

Lightening spark

Location

First floor, Curiosity zone exhibition

In a nutshell

Create a 10,000V spark of lightening using this exhibit



What to do

Press the red button to send 10,000V between the copper rods to create a spark of lightening.

Time Required

KS3 & KS4 2-3 minutes per student.

What's happening?

Air is not a good conductor of electricity however if a large enough voltage is supplied a path through the air will be formed. This can be seen as the lightening like beam between the copper rods (electrodes). This beam heats the air molecules. As hot air rises the spark travels up the rods getting longer as the gap between the copper electrodes increases.

Curriculum links

Curriculum links	
KS3	Science - Current electricity <ul style="list-style-type: none">- potential difference, measured in volts, battery and bulb ratings; resistance, measured in ohms, as the ratio of potential difference (p.d.) to current Science - Static electricity <ul style="list-style-type: none">- the idea of electric field, forces acting across the space between objects not in contact Mathematics - Number <ul style="list-style-type: none">- understand and use place value for decimals, measures and integers of any size- use standard units of mass, length, time, money and other measures, including with decimal quantities
KS4	Science - Static electricity – forces and electric fields <ul style="list-style-type: none">- describe the production of static electricity, and sparking, by rubbing surfaces, and evidence that charged objects exert forces of attraction or repulsion on one another when not in contact; explain how transfer of electrons between objects can explain the phenomena of static electricity- explain the concept of an electric field and how it helps to explain the phenomena of static electricity English - Spoken <ul style="list-style-type: none">- listening to and building on the contributions of others, asking questions to clarify and inform, and challenging courteously when necessary

Relates to:

Workshops & Theme Days	Shows	Trails	Other exhibits
<ul style="list-style-type: none">• Let there be Light! (KS3 & KS4)• Atoms to Astrophysics (KS3 & KS4)• Make a Solar Phone Charger day (14+)	<ul style="list-style-type: none">• Light Fantastic (KS3)		<ul style="list-style-type: none">• Store it• Power a brain

