

## Australian Curriculum: Digital Technologies key concepts mapping - Foundation to Year 2

### BAND DESCRIPTION

Learning in Digital Technologies builds on concepts, skills and processes developed in the Early Years Learning Framework. It focuses on developing foundational skills in computational thinking and an awareness of personal experiences using digital systems.

By the end of Year 2, students will have had opportunities to create a range of digital solutions through guided play and integrated learning, such as using robotic toys to navigate a map or recording science data with software applications.

In Foundation – Year 2, students begin to learn about common digital systems and patterns that exist within data they collect. Students organise, manipulate and present these data, including numerical, categorical, text, image, audio and video data, in creative ways to create meaning.

Students use the concept of abstraction when defining problems, to identify the most important information, such as the significant steps involved in making a sandwich. They begin to develop their design skills by conceptualising algorithms as a sequence of steps for carrying out instructions, such as identifying steps in a process or controlling robotic devices.

Students describe how information systems meet information, communication and/or recreational needs.

Through discussion with teachers, students learn to apply safe and ethical practices to protect themselves and others as they interact online for learning and communicating.

### KEY CONCEPTS

The **key concepts** that underpin the Digital Technologies Curriculum establish a way of thinking about problems, opportunities and information systems and provide a framework for knowledge and practice. They are:

-  **abstraction**, which underpins all content, particularly the content descriptions relating to the concepts of data representation, and specification, algorithms and implementation
-  **data collection** (properties, sources and collection of data)
-  **data representation** (symbolism and separation)
-  **data interpretation** (patterns and contexts)
-  **specification** (descriptions and techniques)
-  **algorithms** (following and describing)
-  **implementation** (translating and programming)
-  **digital systems** (hardware, software, and networks and the internet)
-  **interactions** (people and digital systems, data and processes)
-  **impact** (sustainability and empowerment).

### ACHIEVEMENT STANDARD

By the end of Year 2, students identify how common digital systems (hardware and software) are used to meet specific purposes. They use digital systems to represent simple patterns in data in different ways.

Students design solutions to simple problems using a sequence of steps and decisions. They collect familiar data and display them to convey meaning. They create and organise ideas and information using information systems and share information in safe online environments.

### CONTENT DESCRIPTIONS

#### Digital Technologies knowledge and understanding

##### Digital systems

 Recognise and explore digital systems (hardware and software components) for a purpose (ACTDIK001)

##### Representation of data

 Recognise and explore patterns in data and represent data as pictures, symbols and diagrams (ACTDIK002)

#### Digital Technologies processes and production skills

##### Collecting, managing and analysing data

 Collect, explore and sort data, and use digital systems to present the data creatively (ACTDIP003)

##### Creating designed solutions by:

##### Investigating and defining

 Follow, describe and represent a sequence of steps and decisions (algorithms) needed to solve simple problems (ACTDIP004)

##### Evaluating

 Explore how people safely use common information systems to meet information, communication and recreation needs (ACTDIP005)

##### Collaborating and managing

 Create and organise ideas and information using information systems independently and with others, and share these with known people in safe online environments (ACTDIP006)