Hardware and Software

Introduction

You will aim to learn the following objectives and keywords during this lesson.

Learning Objective	• To describe the difference between hardware and software • To demonstrate the use of simulation software • To recognise the link between sensors and software
Keywords	• Hardware • Software • Sensor

Setting the Scene

"Can you tell the difference between hardware and software?"

We rely on both in all computer systems around us.

Concept	How it is used
Hardware is anything you **can** touch within a computer system. Software is anything you **cannot** touch within a computer system.	Computer systems are all around us and made up of hardware components. The software is a series of instructions that allow the user to interact with the computing hardware.

Can you name one piece of software and one piece of hardware you have used?

Computing systems are all around you from, washing machines to mobile phones. They all contain hardware and software.

First let us look at what ***hardware*** and ***software*** is.

Scenario

Scenario 1	Scenario 2
You have a mobile phone. • What can you touch – the hardware? • How do you interact with the hardware – software?	You have a games console. • What can you touch – the hardware? • How do you interact with the hardware – software?

What technology devices do you use daily?

Activity 1

Create a drawing of a device, labelling hardware components.

- Consider a mobile phone or smart watch.
- Draw out the device.
- Label the hardware components you can see.
- Can you think of a new piece of hardware that could be added to the device?

Activity 2

Can you label the software icons?

Icon	Description
	
	
	
	
	
	
	
	
	
	
	

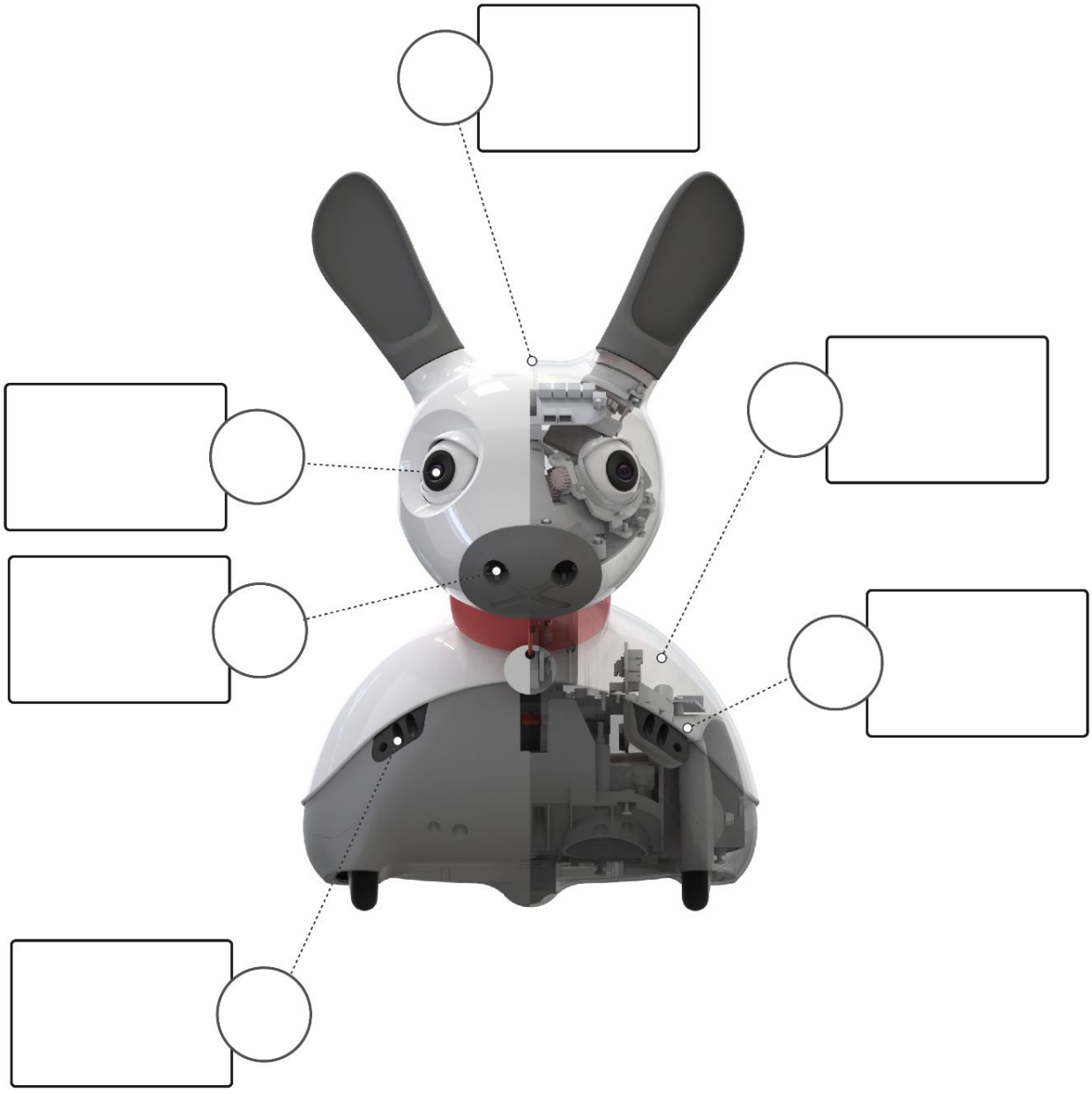
	
	
	
	
	

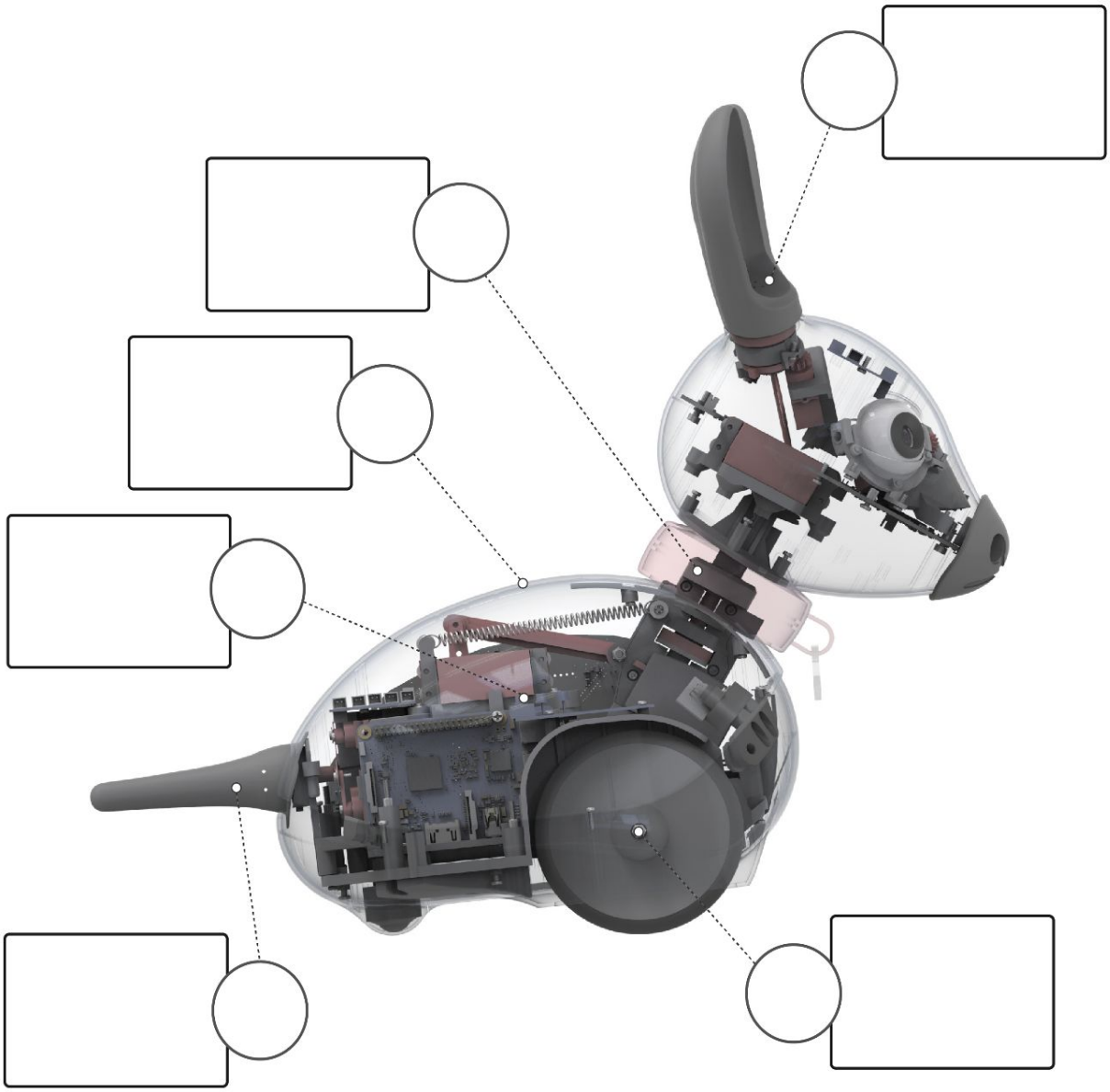
Activity 3

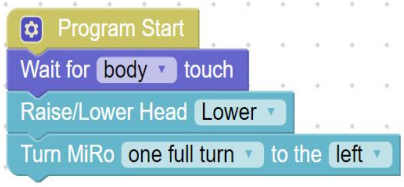
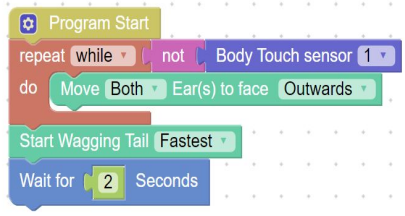
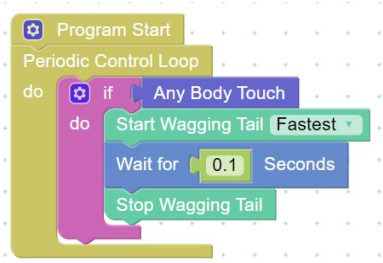
Can you label the hardware icons?

Icon	Description
	
	
	
	
	
	
	
	
	
	
	
	

Can you label the diagram with the icons and details?





Program	Prediction	What happened when the program was run?
		
		
		

Summary Self-Assessment

Question	Got it	Got it with help	Unsure
Can you describe the difference between hardware and software?	☐	☐	☐
Can you demonstrate the use of simulation software?	☐	☐	☐
Can you recognise the link between sensors and software?	☐	☐	☐