

Circuits and Conductors : Science : Year 4

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To identify common appliances that run on electricity.	In this initial lesson the children will discuss what electricity is and how we use it in our day-to-day lives. They will think about which appliances around them use electricity and begin to think about batteries and plugs.	<ul style="list-style-type: none"> • Are children able to identify common appliances powered by electricity? • Can children say what we use electricity for and why it is important? • Are children able to describe electricity as a form of energy? 	<ul style="list-style-type: none"> • Slides • Worksheet 1A/1B/1C • Sorting Sheet 1A • Electricity Hunt Sheet 1A
Lesson 2	To understand how to keep safe around electrical appliances.	This lesson leads a discussion with your class about how we can all stay safe when using electrical devices. The children will have the opportunity to spot potential hazards and discuss how they can be made safe.	<ul style="list-style-type: none"> • Can children explain some of the dangers of electricity? • Are children able to explain the difference between battery and mains electricity? • Are children able to say how they can stay safe around electricity? 	<ul style="list-style-type: none"> • Slides • Worksheet 2A/2B/2C • Poster Template sheet (FSD? activity only)
Lesson 3	To construct simple circuits.	This lesson challenges your class to begin constructing simple circuits with single or multiple components, observing what they see as they do so. The children will learn about what a complete circuit is, as well as the names of different components and short circuits.	<ul style="list-style-type: none"> • Can children label the components of a circuit? • Are children able to construct simple circuits? • Can children make observations about simple circuits? 	<ul style="list-style-type: none"> • Slides • Circuits equipment • Picture Cards 3A • Worksheet 3A/3B • Challenge Cards 3A • Circuit Cards (FSD activity only)
Lesson 4	To recognise common conductors and insulators.	In this lesson the children will discuss how electricity can flow through, or not flow through, different materials. They will experiment with, and sort materials based on if they are electrical conductors or insulators, making predictions about the materials. Alternatively, they can make a switch using given objects to use as a buzzer in a quiz game.	<ul style="list-style-type: none"> • Can children set up a fair test? • Can children make predictions about whether a material is a conductor or insulator? • Are children able to say whether a material is a conductor or insulator? 	<ul style="list-style-type: none"> • Slides • Circuits equipment • Worksheet 4A/4B/4C • Picture Card 4A • Quiz Questions 4A (FSD? only activity)
Lesson 5	To make a simple device which includes a circuit.	In this lesson the children will use all they have learnt about electrical components to create an electrical circuit which will be used to power a simple device. The children will need to work together to discuss and figure out how they can use a circuit in their device.	<ul style="list-style-type: none"> • Can children create a simple circuit with a switch? • Are children able to create a simple, functioning device which uses electricity? • Can children troubleshoot and solve problems with their circuit? 	<ul style="list-style-type: none"> Slides Challenge Card 5A/5B/5C Flexible, thick wire Circuits equipment including bulbs and buzzers Challenge Card 5D/5E (FSD? activity only) Sturdy cardboard (FSD? activity only) Worksheet 5A (FSD? activity only) End of Unit Quiz