

Learning Objectives	Before the lesson
<ul style="list-style-type: none"> To recognise how technology is controlled I know that people control technology I know that technology follows instructions I can predict what technology will do 	<p>Watch</p> <ul style="list-style-type: none"> <i>Teacher video: Inputs</i> <p>Teacher video: Inputs</p> <ul style="list-style-type: none"> <i>Presentation: Inputs</i> Old technology equipment <p>Have ready</p> <ul style="list-style-type: none"> <i>Activity: Technology photos</i> (see Classroom resources) – one between two pupils <i>Activity: Robot sheet</i> (see Classroom resources) – one per pupil <p>Print</p>
Attention grabber	
<p>Display slide 2 of <i>Presentation: Inputs</i> to show Learning objective and Success criteria.</p> <p>Presentation: Inputs</p> <p>Show on your interactive whiteboard</p> <p>If possible, bring some technology into the classroom; it could be old technology that no longer works, or:</p> <ul style="list-style-type: none"> remote control for television DVD player microwave games console, etc <p>Slide 3: if you can't, then print the <i>Technology photos</i> for the children to use. Show one of the items or photos to the class and ask them what they think would happen when you press a button. Repeat this a few times with the different objects.</p> <p>Slide 4: in pairs or small groups, the children then discuss what they think will happen when the buttons are pressed on these items. There may be some they've not used, e.g. washing machine, so discuss the objects as a class to ensure everyone knows what each of them do.</p> <p>Slide 5: then, explain that you're going to tell them a secret about all of these things... they have a computer inside them! That's how they know what to do when someone presses the button. The computer says "When someone presses the button, do this..." and then it happens!</p>	

Key questions

- What does the word technology mean?
- What do you think will happen when the button is pressed?

Main event

Slide 6: go through the success criteria, so that pupils can start to independently predict what they think different technology does and consider how it's controlled. Explain that learning about how technology works allows us to make our own inventions that do what we want them to!

Slide 7: so far, we've looked at the technology in the room, and we've worked out what their buttons do. We've also thought about their programs, e.g. "When the button is pressed, turn on the television", this makes it easier for us to design our own technology!

Slide 8: now, show children *Activity: Robot sheet* (second page) – and point out the remote control. Explain that this remote control can program children. When you press the red button, it makes the children wave their arms in the air; when you press the green button, they tap their knees; when you press the blue button, they fall asleep.

Play with the control for a few minutes. You could get children to suggest what different buttons could do.

Slide 9: show and hand out the *Activity: Robot sheets*. Ask children to label the robot and explain how it works. Their robot can do anything they want (e.g. a goal scoring robot, a cupcake-making robot, a dance partner?)

The point of the activity is for children to recognise that it will need buttons to control it (inputs), and perhaps even lights/sounds (outputs) to see what it's doing!

Give them some time to share their ideas with a partner before sharing some as a whole class. Model labelling the robot, pointing to which parts would be buttons or lights, etc.

Whilst the children are labelling, get them to articulate what they're doing and how their robot works – this is more important than what it does!

Key questions

- What is an input?
- Can you give an example from your robot activity of an input?
- What is an output?
- Can you give an example from your robot activity of an output?

Wrapping up

Slide 10: ask children to share their robots with their partners and get them to give verbal feedback of pupils' explanations of how they would control the robot to make it work.

Key questions

- What instructions will it need to follow?
- How will it know when to carry out these instructions?

Glossary

- Input
- Output
- Robot
- Device
- Technology

Assessing pupils' understanding and progress

Next steps

Pupils with secure understanding indicated by: Recognising that buttons cause effects and that technology follows instructions.

Pupils working at greater depth indicated by: Suggesting how we know technology is doing what we want it to, e.g. outputs.

For pupils needing extra support: If ideation is tricky, give them some limited options for what their robot could do. Provide a wordbank.

Pupils working at greater depth: Ask them to explain how we know whether technology is doing what you asked (output).