Park Brow Primary School
Happy - Respect - Pride - Caring - Potential

Computing Skills Progression 2020-2022

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	Be able to say what an 'algorithm' is. Be able to use the appropriate keys or commands to make a virtual or floor robot go forward, backward, left and right. Be able to program a bot or sprite by giving simple sequences of commands with an immediate outcome. Can use basic symbols to record directional instruction. Be able to use a developing range of language and styles of control e.g. tilt and turn/instructional to direct a robot.	Be able to give control devices instructions that contain numerical data.(e.g. move 2 steps etc). Can use logical reasoning to predict the outcome of a sequence of instructions and test the sequence, amending if necessary. Can use the repeat command (loops) to program more efficiently. Is able to make use of simple events e.g. mouse clicks/tap on screen. Be able to find a bug in a simple program.	To sequence a list of commands/blocks to produce an output e.g. a light comes on or a robot follows a defined route. Is able to use 'repeat' and 'repeat until' loops when appropriate. Be able to find errors in a simple program and successfully debug to make the program work. Can use conditional statements (if and when commands). Understands the importance of time within a program (e.g. using wait). Can make use of an input 'event' within a simple program e.g. when start button is clicked.	Design, test and amend programs to achieve an intended objective, including controlling an external output. Be able to find errors in a program of their own design and successfully debug to achieve a specific goal. Can use and change a pre-written function. Understands a wider range of 'events' such as sprite interactions and button presses, and can use them within programs. Be able to use nested loops to increase the efficiency of a program.	Can use decomposition when solving problems (break the code/problem into smaller parts). Show an understanding of when to use 'while', 'repeat until' and 'forever if" loops to make programs shorter and more efficient and can use them appropriately (understanding the differences between them). Can explain what happens when a variable changes and can use this within a computer program to manipulate data. Can use and change a pre-written function as part of a longer program or sequence. Be able to use a greater range of conditionals (selection) including whilst, if else, repeat until.	When debugging, can use abstraction to filter out extraneous detail and debug the program. Can use variables efficiently. Be able to create their own variable and use this within a computer program to manipulate data. Be able to use logical operations (not, or, and) to alter and control the outcome of a series of commands. Be able to use a wider range of events (such as broadcasts) and use them efficiently within programs to start and stop scripts. Can demonstrate an understanding of what subroutines (e.g. functions and procedures) are and be able to create them within a computer program to store and retrieve data.
Vocab	Algorithm, robot, instructions, sequences, commands	Device, data, predict, sequence, command, loops, repeat, screen, bug, program	Sequence, command, output, repeat, program	Program, design, test, debug, function, loop	Decompose, problems, command, program, variable, data, function, sequence, conditionals	Debug, variable, control, function, data.

Digital Literacy	Be able to navigate a website using links. Can access information on the internet through QR codes or links on a device. Be able to say what information is personal and should not be shared online with support. Be able to tell an adult if they feel something they see online is inappropriate or hurtful. Can change options in models/simulations that represent real or fantasy situations and scenarios to create different outcomes and effects.	Be able to navigate a website using links or buttons. Be able to use a search engine to search for given information to answer questions, sorting by text, pictures, sound and video. With support, be able to say what information is personal and should not be shared online. With support, be able to share pictures or work on an online platform. To be able to follow and understand school rules for staying safe online. Be able to make changes in a model/simulation and use them to make and test predictions.	Can use information found online to answer specific questions, and evaluate how appropriate a site is. Works within the internet safety rules, understand why they are in place and abide by them. With support, is able to share suitable pictures and work to an online platform. Can identify and use keywords for effective Internet searches. Able to select relevant information (pictures and text) to use in other software. Can enter data into a computer simulation, change data and observe changes in results.	Can identify and use keywords for effective Internet searches. Can select relevant information (pictures and text) to use in other software. Can use information found online to answer specific questions, and evaluate how appropriate a site is. Be able to explain how to keep yourself safe online Demonstrates respect towards others on the internet. Can independently share suitable pictures and work to an online digital platform. Able to take part in digital surveys and quizzes. Analyse data with support. Can predict the effect(s) of changing the variables in digital simulations and observe the results.	To be able to search the internet for specific information using tools such as Google Advanced Search. To be able to check information for accuracy and bias. Can save media from the internet to be used in further work. Is aware that some media is copyrighted and cannot be used without permission. Be able to upload/download informative and interesting content to and from a learning platform, including various media. Demonstrate an understanding of the rules for personal internet safety, including social media and search engine use. Be able to take part in a range of digital surveys and quizzes to communicate and collaborate with others. Can use modelling and simulation software to create realistic or fantasy representations of the real world	Be able to search the internet for specific information using tools such as Google Advanced Search, discerning how results are ranked. Be able to identify irrelevant, implausible and inappropriate information, checking for bias. Can show an awareness that some media is copyrighted and cannot be used without permission. Be able to initiate and take part in collaborative learning using a variety of digital platforms. Be able to develop and understand a suitable code of conduct for internet use, and explain what to do in cases of cyberbullying Can use modelling software to create detailed virtual environments or simulations.
Vocab	Website, device, QR code, safety, online safety, scenarios	Website, search engine, internet, video, text, picture, sound, video, online safety, share,	Online safety, rules, suitable, appropriate, internet, search engine, software, data	Internet, online safety, text, images, suitable, images, text, digital, data, variables,	Internet, search engine, accuracy, media, copyright, upload, download, software	Search engine, media, digital, cyberbullying, online safety, software, code, internet

Information Technology	Can produce text, adding and making basic edits to text in appropriate word processing software. When entering text, can use their knowledge of where most letters are located on the keyboard, using appropriate punctuation. Can use a range of simple tools purposefully, to create and alter the appearance of an image. Can use simple video or animation software. Can use a sound recorder or on screen recorder to collect and store information as sound. Be able to use suitable on-screen graphing software to represent information.	When producing text, can add and edit text, considering style, colour. layout and font. Be able to say where letters are located on the keyboard, increasingly using appropriate punctuation. Be able to purposefully use different image editing tools, including crop, resize, and flip, exploring effects such as symmetry and filters. Be able to sequence and arrange pictures or video clips for a purpose. Be able to select and record musical phrases, sound-effects or voice-overs to enhance multimedia work. Can make use of different types of graphs to represent data collected. Be able to enter data accurately to provide the answers to questions.	In a suitable word processing package, can make use of basic layout tools such as borders and columns. Able to purposefully use a range of tools within suitable software to create digital art. Can use a range of editing tools in an image editing package for a specific purpose. Able to sequence still images and video and use simple editing techniques to create a presentation for an audience. Can locate, record, save and retrieve sounds in multimedia software. Able to use information from a given source to generate graphs or charts. Can enter data into a pre-prepared spreadsheet. Able to answer questions by searching and sorting a database or spreadsheet.	When word processing, can use font sizes and effects appropriately to fit a purpose and audience of text. Can use a range of features of layout and design such as text boxes, columns and borders, to control the layout and presentation of a document. Be able to edit video footage and still images to create a video presentation or animation for an audience. Able to add text, sound effects and other graphic effects to a video presentation. Can make use of a range of visual effects such as filters, hues and combining images to give different effects. Able to layer sounds using music composition software. Be able to collect snapshot data from data loggers, selecting the appropriate tool. Be able to enter data into a graphing package and use it to create a range of graphs, and to interpret data. Understand that spreadsheets perform calculations. Explore the effect of changing the cell values in spreadsheets and use them to make and test predictions	When word processing, can format the text to indicate relative importance, including bold, italic, underline and strikethrough. Can include a range of media in documents, including images and sound. Can use modelling software to create virtual environments or simulations. Can select sounds, text, movie clips and other effects to suit purpose and audience. To be able to use a range of editing techniques and filters to improve photographs and digital art. To be able to layer and edit sounds in appropriate sound editing software. Can organise data by designing fields and records in a database, with support. Can add simple formulae to spreadsheets, such as SUM, MAX, MIN and AVERAGE, enter data and use filters to sort information. Can use a spreadsheet to produce bar and pie charts.	Can independently plan and structure the layout of multimedia presentations, drawing on a range of different techniques and styles as appropriate for the task. Be able to make appropriate use of hyperlinks to produce a non-linear presentation or document. Can create, edit and refine media to ensure quality. Be able to import sounds into sound editing software, layering and editing to refine their work. Be able to organise data by independently designing fields and records in a database. Be able to query a large pre-prepared database using 'greater and less than', 'equal to' and 'contains'. Can add data validation to spreadsheets, including drop down lists and conditional formatting. Can export and analyse continuous data from data logging and present in graph form.
Vocab	Text, edit, word process, media, software, animation, tools, video, sound,	Text, appearance, keyword, keys, type, edit, tools, crop, resize filter, media, multimedia, data	Word process, layout, tools, font, editing, record, save, retrieve, spreadsheet, database, media, Word, Publisher, Powerpoint, Excel	Word processing, font, layout, text, design, presentation, graphic, animation, sounds, software, data, interpret, spreadsheets, Word, Publisher, Powerpoint, Excel, save, retrieve	Word processing, layout, presentation, software, media, edit, filter, record, database, formulae, spreadsheet, charts, Word, Publisher, Powerpoint, Excel, save, retrieve	Layout, presentation, Word, Publisher, Powerpoint, Excel, import, download, upload, software, data, save, retrieve

Key Skills	Be able to log onto an account on a computer or program with support. Can enter text using single fingers, beginning to use more than one hand. Can use a mouse/trackpad to move and place items accurately on a screen. Use double click or tap where needed (if appropriate). Be able to use a range of methods of interacting with a program e.g. right click, drag and drop, long tap etc. Be able to save and retrieve work with support.	Be able to log into and out of an account on a computer or program independently. Be able to enter text using more than one finger, beginning to use both hands. Be able to shut down a program or device at the end of a session. Can use a mouse/trackpad to move and place items accurately on a screen. Use double click or tap, pinch to zoom, swipe etc. Be able to save and retrieve work effectively. With clear guidance, be able to navigate a folder system e.g. Shared Drive, iPad camera roll or Dropbox. Can use basic keyboard keys e.g. backspace, space bar, return.	When using a mouse or trackpad, be able to use left/right/double click and scroll. Able to use more than one hand to enter text, using the keyboard. Can use cut, copy and paste tools by right clicking or using the edit toolbar. Be able to save and retrieve work effectively. With guidance, be able to navigate a folder system to find and open a specific file e.g. Shared Drive, iPad camera roll or Dropbox. Know and use basic keyboard function keys e.g. shift, caps lock, space bar, return.	When using a mouse or trackpad, be able to use left/right/double click and scroll. When typing, can hold two hands over different halves of the keyboard and use more than two fingers to enter text. Be able to save, name and retrieve work effectively to a suitable location. If appropriate, know how to print a document. Be able to navigate a folder system to locate a specific file e.g. Shared Drive, iPad camera roll or Dropbox. Know and can use keyboard function keys e.g. shift, caps lock, num lock, space bar, return.	When using a mouse or trackpad, be able to use left/right/double click and scroll. When typing, often holds two hands over different halves of the keyboard and can use more than two fingers to enter text. Be able to save, name and retrieve work effectively to a suitable location. If appropriate, knows how to change print properties to affect the appearance of a printed document. Be able to navigate a folder system to find and open documents e.g. Shared Drive, iPad camera roll or Dropbox. Be able to create suitably named folders to organise documents, using appropriate file paths. Know and use more advanced keyboard function keys e.g. insert, delete, ctrl+c, ctrl+v, ctrl+z	When using a mouse or trackpad, be able to use left/right/double click and scroll. When typing, be able to hold two hands over different halves of the keyboard and use more than two fingers to enter text, with increasing speed and accuracy. Be able to save, name and retrieve work effectively to a suitable location. If appropriate, can change print properties to affect the appearance of a printed document. Be able to efficiently navigate a folder system to find and open a specific file e.g. Shared Drive, iPad camera roll or Dropbox. Be able to create suitably named folders to organise documents, using appropriate file paths. Can show knowledge of how to use more advanced keyboard function keys e.g. insert, delete, ctrl+c, ctrl+v, ctrl+z
Vocab	Log in details, security, password, username, type, mouse, button, retrieve	Log in details, security, password, username, type, mouse, button, retrieve, shut down, exit, save, keyboard, keys	Type, button, mouse, save, retrieve, keyboard, functions, scroll	Mouse, button, type, save, retrieve, print, keyboard, scroll, documents	Mouse, button, scroll, retrieve, save, name, print, properties, files, keyboard, navigate, documents	Mouse, navigate, scroll, button, print, properties, documents, keyboard