

Learning at home



Digital Technologies Hub

Links to Department advice

(ACT) [Learning from home](#)

(NSW) [Learning from home](#)

(SA) [Learning from home](#)

(TAS) [Learning from home](#)

(WA) [Learning from home](#)

(Vic) [Learning from home](#)

(QLD) [Learning from home](#)

[Smartcopying](#)

Beware of copyright issues. This site includes updates /bites, such as Audible now offering free audio books for students.

Learning at home

With the onset of the COVID-19 outbreak many students may be at home and be continuing to learn using lessons supplied by schools.

In response to this the DT-Hub team has produced some suggestions as to how students can learn about Digital Technologies in connection with other learning areas.

Here are a few suggestions:

Years F-2

[Seasonal walk](#)

Take a walk around their backyard to collect some data about the animals and plants they can find.

[Creating a digital system](#)

Create a model of your own digital system such as a tablet device or computer and role play its use.

[DT Laundry](#) (ACA resource)

Unlock the secret symbols hidden on your clothes.

Years 3-4

[Flow chart](#)

Choose a simple card game and create a flowchart that describes the steps and decisions you make that enable you to successfully play the game.

[Devices in your home](#)

Identify and explore different peripheral devices that can be connected to digital systems in your home.

[Animated card](#)

Using our simple steps to code, make an animated card to send to a family friend.

[Tech Talk find a word](#) (ACA resource)

Use this wordsearch to find hidden tech words.

[Semaphore System](#)

Learn to spell different words using the semaphore system with flags and movement.

Secret messages (no device required)
Create secret messages for your family to decode.

1. Write a simple message coded using a substitution of a number for each letter; for example, A=1 and Z=26. See how long it takes to 'crack the code' or 'decipher the message'.

2. Print out two columns containing the letters of the alphabet. Have one column in the correct order. But for the second, offset each letter by 2. For example, A would become C. Using this method, you can code words with each letter offset by 2. So 'doa' becomes

In this article

Tasks for each year band

Years F-2	1
Years 3-4	1
Years 5-6	2
Years 7-8	2
Years 9-10	3

Years 5-6

[Connectivity at home](#)

Identify and explore different types of connections that can be found and linked with digital systems in your home.

[Binary memory game](#)

Using your knowledge of binary numbers, play the Binary Memory game. Printable cards included.

[Search and we will find](#)

Learn about the power of advanced search options to help narrow results when looking for resources.

[Cracking a Code](#) (ACA resource)

Crack the code - give your passwords superpowers.

[Maze Escape](#) (ACA resource)

Can you get to the centre of the maze with the fewest instructions?

Create an algorithm, or set of instructions, to navigate through a maze. Choose from a finite set of commands, and create the best instructions you can to get through the maze with the fewest number of instructions.

[Tech Collect](#) (ACA resource)

Use this wordsearch to find hidden tech terms.

Represent data as binary numbers 1 or 0.

Explore this [example](#) of an image to decode.

See if you can work out the way binary numbers are used to code the image.

Make your own instructions for your own image using binary numbers. Ask someone in your family to work out the image.

Learn more about this on Code Studio by viewing this [video](#) then explore puzzle 1.

Years 7-8

[Basic coding course: Beginners](#)

Try this course with fun challenges to help you learn to code.

[Number Guessing with Algorithms](#) (ACA resource)

Play a number guessing game, then think about the best way to play the game to win. Create a set of instructions anyone can follow to guess a number in the fewest number of guesses

[Unscrambling a secret message](#) (ACA resource)

Unscramble a hidden message by figuring out missing letters in common words.

This activity uses a substitution cipher, and students can go on to create their own hidden messages. Substitution ciphers are an example of encryption, which is used when data needs to be sent securely.

[Card Switches](#)

Learn to scramble and sort cards like a computer!

In this challenge students are taught the steps involved in Bubble sort algorithms by comparing and switching unsorted cards. They then use that method to classify how scrambled different card sequences are from their sorted form.

[Spaceship Rescue](#)

Can you find the missing spaceships?

NASA has lost 4 spaceships in deep space. Probes have been deployed to gather data. Your job is to triangulate the data to find the missing spaceships and save the astronauts.

Years 9-10

[Coding course Chatbots](#): Intermediate

Try this AI related course Coding a sentimental chatbot in python. This course explores natural language processing, a significant application of artificial intelligence.

Parents and students are led through the coding in Python of a chatbot, a conversational program capable of responding in varied ways to user input, including with the use of smart sentiment analysis. Each tutorial includes optional tinker challenges. The initial videos in the sequence will suit programmers with beginner skills in Python, with programs growing in complexity towards the end of the sequence.

[Cellular Automoji](#) (ACA Resource)

Uncover self-replicating emoji patterns

Apply simple rules to self-replicating emoji to uncover complex patterns.

[Book analysis with AI techniques](#) [Intermediate](#)

Try this course that explores text analysis through Natural Language Processing, a significant application of Artificial Intelligence.

Parents and students are led through a series of video tutorials to develop a Python program that can break down and analyse the content of a complete text, such as Robert Louis Stevenson's Treasure Island, and use smart sentiment analysis to attempt to determine the villain(s) and hero(s).