

South Molton Community Primary School

Totally Unplugged - KS1 & 2 History ideas



## **History of Electricity**

Why not look at inventions for using and generating energy? You could cover

**Windmills** First invented in Persia (now Iran) in the 7th Century AD. The first person to think of using wind-powered mills to generate electricity was Macellus Jacobs (USA) in 1930.

**Steam Engines** James Watt (UK) 1763. It was his steam engine that paved the way for the Industrial Revolution.

**Batteries** The first to succeed in producing energy this way was Alessandro Volta in 1799.

**The Lightbulb** Joseph Swann (UK) and Thomas Edison both produced a glowing lightbulb within months of each other. In 1883 they went into partnership to manufacture their invention.

**Further Ideas** Why not add other electricity using inventions (such as TV, refrigerators, vacuum cleaners etc) to your timeline or Book of Centuries.

**History of the lightbulb-** <https://www.tes.com/teaching-resource/invention-of-the-lightbulb-3005870> . A Lovely visual PowerPoint for KS1 and 2.

**Benjamin Franklin-** After retiring from politics age 42, Ben Franklin became an innovator in the field of science through his study of electricity and his invention of the lightning rod. <http://www.history.com/topics/american-revolution/benjamin-franklin/videos/ben-franklin-sparks-electricity>

**Thomas Alva Edison** was a famous American inventor. He is best known for inventing 'domestic' lightbulbs to go in houses, and the electric power system

that allows them to work. He came up with over 1000 successful inventions in his lifetime.

### **Thinking about what life would have been like before electricity.**

Thinking about how we would have to adapt, cooking, cleaning, travelling, entertainment, communications etc.

Why not use some artefacts like carpet beaters, children's toys, candles, bed warmers etc. to let children experience this for themselves.

**Greek Water Clock** When I explained to my eight year old son that ancient peoples didn't have clocks like we do today, he was surprised.

In Ancient Greece, they used a water clock to time short events. It was called a clepsydra (KLEP-sye-druh). I thought it would be fun to make our own version of these ancient clocks.

#### **What You Need**

- masking tape
- fine-tip permanent marker
- two of the same empty plastic beverage bottles
- thumbtack
- pitcher of water
- timer (we used a stopwatch app on the iPad)
- craft knife (to be used by an adult only)
- funnel to make pouring easier

#### **How to Make It**

Remove the labels from the beverage bottles for clear viewing to the inside.

An adult should cut one of the tops off the bottle with a craft knife. Recycle the top; you won't need it. With the top cut off, the bottom of the other bottle should fit snugly down into it. Label the bottles if you'd like (bottle A is the complete bottle and bottle B is the one you've cut).

Turn the complete bottle over (bottle A) and put a thumbtack through the center of the bottom of the bottle to make a small hole. (This is the hardest part of the whole project.)





Mark on this bottle where the full line is (figure this out by nesting bottle A inside the bottle B; the distance from the bottom of bottle B up to the bottom of bottle A or slightly below is where you should draw the line on bottle A). Note: We botched this up but it's important to know how full to fill your bottle each time. You'll want to be consistent.



Grab a length of masking tape and adhere it vertically to the side of the cut bottle (bottle B).

Now get your timer and the pitcher of water ready. Pour the water, using a funnel if desired, into the neck of bottle A (your bottles should be nested) and immediately start the timer. Pour up to the fill line on bottle A.



When one minute passes, make a small mark at the water line on the masking tape on bottle B. Continue to mark the minutes until the water has completely emptied from the top bottle into the bottom one. We only marked the first 10 minutes, but you can mark as many minutes as you'd like. Now you can dump out the water and put the timer aside. Another pour of the pitcher and you can calculate how long something takes with just your water clock!



## KS1 & 2 Geography ideas

### How people in different countries use electricity-

Where in the world are people trying to use less or greener electricity. How good is the UK at reducing our usage?

### **People today who live without electricity-**

<https://uk.pinterest.com/pin/83457399321060577/> Showing access to electricity in parts of Africa. An estimated 79 percent of the people in the Third World -- the 50 poorest nations -- have no access to electricity, despite decades of international development work. The total number of individuals without electric power is put at about 1.5 billion, or a quarter of the world's population, concentrated mostly in Africa and southern Asia.

### **The effect of global warming on different parts of the world.-**

Follow Tiki the penguin to learn about how producing electricity can cause pollution.

[http://tiki.oneworld.org/global\\_warming/climate\\_home.html](http://tiki.oneworld.org/global_warming/climate_home.html)

### **Schools in the world that don't have electricity.**

**Weather-** natural electricity – how and why thunder and lightning occur.