Electricity

Here are some useful resources related to electricity. Please note we cannot control the content of external websites.

Curriculum links (abbreviated)

Science – Year 4
- Identify common appliances that run on electricity
- Construct a simple series electrical circuit, identifying and naming its basic parts…
- Identify whether or not a lamp will light in a simple series circuit…
- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights…
- Recognise some common conductors and insulators, and associate metals as good conductors

Science – Year 6
- Associate the brightness of a lamp or volume of a buzzer with the number and voltage of cells used in a circuit
- Compare and give reasons for variations in how components function…
- Use recognised symbols when representing a simple circuit diagram

History
- Significant historical events, people and places in their own locality
- A local history study

Useful videos

Our Past, Your Future Renewable Energy Assembly
A 25 minute assembly looking at careers related to the renewable energy sector and a Q&A with Sally Poxon, a Senior Validation Technician who tests wind turbines before they are used in industry.
https://youtu.be/bI7rx7RP1yg

Historical links

Links between electricity and heritage in the North of Tyne area:

- Charles Hesterman Merz – an electrical engineer who built a system that became the model for the National Grid and was known as the 'Grid King'. He designed a number of power stations including Neptune Bank and Carville, both in Newcastle.
- Joseph Swan – a physicist, chemist and inventor. Invented the light bulb. Mosely Street in Newcastle was the first public road to be lit with electricity.
- William Armstrongs mansion was powered by hydroelectric and had swans lights installed.
- John Henry Holmes invented the quick break light switch in 1884, the technology is still used in billions of light switches today.
- The first offshore windfarms in the UK were sited off the coast of Blyth. The area is now home to a national research centre for wind energy.

Lesson plans/ classroom activities

Primary Science Teaching Trust
Misconceptions around electricity
https://pstt.org.uk/application/files/5915/2717/3121/Common_Misconceptions_Spring_2018.pdf

BBC bitesize
Useful clips on electricity and circuits https://www.bbc.co.uk/bitesize/topics/zq99q6f

Ogden Trust

Physics related activities on their website aimed at schools.

- Fruity batteries https://www.ogdentrust.com/resources/phizzi-practical-fruity-batteries
- Make a battery using coins https://www.ogdentrust.com/resources/phizzi-practicals-coin-battery
- Electricity topic overview including tips for investigations and story recommendations https://www.ogdentrust.com/resources/phizzi-focus-electricity

Eon Energy
- Selection of videos and activities related to electricity
https://www.eonenergy.com/about-us/community-matters/energise-anything/animations-and-activities.html

Sciencewiz
Short animated videos related to electricity https://sciencewiz.com/portals/electricity/

We are teachers
Some different experiments linked to electricity.
https://www.weareteachers.com/electricity-experiments/

EDF energy
Assemblies and lesson plans to support teaching linked to Gatsby benchmarks. Predominantly KS2+.
https://www.edfenergy.com/energy/nuclear-new-build-projects/hinkley-point-c/for-teachers-students-and-educators/inspire

UK Power Networks
interactive animations on their website looking at hazards, how electricity gets to our homes and building circuits.
http://powerup.ukpowernetworks.co.uk/powerup/en/under-11/

Whizz Pop Bang
a science magazine that also has a free science lesson pack for teachers that can be downloaded from their website.
https://www.whizzpopbang.com/blog/free-primary-science-lesson-pack-on-electricity/