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|  | Prep to Year 2 standard elaborations — Australian Curriculum:  Digital Technologies |

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| Purpose | The standard elaborations (SEs) provide additional clarity when using the Australian Curriculum achievement standard to make judgments on a five‑point scale. They can be used as a tool for:   * making consistent and comparable judgments about the evidence of learning in a folio of student work * developing task-specific standards for individual assessment tasks. |
| Structure | The SEs are developed using the **Australian Curriculum achievement standard**. The Digital Technologies achievement standard describes the learning expected of students at each band. Teachers use the achievement standard during and at the end of a period of teaching to make on‑balance judgments about the quality of learning students demonstrate.  In Queensland the achievement standard represents the **working with (WW) standard** — a sound level of knowledge and understanding of the content, and application of skills. The SEs are presented in a **matrix**. The discernible differences or degrees of quality associated with the five-point scale are highlighted to identify the characteristics of student work on which teacher judgments are made. Terms are described in the Notes section following the matrix. |
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| Prep[[1]](#footnote-2) Year Australian Curriculum: Digital Technologies 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. | |
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| **Source** | Australian Curriculum, Assessment and Reporting Authority (ACARA), *Australian Curriculum Version 8 Digital Technologies for Foundation–10*, [www.australiancurriculum.edu.au/f-10-curriculum/technologies/digital-technologies](https://www.australiancurriculum.edu.au/f-10-curriculum/technologies/digital-technologies) |

# Prep to Year 2 Digital Technologies standard elaborations

|  | | Applying (AP) | Making connections (MC) | Working with (WW) | Exploring (EX) | Becoming aware (BA) |
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|  | | The folio of a student’s work has the following characteristics: | | | | |
| Knowledge and understanding | Digital systems | identification and clear description of how common digital systems (hardware and software) are used to meet specific purposes | identification and description of how common digital systems (hardware and software) are used to meet specific purposes | identification of how common digital systems (hardware and software) are used to meet specific purposes | guided identification of how common digital systems (hardware and software) are used to meet purposes | directed identification of how common digital systems (hardware and software) are used |
| Representation of data | use of digital systems to clearly and effectively represent simple patterns in [data](http://www.australiancurriculum.edu.au/glossary/popup?a=T&t=Data) in different ways | use of digital systems to effectively represent simple patterns in data in different ways | use of digital systems to represent simple patterns in data in different ways | guided use of digital systems to represent simple patterns in [data](http://www.australiancurriculum.edu.au/glossary/popup?a=T&t=Data) in different ways | directed use of digital systems to represent simple patterns in data |
| Processes and production skills | Collecting, managing and analysing data | comprehensive collection of familiar data and display of the data to clearly and effectively convey meaning | detailed collection of familiar data and display of the data to effectively convey meaning | collection of familiar data and display of the data to convey meaning | guided collection of familiar data and display of the data to convey aspects of meaning | directed collection of familiar data and display of the data |
| Investigating and defining; generating and designing | considered design of solutions to simple problems using a sequence of steps and decisions | informed design of solutions to simple problems using a sequence of steps and decisions | design of solutions to simple problems using a sequence of steps and decisions | guided design of solutions to simple problems using a sequence of steps and decisions | directed design of solutions to simple problems using steps |
| Collaborating and managing | considered creation and organisation of ideas and information using information systems | effective creation and organisation of ideas and information using information systems | creation and organisation of ideas and information using information systems | guided creation and organisation of ideas and information using aspects of information systems | directed creation and organisation of ideas and information using aspects of information systems |
| clear and effective sharing of information in safe online environments | effective sharing of information in safe online environments | sharing of information in safe online environments | guided sharing of information in safe online environments | directed sharing of information in safe online environments |

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| Key | | shading emphasises the qualities that discriminate between the AP–BA descriptors |
|  | **AP**  **MC**  **WW**  **EX**  BA | applies the curriculum content; demonstrates a thorough understanding of the required knowledge; demonstrates a high level of skill that can be transferred to new situations  makes connections using the curriculum content; demonstrates a clear understanding of the required knowledge; applies a high level of skill in situations familiar to them, and is beginning to transfer skills to new situations  works with the curriculum content; demonstrates understanding of the required knowledge; applies skills in situations familiar to them  exploring the curriculum content; demonstrates understanding of aspects of the required knowledge; uses a varying level of skills in situations familiar to them  becoming aware of the curriculum content; demonstrates a basic understanding of aspects of required knowledge; beginning to use skills in situations familiar to them |

## Notes

### Australian Curriculum common dimensions

The SEs describe the qualities of achievement in the two dimensions common to all Australian Curriculum learning area achievement standards — understanding and skills.

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| Dimension | Description |
| understanding | the concepts underpinning and connecting knowledge in a learning area, related to a student’s ability to appropriately select and apply knowledge to solve problems in that learning area |
| skills | the specific techniques, strategies and processes in a learning area |

### Terms used in Prep to Year 2 Digital Technologies SEs

These terms clarify the descriptors in the Prep to Year 2 Digital Technologies SEs. Definitions are drawn from the ACARA Australian Curriculum Technologies glossary ([www.australiancurriculum.edu.au/f-10-curriculum/technologies/glossary](https://www.australiancurriculum.edu.au/f-10-curriculum/technologies/glossary)) and from other sources to ensure consistent understanding.

| Term | Description |
| --- | --- |
| algorithm | the step-by-step procedures required to solve a problem;  see also [computational thinking](#computational_thinking) |
| apply; application | use, utilise or employ in a particular situation |
| aspects | particular parts or features |
| clear; clearly | easy to perceive, understand, or interpret; without ambiguity |
| collaborating and managing ([technologies process](#technologies_processes)) | creating and communicating information, especially online, by creating websites, and interacting safely using appropriate technical and social protocols;  in Prep to Year 2, students create and organise ideas and information using information systems independently and with others, and share these with known people in safe online environments |
| collecting, managing and analysing data ([processes and productions skills strand](#process_and_production_skills)) | involves the nature and properties of data, how they are collected and interpreted using a range of digital systems and peripheral devices and interpreting data when creating information;  in Prep to Year 2, students collect, explore and sort data, and use digital systems to present the data creatively |
| comprehensive | detailed and thorough, including all that is relevant |
| computational thinking | a problem-solving method that involves various techniques and strategies that can be implemented by [digital systems](#digital_systems); techniques and strategies include organising data logically, breaking down problems into parts ([decomposing](#decompose)), defining abstract concepts, and designing and using [algorithms](#algorithm), patterns and models |
| considered | thought about deliberately with a purpose;  in Technologies, *considered* includes [informed](#informed) |
| creation; create; creating | putting elements together to form a coherent or functional whole; reorganising elements into a new pattern or structure through designing, planning, or implementing;  *creating* requires users to put parts together in a new way or synthesise parts into something new or different to form a new product;  in Technologies, it involves bringing a solution into existence through the process of investigating and defining, generating and designing, producing and implementing, evaluating, and collaborating and managing |
| critique; critiquing | a careful judgement in which opinions are given about the positive and negative aspects of something; considers good as well as bad performances, the individual parts, relationships of the individual parts and the overall performance;  see also [evaluating](#evaluating) |
| data | in Digital Technologies, *data* refers to the discrete representation of information using number codes;  may include characters (alphabetic letters, numbers, symbols), images (still and moving), sounds and instructions that can be manipulated, stored and communicated by [digital systems](#digital_systems) |
| decompose; decomposing | to separate a complex problem into parts to allow it to be more easily understood;  see also [computational thinking](#computational_thinking) |
| description; describe | give an account of characteristics or features |
| detailed | meticulous; including many of the parts |
| digital solution; digital solutions | the result (or output) of transforming data into information or action using [digital systems](#digital_systems), skills, techniques and processes to meet a need or opportunity;  in Digital Technologies:   * students create solutions that will use data, require interactions with users and within systems, and will have impacts on people, the economy and environments * solutions may be developed using combinations of readily available hardware and software applications, and/or specific instructions provided through programming (e.g. instructions for a robot, an adventure game, products featuring interactive multimedia including digital stories, animations and websites)   in Prep to Year 2, students should have 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 |
| digital systems (knowledge and understanding strand) | digital hardware and software components (internal and external) used to transform data into [digital solutions](#digital_solution); when digital systems are connected they form a network; for example:   * a smartphone is a digital system that has software (apps, an operating system), input components (e.g. touch screen, keyboard, camera and microphone), output components (e.g. screen and speakers), memory components (e.g. silicon chips, solid state drives), communication components (e.g. SIM card,  wi-fi, bluetooth or mobile network antennas), and a processor made up of one or more silicon chips * a desktop computer with specific software and hardware components for dairy farming; the computer is connected via cables to milking equipment and via wi-fi to sensors that read tags on the cows; through these hardware components the software records how much milk each cow provides; such systems can also algorithmically control attaching milking equipment to each cow, providing feed and opening gates |
| directed | following the instructions of the facilitator |
| effective | meeting the assigned purpose in a considered and/or efficient manner to produce a desired or intended result |
| evaluate; evaluating ([technologies process](#technologies_processes)) | examine and judge the merit or significance of something;  in Technologies, *evaluate* means measures performance against established criteria; estimates the nature, quality, ability, extent or significance to make a judgment determining the value;  see also [critiquing](#critique);  in Digital Technologies, evaluating includes:   * solutions that have been developed by students * examining how well existing information systems meet different needs   in Prep to Year 2, students:  explore how people safely use common information systems to meet information, communication and recreation needs |
| generating and designing ([technologies process](#technologies_processes)) | states what is required of the solution |
| guided; guidance | visual and/or verbal prompts to facilitate or support independent action |
| identification; identify | establish or indicate who or what someone or something is |
| information systems | a combination of digital hardware and software components ([digital systems](#digital_systems)), [data](#data), processes and people that interact to create, control and communicate information |
| informed | having relevant knowledge; being conversant with the topic;  in Technologies, *informed* refers to the underpinning knowledge, understanding and skills of [processes and production skills](#process_and_production_skills) when solving problems and creating solutions |
| investigating and defining ([technologies process](#technologies_processes)) | describes the problem and/or opportunity and states what is required of the solution;  in Prep to Year 2, students follow, describe and represent a sequence of steps and decisions (algorithms) needed to solve simple problems |
| processes and production skills | the skills needed to create [digital solutions](#digital_solution);  see [technologies process](#technologies_processes) |
| producing and implementing ([technologies process](#technologies_processes)) | actively realising (making) digital solutions using appropriate resources and means of production |
| product; products | one of the outputs of [technologies process](#technologies_processes), the end result of processes and production; *products* are the tangible end results of natural, human, mechanical, manufacturing, electronic or digital processes to meet a need or want |
| proficient | competent or skilled in doing or using something;  in Digital Technologies, proficient means consistently in all digital solutions |
| representation of data (knowledge and understanding strand) | how [data](#data) are represented and structured symbolically for use by [digital systems](#digital_systems);  in Prep to Year 2, students recognise and explore patterns in data and represent data as pictures, symbols and diagrams |
| statement | a sentence or assertion |
| technologies processes ([processes and productions skills strand](#process_and_production_skills)) | the processes that allow the creation of a solution for an audience (end user, client or consumer) and involve the purposeful use of [technologies](#technologies) and other resources and appropriate consideration of impact when creating and using solutions;  typically require critical and creative thinking, such as computational, design or systems thinking;  in Technologies, the *technologies processes* involve:   * [investigating and defining](#investigating_and_defining) * [generating and designing](#generating_and_designing) * [producing and implementing](#producing_and_implementing) * [evaluating](#evaluating) * [collaborating and managing](#collaborating_and_managing) |
| technologies | the materials, data, systems, components, tools and equipment used to create solutions for identified needs and opportunities, and the knowledge, understanding and skills used by people involved in the selection and use of these |
| use | to operate or put into effect |
| user | one who uses a computer, computer program, or online service |

1. Prep in Queensland is the Foundation Year of the Australian Curriculum and refers to the year before Year 1. Children beginning Prep in January must be five years of age by 30 June. [↑](#footnote-ref-2)