

Digital Technologies

Digital Technologies Year 6 Description

Learning in **Digital Technologies** focuses on further developing understanding and skills in **computational thinking** such as identifying similarities in different problems and describing smaller components of complex **systems**. It also focuses on the sustainability of **information systems** for current and future uses.

By the end of Year 6, students will have had opportunities to create a range of **digital solutions**, such as games or quizzes and interactive stories and animations.

In Year 5 and 6, students develop an understanding of the role individual components of **digital systems** play in the processing and representation of **data**. They acquire, validate, interpret, track and manage various types of **data** and are introduced to the concept of **data** states in **digital systems** and how **data** are transferred between **systems**.

They learn to further develop abstractions by identifying common elements across similar problems and **systems** and develop an understanding of the relationship between models and the real-world **systems** they represent.

When creating solutions, students define problems clearly by identifying appropriate **data** and requirements. When designing, they consider how users will interact with the solutions, and check and validate their designs to increase the likelihood of creating working solutions. Students increase the sophistication of their algorithms by identifying repetition and incorporate repeat instructions or structures when implementing their solutions through **visual programming**, such as reading user input until an answer is guessed correctly in a quiz. They evaluate their solutions and examine the sustainability of their own and existing **information systems**.

Students progress from managing the creation of their own ideas and information for sharing to working collaboratively. In doing so, they learn to negotiate and develop plans to complete tasks. When engaging with others, they take personal and physical safety into account, applying social and ethical **protocols** that acknowledge factors such as social differences and privacy of personal information. They also develop their skills in applying technical **protocols** such as devising file naming conventions that are meaningful and determining safe storage locations to protect **data** and information.

Digital Technologies knowledge and understanding	1	2	3	4
Investigate the main components of common digital systems , their basic functions and interactions, and how such digital systems may connect together to form networks to transmit data (ACTDIK014)				
Investigate how digital systems use whole numbers as a basis for representing all types of data (ACTDIK015)				
Digital Technologies processes and production skills	1	2	3	4
Acquire, store and validate different types of data and use a range of commonly available software to interpret and visualise data in context to create information (ACTDIP016)				
Define problems in terms of data and functional requirements, and identify features similar to previously solved problems (ACTDIP017)				
Design a user interface for a digital system, generating and considering alternative designs (ACTDIP018)				
Design, modify and follow simple algorithms represented diagrammatically and in English involving sequences of steps, branching , and iteration (repetition) (ACTDIP019)				
Implement digital solutions as simple visual programs involving branching , iteration (repetition), and user input (ACTDIP020)				
Explain how developed solutions and existing information systems are sustainable and meet local community needs, considering opportunities and consequences for future applications (ACTDIP021)				
Manage the creation and communication of ideas and information including online collaborative projects, applying agreed ethical, social and technical protocols (ACTDIP022)				

Digital Technologies Achievement Standard

By the end of Year 6, students **explain** the fundamentals of digital system components (hardware, software and networks) and how digital systems are connected to form networks. They **explain** how digital systems use whole numbers as a basis for representing a variety of data types.

Students define problems in terms of data and functional requirements and **design** solutions by developing algorithms to address the problems. They incorporate decision-making, repetition and user interface **design** into their designs and implement their digital solutions, including a visual program. They **explain** how information systems and their solutions meet needs and consider sustainability. Students manage the creation and communication of ideas and information in collaborative digital projects using validated data and agreed protocols