

Can I explain what  
parts make up a  
digital device?

National  
Centre for  
Computing  
Education



Raspberry Pi

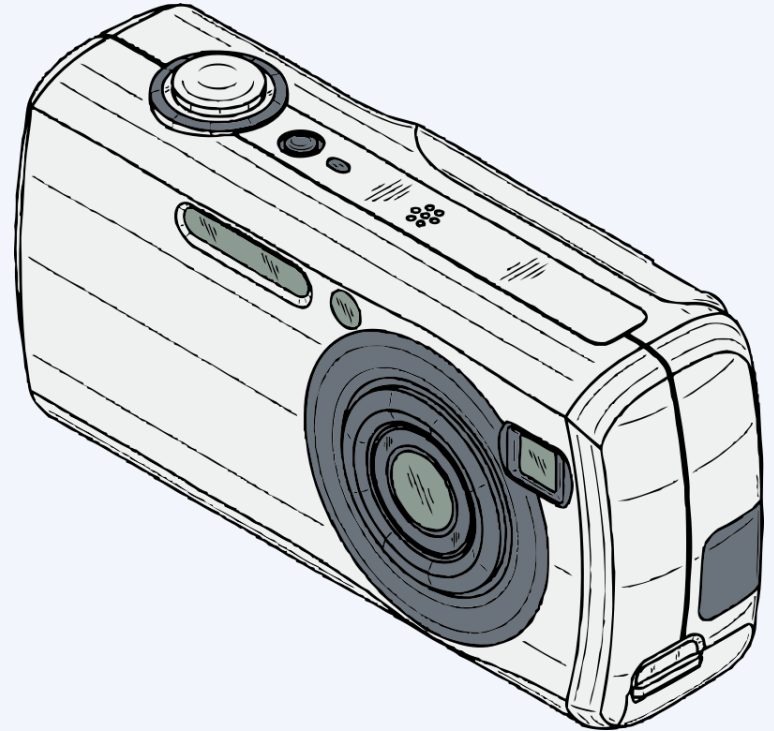
## Lesson 2: What parts make up a digital device?

To identify input and output devices

- I can classify input and output devices
- I can describe a simple process
- I can design a digital device

# What have you learnt?

- What is this digital device?
- What does it do?
- What is the input?
- What is the process?
- What is the output?



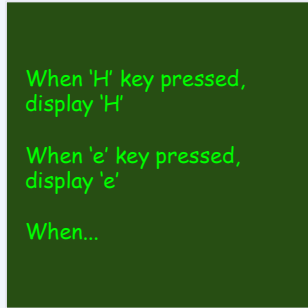
# Digital devices must have an input, a process, and an output

## Input



You press a button  
on the keyboard

## Process



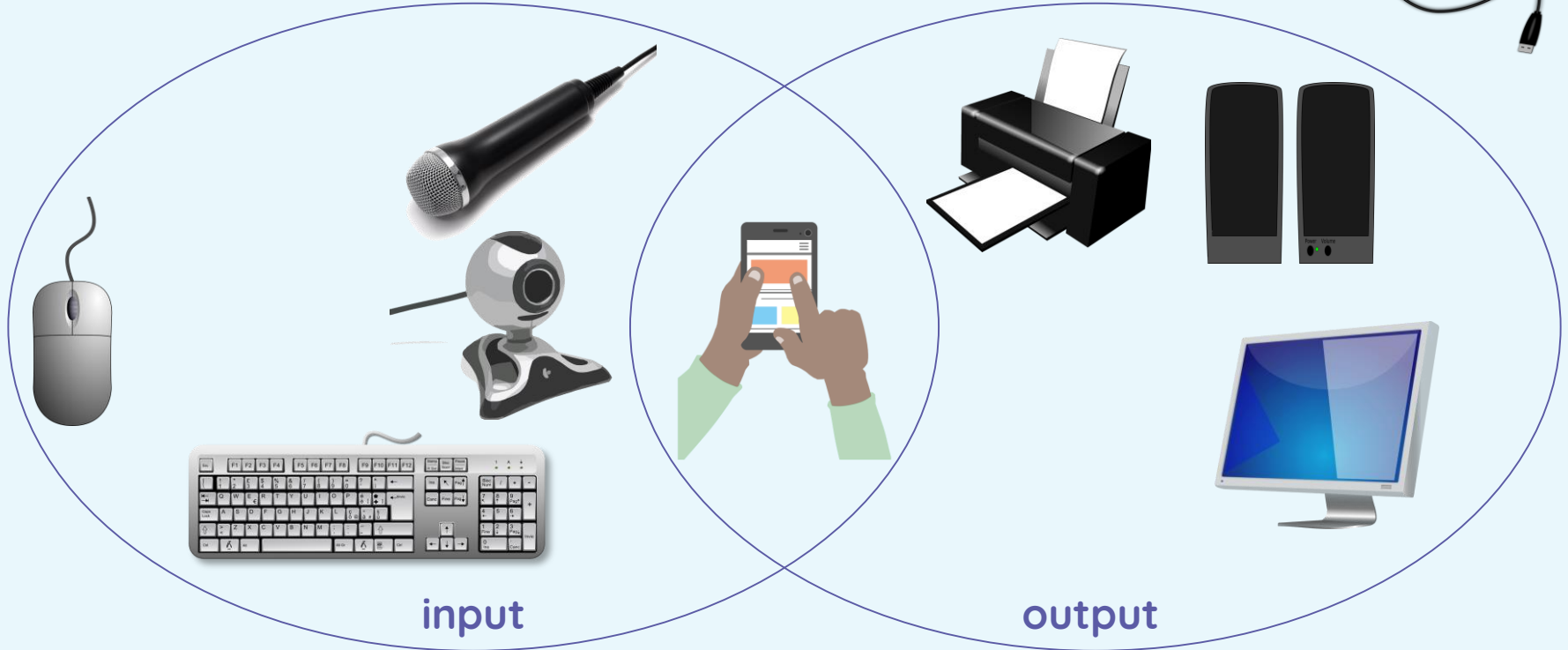
The computer follows a  
**program** that tells it  
what to do when you  
press a button

## Output



You see the letter on  
the screen that  
matches the button  
that you pressed

# Input or output?



# Input or output?



input

crossing button

output

# Device inputs and outputs

## Input device



Keyboard



Touchscreen



Games controller



Button

## Digital device



Laptop



Games console



Tablet



Pedestrian crossing  
button

## Output device



Printer



Screen



Speaker



Pedestrian  
crossing  
lights

# Design a digital device

Can you design a machine that uses inputs and produces an output?

Can you describe how its processing works?


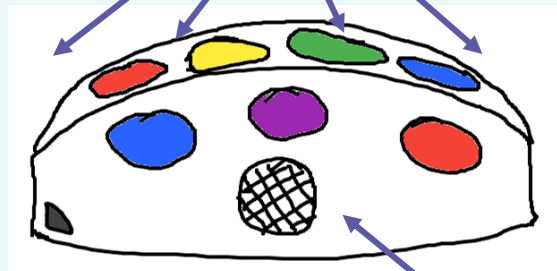
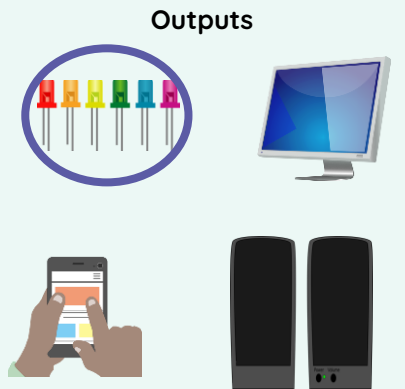
## Some ideas

A device that:

- Makes lights flash to music
- Tells jokes
- Takes a picture and changes it
- Records a voice and changes it
- Makes music



# Design a digital device

<p><b>Devices Inputs</b></p> 	<p>Invention name: <u>Dazzling disco lights</u></p> <p>Different coloured lights that flash</p>  <p>Microphone that can hear sound</p>	<p><b>Process</b></p> <p>Music from the disco goes into the microphone.</p> <p>The device measures how loud the music is.</p> <p>The louder the music, the brighter the lights glow.</p>
<p><b>Outputs</b></p> 		

# Plenary

"Yesterday evening, I got home from school and turned on the TV to watch a programme on a streaming service. There wasn't much on, so I played on my games console instead. I was tired after I finished my homework on my laptop, so I went to bed, not forgetting to set the alarm on my smart speaker. I woke up this morning and listened to some music from my morning playlist. I got to school just in time, because the satnav in the car found the quickest route."

# Plenary

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## How confident are you? (1-3)

- I can classify input and output devices
- I can describe a simple process
- I can design a digital device

3 - Very confident



2 - Unsure



1 - Not confident



# Next lesson

## In this lesson, you...

Looked at devices with different inputs and outputs and designed your own digital device

## Next lesson, you will...

Compare using a digital tool with using a non-digital tool