

Cut through the technical language

of Digital Technologies

The Digital Technologies curriculum exists within the Technologies learning area of the Australian Curriculum. It comprises 2 strands:

- Knowledge & Understanding
- Processes & Production Skills

Digital Technologies

Overview

Digital Systems



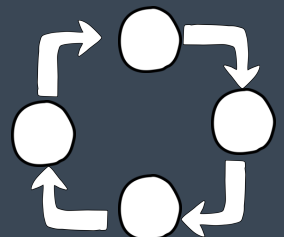
The components of digital systems: hardware, software, networks

Representation of Data



How data are represented and structured symbolically

Data



Collecting, managing & analysing data

Key Curriculum Elements

for creating digital solutions

Collaboration & Communication

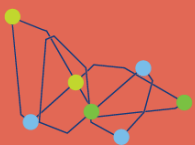


Managing, creating and communicating ideas & information

Computational Thinking



Integrating problem-solving with the capabilities of digital systems



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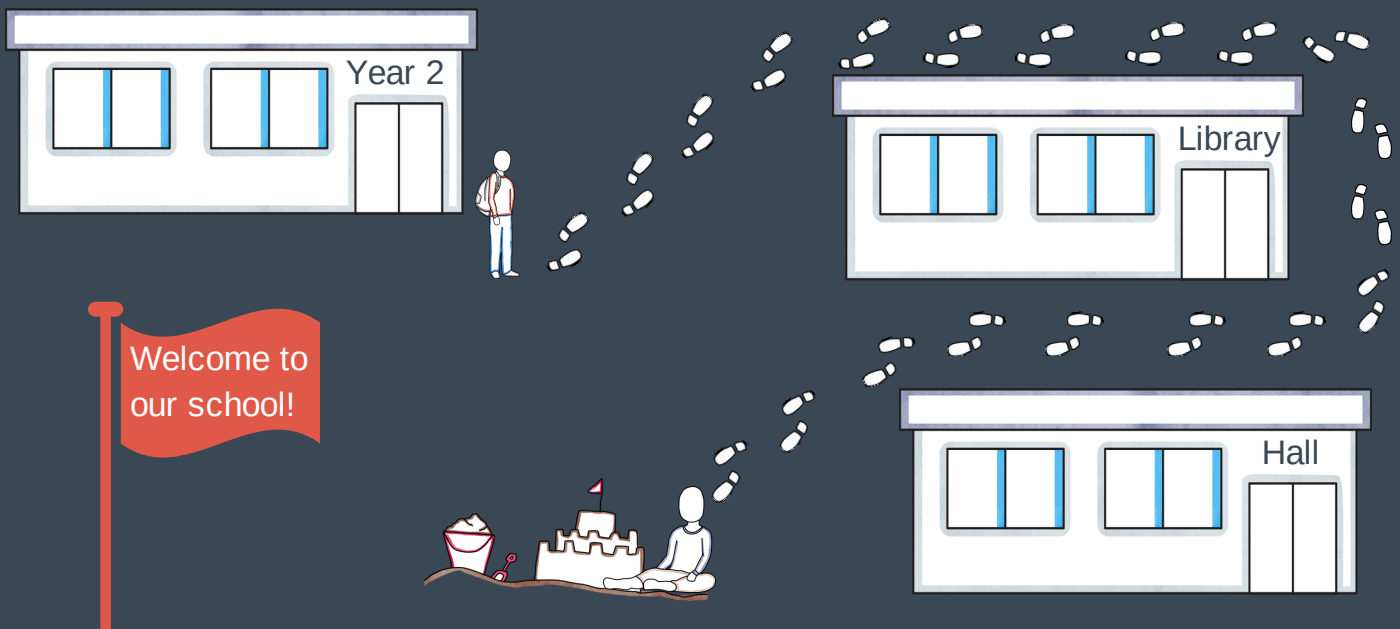
Algorithms

A series of ordered steps taken to solve a problem or achieve some end.

Foundation to Year 2

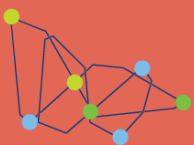
----- Content Description -----

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



-- One Possible Task Example --

Amy has a new student joining her class. She has been asked to help the new student find their way to the playground. Amy takes a series of digital photos of places along the way. She organises the photos into a sequence to show the way from her class to the playground.



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



A series of ordered steps taken to solve a problem or achieve some end.

Years 3 - 4

----- Content Description -----

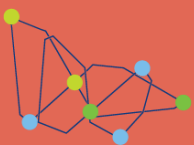
Define simple problems, and describe and follow a sequence of steps and decisions (algorithms) needed to solve them [ACTDIP010].

	6 Legs?	3 Body Parts?	2 Antennae?	2 Wings?
Item 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Item 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Item 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

			
3	1	2	3
2	1	2	4

-- One Possible Task Example --

Max needs to classify mini beasts for his project. Once he has determined the characteristics he will use to classify these animals, he will create a chart or checklist of decisions that can be used to help in the process of solving this problem.



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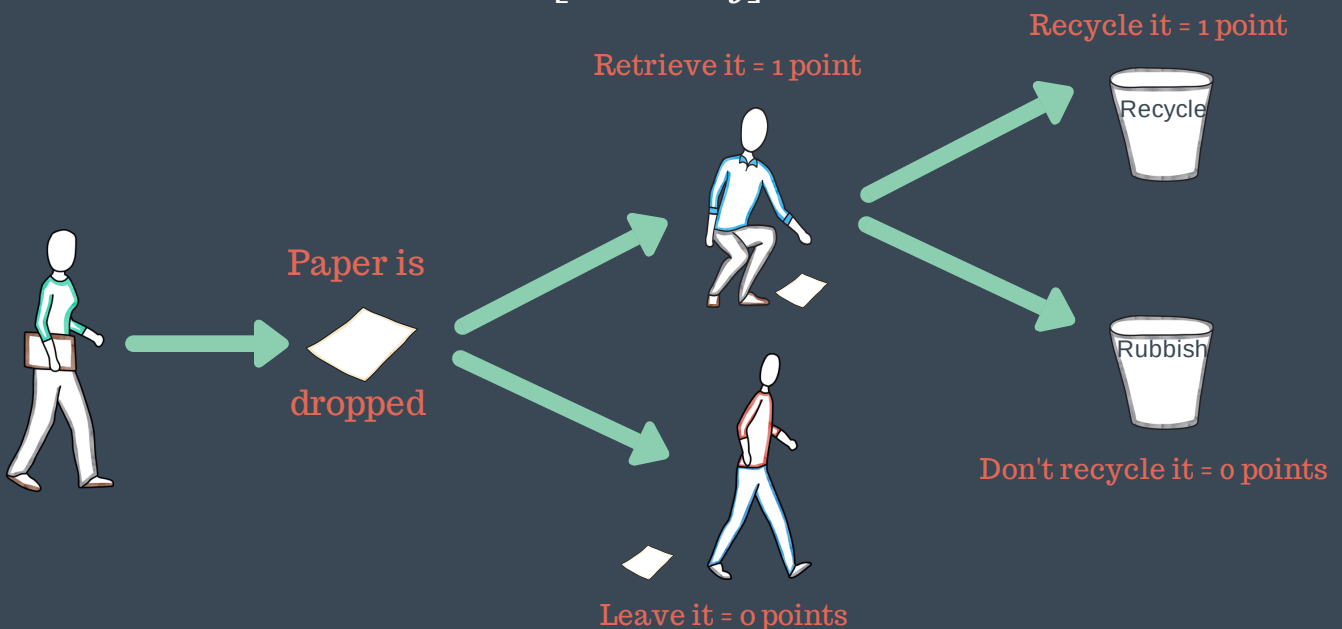
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Years 5 - 6

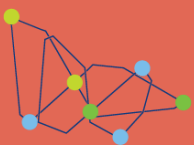
----- Content Description -----

Design, modify and follow simple algorithms represented diagrammatically and in English involving sequences of steps, branching, and iteration (repetition) [ACTDIP019].



-- One Possible Task Example --

Sam's school is not very environmentally friendly, so she designs a digital game where students choose the correct bin for their rubbish. Sam draws a sequence of steps to show how decisions affect the number of points scored in the game.



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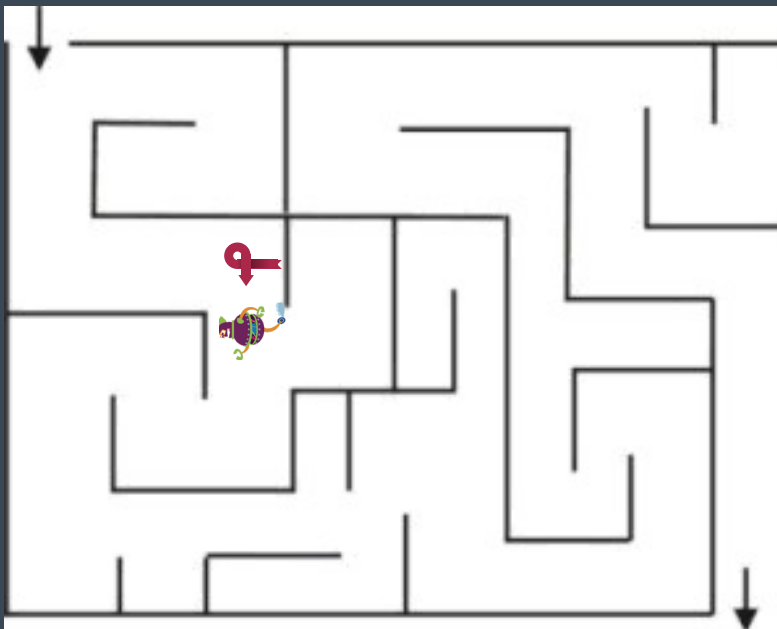
A series of ordered steps taken to solve a problem or achieve some end.

Years 7 - 8

----- Content Description -----

Design algorithms represented diagrammatically and in English; and trace algorithms to predict output for a given input and to identify errors [ACTDIP029].

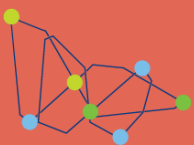
Maze Entrance



Maze Exit

-- One Possible Task Example --

Instruct a robot to exit successfully within a specified time period from any maze. Create a set of ordered steps using a flowchart. Include a range of conditional statements to direct the robot when it encounters a problem such as a wall or obstacle via its sensors or contact.



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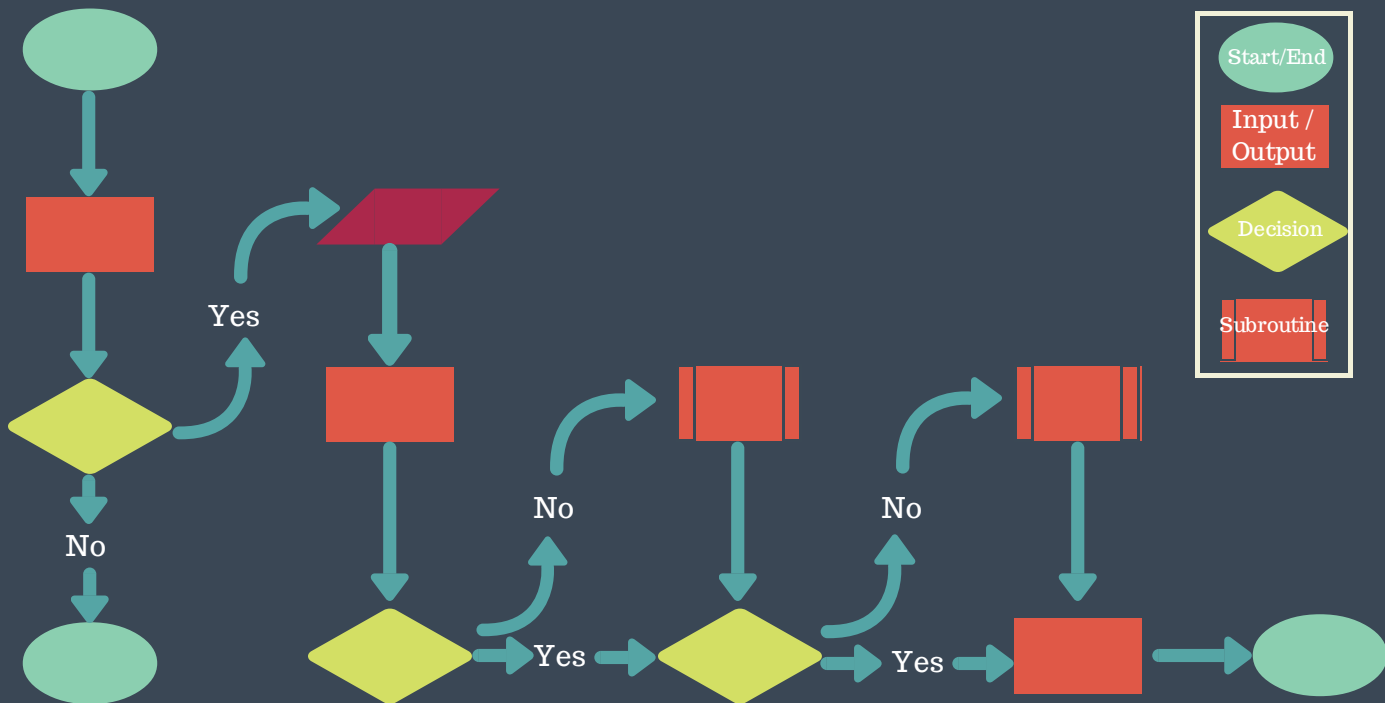
Algorithms

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Years 9 - 10

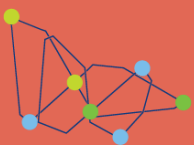
----- Content Description -----

Design algorithms represented diagrammatically and in structured English and validate algorithms and programs through tracing and test cases [ACTDIPo40].



-- One Possible Task Example --

Due to issues with illegible writing and lost order-bags and money, it has been decided that a new online lunch ordering system is required. Create a sequence of steps for the new online lunch ordering system using a flowchart. Test and obtain feedback from your peers on the successful sequencing of steps.



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Sources

<http://www.iste.org/docs/ct-documents/ct-vocabulary-and-progression-chart.pdf>

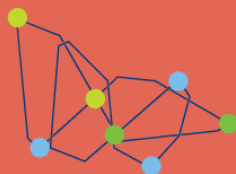
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