shared with others
- Use knowledge of software and apps to combine technologies to support my learning
- Recognise file types for text, image and video files
- Use a range of search filters e.g. +, -, or, info: advanced searching, file type
- Effectively use right click menu within documents and presentations
- Save as a particular file type
- Select menu options within a variety of apps

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- Create tables
- Use find and replace when editing documents

Autumn 1 and 2	Spring 1 and 2	Summer 1 and 2
e-Safety- planned within PSHE / Citizenship using Somerset BYTE Awards	e-Safety- planned within PSHE / Citizenship using Somerset BYTE Awards	e-Safety – planned within PSHE / Citizenship using Somerset BYTE Awards
I am kind and responsible	**I am safe**	**I am healthy**
Agree class internet rules based on personal responsibilities. Include cyberbullying	Keep personal details private, consider who you are talking to online and make sure a trusted adult knows what you are doing online.	Consider age-appropriate and healthy use of technology. Include consideration of time spent using technology and recognition of appropriate websites and games in Health week.
TIOL 1 - CORE Year 6 Move My Information 3-5 sessions Build a list of the different services the Internet provides • Increase understanding of how the internet works • Present 'How the internet works' • Optional learning about redundancy and tracing where websites are hosted	**Programming 3 – CHOICE** Year 6 My Logo Web and Function Machines 6 sessions • Review knowledge of Logo and create shapes of different colours • Meet challenges to recreate unusual shapes • Make shapes grow and create a spider web • Make numbers and function machines	**TIOL 2 – CORE** Year 6 Using My Information 4 sessions • Use resources to build children's understanding of search engines • Search the internet to find information • Children discover how to check reliability • Make sure sources of information are acknowledged
Programming 1 - CORE Year 6 Test My Topic with Scratch 8 sessions • Create a Times Table quiz • Plan a game adapting Times Table quiz for a quiz game • Collect/create sound and image files to use Plan an algorithm for a game • Program the game in Scratch	**Multimedia 1 – CORE** Year 6 Sell My School 2 sessions Look another school's promotional video to attract parents, children and staff • Discuss how they can promote their own school • Form a production team to create a promotional video for their school • Use a range of multimedia techniques in their video	**Multimedia 3 – CHOICE** Year 6 My Minecraft Story 6 sessions • Discuss rules for using Minecraft • Build the location of a class story • Present their location to the class using descriptive language • Photograph a Minecraft location in their story and use it as a stimulus for creative writing
	Handling Data 1 – CORE Year 6 Answer My Questions 4 sessions • Consider data and information • Identify data about Olympics • Explore online databases • Plan an investigation using the databases • Present the outcomes of their investigation to others	**Handling Data 2 – CHOICE** Year 6 Checking Out My Websites 3 sessions • Plan an investigation • Collect data based on their learning about websites • Present findings to others