

Subject Specific-Skills: Age-related expectations in Computing

| Year | Algorithms and Programming | Information Technology | Digital Literacy |
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| 1 | <p>I can:</p> <ul style="list-style-type: none"> Follow and give clear instructions (an algorithm) for a human to perform a task. Give examples of algorithms in everyday life. Debug algorithms for a floor robot/turtle/programmable toy so that the defined outcome is achieved. Predict the behaviour of simple programs, identifying where a floor robot/turtle/programmable toy will finish after a series of commands. Say how algorithms are helpful for solving problems. Control the movement of a floor robot/turtle/programmable toy using algorithms. | <p>I can:</p> <ul style="list-style-type: none"> Use technology purposefully to create digital content, including text, graphics, sound, and video Use technology to store and retrieve digital content. | <p>I can:</p> <ul style="list-style-type: none"> Say how different technologies that contain a computer are commonly used in school and at home. Explain what personal information is and why it is kept private. Say how to get help and support from adults about digital content that concerns them. |
| 2 | <p>I can:</p> <ul style="list-style-type: none"> Debug algorithms for a screen robot/turtle so that the defined outcome is achieved Predict the behaviour of simple programs, identifying where a screen robot/turtle will finish after a series of commands. Control the movement of a screen turtle/robot using algorithms and can explain similarities and differences to programming toys/floor turtles/robots. | <p>I can:</p> <ul style="list-style-type: none"> Use technology purposefully to manipulate and combine different types of digital content. Use technology to store and retrieve digital content across a range of devices. Can identify some ways that technology helps us to communicate with others. | <p>I can:</p> <ul style="list-style-type: none"> Communicate respectfully online. Explain how to alert adults to concerns about digital content or contact. Can say why a wide range of technologies are used at school, home and beyond. |
| 3 | <p>I can:</p> <ul style="list-style-type: none"> Write algorithms using a visual programming tool that achieve specific goals Debug a program created by a visual programming tool to achieve a given aim. Solve simple problems by decomposing them into smaller parts. | <p>I can:</p> <ul style="list-style-type: none"> Use search engines effectively to find specific information. Use a range of digital tools to gather information/data. Present data and information to a wider audience using a range of digital tools. Use a range of technologies to communicate with others. | <p>I can:</p> <ul style="list-style-type: none"> Recognise when digital content or data is inaccurate or misleading. Identify the features of a computer that enable communication with others. Recognise acceptable/ unacceptable online behaviour. Talk about a range of ways to report concerns about content and contact. |
| 4 | <p>I can:</p> <ul style="list-style-type: none"> Use sequence, selection and repetition to design and write a simple program using a visual programming language. Use logical reasoning to predict the outcome of a program and changes to it. | <p>I can:</p> <ul style="list-style-type: none"> Explain that computers can be connected using networks. Draw a simple network map. Use advance internet search features to compare and evaluate search engine results. Collect and sort information from a range of data sources. Compare, analyse and evaluate digital content from two different sources. Use a range of technology to share | <p>I can</p> <ul style="list-style-type: none"> Identify a range of online risks. |

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| | | <p>digital resources including charts, articles and audio/visual presentations, with a selected audience.</p> <ul style="list-style-type: none"> Collaborate with others using digital tools. | |
| 5 | <p>I can:</p> <ul style="list-style-type: none"> Control physical systems or simulations of these through a digital device. Use various forms of input and output in programs. Use logical reasoning to debug programs containing sequence, selection, repetition and variables. | <p>I can:</p> <ul style="list-style-type: none"> Explain what the world wide web and the internet are, and the difference. Outline how data is transported in packets on the internet to different addresses. Refine internet searches to improve relevance of materials. Can justify their selection of an appropriate digital device and application to accomplish a specific outcome. Summarise and present information/data using a range of media. Collaborate through online systems to work on shared documents. | <p>I can:</p> <ul style="list-style-type: none"> Explain the importance of content ownership and copyright issues. |
| 6 | <p>I can:</p> <ul style="list-style-type: none"> Solve complex problems by decomposing into smaller parts Use sequencing, selection, loops and repetition in programs that involve multiple variables Debug programs containing selection, loops, repetition and variables. Make generalisations by comparing programs in two different visual programming languages. | <p>I can:</p> <ul style="list-style-type: none"> Explain how search results are selected and ranked. Justify their selection of content from different digital devices and applications to accomplish a specific goal. Design a data collection project and analyses the results. Create and share mixed media presentations online for a specific audience. Communicate and collaborate through online systems using a variety of tools. | <p>I can:</p> <ul style="list-style-type: none"> Be discerning when evaluating information and digital content found online. Explain the importance of keeping their own data and that of others safe. |