Australian Curriculum: Digital Technologies
Years 5 and 6

BAND 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.

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.

CONTENT DESCRIPTIONS

Digital Technologies knowledge and understanding

Digital systems

Examine the main components of common digital systems and how they may connect together to form networks to transmit data (ACTDIK014)

Representation of data

Examine how whole numbers are used to represent all data in digital systems (ACTDIK015)

Digital Technologies processes and production skills

Collecting, managing and analysing data

Acquire, store and validate different types of data, and use a range of software to interpret and visualise data to create information (ACTDIP016)

Creating designed solutions by:

Investigating and defining

Define problems in terms of data and functional requirements drawing on previously solved problems (ACTDIP017)

Generating and designing

Design a user interface for a digital system (ACTDIP018)

Design, modify and follow simple algorithms involving sequences of steps, branching, and iteration (repetition) (ACTDIP019)

Producing and implementing

Implement digital solutions as simple visual programs involving branching, iteration (repetition), and user input (ACTDIP020)

Evaluating

Explain how student solutions and existing information systems are sustainable and meet current and future local community needs (ACTDIP021)

Collaborating and managing

Plan, create and communicate ideas and information, including collaboratively online, applying agreed ethical, social and technical protocols (ACTDIP022)