

| Year | Programming & Computer Science | Online Safety & Digital Literacy | Information Technology |
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| 1 | <p><u>Algorithms & Programmes</u></p> <ul style="list-style-type: none"> I understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions I can create and debug simple programs I can use logical reasoning to predict the behaviour of simple programs | <p><u>Managing Online Information</u></p> <ul style="list-style-type: none"> I can give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching. I know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke. I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened. <p><u>Privacy & Security</u></p> <ul style="list-style-type: none"> I can explain that passwords are used to protect information, accounts and devices. I can recognise more detailed examples of information that is personal to someone (e.g. where someone lives and goes to school, family names). I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others. <p><u>Copyright & Ownership</u></p> <ul style="list-style-type: none"> I can explain why work I create using technology belongs to me. I can say why it belongs to me (e.g. 'I designed it' or 'I filmed it'). I can save my work under a suitable title or name so that others know it belongs to me (e.g. filename, name on content). I understand that work created by others does not belong to me even if I save a copy. | <p><u>Digital Content</u></p> <ul style="list-style-type: none"> I can use technology purposefully to create, organise, store, manipulate and retrieve digital content. I can create drawing and text files. I can save files. I can use files in J2E to produce pieces of work. I can create a digital album of photographs and use J2E tools to write, paint and mix. <p><u>Gathering Data & Creating Charts</u></p> <ul style="list-style-type: none"> I can use technology to organise and present my ideas in different ways. I can use J2E Chart to present data I can use J2E Pictogram to present data. I understand data and how to present this in J2E Mix I can recognise common uses of information technology beyond school. |

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| 2 | <p><u>Algorithms & Programmes</u></p> <ul style="list-style-type: none"> • I can predict and investigate route based programs and sequences. • I can debug simple programs. | <p><u>Managing Online Information</u></p> <ul style="list-style-type: none"> • I can use simple 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, and know it is not a real person (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 real or true. | <p><u>Presenting Information</u></p> <ul style="list-style-type: none"> • I can design assets using J2E tools. • I can design animations that present information. • I can create and combine effective animations. • I can create an EBook using text, paint and photographs. |
| | | <p><u>Privacy & Security</u></p> <ul style="list-style-type: none"> • I can explain and give examples of what is meant by 'private' and 'keeping things private'. • I can describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords). • I can explain how some people may have devices in their homes connected to the internet and give examples (e.g. lights, fridges, toys, televisions). | <p><u>Data Handling</u></p> <ul style="list-style-type: none"> • I can understand how to interpret data from a chart. • I can gather data using J2E Vote. • I can present my data findings. |
| | | <p><u>Copyright & Ownership</u></p> <ul style="list-style-type: none"> • I can recognise that content on the internet may belong to other people. • I can describe why other people's work belongs to them. | |

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| 3 | <p><u>Algorithms & Programmes</u></p> <ul style="list-style-type: none"> • I can design, write and debug programs that accomplish specific goals. • I solve problems by decomposing them into smaller parts • I use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • I can use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • I can use sequencing and debugging strategies. • I create programs that include repetition and sequence to produce simple images. | <p><u>Managing Online Information</u></p> <ul style="list-style-type: none"> • I can demonstrate how to use key phrases in search engines to gather accurate information online • 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. And give examples of how and where they might be shared online, e.g. in videos, memes, posts, news stories etc. • I can explain that not all opinions shared may be accepted as true or fair by others (e.g. monsters under the bed). • I can describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened. <p><u>Privacy & Security</u></p> <ul style="list-style-type: none"> • I can describe simple strategies for creating and keeping passwords private. • I can give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult. • I can describe how connected devices can collect and share anyone's information with others. <p><u>Copyright & Ownership</u></p> <ul style="list-style-type: none"> • I can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause. | <p><u>Collecting, Evaluating & Presenting Information</u></p> <ul style="list-style-type: none"> • I can use 3 types of multi-media: text, image and animation to create, organise and present content effectively. • I can consider layout and appropriate presentation styles to suit different purposes. • I can create and use a QR code to present information. <p><u>Databases</u></p> <ul style="list-style-type: none"> • I can use search technologies effectively. • I can select, use and combine a variety of software (including internet services) on a range of digital devices. • I can create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • I can create and use a branching database, focusing on questions for sorting. • I can sort and search simple databases to answer questions • I can create graphs to interpret data. |
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| 4 | <p><u>Algorithms & Programmes</u></p> <ul style="list-style-type: none"> • I can explore inputs and outputs within programs. • I use broadcast, repetition and controlled count loops to control events. • I can use movement blocks and conditional statements to control events reinforcing sequence, selection and repetition. | <p><u>Managing Online Information</u></p> <ul style="list-style-type: none"> • I can analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others. • I can describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy (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 why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true. • I can explain that technology can be designed to act like or impersonate living things (e.g. bots) and describe what the benefits and the risks might be. • I can explain what is meant by fake news e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't. <p><u>Privacy & Security</u></p> <ul style="list-style-type: none"> • I can describe strategies for keeping personal information private, depending on context. • I can explain that internet use is never fully private and is monitored, e.g. adult supervision. • I can describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure. • I know what the digital age of consent is and the impact this has on online services asking for consent. <p><u>Copyright & Ownership</u></p> <ul style="list-style-type: none"> • 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 of content which I must not use without permission from the owner, e.g. videos, music, images. | <p><u>Collecting, Evaluating & Presenting Information</u></p> <ul style="list-style-type: none"> • I can use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • I can create a researched based fact file based upon a topic. • I plan and create fact file pages that are hyperlinked from the home page include a range of multimedia – images, sounds, images and videos. <p><u>Creating and Interrogating Simple Databases</u></p> <ul style="list-style-type: none"> • I discuss how information is collected and organised for use in a database. • I can design a database, considering audience and purpose. • I can interrogate data contained within a database using sort and search functions. |
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| 5 | <p><u>Computer Networks</u></p> <ul style="list-style-type: none"> • I 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 • I know how computers offer opportunities for communication and collaboration. • I can consider how technology has improved and forms of communication have changed as a result. • I am aware of who has been influential in the changes of technology over time. • I can use selection, conditional statements and variables to create simple games. | <p><u>Managing Online Information</u></p> <ul style="list-style-type: none"> • I can explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engine. I can explain how some technology can limit the information I am presented with. • 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 evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results. • I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence. • I can identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads • I can describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by vloggers, content creators, influencers). • I can explain what is meant by the term 'stereotype', how 'stereotypes' are amplified and reinforced online, and why accepting 'stereotypes' may influence how people think about others. • I can describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful. • I can explain what is meant by a 'hoax'. I can explain why someone would need to think carefully before they share. <p><u>Privacy & Security</u></p> <ul style="list-style-type: none"> • I can explain what a strong password is and demonstrate how to create one • I can explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others. • I can explain what app permissions are and can give some examples. <p><u>Copyright & Ownership</u></p> <ul style="list-style-type: none"> • 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 and know how this content can be found online. | <p><u>Collecting, Evaluating & Presenting Information</u></p> <ul style="list-style-type: none"> • I understand what makes infographics a popular choice to present and share information. • I show understanding of colour, styling, enhanced editing tools and the use of charts/graphs/tables to effectively present information. • I can research information to present as an infographic. <p><u>Data Handling</u></p> <ul style="list-style-type: none"> • I can use and create spreadsheets to support solving mathematical problems. • I can use simple formulae to carry out calculations and answering what if type questions. • I can present information in the form of graphs where required. |
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| 6 | <p><u>Computer Networks</u></p> <ul style="list-style-type: none"> • I understand what the internet is and discuss the services it provides. • I can explain the world wide web as a service and how data and information travels around the network. • I 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. | <p><u>Managing Online Information</u></p> <ul style="list-style-type: none"> • I can explain how search engines work and how results are selected and ranked. • I can explain how to use search technologies effectively. • 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'; why the popularity of an opinion or the personalities of those promoting it does not necessarily make it true, fair or perhaps even legal. • I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how someone might encounter these online (e.g. advertising and 'ad targeting' and targeting for fake news). • I understand the concept of persuasive design and how it can be used to influence peoples' choices. • I can demonstrate how to analyse and evaluate the validity of 'facts' and information and I can explain why using these strategies are important. • I can explain how companies and news providers target people with online news stories they are more likely to engage with and how to recognise this. • I can describe the difference between online misinformation and disinformation. • 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 or disinformation). • I can identify flag and report inappropriate content. <p><u>Privacy & Security</u></p> <ul style="list-style-type: none"> • I can describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser). • I can explain what to do if a password is shared, lost or stolen. • I can describe how and why people should keep their software and apps up to date, e.g. auto updates. • 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 know that online services have terms and conditions that govern their use. <p><u>Copyright & Ownership</u></p> <ul style="list-style-type: none"> • 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. | <p><u>Big Data</u></p> <ul style="list-style-type: none"> • I understand what 'big data' is. • I am aware of the impact on privacy and security of data and how data is used by others in both authorised and unauthorised ways. • I can investigate ways that big data is used for global projects that benefit our lives. <p><u>Analysing & Interpreting Data</u></p> <ul style="list-style-type: none"> • I create spreadsheets that are fit for purpose and support the user in finding the answers to problems by modelling real life situations. • I consider layout options to improve the user experience. • I can create complex formula, using brackets, to carry out two step calculations. |
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