



Wistow Parochial Primary School

Computing - Progression of Skills and Vocabulary

Computing in EYFS ensures that pupils enter Year 1 with a strong foundation, builds problem-solving abilities, encourages resilience and supports other areas of learning. By integrating computing into EYFS, pupils also begin to build their digital literacy and their understanding of e-safety.

Following recommendations and research from STEM Learning and Teach Computing, we ensure our provision in EYFS allows us to:

1. Build a strong foundation – through familiarising pupils with technology they may use more formally in KS1. For example, taking photos, programming floor mice, controlling an app or using old devices in role play.
2. Build problem solving skills – by providing opportunities to break down problems into smaller pieces, which can then be solved. This supports the development of computational thinking.
3. Encourage resilience – by providing activities that require persistence to find a solution. This can include an element of trial and error and the need to debug to find a solution.
4. Support other areas of learning – through a range of apps, resources and games that can help develop key areas of learning and development. This also develops the ability to follow instructions and communicate, as well as further developing computational thinking through pattern spotting and logical thinking.
5. Develop digital literacy – by preparing pupils in EYFS for a world where digital skills are essential. Teaching early e-safety is essential to ensuring pupils can use technology safely both in school and out of school.

Year 1	COMPUTING SYSTEMS AND NETWORKS Technology around us <ul style="list-style-type: none"> • To choose a piece of technology to do a job • To recognise that some technology can be used in different ways • To identify the main parts of a computer • To use a mouse in different ways • To use a keyboard to type • To use the keyboard to edit text • To show how to use technology safely 	CREATING MEDIA Digital Painting <ul style="list-style-type: none"> • To create a picture using freehand tools • To use shape and line tools when precision is needed • To use a range of paint colours • To use the fill tool to colour an enclosed area • To use the undo button to correct a mistake • To combine a range of tools to create a piece of artwork 	PROGRAMMING A Moving a robot <ul style="list-style-type: none"> • To enact a given word • To predict the outcome of a command on a device • To list which commands can be used on a given device • To run a command on a floor robot • To choose a command for a given purpose • To choose a series of words that can be enacted as a program • To choose a series of commands that can be run as a program • To build a sequence of commands in steps • To combine commands in a program • To run a program on a device 	DATA AND INFORMATION Grouping data <ul style="list-style-type: none"> • To identify some attributes of an object • To collect simple data • To show that collected data can be counted • To describe the properties of an object • To choose an attribute to group objects by • To group objects to answer questions • To explain that objects can be grouped by similarities (attribute) • To describe a group of objects (based on commonality) 	CREATING MEDIA Digital writing <ul style="list-style-type: none"> • To use letter, number, and Space keys to enter text into a computer • To use punctuation and special characters • To select text • To use the Backspace key to remove text • To position the text cursor in a chosen location • To use Undo • To choose options to achieve a desired effect • To change the appearance of text on a computer 	PROGRAMMING B Introduction to animation <ul style="list-style-type: none"> • To choose a series of words that can be enacted as a program • To choose a series of commands that can be run as a program • To run a program on a device
Year 2	COMPUTING SYSTEMS AND NETWORKS Information technology around us <ul style="list-style-type: none"> • To describe some uses of computers • To identify information technology in school • To identify information technology beyond school • To show how to use information technology 	CREATING MEDIA Digital photography <ul style="list-style-type: none"> • To capture a digital image • To take photographs in both landscape and portrait format • To view photographs on a digital device • To decide which photographs to keep • To hold the camera still to take a clear photograph • To use zoom to change the 	PROGRAMMING A Robot algorithms <ul style="list-style-type: none"> • To choose a series of words that can be enacted as a sequence • To choose a series of instructions that can be run as a program • To create a program • To trace a sequence to make a prediction • To run a program on a device 	DATA AND INFORMATION Pictograms <ul style="list-style-type: none"> • To recognise that people, animals and objects can be described by attributes • To show I can enter data onto a computer • To use a computer to view data in different formats • To use pictograms to answer single-attribute questions • To use a computer to answer comparison questions 	CREATING MEDIA Making music <ul style="list-style-type: none"> • To experiment with musical patterns on a computer • To experiment with different sounds on a computer • To use a computer to create a musical pattern • To use a computer to compose a rhythm and a melody on a given theme • To use a computer to play 	PROGRAMMING B Introduction to quizzes <ul style="list-style-type: none"> • To choose a series of words that can be enacted as a sequence • To explain what happens when we change the order of instructions • To choose a series of commands that can be run as a program • To trace a sequence to make a

	safely	<p>composition of a photograph</p> <ul style="list-style-type: none"> To consider lighting before taking a photograph To use simple editing tools to change the appearance of a photograph To improve a photograph by retaking it 	<ul style="list-style-type: none"> To debug a program that I have written 	(graphs, tables)	<p>the same music in different ways (e.g. tempo)</p> <ul style="list-style-type: none"> To evaluate a musical composition created on a computer To improve a musical composition created on a computer 	<p>prediction</p> <ul style="list-style-type: none"> To test a prediction by running the sequence To create and debug a program that I have written To run a program on a device
Year 3	<p>COMPUTING SYSTEMS AND NETWORKS</p> <p>Connecting Computers</p> <ul style="list-style-type: none"> To identify input and output devices To explain that a computer system accepts an input and processes it to produce an output To explain how a computer network can be used to share information To explain the role of a switch, server and wireless access point in a network To identify network devices around me To explain how networks can be connected to other networks 	<p>CREATING MEDIA</p> <p>Stop frame animation</p> <ul style="list-style-type: none"> To plan an animation using a storyboard To set up the work area with an awareness of what will be captured To capture an image To use the onion skinning tool to review subject position To move a subject between captures To review a captured sequence of frames as animation To remove frames to improve an animation To add media to enhance an animation To review a completed project 	<p>PROGRAMMING A</p> <p>Sequence in music</p> <ul style="list-style-type: none"> To build a sequence of commands To combine commands in a program To order commands in a program To create a sequence of commands to produce a given outcome 	<p>DATA AND INFORMATION</p> <p>Branching databases</p> <ul style="list-style-type: none"> To create questions with yes/no answers To choose questions that will divide objects into evenly sized subgroups To repeatedly create subgroups of objects To identify an object using a branching database To retrieve information from different levels of the branching database 	<p>CREATING MEDIA</p> <p>Desktop publishing</p> <ul style="list-style-type: none"> To show that page orientation can be changed To organise text and image placeholders in a page layout To add and remove images to and from placeholders To move resize and rotate images To add text to a placeholder To edit text in a placeholder To choose fonts and apply effects to text To review a document 	<p>PROGRAMMING B</p> <p>Events and actions</p> <ul style="list-style-type: none"> To build a sequence of commands To combine commands in a program To order commands in a program To create a sequence of commands to produce a given outcome
Year 4	<p>COMPUTING SYSTEMS AND NETWORKS</p> <p>The internet</p> <ul style="list-style-type: none"> To describe how networks connect to other networks To recognise that the World Wide Web is part of the internet To explain how the content of the World Wide Web is created, owned, and shared by people To evaluate the reliability of content and the consequences of unreliable content 	<p>CREATING MEDIA</p> <p>Audio editing</p> <ul style="list-style-type: none"> To record sound using a computer To play recorded audio To import audio into a project To delete a section of audio To change the volume of tracks in a project 	<p>PROGRAMMING A</p> <p>Repetition in shapes</p> <ul style="list-style-type: none"> To list an everyday task as a set of instructions including repetition To use an indefinite loop to produce a given outcome To use a count-controlled loop to produce a given outcome To plan a program that includes appropriate loops to produce a given outcome To recognise tools that enable more than one process to be run at the same time (concurrency) To create two or more sequences that run at the same time 	<p>DATA AND INFORMATION</p> <p>Data logging</p> <ul style="list-style-type: none"> To use a digital device to collect data automatically To choose an appropriate time frame when collecting data automatically To use a set of logged data to find information To use a computer program to sort data by one attribute To export information in different formats 	<p>CREATING MEDIA</p> <p>Photo editing</p> <ul style="list-style-type: none"> To recognise that digital images can be manipulated To recognise that digital images can be changed for different purposes To choose the most appropriate tool for a particular purpose To consider the impact of changes made on the quality of the image 	<p>PROGRAMMING B</p> <p>Repetition in games</p> <ul style="list-style-type: none"> To list an everyday task as a set of instructions including repetition To use an indefinite loop to produce a given outcome To use a count-controlled loop to produce a given outcome To plan a program that includes appropriate loops to produce a given outcome To recognise tools that enable more than one process to be run at the same time (concurrency) To create two or more sequences that run at the same time
Year 5	<p>COMPUTING SYSTEMS AND NETWORKS</p>	<p>CREATING MEDIA</p> <p>Video editing</p>	<p>PROGRAMMING A</p> <p>Selection in physical computing</p>	<p>DATA AND INFORMATION</p> <p>Flat-file databases</p>	<p>CREATING MEDIA</p> <p>Vector drawing</p>	<p>PROGRAMMING B</p> <p>Selection in quizzes</p> <ul style="list-style-type: none"> To choose a condition to use in a

	<p>Sharing information</p> <ul style="list-style-type: none"> To describe the input and output of a search engine To demonstrate that different search terms produce different results To evaluate the results of search terms 	<ul style="list-style-type: none"> To use different camera angles To use pan, tilt and zoom To identify features of a video recording device or application To combine filming techniques for a given purpose To determine what scenes will convey your idea To decide what changes I will make when editing To choose to reshoot a scene or improve later through editing To use split, trim and crop to edit a video 	<ul style="list-style-type: none"> To create a condition-controlled loop To use a condition in an 'if...then...' statement to start an action To use selection to switch the program flow in one of two ways To use a condition in an 'if...then...else...' statement to produce given outcomes 	<ul style="list-style-type: none"> To choose different ways to view data To choose which attribute and value to search by to answer a given question (operands) To ask questions that need more than one attribute to answer To choose which attribute to sort data by to answer a given question To choose multiple criteria to search data to answer a given question (AND and OR) To select an appropriate graph to visually compare data To choose suitable ways to present information to other people 	<ul style="list-style-type: none"> To add an object to a vector drawing To select one object or choices made multiple objects To delete objects To move objects between the layers of a drawing To duplicate objects using copy and paste To modify objects To reposition objects To group and ungroup selected objects To combine options to achieve a desired effect To create a vector drawing for a given purpose 	<p>program</p> <ul style="list-style-type: none"> To create a condition-controlled loop To use a condition in an 'if... then...' statement to start an action To use selection to switch program flow To use 'if... then... else...' to switch program flow in one of two ways
Year 6	<p>COMPUTING SYSTEMS AND NETWORKS</p> <p>Communication</p> <ul style="list-style-type: none"> To outline methods of communicating and collaborating using the internet To choose methods of internet communication and collaboration for given purposes To evaluate different methods of online communication and collaboration To decide what you should and should not share online 	<p>CREATING MEDIA</p> <p>Web page creation</p> <ul style="list-style-type: none"> To review an existing website (navigation bars, header) To create a new blank web page To add text to a web page To set the style of text on a web page To change the appearance of text To preview a web page (different screen sizes) To embed media in a web page To add web pages to a website To insert hyperlinks between pages To insert hyperlinks to another site 	<p>PROGRAMMING A</p> <p>Variables in games</p> <ul style="list-style-type: none"> To identify a variable in an existing program To experiment with the value of an existing variable To choose a name that identifies the role of a variable to make it easier for humans to understand it To decide where in a program to set a variable To update a variable with a user input To use an event in a program to update a variable To use a variable in a conditional statement to control the flow of a program To use the same variable in more than one location in a program 	<p>DATA AND INFORMATION</p> <p>Spreadsheets</p> <ul style="list-style-type: none"> To calculate data using a formula for each operation To use functions to create new data To use existing cells within a formula To choose suitable ways to present spreadsheet data 	<p>CREATING MEDIA</p> <p>3D modelling</p> <ul style="list-style-type: none"> To position 3D shapes relative to one another To use digital tools to modify 3D objects To combine objects to create a 3D digital artefact To use digital tools to accurately size 3D objects To construct a 3D model which reflects a real world object 	<p>PROGRAMMING B</p> <p>Sensing</p> <ul style="list-style-type: none"> To identify a variable in an existing program To experiment with the value of an existing variable To choose a name that identifies the role of a variable to make it more usable (to humans) To decide where in a program to set a variable To update a variable with a user input To use an event in a program to update a variable To use a variable in a conditional statement to control the flow of a program To use the same variable in more than one location in a program

Vocabulary

EYFS	direction, control, instructions, steps, robot, microphone, keyboards, keys, letter, number, camera, save, print, video, film, record					
Year 1	<p style="text-align: center;">COMPUTING SYSTEMS AND NETWORKS</p> <p style="text-align: center;">Technology around us</p> <p>Technology, computer, mouse, trackpad, keyboard, screen, click, drag, input device, shift, spacebar, capital letter, full stop, safely, responsibly</p>	<p style="text-align: center;">CREATING MEDIA</p> <p style="text-align: center;">Digital Painting</p> <p>Paint program, tool, paintbrush, erase, fill, undo, Piet Mondrian, primary colours, shape tools, line tool, fill tool, undo tool, Henri Matisse, Wassily Kandinsky, feelings, colour, brush style, George Seurat, Pointillism, prefer, dislike, like</p>	<p style="text-align: center;">PROGRAMMING A</p> <p style="text-align: center;">Moving a robot</p> <p>Forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, plan, algorithm, route, program</p>	<p style="text-align: center;">DATA AND INFORMATION</p> <p style="text-align: center;">Grouping data</p> <p>Object, label, group, search, image, colour, shape, property, value, data set, less, most, fewest, the same</p>	<p style="text-align: center;">CREATING MEDIA</p> <p style="text-align: center;">Digital writing</p> <p>Word processor, keyboard, keys, letters, Microsoft Word, letters, numbers, space, backspace, text cursor, toolbar, bold, italic, underline, undo, font, toolbar</p>	<p style="text-align: center;">PROGRAMMING B</p> <p style="text-align: center;">Introduction to animation</p> <p>ScratchJr, Bee-Bot, command, sprite, compare, programming, programming area, block, joining, start, program, background, delete, reset, algorithm, predict, effect, change, value, block, instructions, appropriate, design</p>
Year 2	<p style="text-align: center;">COMPUTING SYSTEMS AND NETWORKS</p> <p style="text-align: center;">Information technology around us</p> <p>Information technology (IT), computer, barcode, scanner/scan</p>	<p style="text-align: center;">CREATING MEDIA</p> <p style="text-align: center;">Digital photography</p> <p>Device, camera, photograph, capture, image, digital, landscape, portrait, horizontal, vertical, field of view, narrow, wide, format, framing, focal point, subject, matter, flash, focus, background, foreground, editing, filter, pixel, changed, real</p>	<p style="text-align: center;">PROGRAMMING A</p> <p style="text-align: center;">Robot algorithms</p> <p>Instruction, sequence, clear, unambiguous, algorithm, program, order, commands, prediction, artwork, design, route, mat, debugging</p>	<p style="text-align: center;">DATA AND INFORMATION</p> <p style="text-align: center;">Pictograms</p> <p>More than, less than, most, least, organise, data, object, tally chart, votes, total, pictogram, enter, data, tally chart, compare, count, explain, attribute, group, same, different, most popular, least popular</p>	<p style="text-align: center;">CREATING MEDIA</p> <p style="text-align: center;">Making music</p> <p>Music, planets, Mars, Venus, war, peace, quiet, loud, feelings, emotions, pattern, rhythm, pulse, Neptune, pitch, tempo, notes, instrument, create, open, edit</p>	<p style="text-align: center;">PROGRAMMING B</p> <p style="text-align: center;">Introduction to quizzes</p> <p>Sequence, command, program, run, program, start, predict, blocks, actions, sprite, modify, match, debug, features, evaluate</p>
Year 3	<p style="text-align: center;">COMPUTING SYSTEMS AND NETWORKS</p> <p style="text-align: center;">Connecting Computers</p> <p>Digital device, input, output, process, program, connection, network, network switch, server, wireless access point (WAP)</p>	<p style="text-align: center;">CREATING MEDIA</p> <p style="text-align: center;">Stop frame animation</p> <p>Animation, flip book, stop frame, animation, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, delete, frame, media, import, transition</p>	<p style="text-align: center;">PROGRAMMING A</p> <p style="text-align: center;">Sequence in music</p> <p>Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, motion, turn, point in direction, go to, glide, event, task, design, code, run the code, order, note, chord, algorithm, bug, debug</p>	<p style="text-align: center;">DATA AND INFORMATION</p> <p style="text-align: center;">Branching databases</p> <p>Attribute, value, questions, table, objects, branching databases, objects, equal, even, separate, order, organise, j2data, selecting, pictogram, information, decision tree, questions</p>	<p style="text-align: center;">CREATING MEDIA</p> <p style="text-align: center;">Desktop publishing</p> <p>Text, images, advantages, disadvantages, communicate, font, style, template, desktop publishing, copy, paste, layout, purpose, benefits</p>	<p style="text-align: center;">PROGRAMMING B</p> <p style="text-align: center;">Events and actions</p> <p>Motion, event, sprite, algorithm, logic, move, resize, algorithm, extension block, pen up, set up, design, action, debugging, errors, setup, test</p>

Year 4	<p>COMPUTING SYSTEMS AND NETWORKS</p> <p>The internet</p> <p>Internet, network, router, network security, network switch, wireless access point (WAP), router, website, web page, web address, router, routing, route tracing, browser, World Wide Web, content, links, files, use, download, sharing, ownership, permission, accurate, honest, adverts</p>	<p>CREATING MEDIA</p> <p>Audio editing Online safety</p> <p>Audio, record, playback, microphone, speaker, headphones, input, output, start, stop, podcast, save, file, selection, edit, mixing, time shift, export, MP3, evaluate, feedback</p>	<p>PROGRAMMING A</p> <p>Repetition in shapes</p> <p>Program, turtle, commands, code, snippet, algorithm, design, debug, logo commands, pattern, repeat, repetition, count-controlled loop, value, decompose, procedure</p>	<p>DATA AND INFORMATION</p> <p>Data logging</p> <p>Data, table (layout), input device, sensor, data logger, logging, data point, interval, analyse, import, export, logged, collection, analyse, review, conclusion</p>	<p>CREATING MEDIA</p> <p>Photo editing Online safety</p> <p>Image, edit, arrange, select, digital, crop, undo, save, search, copyright, composition, save, pixels, rotate, flip, adjustments, effects, colours, hue/saturation, sepia, version, illustrator, clone, recolour, magic wand, sharpen, brighten, fake, real, composite, background, foreground, retouch, paste, alter, publication, elements, original, font style, border, layer</p>	<p>PROGRAMMING B</p> <p>Repetition in games</p> <p>Scratch, programming, sprite, blocks, code, loop, repeat, value, forever, infinite loop, count-controlled loop, animate, costume, event block, duplicate, modify, debug, refine, evaluate, algorithm</p>
Year 5	<p>COMPUTING SYSTEMS AND NETWORKS</p> <p>Sharing information Online safety</p> <p>System, connection, digital, input, process, output, protocol, address, packet, chat, explore, slide deck, reuse, remix, collaboration</p>	<p>CREATING MEDIA</p> <p>Video editing Online safety</p> <p>Video, audio, recording, storyboard, script, soundtrack, dialogue, capture, zoom, storage, digital, tape, AV (audiovisual), videographer, video techniques, zoom, pan, tilt, angle, YouTuber, content, camera, colour, export, trim/clip, titles, end credits, timeline, transitions, soundtrack, retake/reshoot, special effects, constructive feedback</p>	<p>PROGRAMMING A</p> <p>Selection in physical computing</p> <p>Microcontroller, controller, components, LED, crocodile clips, connect, battery, program, repetition, infinite loop, count-controlled loop, condition, true, false, input, action, selection, motor, switch, algorithm, debug, evaluate</p>	<p>DATA AND INFORMATION</p> <p>Flat-file databases</p> <p>Database, data, information, record, field, sort, order, group, search, criteria, value, graph, chart, axis, compare, filter, presentation</p>	<p>CREATING MEDIA</p> <p>Vector drawing Online safety</p> <p>Vector, drawing tools, shapes, object, icons, toolbar, move, resize, colour, rotate, duplicate/copy, zoom, select, alignment grid, handles, consistency, modify, layers, front, back, copy, paste, group, ungroup, reuse, improvement, evaluate, alternatives</p>	<p>PROGRAMMING B</p> <p>Selection in quizzes</p> <p>Selection, condition, true, false, count-controlled loop, outcomes, conditional statement – the linking together of a condition and outcomes, algorithm, program, debug, implement, question, answer, task, input, outcomes, test, run, setup, share, evaluate, constructive</p>
Year 6	<p>COMPUTING SYSTEMS AND NETWORKS</p> <p>Communication Online safety</p> <p>Search, search engine, Google, Bing, Yahoo, Swisscows, DuckDuckGo, refine. index, crawler, bot, optimisation, links, web crawlers, content creator, ranking, communication, internet, public, private, one-way, two-way, one-to-one, one-to-many, SMS, email, WhatsApp, blog, YouTube, Twitter, BBC Newsround</p>	<p>CREATING MEDIA</p> <p>Web page creation Online safety</p> <p>Website, web page, browser, media, Hypertext Markup Language (HTML), layout, header, media, purpose, copyright, fair use, evaluate, preview, device, breadcrumb, trail, navigation, hyperlink, subpage, implication, external link, embed</p>	<p>PROGRAMMING A</p> <p>Variables in games</p> <p>Variable, change, name, value, set, design, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share</p>	<p>DATA AND INFORMATION</p> <p>Spreadsheets</p> <p>Spreadsheet, data, data heading, data set, cells, columns and rows, data item, format, common attribute, formula, calculation, call reference, sigma, graph, evaluate, results, comparisons, questions, software, tools, data, propose</p>	<p>CREATING MEDIA</p> <p>3D modelling Online safety</p> <p>2D, 3D, 3D object, 3D space, view, resize, colour, lift, rotate, position, select, duplicate, dimensions, placeholder, hole, group, ungroup, modify, evaluate, improve</p>	<p>PROGRAMMING B</p> <p>Sensing</p> <p>Micro-bit, MakeCode, input, process, output, flashing, USB, selection, condition, if... then... else, variable, random, navigation, design, task, step counter, plan, create, code, test, debug</p>

