

Timetable for Electrical Engineers (KS2)

Please split your class into 2 equal groups before the day. Both groups will do all activities, led by our experienced museum tutors.

The session times are **10.15am – 12.00** for a single class and **12.45 – 2.30pm** for 2 classes. The museum opens at 10am. Please arrive in time to be ready to start the session promptly. If you need to change your arrival or leaving time, please let us know before your visit so we can adapt the session to fit with your travel times.

Lunch space. There is plenty of outdoor space to picnic outside or indoor space if wet or cold.

<p>10am Museum opens Arrive – toilets, coats and bags put away</p>	
<p>10.15 Whole class welcome Introduction to Victorian electrical engineers Marconi and Colonel Crompton and a surprising ‘human circuit’</p>	
<p>Group A: (half class)</p> <p>Marconi – from wires to wireless communication In 1865 a cable was laid across the Atlantic Ocean to carry messages from Britain to America. Pupils examine a piece of this transatlantic cable, then test a range of materials to identify conductors and insulators in different cables. We investigate which metals are the best conductors, and if all conductors are metal. We then learn how Marconi used electricity to generate radio waves to carry messages wirelessly, and pupils build morse circuits to train as Marconi radio operators.</p>	<p>Group B: (half the class)</p> <p>Colonel Crompton – electromagnets, motors and generators Observing a simple experiment pupils discover the link between electricity and magnetism, then design and carry out their own ‘fair test’ to compare the strength of different electromagnets. We identify the large electromagnets in Crompton’s motor generator, then build a motor to drive a pulley and an electric generator to light a lamp. Experimenting with changes to the circuits, pupils test their own ideas to solve challenges faced by Colonel Crompton: how to control the speed and direction of a motor and how to keep ‘street lights’ working as more are added to the circuit.</p>
<p>Colonel Crompton – electromagnets, motors and generators – (swap activities)</p>	<p>Marconi – from wires to wireless communication – (swap activities)</p>
<p style="text-align: center;">Whole class conclusion - Marconi and the Titanic</p>	