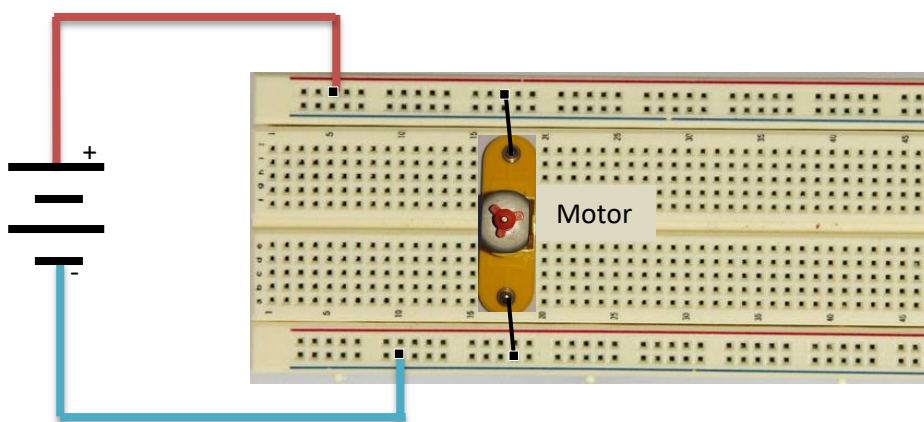
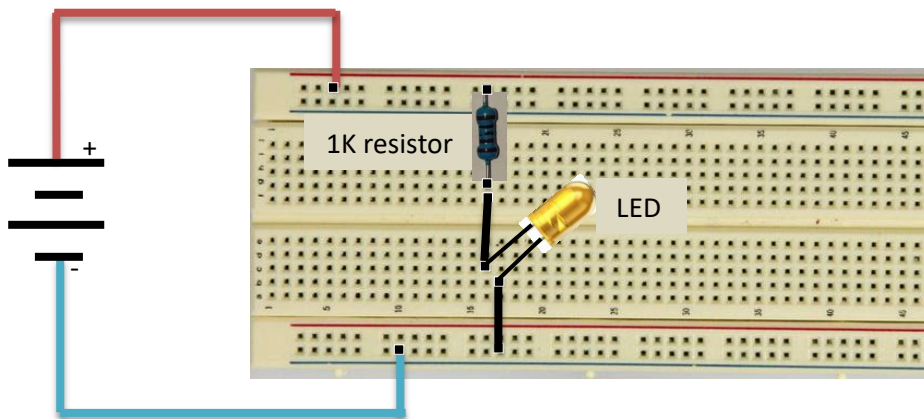
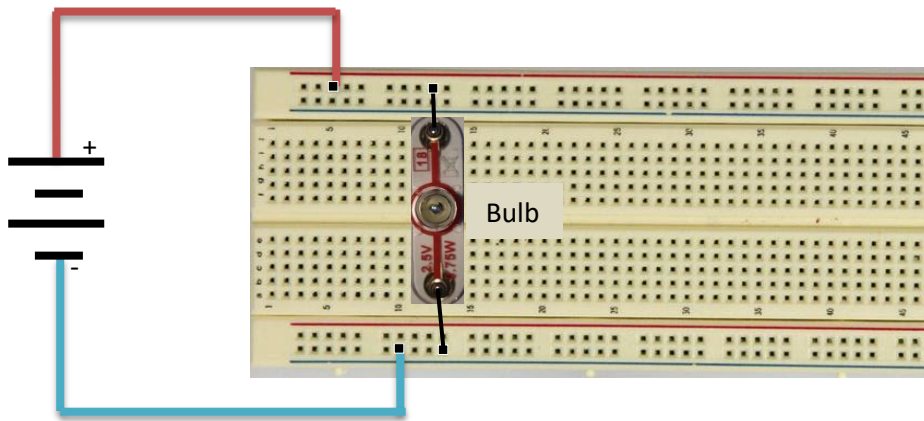
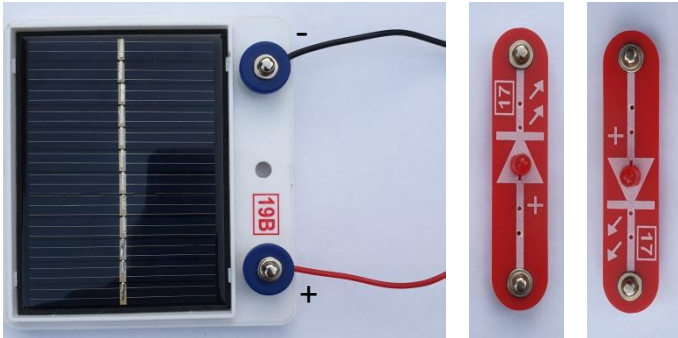


Circuit A: conversion of **chemical energy** (alkaline battery) to **electrical energy** to **light energy** (bulb & LED) and **kinetic energy** (motor)



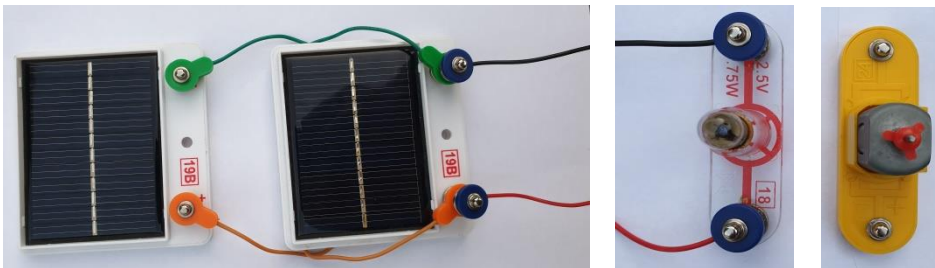
Circuit B: conversion of **light energy** (solar cell) to **electrical energy** to **light energy** (bulb & LED) and **kinetic energy** (motor)



A solar panel is connected as if it was a battery, with + and – terminals.

It can be directly connected to an LED – try connecting both ways and see what happens...

* If it's dull/dark you might need to use a torch or lamp – shine onto the solar panel.



You will probably need to connect two or more solar panels together in PARALLEL (as shown) to get the light bulb or the motor to work.

Connecting the solar panels in parallel they can supply more current (2x times for 2 solar panels, 3x for 3 solar panels... etc.).

Materials sources: in the images above, we have used components from an Electronic Brainbox kit: <http://www.cambridgebrainbox.com/>

The components can also be found online at:

Irish Electronics: <https://irishelectronics.ie/>

Farnell: <https://ie.farnell.com/>

Maplin: <https://www.maplin.co.uk/>

Further enquiries: Eamon Connolly connollye@ceia.ie