

Technologies: Sequence of achievement F-8

Foundation	Years 1 and 2	Years 3 and 4
<p>By the end of Foundation students identify familiar products, services and environments and develop familiarity with digital systems, using them for a purpose. They create, communicate and choose design ideas. Students follow steps and use materials and equipment to safely make a designed solution for a school-selected context. They show how to represent data using objects, pictures and symbols and identify examples of data that is owned by them.</p>	<p>By the end of Year 2 students describe the purpose of familiar products, services and environments, including digital systems. They represent and process data in different ways and follow and describe basic algorithms involving a sequence of steps and branching to show how simple digital solutions meet a need for known users. For each of the 2 prescribed technologies contexts they identify the features and uses of technologies and create designed solutions. Students select design ideas based on their personal preferences. They access and use the basic features of common digital tools to create, locate and share content, and collaborate and communicate design ideas using models and drawings. Students safely produce designed or digital solutions and recognise that digital tools may store their personal data online.</p>	<p>By the end of Year 4 students describe how people design products, services and environments to meet the needs of people, including sustainability. They process and represent data for different purposes, follow and describe simple algorithms involving branching and iteration, and implement them as visual programs. For each of the 2 prescribed technologies contexts they describe the features and uses of technologies and create designed solutions. Students select design ideas against design criteria. Students securely access and use digital systems and their peripherals for a range of purposes, including transmitting data. They communicate design ideas using models and drawings including annotations and symbols. Students plan and sequence steps and use technologies and techniques to safely produce designed solutions. They use the core features of common digital tools to plan, create, locate and share content, and to collaborate, following agreed behaviours. Students identify their personal data stored online and its risks.</p>
Years 5 and 6		Years 7 and 8
<p>By the end of Year 6 students explain how people design products, services and environments to meet the needs of communities, including sustainability. For each of the 3 prescribed technologies contexts students explain how the features of technologies impact on design decisions and they create designed solutions. They process data and show how digital systems represent data, design algorithms involving complex branching and iteration, and implement them as visual programs including variables. They select and justify design ideas and solutions against design criteria. Students share and communicate ideas or content to an audience using technical terms, graphical representation techniques and appropriate digital tools. They develop project plans, including production processes, and select technologies and techniques to safely produce designed or digital solutions. Students securely access and use multiple digital systems and describe their components and how they interact to process and transmit data. They identify their digital footprint and recognise its permanence.</p>		<p>By the end of Year 8 students explain how people design, innovate and produce products, services and environments for preferred futures. For each of the 4 prescribed technologies contexts students explain how the features of technologies impact on design decisions, and create designed solutions based on analysis of needs or opportunities. They acquire, interpret and model with spreadsheets and represent data with integers and binary. Students design and trace algorithms; and implement them in a general-purpose programming language. Students create and adapt design ideas, processes and solutions, and justify their decisions against developed design criteria that include sustainability. They communicate design ideas and solutions to audiences using technical terms and graphical representation techniques, including using digital tools. They select appropriate hardware for particular tasks, explain how data is transmitted and secured in networks, and identify cyber security threats. They use a range of digital tools to individually and collaboratively document and manage production processes to safely and responsibly produce designed or digital solutions for the intended purpose. Students manage their digital footprint.</p>

Design and Technologies: Sequence of achievement F-10

Foundation	Years 1 and 2
<p>By the end of Foundation students identify familiar products, services and environments. They create a designed solution for a school-selected context. Students create, communicate and choose design ideas. They follow steps and use materials and equipment to safely make a designed solution.</p>	<p>By the end of Year 2 students describe the purpose of familiar products, services and environments. For each of the 2 prescribed technologies contexts they describe the features and uses of technologies and create designed solutions. Students select design ideas based on their personal preferences. They communicate design ideas using models and drawings and follow sequenced steps to safely produce designed solutions.</p>
Years 3 and 4	Years 5 and 6
<p>By the end of Year 4 students describe how people design products, services and environments to meet the needs of people, including sustainability. For each of the 2 prescribed technologies contexts they describe the features and uses of technologies and create designed solutions. Students select design ideas against design criteria. They communicate design ideas using models and drawings including annotations and symbols. Students plan and sequence steps and use technologies and techniques to safely produce designed solutions.</p>	<p>By the end of Year 6 students explain how people design products, services and environments to meet the needs of communities, including sustainability. For each of the 3 prescribed technologies contexts they explain how the features of technologies impact on design decisions and they create designed solutions. Students select and justify design ideas and solutions against design criteria that include sustainability. They communicate design ideas to an audience using technical terms and graphical representation techniques. Students develop project plans, including production processes, and select technologies and techniques to safely produce designed solutions.</p>
Years 7 and 8	Years 9 and 10
<p>By the end of Year 8 students explain how people design, innovate and produce products, services and environments for preferred futures. For each of the 4 prescribed technologies contexts they explain how the features of technologies impact on design decisions, and create designed solutions based on analysis of needs or opportunities. Students create and adapt design ideas, processes and solutions, and justify their decisions against developed design criteria that include sustainability. They communicate design ideas and solutions to audiences using technical terms and graphical representation techniques, including using digital tools. They independently and collaboratively document and manage production processes to safely produce designed solutions.</p>	<p>By the end of Year 10 students explain how people consider factors that impact on design decisions and the technologies used to design and produce products, services and environments for sustainable living. They explain the contribution of innovation, enterprise skills and emerging technologies to global preferred futures. For one or more of the technologies contexts, students explain the features of technologies and their appropriateness for purpose, and create designed solutions based on an analysis of needs or opportunities. Students create, adapt and refine design ideas, processes and solutions and justify their decisions against developed design criteria that include sustainability. They communicate design ideas, processes and solutions to a range of audiences, including using digital tools. Students independently and collaboratively develop and apply production and project management plans, adjusting processes when necessary. They select and use technologies skilfully and safely to produce designed solutions.</p>

Digital Technologies: Sequence of achievement F-8

Foundation	Years 1 and 2
<p>By the end of Foundation students show familiarity with digital systems and use them for a purpose. They represent data using objects, pictures and symbols and identify examples of data that is owned by them.</p>	<p>By the end of Year 2 students show how simple digital solutions meet a need for known users. Students represent and process data in different ways. They follow and describe basic algorithms involving a sequence of steps and branching. With assistance, students access and use digital systems for a purpose. They use the basic features of common digital tools to create, locate and share content, and to collaborate, following agreed behaviours. Students recognise that digital tools may store their personal data online.</p>
Years 3 and 4	Years 5 and 6
<p>By the end of Year 4 students create simple digital solutions and use provided design criteria to check if solutions meet user needs. Students process and represent data for different purposes. They follow and describe simple algorithms involving branching and iteration and implement them as visual programs. Students securely access and use digital systems and their peripherals for a range of purposes, including transmitting data. They use the core features of common digital tools to plan, create, locate and share content, and to collaborate, following agreed behaviours. Students identify their personal data stored online and recognise the risks.</p>	<p>By the end of Year 6 students develop and modify digital solutions, and define problems and evaluate solutions using user stories and design criteria. They process data and show how digital systems represent data. Students design algorithms involving complex branching and iteration and implement them as visual programs including variables. They securely access and use multiple digital systems and describe their components and how they interact to process and transmit data. Students select and use appropriate digital tools effectively to plan, create, locate and share content, and to collaborate, applying agreed conventions and behaviours. They identify their digital footprint and recognise its permanence.</p>
Years 7 and 8	Years 9 and 10
<p>By the end of Year 8 students develop and modify creative digital solutions, decompose real-world problems, and evaluate alternative solutions against user stories and design criteria. Students acquire, interpret and model data with spreadsheets and represent data with integers and binary. They design and trace algorithms and implement them in a general-purpose programming language. Students select appropriate hardware for particular tasks, explain how data is transmitted and secured in networks, and identify cyber security threats. They select and use a range of digital tools efficiently and responsibly to create, locate and share content; and to plan, collaborate on and manage projects. Students manage their digital footprint.</p>	<p>By the end of Year 10 students develop and modify innovative digital solutions, decompose real-world problems, and critically evaluate alternative solutions against stakeholder elicited user stories. Students acquire, interpret and model complex data with databases and represent documents as content, structure and presentation. They design and validate algorithms and implement them, including in an object-oriented programming language. Students explain how digital systems manage, control and secure access to data; and model cyber security threats and explore a vulnerability. They use advanced features of digital tools to create interactive content, and to plan, collaborate on and manage agile projects. Students apply privacy principles to manage digital footprints.</p>

