



# Computing Progression of Skills

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	<ul style="list-style-type: none"> <li>• I can give and follow instructions</li> <li>• I understand what algorithm is</li> <li>• I can create simple algorithms</li> <li>• I can use code blocks to make a character perform actions</li> </ul>	<ul style="list-style-type: none"> <li>• I can create a computer program using simple algorithms</li> <li>• I understand how to use a 'repeat' command</li> <li>• I understand the need to test and debug a program</li> <li>• I can debug simple programs</li> <li>• I am beginning to understand how logic helps us with programming</li> </ul>	<ul style="list-style-type: none"> <li>• I can design and write a program that simulates a physical system</li> <li>• I understand how to use the 'if' command</li> <li>• I understand what a variable is</li> <li>• I understand how to use a timer</li> <li>• I can debug programs</li> </ul>	<ul style="list-style-type: none"> <li>• I can create an 'if/else' command</li> <li>• I can create a variable</li> <li>• I can program a character to respond to user keyboard input</li> <li>• I know what decomposition and abstraction are in computer science</li> <li>• I can take a real-life situation, decompose it and think about the level of abstraction</li> <li>• I can input instructions</li> <li>• I can use the 'repeat' function</li> <li>• I can use and build 'procedures'</li> </ul>	<ul style="list-style-type: none"> <li>• I can learn the structure of a coding language</li> <li>• I am able to program multiple characters</li> <li>• I can use logical reasoning to detect and debug mistakes in a program</li> <li>• I can use logical thinking, imagination and creativity to extend a program</li> <li>• I recognise the similarities between different coding languages</li> </ul>	<ul style="list-style-type: none"> <li>• I can deconstruct a problem into smaller steps, recognising similarities to solutions used before</li> <li>• I can explain and program each of the steps in an algorithm (for a device or onscreen activity)</li> <li>• I can evaluate the effectiveness and efficiency of an algorithm while continually testing the programming of that algorithm</li> <li>• I can recognise when to use a variable to achieve a required output.</li> <li>• I can use a variable and operators to stop a program</li> <li>• I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen</li> <li>• I can link errors in a program to a problem in the algorithm on which it is based</li> </ul>

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Digital Literacy</p>	<ul style="list-style-type: none"> <li>• I understand what is meant by 'technology'</li> <li>• I can recognise the ways technology is used in the classroom, at home and in the community</li> <li>• I can identify some of the benefits of using technology</li> </ul>	<ul style="list-style-type: none"> <li>• I understand the terminology associated with Internet searching</li> <li>• I can identify parts of a webs search engine</li> <li>• I can read a web search results page</li> <li>• I can search for answers to specific questions</li> </ul>	<ul style="list-style-type: none"> <li>• I recognise different methods of communication</li> <li>• I can open and respond to an email</li> <li>• I can write an email using an address book</li> <li>• I can add an attachment to an email</li> <li>• I can use email safely</li> </ul>	<ul style="list-style-type: none"> <li>• I understand the different parts which make up a computer</li> <li>• I know the functions of the different parts of a computer</li> <li>• I can structure search queries to locate specific information</li> <li>• I can assess whether an information source is true and reliable</li> </ul>	<ul style="list-style-type: none"> <li>• I understand what the Internet is and what it consists of</li> <li>• I understand the term network</li> <li>• I understand what a LAN and WAN are</li> <li>• I can find out how the Internet was developed</li> <li>• I can explain how search engines rank results</li> </ul>	<ul style="list-style-type: none"> <li>• I can identify the purpose of writing a blog</li> <li>• I can plan the theme and content for a blog</li> <li>• I can consider the effect upon the audience of changing the visual properties of the blog</li> <li>• I can understand how to contribute to an existing blog</li> </ul>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Information Technology</p>	<ul style="list-style-type: none"> <li>• I can recognise and use simple features of word processing software</li> <li>• I can edit and improve work</li> <li>• I can save work using a sensible file name</li> <li>• I can open a file</li> <li>• I can recognise different ways to store information</li> <li>• I can collect information</li> <li>• I can create a pictogram on a computer</li> <li>• I can read and interpret pictograms</li> </ul>	<ul style="list-style-type: none"> <li>• I can apply punctuation skills taught in Year 2 when word processing</li> <li>• I can use different font sizes, colour and effects to communicate meaning for a given audience</li> <li>• I can use <i>italics</i>, <u>underlining</u> and make text <b>bold</b></li> <li>• I can insert clip art into a document</li> <li>• I can edit and combine sounds</li> <li>• I can understand what happens to a tune when sounds are moved</li> <li>• I can create tunes which represent feelings</li> <li>• I can create, upload and use own recorded sounds</li> <li>• I can use and combine a range of features from a computer art package</li> <li>• I can use a computer art package to create own art based upon a style</li> <li>• I can use repeating patterns in a variety of ways</li> </ul>	<ul style="list-style-type: none"> <li>• I can insert and edit simple tables</li> <li>• I can use 'page set-up' to select different page sizes and orientations</li> <li>• I can use cut, copy and paste to refine and reorder content</li> <li>• I can sort objects using 'yes' or 'no' questions</li> <li>• I can complete a branching database</li> <li>• I can create a branching database</li> <li>• I know how to use and debug own branching databases.</li> </ul>	<ul style="list-style-type: none"> <li>• I can recognise and use a range of features of presentation software</li> <li>• I can make effective use of transitions and animations in presentations.</li> <li>• I can add sounds to presentations</li> <li>• I consider the effect on the audience and the appropriateness of chosen transitions/animations/sounds</li> <li>• I can develop the use of hyperlinks to produce simple interactive, non-linear presentations</li> <li>• I understand how animations can be created by hand</li> <li>• I can use onion skinning to create an animated image</li> <li>• I can add backgrounds to animations</li> <li>• I can add sounds to animations</li> <li>• I know what 'stop motion' animation is and how it is created</li> </ul>	<ul style="list-style-type: none"> <li>• I can navigate around a spreadsheet using correct terminology</li> <li>• I can enter data into a spreadsheet</li> <li>• I can create charts and graphs using data</li> <li>• I can create formula to solve problems quickly</li> <li>• I can search for information in a database</li> <li>• I can enter information into a database</li> <li>• I can create a database</li> </ul>	<ul style="list-style-type: none"> <li>• I can capture footage from video camera into movie editing software.</li> <li>• I can arrange, trim and cut clips to create a short film</li> <li>• I can import music and stills into video editing software</li> <li>• I can add simple titles and credits</li> </ul>

## Year 1

- Self-image and identity**  
 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.
- Online Relationships**  
 I can explain why it is important to be considerate and kind to people online.
- Online Reputation**  
 I can recognise that information can stay online and be copied.
- Online bullying**  
 I can describe how to behave online in ways that do not upset others and can give examples.
- Managing online information**  
 I can use simple keywords in search engines to find things out.  
 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.
- Health, well-being and lifestyle**  
 I can explain rules to keep us safe when we are using technology both in and beyond the home. (Online Safety Agreements)
- Privacy and security**  
 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.
- Copyright and ownership**  
 I can explain why work I create using technology belongs to me.  
 I can save my work so that others know it belongs to me (e.g. filename, name on content).

## Year 2

- Self-image and identity**  
 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.
- Online Relationships**  
 I can give examples of how I might use technology to communicate with others I don't know well.
- Online Reputation**  
 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.
- Online bullying**  
 I can give examples of bullying behaviour and how it could look online, how it makes people feel and how people can get help.
- Managing online information**  
 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 why some information I find online may not be true.
- Health, well-being and lifestyle**  
 I can explain simple guidance for using technology in different environments and settings and how this keeps me safe. (Online Safety Agreements)
- Privacy and security**  
 I can describe and explain some rules for keeping my information private.  
 I can explain how many devices in my home could be connected to the internet and can list some of those devices.
- Copyright and ownership**  
 I can recognise that content on the internet may belong to other people

## Year 3

- Self-image and identity**  
 I can explain what is meant by the term 'identity'.  
 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).
- Online Relationships**  
 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.
- Online Reputation**  
 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
- Online bullying**  
 I can explain what bullying is, can describe how people may bully others online and know what to do if I know it is happening.  
 I can describe rules about how to behave online and how I follow them.
- Managing online information**  
 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'.
- Health, well-being and lifestyle**  
 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).
- Privacy and security**  
 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.
- Copyright and ownership**  
 I can explain why copying someone else's work from the internet without permission can cause problems.

	Year 4	Year 5	Year 6
Online safety	<ul style="list-style-type: none"> <li>• <b>Self-image and identity</b> 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.</li> <li>• <b>Online Relationships</b> 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.</li> <li>• <b>Online Reputation</b> I can describe how others can find out information about me by looking online</li> <li>• <b>Online bullying</b> I can describe how bullying may change as we grow older and recognise when it is taking place online. I can identify and demonstrate actions to support others who are experiencing difficulties online</li> <li>• <b>Managing online information</b> 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 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.)</li> <li>• <b>Health, well-being and lifestyle</b> I can identify times or situations when I might need to limit the amount of time I use technology and some strategies to do this</li> <li>• <b>Privacy and security</b> I can explain what a strong password is. I can explain that others online can pretend to be me or other people, including my friends. I understand that internet use can be monitored.</li> <li>• <b>Copyright and ownership</b> 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.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Self-image and identity</b> I can demonstrate responsible choices about my online identity, depending on context.</li> <li>• <b>Online Relationships</b> 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 fault. I understand I should never arrange to meet someone I have met online.</li> <li>• <b>Online Reputation</b> I can describe ways that information about people online can be used by others to make judgments about an individual.</li> <li>• <b>Online bullying</b> I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences. I can give examples of effective strategies which might help myself or others.</li> <li>• <b>Managing online information</b> I can use different search technologies. I can explain why some information I find online may not be honest, accurate or legal. I can explain what is meant by 'being sceptical'. I can give examples of when and why it is important to be 'sceptical'</li> <li>• <b>Health, well-being and lifestyle</b> I can describe ways technology can affect healthy sleep and can describe some of the issues.</li> <li>• <b>Privacy and security</b> 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.</li> <li>• <b>Copyright and ownership</b> I can assess and justify when it is acceptable to use the work of others.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Self-image and identity</b> I can challenge and explain why it is important to reject inappropriate messages which discriminate against different groups e.g. gender race 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.</li> <li>• <b>Online Relationships</b> I can explain how impulsive and rash communications cause problems. I can demonstrate how I would support others (including those who are having difficulties) online.</li> <li>• <b>Online Reputation</b> 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.</li> <li>• <b>Online bullying</b> I can explain how cruelty and unpleasant comments can escalate online. I can explain the concept of disinhibition online and can explain how this can be problematic. I can explain and assess a variety of routes to report bullying both in school and at home that include: social reporting, peer support, anonymous routes and helpline services.</li> <li>• <b>Managing online information</b> I can use search technologies effectively. 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 identify, flag and report inappropriate content.</li> <li>• <b>Health, well-being and lifestyle</b> I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose 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).</li> <li>• <b>Privacy and security</b> I use different passwords for a range of online services. 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).</li> <li>• <b>Copyright and ownership</b> I can demonstrate the use of search tools to find and access online content which can be reused by others.</li> </ul>

