

Circuits and Conductors

Science

Year 4

Lesson 4 of 5

<u>Learning Objective</u>		<u>Resources</u>
To recognise common conductors and insulators.		Slides Worksheet 4A/4B/4C Picture Card 4A Quiz Questions 4A (FSD? only activity)
<u>Teaching Input</u>		
<ul style="list-style-type: none"> • Display the terms 'conductor' and 'insulator'. Do children know what these terms mean? Think, pair, then share children's ideas. • Explain to children that a conductor is a material that allows electricity to flow through it. In comparison, an insulator is a material that resists an electrical current. • Show children the picture of the plug on the slides. What materials is this plug made from? Why do you think these materials have been chosen? Invite children to share their ideas then go through the information on the slides. • Discuss the investigation they will be carrying out today and how we can make it a fair test. 		
<u>Main Activity</u>		
Provide children with equipment including batteries/cells, wires, lightbulbs and a range of materials that are conductors and insulators. Support children with Picture Card 4A if needed.		
<u>Lower ability:</u> Provide children with Worksheet 4A. Children to follow the instructions on how to test materials to see whether they are a conductor or an insulator.	<u>Middle ability:</u> Provide children with Worksheet 4B. Children to set up their own test to see what materials are conductors and which are insulators, recording their results on their worksheet.	<u>Higher ability:</u> Provide children with Worksheet 4C. Children to set up their own test to see what materials are conductors and which are insulators and choose how to record their results.
<u>Fancy something different...?</u>		
<ul style="list-style-type: none"> • Challenge the children to make a switch with the different materials provided. Which material makes the best conductor to make their switch. You can use Picture Card 4A to support those who need help setting up the basic circuit. • Are there materials that are easier to use than others? • Challenge the groups/pairs of children to use their constructed switch with a buzzer to buzz in their answers during a fun general quiz game using Quiz Questions 4A. 		
<u>Plenary</u>	<u>Assessment Questions</u>	
Discuss what a thunderstorm is and how lightning will usually strike the tallest object that conducts electricity. Show the children four posts made of metal and rubber. Which post is the lightning most likely to hit? Can they explain why? Look at different ways to stay safe in a thunderstorm.	<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? 	