

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Computer Science (Theory)</b>	-Identify the main parts of a computer system and identify and observe a range of technology at school and home.	-Recognise and name common input and output devices of a computer system and recognise the difference between old and new technology. Explain how people interact with computers.	-Explain the functions of the main components of a computer system, understand that my creations need similar skills to the adult world, describe uses of technology beyond school, identify uses of technology beyond school and discuss reasons why they are helpful.	-Understand the difference between hardware and software and their roles, use communication tools in different ways and attach files with etiquette and confidently share my own experiences of technology in school and beyond the classroom.	-Recognise the main component parts of hardware in different devices in a network, understand how the Internet and search engines work and show awareness of tasks best completed by humans or computers.	-Know that computers collect data from various input devices, know how computer networks help solve problems and enhance communication whole recognising their dangers, use the most appropriate form of online communication, and research the history of computing and technologies.	-Understand why and when computers are used and understand the main functions of the operating system, know the difference between physical, wireless and mobile networks, explain the difference between the internet and the World Wide Web, explain what a WAN and LAN is, and describe the services offered by the Internet.
<b>Computer Science</b>	-Follow given instructions to program a physical device. Understand, follow, design and correct errors in an algorithm.	-Explain what an algorithm is and that it is written for a computer. Work out when there are mistakes and correct them (debug). Use logical reasoning to guess what will happen in a program.	-Understand that algorithms are implemented on digital devices and identify examples of each, carefully plan, design, correct and predict an algorithm.	-Make a real-life situation into an algorithm for a program, logically design steps and experiment with timers and repeat commands, identify, predict and fix errors in a program.	-Turn a real-life situation to solve into an algorithm, use repetition, timers, selection, variables, and use input/outputs in code. Identify errors in code using different methods, and read programs that contain several steps and predict the outcomes with increasing accuracy.	-Make more complex real-life problems into algorithms for a program and test and debug. Covert and use algorithms that contain sequence, selection and repetition into code that works. Organise code carefully and use logical methods to identify bugs in specific lines of code.	-Turn a complex programming task into an algorithm, identify the important aspects of a programming task (abstraction), decompose important aspects of a programming task in a logical way, test and debug as I work using local methods, identify specific lines of problematic code, translate algorithms that include sequence, selection and repetition into code, nesting these structures within each other and use various inputs and outputs. Interpret programs and make logical attempts to attempts to put separate parts together to explain the whole program.
<b>Information Technology</b>	-Complete a simple activity/game on a device, use software to create digital content, shot/review digital photos, and type letters using a keyboard.	-Recognise that digital content is represented in many forms, use a variety of software to manipulate and present content, talk about my work and make changes, name, save and find my work and add sound, pictures and text to my creations.	-Use a range of input and output devices, organise and find data using specific searches, use several programs to organise information, edit digital data and show an awareness for the quality of digital content produced.	-Carry out searches to find digital content on a range of online systems, collect, organise and present data/information in digital content, talk about work and make improvements, present and analyse data and information using different software, create digital content to achieve a given goal through considering appropriateness and possible combinations of programs.	-Understand the purpose of a search engine and its main features, look at information on a webpage and make predictions about the accuracy of information, create and improve my solutions to a problem based on feedback, review solutions that others have created, using a checklist of criteria, create content and solutions and can share digital content with a wider audience using a variety of applications.	-Use search engines precisely, explain in detail how accurate, safe and reliable the content is on a webpage, recognise the audience when designing and creating content, comment on how successful a digital solution is that I have and work collaboratively with others.	-Use filters and complex searched when seeking digital, explain in detail how accurate and reliable a webpage and its content is, compare a range of digital content sources, rating content quality and accuracy and consider the intended audience carefully when I design and make digital content.

<p><b>Online Safety</b></p>	<p>-Recognise that anyone can say 'no' to somebody who makes them feel sad, uncomfortable, embarrassed or upset, recognise ways in which the internet can be used to communicate, identify ways that I can put information on the internet, talk about how to use the internet to find information, and identify devices I could use to access the internet.</p>	<p>-Recognise that there may be people online who could make me feel sad, embarrassed or upset, and recognise who to tell, use the internet to communicate with people I know (with adult support), explain why it is important to be considerate online, recognise that information can stay online and could be copied, describe what information I should not put online and how people could be unkind, use the internet to find things out using simple key words and describe and demonstrate how to get help from a trusted adult or helpline.</p>	<p>-Explain how other people's identity online can be different to real life, give examples of issues online that might make me feel sad, and describe how I might get help. Give examples of how I might use technology to communicate safely with others I don't know well, explain how information put online about me can last for a long time, know who to talk to if I think someone has made a mistake about putting something online, describe how to behave appropriately online, use keywords in search engines, navigate a simple webpage, explain what voice activated searching is and how it might be , explain the difference between things that are imaginary/made up and real, explain why some information I find online may not be true.</p>	<p>-Explain what is meant by the term 'identity' and how I can represent myself in different ways online, explain how/why I might change my identity online, describe ways people who have similar likes and interests can get together online, give examples of online communication, explain some risks of communicating online with others I don't know well and be careful with who I trust online, explain how my and other people's feelings can be hurt by what is said or written online, explain what is meant by 'trusting someone online' and how this is different from 'liking someone online', be careful before I share anything about myself or others online, know who I should ask if I am not sure if I should put something online, give examples of how bullying behaviour could look and make people feel, talk about how someone can/would get help about being bullied online or offline, use key phrases in search engines, choosing the best suggestions. Explain how the internet can be used to buy and sell and explain the difference between a 'belief', an 'opinion' and a 'fact'.</p>	<p>-Explain how my online identity can be different to the identity I present in 'real life', making appropriate decisions considering how people may perceive me, describe strategies for safe, respectful and fun experiences online, describe how others can find out information about me online, explain ways that some of the information about me online could have been created, copied or shared, explain what bullying is, describe rules about how to behave online, analyse information and differentiate between 'opinions', 'beliefs' and 'facts', describe how I can search for information within a wide group of technologies, describe some of the methods used to encourage people to buy things online, explain that some people I 'meet online' may be computer programmes pretending to be real people, and explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true.</p>	<p>-Explain how identity online can be copied, modified or altered, demonstrating responsible choices, explain that there are some online who may want to harm me, make positive contributions and collaborations with online communities, ,search for information about an individual online, describe ways that information can be used to make judgments, recognise when someone is upset, hurt or angry, describe how to get help for someone that is being bullied online, explain how to block abusive users and how I would report online bullying on the apps and platforms that I use, and describe the helpline services who can support me. Use different search technologies, evaluate digital content, explain key concepts (data, information, fact, opinion belief, true, false, valid, reliable and evidence), understand the difference between online mis-information and dis-information, explain what is meant by 'being sceptical' and give examples, explain what is meant by a 'hoax', explain why I need to think carefully before I forward anything online, explain why some information I find online may not be honest, accurate or legal and explain why information that is on a large number of sites may still be inaccurate or untrue.</p>	<p>-Describe ways in which media can shape ideas about gender, challenging and rejecting inappropriate messages, describe issues that might make others feel sad, giving examples on how I might keep asking until I get help, show understanding of responsibilities for the well-being of others, explain how impulsive communications online may cause problems, demonstrate how I would support others and report problems online, explain how I am developing a positive online reputation which will allow other people to form an opinion of me, describe how to capture bullying content as evidence and report concerns in a variety of ways, use search technologies effectively using rank and selection, demonstrate the strategies to discern/evaluate digital content, describe how some online information can be opinion but how these may be presented as 'fact', define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online, demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and identify, flag and report inappropriate content.</p>
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