

This page is for



Digital Technologies @ Home
Unplugged activities for students



Teachers



Parents
and carers

This activity is for: Years F-2

We're going on a computer hunt

This activity teaches...

We are surrounded by computers and digital systems, often without realizing it. Some digital systems are obvious - a laptop computer, or a smartphone. Others are much harder to find, because they don't look like a computer. A washing machine, air conditioner or fridge that adapts to different situations probably contains a computer. Cars are full of digital systems to help us with navigation, safety, entertainment and driving.

Digital systems are made of components. On a laptop, components include a screen, keyboard, power supply, processor, and storage. Digital systems also consist of both hardware and software. Hardware is what you can see and touch (or physical parts inside the device) while software is the code that gives the device instructions to perform a specific task.

Digital systems are created to do a specific task: for example, a smart washing machine is really good at washing clothes, but terrible at toasting bread. A laptop lets us view, change, and create data. You wouldn't expect it to keep food cold though! In this activity students explore digital systems around them and consider the components that make those systems, and what the purpose of the system is.

It is expected to take up to 1 hour.

Getting started (read this with your child):

Have you ever thought about how many computers are in your home? Computers come in all shapes and sizes and do lots of different things. We call them digital systems. We're going to explore and find digital systems around our home. Once we find them we'll figure out what they do!

Step by step

Follow the instructions on the following pages with your child.

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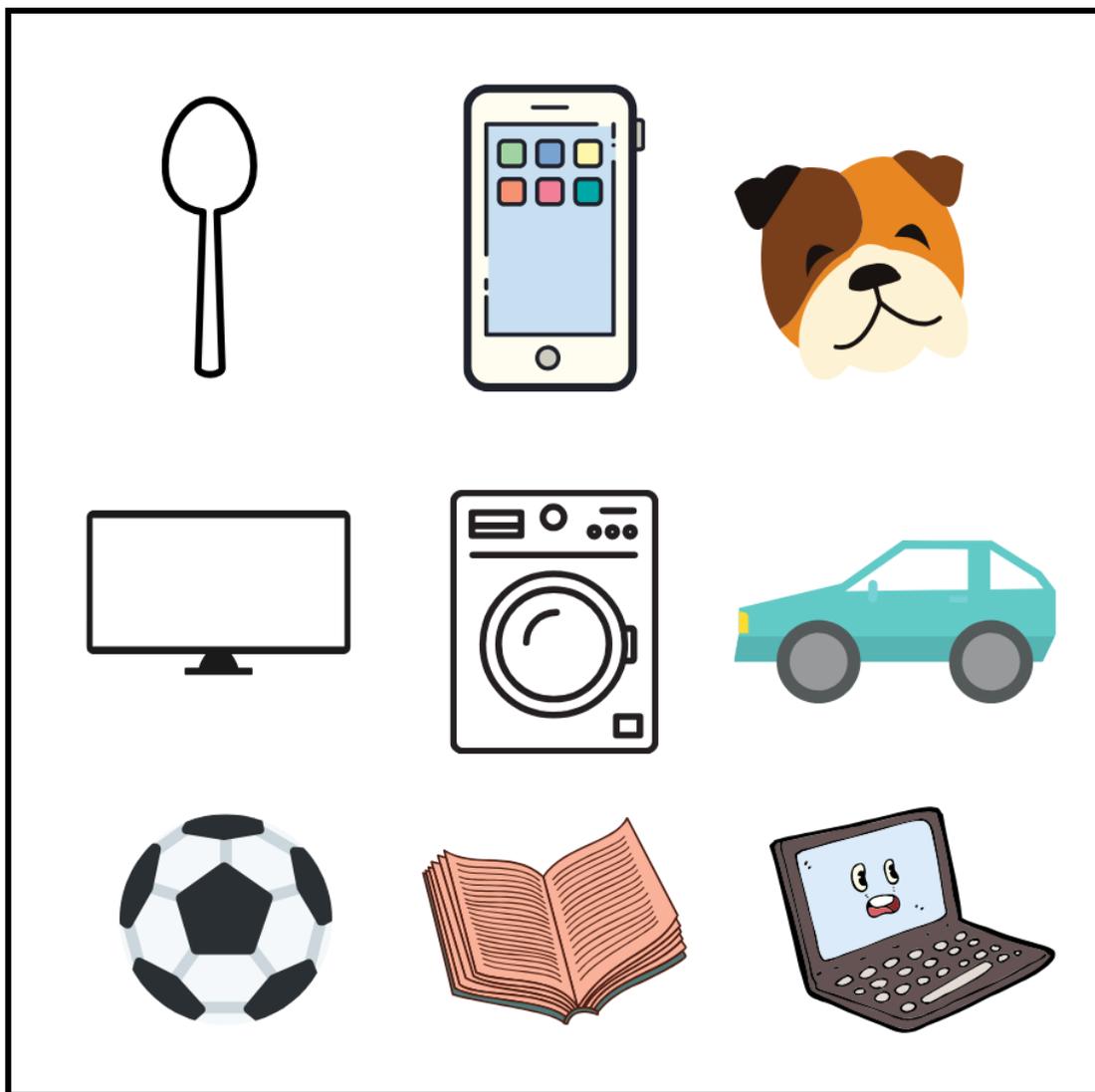
Students

Step 1

How many digital systems do you think there are in your home? Have a guess and write your answer here:

Step 2

Circle all the things which contain **digital systems** below.



We're going on a computer hunt



Students

Step 3

Digital systems do important jobs for us.

For each thing you circled at step 2, finish this sentence (we've done one for you.)

A car helps us get places.

A _____ helps us _____.

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Students

Step 4

Walk around the house and see how many digital systems you can find. Make a list here:

1. _____.

2. _____.

3. _____.

4. _____.

5. _____.

6. _____.

7. _____.

8. _____.

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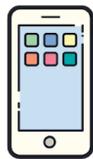
Students

Step 5:

Show your list to your carer, and with their help, have a turn with the digital systems you have found. Talk about what each one does.

Step 6:

Match up the digital systems below with what they do - draw lines to connect words with pictures.



Clean clothes



Tell the time



Talk to people



Cool food



Research, make docs



Play games

Answer key



Teachers

Step 1:

Most people will be surprised at the number of digital systems in their homes. Homes are estimated to have around 15 connected devices each, and this doesn't include things like smart washing machines and other appliances. Devices that in the past were electrical but not digital systems are increasingly incorporating technology to allow them to adapt to what is happening around them. Things like kettles, heaters, watches and alarm clocks were once electrical but would not have been considered a digital system.

The hallmarks of a digital system are:

- A power source;
- A way to store data;
- A processor to process data;
- Taking inputs (such as pressing buttons, using a mouse, touching a screen); and
- Returning outputs (information on a screen, a change of temperature, sound from a speaker).

Step 2

Using the criteria above, we can determine that the telephone, laptop, washing machine, tv, and car are digital systems. The dog, despite containing a microchip, is not!

Step 3

A car helps us get places.

A washing machine helps us clean clothes.

A laptop helps us find and save information (there are many possible answers). A tv helps us watch programs.

A telephone helps us contact people.

Step 6

Mobile phone: talk to people

Game controller: play games

Fridge: cool food

Washing machine: clean clothes

Smart watch: tell the time

Laptop: research, make docs

Want more?

Here are some further activities, online resources, assessment ideas and curriculum references.



Teachers

Adapting this activity

For older students extend the discussion by identifying **components** of digital systems: ask students to identify inputs, outputs, power sources, storage and processing components as well as peripheral devices.

There is a useful video to watch here:

<https://www.youtube.com/watch?v=xfKn50jHLqQ> explaining the components of digital systems in an engaging way.

For greater curriculum coverage you could also include a discussion around exploring how people safely use common information systems to meet information, communication and recreation needs (ACTDIP005 - see cmp.ac/impact).

Keep learning

Students can complete a word search to build their vocabulary around digital systems:

cmp.ac/techtalk

Another unplugged activity this age group will enjoy is the messy drawer activity, where they explore and sort the contents of a drawer at home:

cmp.ac/drawer

For teachers creating a portfolio of learning or considering this task for assessment

Ask students to submit their completed worksheet.

Linking it back to the Australian Curriculum: Digital Technologies

Digital systems



Recognise and explore digital systems (hardware and software components) for a purpose (ACTDIK001: refer to cmp.ac/systems)

Refer to aca.edu.au/curriculum for more curriculum information.