

# Alarms : DT : Year 4

	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To investigate what alarm systems are used for and how different types of switches are activated.	Children will look at a variety of alarm systems and consider their uses. They may then either discuss and agree upon appropriate alarms for a range of scenarios, or answer questions about a variety of alarm systems.	<ul style="list-style-type: none"> <li>Do children recognise the uses to which alarm systems can be put?</li> <li>Do children understand that switches work in different ways?</li> <li>Do children understand the dangers of mains electricity?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 1A/1B</li> <li>Scenario Cards 1A</li> <li>Picture Cards 1A (FSD? activity only)</li> <li>Worksheet 1C (FSD? activity only)</li> </ul>
<b>Lesson 2</b>	To investigate how to create circuits with a variety of different switches.	Children will consider ways in which different switches may be used to control an electrical circuit. They may then either investigate creating working circuits with a variety of switches, or try to create circuits according to given diagrams.	<ul style="list-style-type: none"> <li>Can children explain how a simple circuit works?</li> <li>Can children experiment with different ways of creating circuits and switches?</li> <li>Do children know how to work safely with electricity?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Challenge Cards 2A/2B</li> <li>Bulbs, batteries, wires, buzzers, etc.</li> <li>Strips of card, paper clips, butterfly clips, etc.</li> <li>Challenge Cards 2C (FSD? activity only)</li> </ul>
<b>Lesson 3</b>	To be able to design an alarm system for a particular purpose.	Children will draw and annotate an alarm system design for a purpose of their choosing.	<ul style="list-style-type: none"> <li>Can children design an alarm system that is suitable for a particular purpose?</li> <li>Can children apply what they have learnt about alarms, circuits and switches when designing their own alarm systems?</li> <li>Can children discuss and finalise their designs?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 3A/3B</li> <li>Checklist 3A</li> </ul>
<b>Lesson 4</b>	To be able to create an alarm system based on a design.	Referring to previously created designs, children will make model alarm systems for a purpose of their choosing.	<ul style="list-style-type: none"> <li>Can children apply what they have learnt when making their alarm systems?</li> <li>Can children use a variety of electrical components accurately?</li> <li>Can children discuss their work and suggest areas for improvement?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Checklist 4A</li> <li>Completed designs from Lesson 3</li> <li>Electrical components: bulbs, batteries, buzzers, wires, etc.</li> <li>Items for creating switches: strips of card, paper clips, butterfly clips, pins, wire, etc.</li> <li>Physical computing components and coding software (FSD...? activity only)</li> </ul>
<b>Lesson 5</b>	To evaluate a finished product.	Children will evaluate their own design process and finished product according to a number of given, and agreed upon, criteria. They may either do this individually or in small groups.	<ul style="list-style-type: none"> <li>Do children understand why evaluation is an important part of the designing and making process?</li> <li>Can children evaluate their own finished products fairly?</li> <li>Can children discuss their work and the work of others fairly?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Completed alarm systems from Lesson 4</li> <li>Worksheet 5A/5B</li> <li>Worksheet 5C (FSD? activity only)</li> </ul>