Tollesbury Computing Progression Map 24-25

	Computing systems and networks Digital literacy	Creating media Information technology	Data and information Information technology	Programming Computer science	Vocabulary
EYFS	• Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	• Begin to mark make on both paper and using a range of digital devices.	• Begin to describe, group and compare a range of objects.	• Begin to explore and experiment with moving a floor robot. • Begin to explore and experiment with moving a floor robot.	• On, off, Switch, Backwards, Forward, Instruction, Sound, Moving • buttons, collect, command, computer, count, equipment, keyboard, keys, • choices Create Internet information Share Technology Website • monitor, mouse movement, organise, phone, camera, remote, set of photos, type
Year 1	• I can recognise and name a range of digital devices, e.g. laptop, phone, games console. • I can log on to the school computer / unlock the school tablet with support. • I can identify the basic parts of a computer, e.g. mouse, keyboard, screen. • I can use a suitable access device (mouse, keyboard, touchscreen, switch). • I can explain why we use passwords and recognise examples of personal information • I know who to tell if concerned about content	• I can select basic tools/options to change the appearance of digital content, e.g. filter on an image / font / size of paintbrush. • I can combine media with support to present information, e.g. text and images. • I can type text using a keyboard. • I can begin to print work with support.	• I can describe objects using labels • I can find objects with similar properties • I can answer questions about groups of objects • I can decide how to group objects to answer a question • I can record and share what I have found	• I can create a simple program e.g. to control a floor robot. • I can predict the outcome of a simple algorithm or program. • I can explain what an algorithm is and create one • I can debug an error in a simple algorithm or program e.g. for a floor robot.	• Technology, Computer, mouse/trackpad, keyboard, screen, click, drag, draw, double-click, Input device, Shift, space bar, Safely, responsibly, computer, technology • paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool • Forwards, backwards, turn, clear, go, commands Instructions, algorithm, program • Word processor, backspace, toolbar, bold, italic, underline, • ScratchJr, Bee-Bot, command, sprite, compare, programming, , Block, joining, start block, run, background, delete, reset, algorithm, predict, effect, change, value, block program.
Year 2	• I can explain how IT is used at home • I can explain how IT is used in different places • I can use a simple password to log onto the computer or a website. • I can identify rules for acceptable use of technology in school. • I know what personal information is and the need to keep it private. • I can recognise that some information found online may not be true. • I can continue to practise mouse and keyboard skills independently.	• I can create simple digital content for a purpose, e.g. digital art. • I can capture, edit and improve my photos • Present ideas and information by combining media, e.g. text and images. • I can identify which photos are real and which have been changed • I can save work to the appropriate location. • I can continue to print work with support.	• I can recognise charts and pictograms and explain why we use them. • I can explain information shown in a simple chart or pictogram. • I can modify simple charts/pictograms, e.g. add title, item or labels. • I can identify the key features of a chart or pictogram. • I can collect and present data on a topic	• I can predict the outcome of an algorithm or program with multiple steps. • I can identify and correct errors in a given algorithm or program and recognise the term debugging. • I can explain what an algorithm and program are • I can plan out a program by creating an algorithm and evaluate its success.	• Information technology (IT), computer, barcode, scanner/scan • Device, camera, photograph, capture, image, digital Framing, focal point, subject matter, field of view, format, compose Natural lighting, artificial lighting, • Instruction, sequence, clear, unambiguous, algorithm, program • Debugging, command, program, run, program, start Sprite, design, modify, change • organise, data, object, tally chart, votes, Pictogram, Attribute, group,
Year 3	• I can describe what a computer is (input > process > output). • I can recognise that school computers are connected. • I can recognise the physical components of a network. • Keeping password safe • When not to share personal info • Games/films have age ratings	• I can present ideas and information by combining media independently, e.g. text and images. • I can design and create simple digital content for a purpose/audience, e.g. poster. • I can edit digital content to improve it, e.g. resize text.	• I can use a branching database • I can create a branching database • I can identify the features of a good question in a branching database. • I can evaluate a given branching database and suggest improvements	• Create a sequence of commands using a block language to produce a given outcome. • Can decompose a problem into smaller steps. • Use logical reasoning to detect errors • Debug errors to accomplish specific goal. • Explain simple sequence-based algorithm independently. • modify an existing program • Recognise that different inputs can be used to control a program in different order.	• Digital device, input, output, process Program Connection, network, network switch, server, wireless access point (WAP) • Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop Sequence, event, task, design, code, run the code Design, algorithm, bug, debug • Branching database, database, attribute, value, questions, objects, equal, even, separate • Text, images Landscape, portrait, orientation, placeholder, template • Motion, event, sprite, algorithm, logic Move, resize, extension block,
Year 4	• Remember and use an individual password. • Describe how networks physically connect to other networks. • Recognise how networked devices make up the internet. • Describe how content can be added and accessed on the World Wide Web. • Recognise what kinds of websites are trustworthy sources of information. • Recognise the benefits and risks of different apps and websites.	• Collect, organise and present information using a range of media. • Design, create and edit digital content for a specific purpose • Identify the features of a good piece of digital content and apply these in own design. • Know where to find copyright free content, e.g. creative images. • Collaborate with peers using online tools • Recognise that the media can portray groups of people differently.	• Draw conclusions from information stored in a database, chart or table. • Design a questionnaire and collect a range of data on a theme. • Choose appropriate formats to present data to convey information	• Create a program using a range of events/inputs to control what happens. • Explain when to use forever loops and count-controlled loops and use them in programs. • Recognise selection in a program or algorithm. • Use selection in algorithms in programs e.g. if…then… • Design a program for a purpose. • Recognise common mistakes in programs and how to correct them. • Can rate a game or film they have made and explain their rating	• Internet, network, router, network security Network switch, server, wireless access point (WAP), router, route tracing, browser content, download, sharing, ownership, permission • Program, turtle, commands, code snippet Algorithm, design, debug, Logo commands, Pattern, repeat, repetition, count-controlled loop, algorithm, • Data, table (layout) Input device, sensor, data logger, data point, interval, analyse, data set, import, export • Scratch, programming, sprite, blocks, code, loop, repeat, value, Block, forever, infinite loop, count-controlled loop, costume design, algorithm, duplicate, debug, refine, evaluate

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Year 5	• **Explain** that computers can be connected together to form systems and that a computer system features inputs, processes and outputs.. • **Recognise** the role of computer systems in our lives. **Identify** tasks that are managed by computer systems and **identify** the human elements of a computer system. • **Recognise** how information is transferred over the internet and **understand** that networked digital devices have unique addresses. • **Explain** how sharing information online lets people in different places work together. **Recognise** that connected digital devices allow us to access shared files stored online. **Know** how to send information over the internet in different ways. • **Understand** and **compare** the difference between working online with working offline. **Contribute** to a shared project online. • **Evaluate** different ways of working together online and **recognise** that working together on the internet can be public or private.	• Identify and compare features in different videos. Explain what makes a video effective. • Identify digital devices that can record video. Experiment with different camera angles. Use a microphone with increasing confidence. • Capture video using a range of techniques. Suggest filming techniques for a given purpose. Review how effective the video is. • Create a storyboard and decide which filming techniques will be used. Confidently create and save video content. • Identify that the video can be improved through reshooting and editing. Select the correct tools to make edits. Know how to store, retrieve and export a recording to a computer. • Consider the impact of the choices made when making and sharing a video. Know how to improve the final outcome. Evaluate and share opinion. • Identify the main vector drawing tools. Recognise that vector drawings are made using shapes. Know that the drawing tools can be used to produce different outcomes. • Create a vector drawing by combining shapes. Explain that each element added to a vector drawing is an object. Know how to move, resize and rotate duplicated objects. • Use tools to achieve a desired effect (alignment grids, resize handles and the zoom tool). • Recognise that vector drawings consist of layers. Know how to change the order of layers and identify which objects are at the front or back layer of a drawing. • Demonstrate how to group objects to make them easier to work with. Know how to reuse a group of objects to further develop a vector drawing. • Evaluate a completed vector drawing and suggest improvements. Create alternatives to vector drawings.	• Know the difference between data and information • Use a form to record information. Create multiple questions about the same field. Explain how information can be recorded. Order, sort and group data cards. • Compare paper and computer-based databases. Navigate a flat-file database to compare different views of information. • Explain how grouping and then sorting data allows us to answer more specific questions. • Explain that tools can be used to select specific data. Know and choose which field and value are required to answer a given question. Demonstrate how 'AND' and 'OR' can be used to refine data selection. • Explain the benefits of using a computer to create graphs. Refine a chart by selecting a particular filter. Explain that computer programs can be used to compare data visually. • Apply knowledge of a database to ask and answer real-world questions. Present findings to a group.	• Name a range of sensors in physical systems • Predict what will happen in a program or algorithm when the input changes • Use two-way selection i.e. if… then…else… • Recognise variables in a program • Create programs including 'repeat until' loops. • Create an algorithm for a physical system (with sensor) • Combine a variable with relational operators (< = >) to determine when a program changes • Recognise key concepts (sequence, selection, repetition and variables)	• System, connection, digital, input, process, output Protocol, address, packet • Microcontroller, components, LED, Sparkle, program, repetition, infinite loop , selection, controlled loop, task, design, selection, condition, action, algorithm, • Database, data, information, record, field, sort, order, group, graph, chart, axis, compare, filter • Vector, drawing tools, shapes, object, icons, toolbar organise, zoom, select, rotate, object, alignment grid, resize, handles, consistency,
Year 6	• Identify how to use a search engine to find specific information and know how to refine the search. Compare results from different search engines. • Describe how search engines select results. Know how to relate a search term to the search engine's index. Recognise the role of web crawlers. • Know and explain how search results are ranked. Suggest some of the criteria that a search engine checks to decide on the order of results. • Describe some of the ways that search results can be influenced. Recognise why the order of results is important and to whom. Explain how search engines make money. Recognise some limitations of search engines.	• Review an existing website and consider its structure, including the different types of media used. Know that websites are written in HTML. • Know the common features of a web page. Plan the features of a web page based on a given purpose. Suggest media to include on the page. • Consider the ownership and use of images (copyright). Describe what is meant by the term 'fair use'. Find copyright-free images. • Add content to own web page. Evaluate what it looks like on different devices. Recognise the need to preview pages. • Use a computer to create and manipulate three-dimensional (3D) digital objects. Explain why 3D objects may be represented on a computer. • Compare working digitally with 2D and 3D graphics. Identify how graphical objects can be modified. • Construct a digital 3D model of a physical object. Consider the use of position, rotation and duplication. • Identify that physical objects can be broken down into a collection of 3D shapes that are appropriately sized. Know how to group a digital 3D shape and a placeholder to create a hole in an object. • Using knowledge gained, design a digital model by combining 3D objects. • Develop and evaluate a digital 3D model against a given criterion. Modify and improve the model where appropriate.	• Recognise what a spreadsheet is and what it is used for. • Use simple formulae in a spreadsheet to find out information from a set of data. • Collect data for a purpose and plan out a spreadsheet to present it effectively, using relevant formulae. • Produce graphs from data in a spreadsheet to answer a question. • Analyse and evaluate data and information in a spreadsheet, chart or database.	• Design and program a system that uses sensors. • Recognise and use procedures (sub-routines) in programs. • Plan out a program in detail, including task, algorithm, code and execution level. • Use nested selection statements in a program • Create and use simple variables, e.g. to keep score.	• refine index, crawler, bot, search engine, Ranking, Website, web page, browser, media, Hypertext Markup Language (HTML) Web page, website, logo, layout, header, media, purpose Copyright, fair use, hyperlink, protocol, address, packet • Variable, name, value, set, change, Task, algorithm, design, artwork, program, project, code, test, debug • Spreadsheet, data, data heading, data set, cells, columns and rows, Formula, calculation, input, output. cells, cell reference • 2D, 3D, Rotate, position, select, duplicate, placeholder, • Micro:bit, input, process, output, flashing, condition, if… then… else, variable, random accelerometer