Moorgate Primary School

Computing INTENT Overview 2020/2021

Subject Lead: Emma Anwar

Date Completed: July 2020

COMPUTING INTENT

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Whole School Overview					
	Research Project 1	**Research Project 2**	**Research Project 3**	**Research Project 4**	**Research Project 5**
Mini Moorgate	Digital Literacy	Information Technology	Digital Citizenship/Online Safety	Computer Science	Digital Literacy/ Computer Science
Nursery	Information Technology	Digital Citizenship/Online Safety	Digital Literacy	Digital Literacy/Computer Science	Computer Science
Reception	Digital Literacy	Information Technology	Digital Citizenship/Online Safety	Computer Science	Digital Literacy/Computer Science
Year 1	Digital Citizenship/Online Safety	Digital Literacy	Computer Science	Information Technology	Greater Depth Project Digital Literacy/Computer Science
Year 2	Digital Citizenship/Online Safety	Digital Literacy	Computer Science	Information Technology	Greater Depth Project Digital Literacy/Computer Science
Year 3	Digital Citizenship/Online Safety	Digital Literacy	Computer Science	Information Technology	Greater Depth Project Digital Literacy/Computer Science/STEM
Year 4	Digital Citizenship/Online Safety	Digital Literacy	Computer Science	Information Technology	Greater Depth Project Digital Literacy/Computer Science/STEM
Year 5	Digital Citizenship/Online Safety	Digital Literacy	Computer Science	Information Technology	Greater Depth Project Digital Literacy/Computer Science/STEM
Year 6	Digital Citizenship/Online Safety	Digital Literacy	Computer Science	Information Technology	Greater Depth Project Digital Literacy/Computer Science/STEM

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	Mini Moorgate				
	Research Project 1	**Research Project 2**	**Research Project 3**	**Research Project 4**	**Research Project 5**
	Under the EYFS Framework, we would primarily follow the children's interests. Therefore, the research project titles below are subject to change and only to be used as a guide.				
National Curriculum Area	**Digital Literacy**	**Information Technology**	**Digital Citizenship/Online Safety**	**Computer Science**	**Digital Literacy/ Computer Science**
Enquiry Question	Can you make marks to represent yourself on the Clever Touch? How do you turn the torch on?	Can you turn the camera on? Can you draw your own bear? (Clever Touch)	Can you make your own flower on the Clever Touch?	How can you make the cars move? Clever Touch- Farm games Can you find the farm animals?	Press the buttons on the turtle- what can you hear? Can you make your own musical sounds on the board?
Throughout the year, the children will be assessed against these EYFS statements	*Understanding the world - 22-36 months* • *Seeks to acquire basic skills in turning on and operating some ICT equipment.* • *Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car.* *Literacy- Writing- 22-36 months* • *Distinguishes between the different marks they make.* *Physical Development- 22-36 months* • *Shows control in holding and using jugs to pour, hammers, books and mark-making tools.* • *Beginning to use three fingers (tripod grip) to hold writing tools* • *Imitates drawing simple shapes such as circles and lines* • *May be beginning to show preference for dominant hand* *Personal, Social and Emotional Development- 22-36 months* • *Expresses own interests and preferences* *Expressive Art and Design - 22-36 months* • *Experiments with blocks, colours and marks.* • *Joins in singing favourite songs.* • *Creates sounds by banging, shaking, tapping or blowing.* • *Shows an interest in the way musical instruments sound.*				

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	Communication and Language - 22-36 • *Shows interest in play with sounds, songs and rhymes.* • *Single channeled attention. Can shift to a different task if attention fully obtained – using child's name helps focus.* • *Uses language as a powerful means of widening contacts, sharing feelings, experiences and thoughts.* • *Holds a conversation, jumping from topic to topic.* • *Learns new words very rapidly and is able to use them in communicating.* • *Uses gestures, sometimes with limited talk, e.g. reaches toward toy, saying 'I have it'.* • *Uses a variety of questions (e.g. what, where, who)* • *Uses simple sentences* • *Beginning to use word endings* ***Maths - 22- 36 months*** • *Notices simple shapes and patterns in pictures.* • *Beginning to categorise objects according to properties such as shape or size*
Key Vocabulary	Internet, computer, keyboard, type, mouse, laptop, screen, USB

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<table>
<tr><td colspan="6" align="center">Nursery</td></tr>
<tr>
<td></td>
<td align="center">Research Project 1</td>
<td align="center">Research Project 2</td>
<td align="center">Research Project 3</td>
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<td>National Curriculum Area</td>
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<td align="center">Digital Literacy</td>
<td align="center">Digital Literacy/Computer Science</td>
<td align="center">Computer Science</td>
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<tr>
<td>Enquiry Question</td>
<td>Who are the special people in your life?
Information retrieval

How can we find information?</td>
<td>How do we stay safe on the internet?</td>
<td>Can you make a picture on Purple Mash?</td>
<td>Can you retell a story on the talking peg?</td>
<td>Can you use the toy correctly?</td>
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<tr>
<td>Throughout the year, the children will be assessed against these EYFS statements</td>
<td colspan="5"><u>Understand the World: 30-50 months</u>
•   To know how to operate simple equipment.
•   To show an interest in technological toys with knobs or pulleys, or real objects.
•   To show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.
•   To know that information can be retrieved from computers.</td>
</tr>
<tr>
<td>Key Vocabulary</td>
<td colspan="5" align="center">Internet, computer, keyboard, type, mouse, laptop, screen, USB</td>
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Reception					
	Research Project 1	**Research Project 2**	**Research Project 3**	**Research Project 4**	**Research Project 5**
	Under the EYFS Framework, we would primarily follow the children's interests. Therefore, the research project titles below are subject to change and only to be used as a guide				
National Curriculum Area	**Digital Literacy**	**Information Technology**	**Digital Citizenship/Online Safety**	**Computer Science**	**Digital Literacy/Computer Science**
Enquiry Question	Can you take a photo using the iPad?	How can we use technology to find information?	How can we keep safe online?	Can you control the toy on Purple Mash?	Can you record a story using technology?
Skills Taught	• I can talk about how I can use the internet to find things out. • I can identify devices I could use to access information on the internet. • I can give simple examples of how to find information (e.g. **search engine**, **voice activated searching**) • 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 • I can name the parts of a computer and know what they are used for: Mouse, Monitor, Printer, Keyboard, DVD/CD Rom, USB • I can shut down a computer appropriately		• 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. (Butterfly feeling) • 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. • 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	• I can name items we control in the everyday environment • I can use every day ICT devices • I can explore on screen activities – by clicking cause and effect • I can use on screen simulations and compare with real life activities – click and drag activities • I know that an algorithm is a set of instruction that can solve a problem • I can create a simple **algorithm** for a floor robot e.g. BeeBot/Blue-Bots	

		• I can give some simple examples	
Throughout the year, the children will be assessed against these EYFS statements.	**_Understanding the World –40-60 Months_** • *To complete a simple program on a computer.* • *To interact with age-appropriate computer software.* **_Understanding the World –Early Learning Goal_** *To recognise that a range of technology is used in places such as homes and schools. To select and use technology for particular purposes.*		
Key Vocabulary	Internet, computer, keyboard, type, mouse, laptop, screen, USB		

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	Year 1				
	Research Project 1	**Research Project 2**	**Research Project 3**	**Research Project 4**	**Research Project 5**
National Curriculum Area	**Digital Citizenship/Online Safety**	**Digital Literacy**	**Computer Science**	**Information Technology**	**Greater Depth Project Digital Literacy/Computer Science**
Enquiry Question	Are people the same online as in real life?	Can I type my name and change the font and colour?	What is an algorithm?	Is all information online true?	Can I create a presentation all about me?
Skills Taught	• I can recognise that there may be people online who could make me feel sad, embarrassed or upset • If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust. (Butterfly feeling) • I can use the internet with adult support to communicate with people I know • I can explain why it is important to be considerate and kind to people online • I can recognise that information can stay online and could be copied	• I can use skills I have learnt across multiple application programs, including: • I can input text and images using a simple publishing programs • I can type a simple sentences on the screen, making use of a word bank • I can alter my writing in a number of ways (size, colour, font etc.) • I can tell you the main keys for typing e.g. shift, space bar, full stop • I can type simple sentences using the correct format (capital letters, space and full stop)	• I can tell you what an **algorithm is** • I know that a program is a precise set of instructions • I can give and follow instructions, which include straight and / or turning commands – one at a time. • I can plan a simple algorithm • I can **create** a simple program • I can **debug** a simple program that is causing an unexpected outcome. • I can predict if a simple program will fulfil my algorithm • I can break a problem down into smaller parts (chunking / decomposing)	• I can identify a browser and can use the internet to find things out • I can use simple keywords in **search engines** • I can describe and demonstrate how to get help from a trusted adult or helpline if I find content that makes me feel sad, uncomfortable worried or frightened. (Butterfly feeling) • I can recognise more detailed examples of information that is personal to me (e.g. where I live, my family's names, where I go to school) • I can explain why I should always ask a trusted adult before I share any information about myself online • I can explain how passwords can be used to protect information and devices	Revisit skills taught during the year.

	• I can describe what information I should not put online without asking a trusted adult first • I can describe how to behave online in ways that do not upset others and can give examples • I can explain rules to keep us safe when we are using technology both in and beyond the home • I can give examples of some of these rules	• I can use buttons within a programme to make text bold/ italics / text alignment etc. • I can move to different places in the text using the arrow keys or mouse • I can use the 'undo' icon to fix a mistake • I can use the digital camera independently • I can create a pictogram by entering data into a simple graphing package • I can use a pictogram to answer simple questions • I can explore sounds in a music programme or sound app		• I can explain why work I create using technology belongs to me • I can say why it belongs to me (e.g. 'it is my idea' or 'I designed it') • I can save my work (Purplemash/school network) so that others know it belongs to me (e.g. filename, name on content) • I can identify the icons for applications on the desktop and launch accordingly • I know what a browser is and how to open one • I can use online resources – Google Maps & Google Earth to conduct research & find information • I can log on and off the school network using my individual username and password	
Knowledge Taught (Curriculum Objectives)	• 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.	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• 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	• Recognise common uses of information technology beyond school	**Possible Project:** Personal presentation – All About me

			• Use logical reasoning to predict the behaviour of simple programs		
Key Vocabulary	Algorithm, digital literacy, computing, online safety, coding, instructions, website, internet, directional language, events, programme, debugging				
Skills to be revisited	See Reception 'I can' statements				

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	Year 2				
	Research Project 1	**Research Project 2**	**Research Project 3**	**Research Project 4**	**Research Project 5**
National Curriculum Area	**Digital Citizenship/Online Safety**	**Digital Literacy**	**Computer Science**	**Information Technology**	**Greater Depth Project Digital Literacy/Computer Science**
Enquiry Question	What should I do if I get the 'Butterfly feeling'?	How do I save and insert an image from the internet safely?	How do I debug a program?	What is voice activated searching?	What should I use to make a movie trailer?
Skills Taught	• I can explain how other people's identity online can be different to their identity in real life • I can describe ways in which people might make themselves look different online • I can give examples of issues online that might make me feel sad, worried, uncomfortable or frightened; I can give examples of how I might get help. (Butterfly feeling) • I can use the internet to communicate with people I do not know well (e.g. email a pen pal in another school/ country) • I can give examples of how I might use technology to	• **I can use skills I have learnt across multiple application programs, including:** • I can start to use simple keyboard shortcuts Ctrl + B, I, U to edit my text style • I can use spell checker to check my work • I can use the 'undo' icon to fix a mistake • I can use the return/enter key to insert relevant line breaks • I know how to save an image from the internet rather than using copy & paste • I can add a page border • I can insert a basic table • I can say which page orientation would best suit	• I can tell you what a program is • I can tell you what an event is • I know programs need an event to begin • I can give and follow instructions, which include direction and turning command – several in order • I know that computers need precise instructions • I can plan use logical reasoning to predict outcomes • I can **create** a program that contains several commands for a device or software programme • I can **debug** a program independently that has caused an unexpected outcome • I can use different events to start my programs – timing / on click / on button press	• I can use keywords in search engines • I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections) • I can explain what **voice activated searching** is and how it might be used (e.g. Alexa, Google Now, and Siri) • I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real' • I can explain why some information I find online may not be true • I can describe how online information about me could be seen by others	Revisit skills taught during the year.

	communicate with others I do not know well • I can explain how information put online about me can last for a long time. • I know who to talk to if I think someone has made a mistake about putting something online • I can give examples of bullying behaviour and how it could look online • I understand how bullying can make someone feel • I can talk about how someone can/would get help about being bullied online or offline • I can explain simple guidance for using technology in different environments and settings. • I can say how those rules/guides can help me • I can access school online resources e.g. Blog / Purplemash	my work. e.g. portrait to landscape • I can explain what digital communication is • I can use a range of ICT devices to create a sequence of sounds • I can use a digital video camera to capture film and images • I can arrange clips to make a short film that conveys meaning • I can add simple titles and credits • I can plan a simple Y/N tree diagram to sort information e.g. Branching database -2Question • I can create and search a branching database • I can use a database to answer simple questions • I can search a database to find information • I can use ICT to support handling data – creating simple graphs, bar charts and pie charts		• I can describe and explain some rules for keeping my information private • I can explain what passwords are and can use passwords for my accounts and devices • I can explain how many devices in my home could be connected to the internet and can list some of those devices • I can describe why other people's work belongs to them • I can recognise that content on the internet may belong to other people • I can log on and off the school network using my individual username and password and save my work to Purplemash or the school network • I can explain the difference between my school network and my home computer set up • I know there is a difference between physical, wireless and mobile networks • I can use a variety of sources to find, sort and select information appropriate to my class work including using the internet	

				• I can refine my searches to limit search results using an internet search engine	
Knowledge Taught (Curriculum Objectives)	• 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.	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content	• 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	• Recognise common uses of information technology beyond school	**Possible Project:** Combining sound, images and video e.g.: Trailers in iMovie
Key Vocabulary	Algorithm, digital literacy, computing, online safety, coding, instructions, website, internet, directional language, events, programme, debugging				
Skills to be revisited	See Year 1 'I can' statements				

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			Year 3		
	Research Project 1	**Research Project 2**	**Research Project 3**	**Research Project 4**	**Research Project 5**
National Curriculum Area	**Digital Citizenship/Online Safety**	**Digital Literacy**	**Computer Science**	**Information Technology**	**Greater Depth Project Digital Literacy/Computer Science/STEM**
Enquiry Question	What is meant by the term 'identity'?	How do I format an image?	What is sequence?	What is autocomplete?	How do I make a keep fit video?
Skills Taught	• I can use technology safely and respectfully and responsibly • I can explain what is meant by the term 'identity' • I can explain how I can represent myself in different ways online • I can explain ways in which and why I might change my identity depending on what I am doing online (e.g. gaming; using an avatar; social media) • I can describe ways people who have similar likes and interests can get together online • I can give examples of technology specific forms of communication	• **I can use skills I have learnt across multiple application programs, including:** • I can type a number of sentences using the keyboard • I can use tab to indent paragraphs • I can use cut, copy and paste to re-order text • I can use simple keyboard shortcuts e.g. Ctrl + V, X, C to re-order text • I can use columns • I can use bullet points, speech bubbles, auto shapes and text boxes • I can format wrapping/layout of text boxes and images in word • I can format images - move, rotate and re-size shapes	• I can tell you what a sequence is • I can use logical reasoning to explain what will happen next • I can solve problems by decomposing them into smaller parts • I can use and edit a pre-written program to achieve a specific outcome • I can detect and debug errors in algorithms and programs • I can sequence a simple program on Logo to produce a line drawing • I can write a program to complete an algorithm • I know that a sequence is a list of instructions in a particular order	• I can use key phrases in search engines • I can explain what autocomplete is and how to choose the best suggestion • I can explain how the internet can be used to sell and buy things • I can explain the difference between a 'belief', an 'opinion' and a 'fact' • I can give reasons why I should only share information with people I choose to and can trust • I can explain that if I am not sure or I feel pressured, I should ask a trusted adult • I understand and can give reasons why passwords are important • I can describe simple strategies for creating and keeping passwords private	Revisit skills taught during the year.

(e.g. emojis, acronyms, text speak) • I can explain some risks of communicating online with others I don't know well • I can explain why I should be careful who I trust online and what information I can trust them with • I can explain how my and other people's feelings can be hurt by what is said or written online. • I can explain why I can take back my trust in someone or something if I feel nervous, uncomfortable or worried • I can explain what it means to 'know someone' online and why this might be different from knowing someone in real life • I can explain what is meant by 'trusting someone online'. I can explain why this is different from 'liking someone online' • I can search for information about myself online	• I can use the format tab to alter word art to enhance my work • I can use a variety of table tools (EG merge cells, fill) • I can explain the difference between save and save as • I can create a folder to save my work in • I can give a file a name to identify it • I can create a new eBook with a front cover and add or remove pages • I can search and use a branching database to identify objects • I can create a multimedia presentation / eBook incorporating images, sounds and text using a multimedia package / apps or online program • I can edit pictures using various tools in paint or photo-manipulation software • I can create a simple musical composition combining electronic and live sounds • I can add suitable sound effects and tracks	• I know that if I change the sequence I may change the outcome of the program • I can predict how a change in a sequence may impact on the outcome of a program	• I can describe how connected devices can collect and share my information with others • I can explain why copying someone else's work from the internet without permission can cause problems • I can give examples of what those problems might be	

	• I can recognise I need to be careful before I share anything about others or myself online • I know who I should ask if I am not sure if I should put something online • I can explain what bullying is and can describe how people may bully others • I can describe rules about how to behave online and how I follow them • I can explain why spending too much time using technology can sometimes have a negative impact on me; I can give some examples of activities where it is easy to spend a lot of time engaged (e.g. games, films, videos)	• I can combine still/moving images in a show to create stop-motion animation/movies on a range of devices			
Knowledge Taught (Curriculum Objectives)	• 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	• 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,	• 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	• 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	**Possible Project:** Keep fit video Animation, Stop motion animation

	• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	evaluating and presenting data and information	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 • 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	results are selected and ranked, and be discerning in evaluating digital content	
Key Vocabulary	sequence, coding, programme, events, debugging, online safety, data, keyboard shortcuts, repeats, loops, input, output, animation, selection, conditionals, variables, STEM				
Skills to be revisited	• I can log on and off the school network using my individual username and password • I can independently open and save work to a given folder – in the cloud or school network • I can create a folder to save my work in • I understand file extensions and which ones attribute to different ICT products - .doc .xls .ppt .pub .pdf .mp3 .mp4 • I can communicate using a range of online resources (blogs, email) See Year 2 'I can' statements				

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	Year 4				
	Research Project 1	**Research Project 2**	**Research Project 3**	**Research Project 4**	**Research Project 5**
National Curriculum Area	**Digital Citizenship/Online Safety**	**Digital Literacy**	**Computer Science**	**Information Technology**	**Greater Depth Project Digital Literacy/Computer Science/STEM**
Enquiry Question	How can I be respectful to others online?	What is a 'hyperlink'?	What is a loop?	What is the difference between opinion and fact?	How does green screen work?
Skills Taught	• I can use technology safely and respectfully and responsibly • I can explain how my online identity can be different to the identity I present in 'real life'. • Knowing this, I can describe the right decisions about how I interact with others and how others perceive me • I can describe strategies for safe and fun experiences in a range of online social environments. • I can give examples of how to be respectful to others online • I can describe how others can find out information about me by looking online	• I can use skills I have learnt across multiple application programs, including: • I can select appropriate tools to add emphasis and effect to my work • I can explain why I have chosen my layout and formatting • I can review and edit my work and talk about the changes I made • I can extend the use of multimedia packages to include importing images, hyperlinks and the use of sounds recorded independently • I can edit the colour, text and merge digital photographs using a range of devices e.g.	• I can tell you what a loop or repeat is • I can use sequence and loops (repetition) in programs confidently • I can detect and debug errors in algorithms and programs • I can independently select and sequence code to make my own program • I know that a loop is used to repeat a set of instructions • I can demonstrate the loop or repeat command in all programming environments - I use more than 1 (2Simple – 2Code / ScratchJr /Kodu /Kodable / LightBot / ALEX / Scratch) • I can explain why it is important to use 'loops' in particular place in my sequence	• I can analyse information and differentiate between 'opinions', 'beliefs' and 'facts' • I understand what criteria have to be met before something is a 'fact' • I can describe how I can search for information within a wide group of technologies (e.g. social media, image sites, video sites) • I can describe some of the methods used to encourage people to buy things online (e.g. advertising offers; **in-app purchases**, pop-ups) and can recognise some of these when they appear online • I can explain that some people I 'meet online' (e.g. through social media) may be computer programmes pretending to be real people	Revisit skills taught during the year.

• I can explain ways that some of the information about me online could have been created, copied or shared by others • I can identify some online technologies where bullying might take place • I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat) • I can explain why I need to think carefully about how content I post might affect others, their feelings and how it may affect how others feel about them (their reputation) • I can explain how using technology can distract me from other things I might do or should be doing • I can identify times or situations when I might need to limit the amount of time I use technology • I can suggest strategies to help me limit this time	Skitch, Microsoft image tools, collage app • I can storyboard a short film clip / animation - what would happen and when • I can effectively plan for an animation or film and use purposefully • I can take a series of pictures to form an a short film clip / animation /eBook • I can use a mobile device to film a short clip • I can save images at stages to compare my work and talk about the changes • I can edit video, animation or music footage by cropping clips • I can choose appropriate scene transitions • I can enter a basic mathematical formula into Excel • I can change the look of a spreadsheet by using different formats e.g. text styles, colour, number format inc, currency and date, row and column heights • I can insert and delete columns and rows in a spreadsheet	• I can transfer my coding skills between software	• I can explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true • I can explain what a strong password is • I can describe strategies for keeping my personal information private, depending on context • I can explain that others online can pretend to be me or other people, including my friends • I can suggest reasons why they might do this • I can explain how internet use can be monitored • When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it • I can talk about the advantages and disadvantages of using a computer • I understand that there are multiple platforms and the differences between these e.g. Windows / Apple / Android	

		- I can use SUM to calculate the total of a set of numbers in a range of cells - I can change data to answer "what if…?" questions - I can use spreadsheets to create a graph - I can decide on the most appropriate form of graph for a data set giving reasons for my choice - I can interpret graphs of data collected from sensors		- I explain file extensions and which ones attribute to different ICT products- .zip - I can describe what an ISP is - I can describe what a URL (web address) is - I can explain domain name types - .ac. uk .gov .sch - I can identify the most relevant results from a search engine – not just 'sponsored' links - I can discuss what it means to save work locally, to a network or into the 'Cloud'	
Knowledge Taught (Curriculum Objectives)	- 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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	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	- 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 - Select, use and combine a variety of software (including	- 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	**Possible Project:** Computer generated Images (CGI) Green screening E.g. DoInk, ICan Animate, Digital puppetry E.g. Puppet pals app (paid version)

			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		
Key Vocabulary	sequence, coding, programme, events, debugging, online safety, data, keyboard shortcuts, repeats, loops, input, output, animation, selection, conditionals, variables, STEM				
Skills to be revisited	See Year 3 'I can' statements				

COMPUTING INTENT
COMPUTING Overview 2020/21 – Subject Lead: Emma Anwar

	Year 5				
	Research Project 1	**Research Project 2**	**Research Project 3**	**Research Project 4**	**Research Project 5**
National Curriculum Area	**Digital Citizenship/Online Safety**	**Digital Literacy**	**Computer Science**	**Information Technology**	**Greater Depth Project Digital Literacy/Computer Science/STEM**
Enquiry Question	How can information be collected online?	Which is the best tool to use to improve my work?	What is a 'conditional'?	What is the difference between 'misinformation' and 'disinformation'?	How are online games created?
Skills Taught	• **I can use technology safely and respectfully and responsibly** • I can explain how identity online can be copied, modified or altered • I can demonstrate responsible choices about my online identity, depending on context • I can explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my/our fault • I can make positive contributions and be part of online communities • I can describe some of the communities in which I am involved and	• **I can use skills I have learnt across multiple application programs, including:** • I can select appropriate tools to add emphasis and effect to my work • I can explain why I have chosen my layout and formatting • I can review and edit my work and talk about the changes I made • I can think about whether my work is suitable for the audience • I can draft and redraft my written work by deleting, inserting and replacing text to improve clarity and create mood. • **Creativity** • I can design a 3D model using ICT to meet a	• I can tell you what a conditional is • I can plan and write an **algorithm** using the following: commands, sequence, repetition and selection 'if…then' (conditional statement) • I can detect and debug errors in more complex algorithms and programs • I can use selection to create games in which the user must make a choice • I can use my skills and understanding of selection in more than 2 programs	• I can use different search technologies • I can evaluate digital content and can explain how I make choices from search results • I can explain key concepts including: • Data, information, fact, opinion belief, true, false, valid, reliable and evidence • I understand the difference between online **mis-information** (inaccurate information distributed by accident) and **dis-information** (inaccurate information deliberately distributed and intended to mislead) • I can explain what is meant by 'being sceptical'. I can give examples of when and why it is important to be 'sceptical'	Revisit skills taught during the year.

describe how I collaborate with others positively • I can search for information about an individual online and create a summary report of the information I find • I can describe ways that information about people online can be used by others to make judgments about an individual • I can recognise when someone is upset, hurt or angry online • I can describe how to get help for someone that is being bullied online and assess when I need to do or say something or tell someone • I can explain how to block abusive users • I can explain how I would report online bullying on the apps and platforms that I use • I can describe the helpline services who can support me and what I would say and do if I needed their help (e.g. **Childline / CEOP**)	specific goal, e.g. 2Design & Make • I can evaluate and improve my finished designs • I can evaluate multimedia pages, such as Wiki entries, websites and blogs, and recognise the features of good page design and how it is suited to an audience • I can use a mobile device to film a short clip • I can consider the effect of camera angles, light and shadow when filming • I can add titles, credits, transitions and special effects • I can review and add to, replace and edit clips to make messages clearer • I can explain my choice of clips, effects and structure in resources I have created • I can discuss and compare film for effect on audience. • I can export / embed a video in different formats for different purposes • **Databases**		• I can explain what is meant by a '**hoax**'. I can explain why I need to think carefully before I forward anything online • I can explain why some information I find online may not be honest, accurate or legal • I can explain why information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing of misinformation either by accident or on purpose) • I can create and use strong and secure passwords • I can explain how many free apps or services may read and share my private information (e.g. friends, contacts, likes, images, videos, voice, messages, and geolocation) with others • I can explain how and why some apps may request or take payment for additional content (e.g. in-app purchases) and explain why I should seek permission from a trusted adult before purchasing • I can assess and justify when it is acceptable to use the

	• I can describe ways technology can affect healthy sleep and can describe some of the issues • I can describe some strategies, tips or advice to promote healthy sleep with regards to technology	• I can create a database structure of my own and enter the data • I can prepare a data collection form and collect quality information • I can use spreadsheets to create a graph • I can decide on the most appropriate form of graph for a data set giving reasons for my choice • I can interpret graphs of data collected from a variety of sources		work of others, and when I need to credit the source • I can give examples of content that is permitted to be reused • I can recognise that intellectual property rights and copyright protection carry over into the online world. • I can identify the features of legal downloads and illegal (pirated) content • I know what an operating system is and why it important • I can identify the key internal parts of a computer – RAM, memory, processor, motherboard • I can describe what each part does • I can discuss what it means to save work locally, to a network or to a 'Cloud'	
Knowledge Taught (Curriculum Objectives)	• 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	• 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,	• 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	• 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	**Possible Project:** Game Creator Scratch 3, Kodu Creating games for younger audiences – ScratchJr

	• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	evaluating and presenting data and information	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 • 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	results are selected and ranked, and be discerning in evaluating digital content	
Key Vocabulary	sequence, coding, programme, events, debugging, online safety, data, keyboard shortcuts, repeats, loops, input, output, animation, selection, conditionals, variables, STEM				
Skills to be revisited	See Year 4 'I can' statements				

COMPUTING INTENT
COMPUTING Overview 2020/21 – Subject Lead: Emma Anwar

	Year 6				
	Research Project 1	**Research Project 2**	**Research Project 3**	**Research Project 4**	**Research Project 5**
National Curriculum Area	**Digital Citizenship/Online Safety**	**Digital Literacy**	**Computer Science**	**Information Technology**	**Greater Depth Project Digital Literacy/Computer Science/STEM**
Enquiry Question	How can capture evidence of bullying online?	What is the best software to present my work?	What is a variable?	How are search results selected and ranked?	What is the best way to make a digital memory book?
Skills Taught	• I can use technology safely and respectfully and responsibly • I can describe ways in which media can shape ideas about gender • I can identify messages about gender roles and make judgements based on them • I can challenge and explain why it is important to reject inappropriate messages about gender online • I can describe issues online that might make me or others feel sad, worried, uncomfortable or frightened. I know and can give examples of how I might get help, both on and offline	• **I can use skills I have learnt across multiple application programs, including:** • I can choose, select and use a combination of software to present my work • I can select appropriate tools to add emphasis and effect to my work • I can explain why I have chosen my layout and formatting • I can review and edit my work and talk about the changes I made • I can think about whether my work is suitable for the audience • I can draft and redraft my written work by deleting,	• I can explain what a variable is • I can confidently use events, repeats, selection and variables • I can use a variable in a variety of programming software - 2Simple – 2Code / ScratchJr / Scratch / Kodu /Kodable / LightBot / ALEX / • I can confidently break a problem down and methodically create a program to solve it, testing and adapting as I go • I can evaluate the effectiveness of my programming and suggest improvements • I confidently use the Blockly programming language • I know that there are many other programming	• I can use search technologies effectively • I can explain how search engines work and how results are selected and ranked • I can describe how some online information can be opinion and can offer examples • I can explain how and why some people may present 'opinions' as 'facts' • I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online (e.g. advertising and 'ad targeting') • I can demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using	Revisit skills taught during the year.

• I can explain why I should keep asking until I get the help I need • I can show I understand my responsibilities for the well-being of others in my online social group. • I can explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming) • I can demonstrate how I would support others (including those who are having difficulties) online. • I can demonstrate ways of reporting problems online for both my friends and myself • I can explain how I am developing an online reputation, which will allow other people to form an opinion of me • I can describe some simple ways that help build a positive online reputation • I can describe how to capture bullying content as evidence (e.g. screen-grab, URL, profile) to share with others who can help me	inserting and replacing text to improve clarity and create mood • I can interpret graphs of data collected from a variety of sources	languages – C+, C#, java, Python, Ruby etc. • **Opportunities for Greater Depth:** • Transfer programming knowledge and skills to other platforms such as Scratch3 , Python or Ruby (support available)	these strategies are important • I can identify flag and report inappropriate content • I use different passwords for a range of online services • I can describe effective strategies for managing those passwords (e.g. **password managers**, acronyms, stories • I know what to do if my password is lost or stolen • I can explain what app permissions are and can give some examples from the technology or services I use • I can describe simple ways to increase privacy on apps and services that provide privacy settings • I can describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content (e.g. **scams**, **phishing**) • I can demonstrate the use of search tools to find and access online content, which can be reused by others • I can demonstrate how to make references to and acknowledge sources I have used from the internet	

	• I can identify a range of ways to report concerns in both school and at home about online bullying • I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose • I can assess and action different strategies to limit the impact of technology on my health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise) • I can explain the importance of self-regulating my use of technology; I can demonstrate the strategies I use to do this (e.g. monitoring my time online, avoiding accidents)			• I can independently save and retrieve work from different places • I can effectively research using the world wide web • I can suggest what technology might look like in twenty years' time	
Knowledge Taught (Curriculum Objectives)	• 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 technology safely, respectfully and	• 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,	• 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	• 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	**Possible Projects:** Memory Book of time in school Children given the opportunity to plan and create using any software/app they have access to Create their own app – thunkable

	responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	evaluating and presenting data and information	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 • 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	ranked, and be discerning in evaluating digital content	(will need a school Google account) This project would be an example of real world application of programming skills
Key Vocabulary	sequence, coding, programme, events, debugging, online safety, data, keyboard shortcuts, repeats, loops, input, output, animation, selection, conditionals, variables, STEM				
Skills to be revisited	See Year 5 'I can' statements				