Every child Every chance Every day

Weddington's vision is for all to thrive. 'Weddy' graduates will venture into the wider world as curious, courageous and confident individuals, who are equipped with the tools for continued success

Computing Skills Progression

Computer Science

Year Group	National Curriculum Objective	Skills and knowledge gained	Programs / Resources	Vocabulary
FS	• Children recognize that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	• I can follow simple oral algorithms • I can spot simple patterns • I can sequence simple familiar tasks • I can use a mouse, touch screen or appropriate access device to target and select options on screen • I can input a simple sequence of commands to control a digital device with support (Bee Bot)	• Integrated in to classroom activities • Bee Bots • Chromebooks • PC's	
1	• 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.	• Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that a computer program turns an algorithm into code that the computer can understand • Children can work out what is wrong with a simple algorithm when the steps are out of order • When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program.	• 2Code – chimp level • 2DIY • Cooking recipes • Craft instructions • Physical items to sort • Bee Bots	**Grouping & Sorting**: sort, criteria, describe, more, than, less than, equal, groups, algorithms **Maze Explorers:** direction, forwards, backwards, left, right, keys, challenge, undo, rewind, route, delete, command, unit, algorithm, debug **Coding:** instructions, algorithm, code, programmer, coding, software, code blocks, object, action, 2Do, command, Design View, Code view, debug\ debugging, run, event, click, sound, when clicked, output, execute, background, scale, scene, properties, plan

Computer Science

2	• 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.	• Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code. • Children can create a simple program that achieves a specific purpose. They can also identify and correct some errors • Children can identify the parts of a program that respond to specific events and initiate specific actions.	• 2Code – chimp level • Examples of how coding is used in our everyday lives	**Coding:** instruction, algorithm, event, object, action, command, scene, background, properties, scale, click events, collision detection, predict, interaction, collision detection event, collision detection action, image, implement, timer, interval, sequence, output, properties, turtle object, when key event, when swiped event, when clicked event, button, object name, text, bug, debugging, test
3	• 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.	• Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code. Children can identify an error within their program that prevents it following the desired algorithm and then fix it. • Children demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs. Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. • Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, repetition and use of timers. They make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. e.g. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately. • Children can list a range of ways that the Internet can be used to provide different methods of communication.	• 2Code – gibbon level • BBC Free Code • Examples of how coding is used in our everyday lives • Hand in notes to feedback to teacher on task • Respond to teacher's marking notes • Discussions around blogs, emails and forums	**Coding:** algorithm, background, object, implement, predict, run, flowchart, properties, when clicked, when key, timer, sequence, nested, repeat, input, command, button, right-angle, degrees, Nesting, test, debug, actions, object type, alert, actions, object type, alert **Micro:bits:** hardware, LED, Repeat, Program, Software, animation, image, infinite loop, output, sequence, data, input, selection, accelerometer, gestures, sound output, speaker

Computer Science

4	• 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.	• When turning a real-life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs. • Children's use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. They understand 'IF statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables. Children can make use of user inputs and outputs such as 'print to screen'. • Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'IF' statements, repetition and variables. They can trace code and use step-through methods to identify errors in code and make logical attempts to correct this. In programs, they can 'read' programs with several steps and predict the outcome accurately. • Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.	• 2Code – gibbon level • Logo • Physical 2D shape examples • Examples of how coding is used in our everyday lives • Respond to teacher's marking notes • Discussions around blogs, emails and forums • Use display boards to share work	**Coding:** background, button, object, properties, code block, predict, event, debugging, action, selection, if statement, decision, command, coordinate, flowchart, repeat until, if/else statement, inputs, execute, variable, number variable, alert, prompt **Micro:bits:** Accelerometer, Data, Sensor, Variable, Infinite loop, Logic, Light sensor, Conditionals, Gestures, Selection, Simulation, Logic **Logo:** 2Logo, grid, run speed, Logo commands (e.g. FD BK RT LT), prediction, Pen up, Pen down, multi-line mode, debugging, Repeat, Procedure, SETPC, SETPS

Computer Science

5	• 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.	• Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code • Children can translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design • When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables • Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content.	• 2Code –gorilla level • 2DIY3D • Examples of how coding is used in our everyday lives • Respond to teacher's marking notes • Discussions around blogs, emails and forums • Use display boards to share work	**Coding:** event, key press, collision, object, action, variable, selection, if/else statements, coordinates, simplify, efficient, computer generated variable, simulation, physical system, algorithm, properties, decomposition, abstraction, friction, function, predict, string, variables, values, tabs, text variable, collision, when key, random, output, concatenation, print to screen, tabs, 'if' statement, 'if/else' statement **Micro:bits:** Abstraction, Accelerometer, Algorithm, Code, Compass / magnetometer, Data, Debugging, Decomposition, Hardware, Input, LEDs, Logic, Output, Pattern recognition, Program, Repetition / loops, Infinite loop, Count-controlled loop, Selection, Sensor, Sequence, Software, Variable **Game Creator:** evaluation, theme, scene, textures, images, screenshot, quest, instructions, feedback, promotion

Computer Science

6	• 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.	• Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. Children test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem. • Children translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other. Coding displays an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions. • Children are able to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.	• 2Code – gorilla level • 2Connect • Google Classroom • Respond to teacher's marking notes • Discussions around blogs, emails and forums • Use display boards to share work •	**Coding:** algorithm, action, output, selection, variables, repeat, timer, launch command, debug, alert, string, x and y properties, coordinates, decomposition, object, event, function, turtle object, text object, execute, function call, tabs, flowchart, simulation, procedure, input, concatenation, text adventure **Micro:bits:** Abstraction, Accelerometer, Algorithm, Code, Compass / magnetometer, Data, Debugging, Decomposition, Hardware, Input, LEDs, Logic, Output, Pattern recognition, Program, Repetition / loops, Infinite loop, Count-controlled loop, Selection, Sensor, Sequence, Software, Variable **Text Adventures:** text adventure, sprite, link, functions, selection, variables, repeat, step through, flow of control, functions, selection, variables, repeat, debugging, QR code

Information Technology

Year Group	National Curriculum Objective	Skills and knowledge gained	Programs / Resources
FS	• Children recognize that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	• I can play on a touch screen game and use computers/keyboards/mouse in role play • I can type letters with increasing confidence using a keyboard and tablet • I can dictate short, clear sentences into a digital device • I can identify a chart • I can sort physical objects, take a picture and discuss what I have done • I can present simple data on a digital device • I can create my own sorting diagram and complete a data handling activity with it using images and text • I can start to input simple data into a spreadsheet • I can create a feelings chart exploring a story or character's feelings • I can record my voice over a picture • I can create a simple digital collage • I can move and resize images with my fingers or mouse • I can animate a simple image to speak in role • I can create a simple animation to tell a story including more than one character. • I know the difference between a photography and video. • I can record a short film using the camera • I can record and play a film • I can watch films back • I can take a photograph • I can take a photograph and use it in an app • I can use a painting app and explore the paint and brush tools • I can scan a QR code. • I can explore a 360 image. • I can talk about AR objects in my class • I can record sounds with different resources • I can find ways to change your voice (tube, tin can, shouting to create an echo) • I can record sounds/voices in storytelling and explanations	• Chromebooks • PCs • Mini Mash • 2Paint • Mashcams • 2Count • 2Do It Yourself • 2Explore • 2Go • iPads/ Tablets • Physical sorting activities • Voice recorders • Google Docs • Google Sheets • Twinkl AR • YouTube • Google image search • Cameras

Information Technology

Year Group	National Curriculum Objective	Skills and knowledge gained	Programs / Resources	Vocabulary
1	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	• Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources	• 2Count • 2Create A Story • Physical representations to aid understanding data sorting	**Pictograms:** data, pictogram, visual, title, , collect data, record results, compare, totals **Animated Story Books**: e-book, sound, eraser, undo, redo, paint tools, text, save, overwrite, animation, play mode, sound, effect, voice recording, drop-down menu, category, background, clip-art gallery, font, copy, paste, features, edit **Spreadsheets:** spreadsheet, data, row, column, cell, delete, calculations, button, clip-art, image, move cell, lock cell, select, count tool, speak tool, value
2	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	• Children are able to edit more complex digital data such as music compositions. • Children are confident when creating, naming, saving and retrieving content. • Children use a range of media in their digital content including photos, text and sound.	• 2Paint A Picture • 2Sequence	**Creating Pictures:** Art, Impressionism, palette, style, Pointillism, dilute, line, fill, vertical, horizontal, repeating pattern, parallel, diagonal, rotated, symmetry, Surrealism, e-collage, stamps, clip-art **Spreadsheets:** row, column, cell, toolbox, drag, image value, count tool, speak tool, cut, copy, paste, total, price, coins, equals, addition, equals tool, data, table, block graph, label **Questioning:** pictogram, data, information, sort, avatar, question, binary tree, database, record, field, search **Making Music:** tune, compose, note, speed, beats, volume, tempo, sound effect, repeat bars, soundtrack Presenting Ideas:
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Information Technology

3	• 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.	• Children can carry out simple searches to retrieve digital content. They understand that to do this, they are connecting to the internet and using a search engine. • Children can collect, analyse, evaluate and present data and information using a selection of software • Children can consider what software is most appropriate for a given task.	• Purple Mash art apps • 2Graph • 2Type • Google search • Real life examples of graphs	**Touch Typing:** posture, typing, keys, spacebar **Spreadsheets:** pie chart, data, table, bar graph, Spinner tool, More than, less than & equal tool, advanced mode, cell address, Quiz tool **Presenting with Google Slides: textbox**, presentation, font formatting, WordArt, media, slide, editing, audio, video, border weight, border dash, fill colour, layer, transition, animation, review
4	• 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.	• Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. • Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software and share digital content within their community.	• Display Boards • 2Calculate • Microsoft Suite apps • Google Docs • Google Sheets • Search Engines • Hand in feedback box • Teacher feedback box	**Artificial Intelligence:** Algorithm, Artificial Intelligence, Data **Spreadsheets:** formula wizard, percentages, decimal place, format cell, average, equal, tool, random number tool, spinner tool, timer, line graph, data, chart, resize, budget, totals, calculations, place value, 'is equals to' tool, set image **Writing for Different Audiences:** genre, format, font, reporter, viewpoint, opinion, reporter, viewpoint, opinion, campaign

Information Technology

5	• 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.	• Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains. • Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode.	• Display Boards • 2Email • 2Code • 2Investigate • 2Question • Search Engines • Hand in feedback box • Teacher feedback box	**Databases:** database, search, record, field, sort, group, arrange, statistics, reports, charts, avatar, collaborative **Word Processing:** Word Processing Tool, document, front screen, caps lock, cursor, selecting\highlighting, font, formatting, page orientation, copyright, creative, commons, attributing, cropping, text wrapping, image editing, text styles, bulleted lists, numbered lists, text boxes, captions, breaks, hyperlinks, editor options, sharing, merge cells, column, row, template, spell check, grammar check **Spreadsheets:** formula, formulae, conversion, advanced mode, copy and paste, advanced mode, 'How many?' tool, Variable, perimeter, area, modelling, text, variables, cell format, totalling tool, budget, profit
6	• 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.	• Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Children use critical thinking skills in everyday use of online communication. • Children make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the Internet, and can use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.	• Display Boards • 2Blog • 2Calculate • Microsoft Suite • Google Docs • Google Sheets • Search Engines • Hand in feedback box • Teacher feedback box	**Spreadsheets:** count tool, dice tool, chart Formula wizard, computational model, percentage, format, move tool, budget, Advanced mode, profit, expenses, profit, expenses **Quizzing:** quiz, audience, copy\paste, selfie, undo\redo, audio, clipart, image, filter, preview, case-sensitive, clone, preview, case-sensitive, cloze, database, record, field, statistics

Digital Literacy

Year Group	National Curriculum Objective	Skills and knowledge gained	Programs / Resources
FS	• Children recognize that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	• I can recognise that I can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who asks me to do something that makes me feel sad, embarrassed or upset and I can explain how this could be either in real life or online. • I can recognise some ways in which the internet can be used to communicate. • I can give examples of how I (might) use technology to communicate with people I know. • I can identify ways that I can put information on the internet. • I can describe ways that some people can be unkind online and I can offer examples of how this can make others feel. • I can describe ways that some people can be unkind online and I can offer examples of how this can make others feel. • I can identify rules that help keep us safe and healthy in and beyond the home when using technology and I can give some simple examples. • I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location). • I can describe the people I can trust and can share this with; I can explain why I can trust them. • I know that work I create belongs to me. • I can name my work so that others know it belongs to me.	• Project Evolve • Stories such as: ○ DigiDuck ○ Smartie the Penguin ○ Twinkl stories • Practical classroom activities • Purple Mash • Kapow PSHE

Digital Literacy

Year Group	National Curriculum Objective	Skills and knowledge gained	Programs / Resources	Vocabulary
1	• Recognise common uses of information technology beyond school. • Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	• Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair. • Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. Children take ownership of their work and save this in their own private space.	• Purple Mash work folders • Examples of everyday objects • Project Evolve • Online safety stories • Online safety cartoons • Kapow PSHE	**Online Safety & Exploring Purple Mash:** Login, password, private, home screen, work area, avatar, icon, typing, saving, log out, alert, notification, communication, device, search, filter, shared folders, filename, Topic Area, writing template, textbox, toolbar, menu, think about box, Purple Mash Tools, button
2	• Recognise common uses of information technology beyond school. • Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	• Children can effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom and can share this knowledge. Children make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs. • Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically. They develop an understanding of using email safely and know ways of reporting inappropriate behaviours and content to a trusted adult.	• Child friendly search engines e.g. kiddle.co or swiggle.org.uk • Project Evolve • Online safety stories • Online safety cartoons • Google Classroom • Purple Mash Display Boards • Kapow PSHE	**Effective Searching:** Internet, World Wide Web, network, device, web page, browser, website, domain, web address, URL, search engine, Digital Footprint
3	• Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	• Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using familiar communication tools. They know more than one way to report unacceptable content and contact.	• Project Evolve • Display Boards • Internet Legends • Online Safety Cartoons • Kapow PSHE	**Email:** communication, mind mapping, node, link, email, compose, address book, inbox, trusted contact, personal information, password, Save to draft, attachment, CC - carbon copy, BCC - blind carbon copy

4	• Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	• Children can explore key concepts relating to online safety using concept mapping. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact.	• Project Evolve • Display Boards • Internet Legends • Kapow PSHE	**Vocabulary will vary according to learning needs identified by Project Evolve knowledge mapping.**
5	• Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	• Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others.	• Project Evolve • Display Boards • Internet Legends • Kapow PSHE	**Vocabulary will vary according to learning needs identified by Project Evolve knowledge mapping.**
6	• Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	• Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours through developing critical thinking. They recognise the value in preserving their privacy when online for their own and other people's safety.	• Project Evolve • Display Boards • Internet Legends • Kapow PSHE • 2Blog	**Blogging:** blog, vlog, archive, blog post, collaborate, nodes, connections, commenting, approval