Progression of Concepts in Computing

Concept			Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Algorithms	DCPro Statements		•	• Understands what an algorithm is and is able to express simple algorithms (AL)	• _Understands that computers need precise instructions. (AL) • Demonstrates care and precision to avoid errors. (AL)	• Designs simple algorithms using loops (AL) • Uses logical reasoning to predict outcomes.(AL) • Detects and corrects errors i.e. debugging, in algorithms. (AL) • Understands that algorithms are implemented on digital devices as programs. (AL)	• Uses diagrams to express solutions. (AL) • Uses logical reasoning to predict outputs, showing an awareness of inputs. (AL)	• Designs solutions (algorithms) that use repetition and two-way selection i.e. if, then, else (AL) • Designs a game by decomposing it into parts. (DE)	• Recognises that different solutions exist for the same problem. (AL) (AB) • Designs solutions by decomposing a problem and creates a sub-solution for each of these parts (decomposition). (DE) (AL) (AB)
	Concept		•	• Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. • They know that an algorithm written for a computer is called a program. • can write their own simple algorithm	• Children can explain that an algorithm is a set of instructions to complete a task. • When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code.	• Understand and use different blocks to create pattern programs for sprites • Use the looks blocks to write programs for their names understanding the effect of using the blocks • Correctly follow four algorithms to program the shapes •	• Use the 'move' and 'repeat' blocks accurately and start a conversation between the sprites • Use the 'change x' and 'change y' blocks. • Understand how to use the 'if' block • Understand how a variable works and add a variable to a game	• Complete a flow diagram following repeat patterns • Break down a game into parts and order them • Debug the complex block programs created • Match Scratch blocks to statements • Complete an algorithm using repetition • Recognise and continue patterns in coding	• Work with variables • Use broadcast and receive blocks • Match the Scratch blocks to parts of the algorithm • Place variable blocks in the correct place in an algorithm • Use the 'ask' block • Use operator blocks
	Vocabulary		*Equipment, buttons, movement*	*instructions, robots, patterns, program*	*forward, backward, right angle turn, algorithm, sequence, debug, predict,*	*sequence instructions, sequence debugging, test and improve, logo commands, sequence programming, blocks, sprite, background, looks, repeat. Loop, algorithm, flow diagram, debug, animate, wait, commands, timing, insert, modify*	*sensors, open ended problems, bugs in programs, complex programming, decomposition, algorithm, debug, flow diagram, loop/repeat, animate, theme, maze. Undo, axes, negative numbers, change x' and 'change y' blocks, 'if......', sensing, co-ordinates, variable, set/change, 'if.......else'*	*Explore procedures, refine procedures, variable, hardware and software control, change inputs, different outputs, articulate solutions, flow chart/diagram, repetition, loop*	*predicting outputs, plan/program/test and review a program, program writing, control mimics and devices, measure input, create variables, link errors, decomposition, ask block*
Programming & Development	DCPro statements			• Knows that users can write their own programs. (AL) • Creates a simple program (that is not reliant on text) (AL)	• Understands that programs run by following a precise sequence of instructions. (AL) • Executes, checks and changes programs. (AL)	• Uses loops within programs (AL) • Uses logical reasoning to predict the behaviour of programs. (AL) • Detects and correct simple semantic errors i.e. debugging, in programs. (AL)	• Uses if statements, and loops, within programs. (AL) • Declares and assigns variables. (AB) • Uses a sequence of selection statements in programs, including an if, then and else statement. (AL)	• Creates programs that achieve given goals. (AL) • Uses a range of arithmetic operators (+ - * /) and relational operators (less than, more than, equal to) (AL) (GE)	• Design, writes and debugs programs using procedures. (AL) (DE) (AB) (GE)
	Concept		• Children use arrows and numbers to control a screen turtle through various mazes	• Children can work out what is wrong with a simple algorithm when the steps are out of order • Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, • When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program.	• Children can create a simple program that achieves a specific purpose. • They can also identify and correct some errors, • Children's program designs display a growing awareness of the need for logical, programmable steps. • Children can identify the parts of a program that respond to specific events and initiate specific actions.	• Apply the knowledge of the bat to create animation programs for different sprites • Write programs for a dinosaur and a dancer which use many loops and vary the timings in each loop • Begin to modify the dance and sound programs so that the two finish at the same time	• Use the tools to create a maze • Program all four arrow keys and debug their work • Create two programs using 'if' blocks	• Create a program that achieves given goals • Add variables and operators to a game • Debug the complex block programs created	Using a script based programming language- • Save a procedure and use them • Recognise the importance of using procedures in programming • Use a loop and nested loop in their programs • To create, edit, save, open, and use saved procedures in a program • Debug the program
	Vocabulary		*Equipment, buttons, movement*	*instructions, robots, patterns, program*	*forward, backward, right angle turn, algorithm, sequence, debug, predict*	*sequence instructions, sequence debugging, test and improve, logo commands, sequence programming, blocks, sprite, background, looks, repeat. Loop, algorithm, flow diagram, debug, animate, wait, commands, timing, insert, modify*	*sensors, open ended problems, bugs in programs, complex programming, decomposition, algorithm, debug, flow diagram, loop/repeat, animate, theme, maze. Undo, axes, negative numbers, change x' and 'change y' blocks, 'if......', sensing, co-ordinates, variable, set/change, 'if.......else'*	*Explore procedures, refine procedures, variable, hardware and software control, change inputs, different outputs, articulate solutions, operators*	*predicting outputs, plan/program/test and review a program, program writing, control mimics and devices, measure input, create variables, link errors, Script, nested loop, bitmap, brackets*

Hardware & Processing — DCPro statements		• _Understands that computers have no intelligence and that computers can do nothing unless a program is executed (AL) • Knows the main components of a computer system (AB) • Identifies the uses of a computer system (AB)	• Knows that the computers are networked and understands where work is saved (AB) • Recognises that machines are controlled using an input and that the response is an output. (AL) (AB) (GE)	• Recognises and can use a range of input and output devices. • Understands the function of the main internal parts of basic computer architecture (AB) (DE)	Knows that computers collect data from various input devices, including sensors and application software.(AB) • Understands the difference between hardware and application software, and their roles within a computer system. (AB)	• Knows the main components in a LAN (local area network) and how they are connected and the advantages and disadvantages of the system (AB)	• Models how the internet works and how data packets are sent and received. (AB)
Concept		• Know that they can use the mouse to affect what happens on the screen • Use the mouse with increasing to drag, drop and select	• Name the main parts of the computer system • Use the drawing tools • Create an accurate representation of a computer system • Understand the different uses of a computer	• Children make links between technology they see around them, coding and multimedia work they do in school	• know and use the terms, motherboard, CPU, RAM, power supply, hard drive • identify input and output devices	Know the terms 'input' and 'output' Know how some familiar devices use inputs and outputs Know the terms computer system , hardware and software and know the differences between them Know some of the functions of the Operating System (OS)	• Know the main components in a LAN and how the components are connected • Show the flow of data in a LAN • Know the advantages and disadvantages of sharing on a network	• Name and explain how the hardware devices are connected on the internet • Explain how data packets are sent and received on the internet
Vocabulary		Technology, share, create, internet, choices, website	Monitor, screen, computer, mouse, keyboard	devices, computer parts, desktop, laptop, CPU, hard drive, power supply, input, output, data	devices, computer parts, desktop, laptop, motherboard, CPU, hard drive, RAM, power supply, input, output, device, data	Sensor, input/output, environmental changes, operating system, application software, hardware	school network, LAN, components, server, workstation, client, IP address, switch Wireless access point	Internet parts, connecting devices, domain name server, router, packets, Abstraction
Communication & Networks — DCPro statements		• _Understands the need for passwords to log onto the computer and can enter a password (AL) • Knows how to enter a web address and move around a site (AL)	• Obtains content from the world wide web using a web browser. (AL)	• Navigates the web and can carry out simple web searches to collect digital content. (AL) (EV) •	• Knows that some websites may be unreliable and considers the validity of websites (EV)	• Knows that the Internet is a collection of computers connected together sharing the same way of communicating. The internet is not the web, and the web is not the internet. (AB)	• Discusses the validity and reliability of different viewpoints from web-based sources (EV) • Understands how to effectively use search engines, and knows how search results are selected, including that search engines use 'web crawler programs'. (AB) (GE) (EV)
Concept		• Know how to access the internet and uses the favourite icon • Knows to move around websites using the back button	• To understand the need for passwords and can enter a password • To enter a web address • To navigate a web site • To find specific information	• Children can effectively retrieve relevant, purposeful digital content using a search engine. • They can apply their learning of effective searching beyond the classroom.	• Know the term search engine' • Evaluate websites giving reasons for choices • Find specific information from a website • Enter the data into a data collection sheet	• Analyse the web address, text and graphics on websites • Decide on the validity of the website • Offer coherent reasons for their decisions	• Knows that the Internet is a collection of computers connected together sharing the same way of communicating. The internet is not the web, and the web is not the internet. (AB)	• Search the Internet more efficiently • To find specific information • Understand how a search engine works • Know how google searches are ranked • Know why one search method is more effective than another
Vocabulary		Technology , share , create, Internet , choices , website	purpose , online tools,	information sources, communication, website content, keyword searching	search tools, search engine, evaluate, data/collection, structured, fields	information collection, reliability, valid, false, persuasion, opinion, bias, validity, cross reference, interpretation	collaboration, different networks, searching strategies, web pages,	information movement, different audiences, research strategies, search result rankings, acknowledge resources, search engine, web crawler/spider programs, index, hits, narrow a search, cross reference, data centre

Computational Thinking Concept – AB abstraction DE decomposition AL algorithmic thinking EV evaluation GE - generalisation

Data & Data Representation	**DCPro statements**		• Recognises that digital content can be represented in many forms. (AB) (GE) • Recognises different types of data: text, number, pictures (AB) (GE) • Uses pictures, numbers, to represent data (AB)	• Appreciates that programs can work with different types of data. (GE) • Recognises that data can be structured in tables to make it useful. (AB) (DE)	• Performs single criteria searches for information. (AL)	• Recognises that data can be structured to make it useful. (AB) (DE) • Understands how bit patterns represent images (AB)	• Performs more complex searches for information (AL) (GE) EV • Analyses and evaluates data and information, and recognises that poor quality data leads to unreliable results, and inaccurate conclusions. (AL)(EV) • Uses formulas for the 4 basic operations (AL) (GE)	• Knows that digital computers use binary to represent all data (AB)
	Concept	• Group similar objects together • Uses pictures and numbers to represent data on pictograms	• Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources	• Children demonstrate an ability to organise data using, • Can retrieve specific data for conducting simple searches. • Children are able to edit more complex digital data • Children are confident when creating, naming, saving and retrieving content. • Children use a range of media in their digital content including photos, text and sound.	• Complete two record cards and give examples of a database • Choose the correct search terms from a variety of questions and enter into the database • Write a variety of questions, find the answers and then copy on the computer • Create a graph, copy and paste into Textease and answer all of the questions	• Understand the term 'binary' • Create their own more complex images on the computer and code and decode using binary • Ask relevant questions and organise eight objects in a database	• Use two criteria to search a database and search records • Select the correct fields to search • Move between applications • Use graphs to find implausible data and offer sensible corrections • Offer logical answers to implausible data • Enter data into cells • Use cell references • Enter data into a spreadsheet • Use formulas for all 4 operations • Copy a formula in to other cells • Copy and paste grids	• Understand that computers use binary code to communicate • Use binary code for numbers and letters • Decode messages in binary
	Vocabulary	*Collect, set of photos, count, organise*	*Photographs, video, sound, data, pictogram, digitally*	*capturing moments, magnified images, questions, data collection, graphs, charts, save, retrieve*	*Questioning, database, construct, contribute, recording data, data logger, present data, record, fields, search/crteria, less than/more than, highlight, graph, axes, labels, most/least, altogether*	*database creation, database searches, inaccurate data, branching database, similarities, differences, characteristics Code, decode, binary, pixel, bitmap*	*complex searches (and/or; <>), problem solving, present answers, analysed information, question data, interpret, criteria, narrowing a search, fields, implausible, errors, spreadsheets Cell, cell reference, formulas*	*Binary, denary, nibble, byte, code, decode*

Create digital content	**DCpro Objectives**	•	• _Uses software under the control of the teacher to create and edit digital content. (AB) (GE) (DE) • Knows common uses of information technology beyond the classroom. (GE)	• Uses software to create, store and edit digital content using appropriate file and folder names. (AB) (GE) (DE) • Talks about their work and makes changes to improve it. (EV)	• Uses technology with increasing independence to purposefully organise digital content. (AB) • Uses a variety of software to manipulate and present digital content: and information. (AL) • Talks about their work and make improvements to solutions based on feedback received. (EV)	• _Collects, organise and presents data and information in digital content. (AB)	• Recognises the audience when designing and creating digital content. (EV) • Understands the potential of information technology for collaboration when computers are networked. (GE)	• Creates digital content to achieve a given goal through combining software packages and internet services to communicate with a wider audience e.g. blogging. (AL) • Uses criteria to evaluate the quality of solutions and can identify improvements making some refinements to the solution, and future solutions. (EV)
	Vocabulary	_Screen, mouse, images, keyboard, paint_	_videos, camera stills, sounds, image bank , word bank , space bar_	_paint effects, templates, animation, documents, index finger typing, enter/return, caps lock, backspace_	_multimedia, presentations, alignment, brush size, repeats, reflections, green screening, amend, copy, paste_	_creating and modifying, specific purpose, photo modifying, keyboard shortcuts, bullet points, spell check, constructive feedback_	_Online sharing, multimedia effects, multimedia modification, transitions, hyperlinks, editing tools, refining, online sharing_	_appropriate online tools, audience, atmosphere, structure, Copyright, information collection, HTML code , storing_
	General ICT Skills	•	• To use a mouse to point and click • To move items on the screen accurately	• To save using an appropriate file name.	• To save and retrieve a piece of work. • To open a file and save it in a new location. • To print a piece of work.	• To be able to choose images and download into a file • To download images from the iPad into files on the computer.	•	•
	General Graphics / Video Skills	•	• To select colours • To use the brush tool accurately to create a recognisable picture • To use various tools including brushes, pens, lines, fill, spray and stamps	• To capture images with an iPad • To be able to print out a photograph from an iPad with help.	• To copy an image. • To rotate an image • To resize an image • To flip an image • To create a repeating pattern • To create a design for a purpose	• To use a digital camera to take a photo and save it • To edit a photo to enhance its appearance. • To capture video • To discuss which videos to keep and why • To arrange a short film that conveys meaning	• To be able to make an information poster using graphics skills to good effect.	• To plan a multi-scene animation including characters, scenes, camera angles and special effects • To take a series of pictures to form an animation • To trim and arrange shots to convey meaning • To edit/improve their animation • To add titles, credits, slide transitions, special effects and talk about the effect these have on the audience • To create a storyboard and capture videos for a purpose • To trim, arrange and edit audio levels to improve the quality
	General Sound Recording Skills	•	• To listen to a talking story • To talk about devices that make and record sound • To use play, pause, stop, forward, rewind	• To be able to record a sound and play it back.	• To use software to record music and sounds • To change sounds they have recorded • To save, retrieve and edit sounds	•	• To create a simple digital piece of music using an app • Use an app and record instruments and/or their own voice and add to a piece of music.	• To loop pieces of music in an app • Use an app to create different styles of music
	Word Processing	•	• To find letters on the keyboard • To use the shift key • To use the space bar	• To use capitals and lowercase text consistently. • To use the backspace button • To begin to use two hands for typing • To navigate a text document using arrow keys and a mouse. • To create a new document.	• To change the font, size and colour of text. • To use bold, italic and underline. • To know how to undo and redo. • To align text left, right, centre and justify and know to use them. • To insert clipart or WordArt object and to manipulate it.	• To be able to cut and paste effectively • To use a spell checker	• To use the word count tool to check the length of a document. • To be able to use bullets and numbering tools.	• To confidently choose the correct page set up option when creating a document. • To confidently use text formatting tools, including heading and body text. • To use the 'hanging indent' tool to help format work where appropriate (e.g. a play script).
	Presentation skills	•	•	• To create a presentation using text, graphics, sound and movement eg. Using 2Create, ipads Puppet Pals	• To create a presentation that moves from slide to slide and is aimed at a specific audience. • To be able to combine text, images and sounds and show awareness of audience.	• To create a presentation with graphics and text • To be able to talk alongside a presentation • To add sound/video to a presentation • To be able to change the running order and slide timings	• To use a range of presentation applications • To insert hyperlinks between pages for naviagation • To create Mind maps of topics	• To make a multimedia presentation that contains: sound, animation, video and buttons to navigate.
	Internet Skills	•	• To be able to print out a page from the internet.	• To use the favourite menu • To use the home button to take them back • To use the 'back' and 'forwards' buttons efficiently. • To accurately enter a website address. • To find specific information from the Internet • To begin to make notes from a webpage • To copy and paste images from the Internet	• To print out a page from the internet. • To use hyperlinks to move around a website. • Find information by browsing a menu • To add a page to favourites.	• To be able to use a search engine to find a specific website. • To use note-taking skills to decide which text to copy and paste into a document. • To use tabbed browsing to open two or more web pages at the same time. • To open a link to a new window	• To search for something online. • To opening multiple web pages without leaving the search. • To use Google to exclude words from a search. • To use more advanced search options in Google. • To name sources • To find physical places with Google Maps and Google Streetview. • To understand the terms plagiarism and copyright • To present their research in some form - including graphs/tables • To use QR codes • To collaborate online e.g. using blogs, google docs	• To use complex searches using such as '+' 'OR' "Find the phrase in inverted commas".

E-Safety

Concept	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
E-safety DC Pro statements	•	• Understands the importance of communicating respectfully online and the need for keeping personal information private. (EV)	• Understands the importance of communicating safely and respectfully online, and the need for keeping personal information private. (EV) • Knows what to do when concerned about content or being contacted. (AL)	• Demonstrates use of computers safely and responsibly, knowing a range of ways to report unacceptable content and contact when online. (EV)	• Recognises what is acceptable and unacceptable behaviour when using technologies and online services. (EV)	• Demonstrates responsible use of technologies and online services, and knows a range of ways to report concerns. (EV)	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.
	•	communicate, rules , private information , email	appropriate/inappropriate sites, cyber bullying, digital footprint, identity	appropriate online communication, appropriate websites, owner, esafety rules, secure passwords, report abuse button,	Acceptable/unacceptable behaviour	responsible online communication, informed choices, virus threats	Media, gender sterotypes
Self-image and identity	• 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. • I can explain how this could be either in real life or online.	• 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.	• I can explain how other people's identity online can be different to their identity in real life. • 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. • I can describe ways in which people might make themselves look different online.	• 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 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 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 why I should keep asking until I get the help I need. • 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 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.
Online relationships	• 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 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 use the internet to communicate with people I don't know well (e.g. email a penpal in another school/ country). • I can give examples of how I might use technology to communicate with others I don't know well.	• I can describe ways people who have similar likes and interests can get together online. • I can give examples of technology specific platforms of communication (e.g. emojis, acronyms, text speak). • I can explain some risks of communicating online with others I don't know well. • 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 should be careful who I trust online and what information I can trust them with. • 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 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 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 describe how I collaborate with others positively.	• 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 myself and my friends.

Concept	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Online reputation	• I can identify ways that I can put information on the internet.	• I can recognise that information can stay online and could be copied. • I can describe what information I should not put online without asking a trusted adult first.	• 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 search for information about myself online. • I can recognise I need to be careful before I share anything about myself or others online. • I know who I should ask if I am not sure if I should put something online.	• I can describe how others can find out information about me by looking online. • I can explain ways that some of the information about me online could have been created, copied or shared by others.	• 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 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.
Online bullying	• I can describe ways that some people can be unkind online. • I can offer examples of how this can make others feel	• I can describe how to behave online in ways that do not upset others and can give examples.	• 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 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 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 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).	• I can describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me • I can identify a range of ways to report concerns both in school and at home about online bullying.
Managing online information	• 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 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.	• 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, 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 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 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. • I can explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true	• 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'. • 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 use search technologies effectively. • I can explain how search engines work and how results are selected and ranked. • I can demonstrate the strategies I would apply to be discerning in evaluating digital content. • 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 these strategies are important. • I can identify, flag and report inappropriate content.

Concept	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Privacy and security	• 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 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.	• I can describe how online information about me could be seen by others. • 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 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. • I can describe how connected devices can collect and share my information with others.	• 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.	• 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, 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 use different passwords for a range of online services. • I can explain what app permissions are and can give some examples from the technology or services I use. • 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 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)
Health, Well-being and Lifestyle	• I can identify and give some examples of rules that help keep us safe and healthy in and beyond the home when using technology	• I can explain rules to keep us safe when we are using technology both in and beyond the home and give examples	• I can explain simple guidance for using technology in different environments and settings and can say how those rules/guides can help me	• 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 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	• 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 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)
Copyright and ownership	• I know that work I create belongs to me. • I can name my work so that others know it belongs to me.	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 so that others know it belongs to me (e.g. filename, name on content).	• 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 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.	• 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 give some simple examples	• I can assess and justify when it is acceptable to use the work of others. • I can give examples of content that is permitted to be reused.	• 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.

🟥 (red)	**Computer Science**
🟦 (blue)	**Information Technology**
🟨 (yellow)	**Digital Literacy**