

electrical measurement

A

ampere



All nations on Earth have agreed to measure things using the International System of Units (SI).
The ampere in this system is used to measure how much electricity is flowing per second.

The volt is a measure of the energy of the flow.
A mains electricity socket can deliver up to 13 amperes at 240 volts.



Other electrical units

	1 000 microamps = 1 milliamp	1 000 milliamps = 1 amp	1 000 millivolts = 1 volt	1 000 volts = 1 kilovolt
also written	1 000 μA = 1 mA	1 000 mA = 1 A	1 000 mV = 1 V	1 000 V = 1 kV

How do we measure electricity?

An ammeter measures the rate of flow of electricity.
A voltmeter measures the energy of the flow.

Electricity can be very dangerous as it can carry enough energy to kill!



Clamp meter – (ammeter) goes round a cable



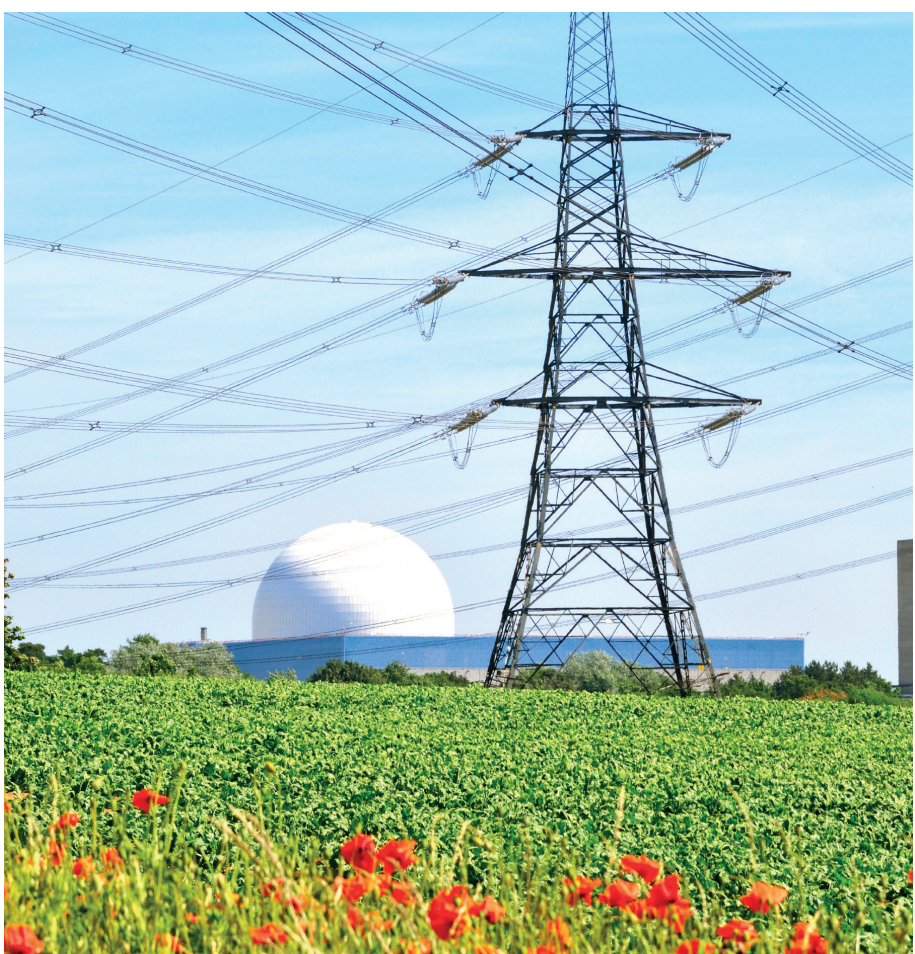
Ammeter dial

Challenge:

Put the following in order by size of electrical current.



Phone charging



Current from a power station



One lightning strike



Running an electric kettle

Did you know?

An ammeter in your house helps decide your electricity bill.
A typical lightning strike has a current of 20 000 A for about 1/10 000th of a second. There are 300 000 a year in the UK, but only 15% reach the ground.