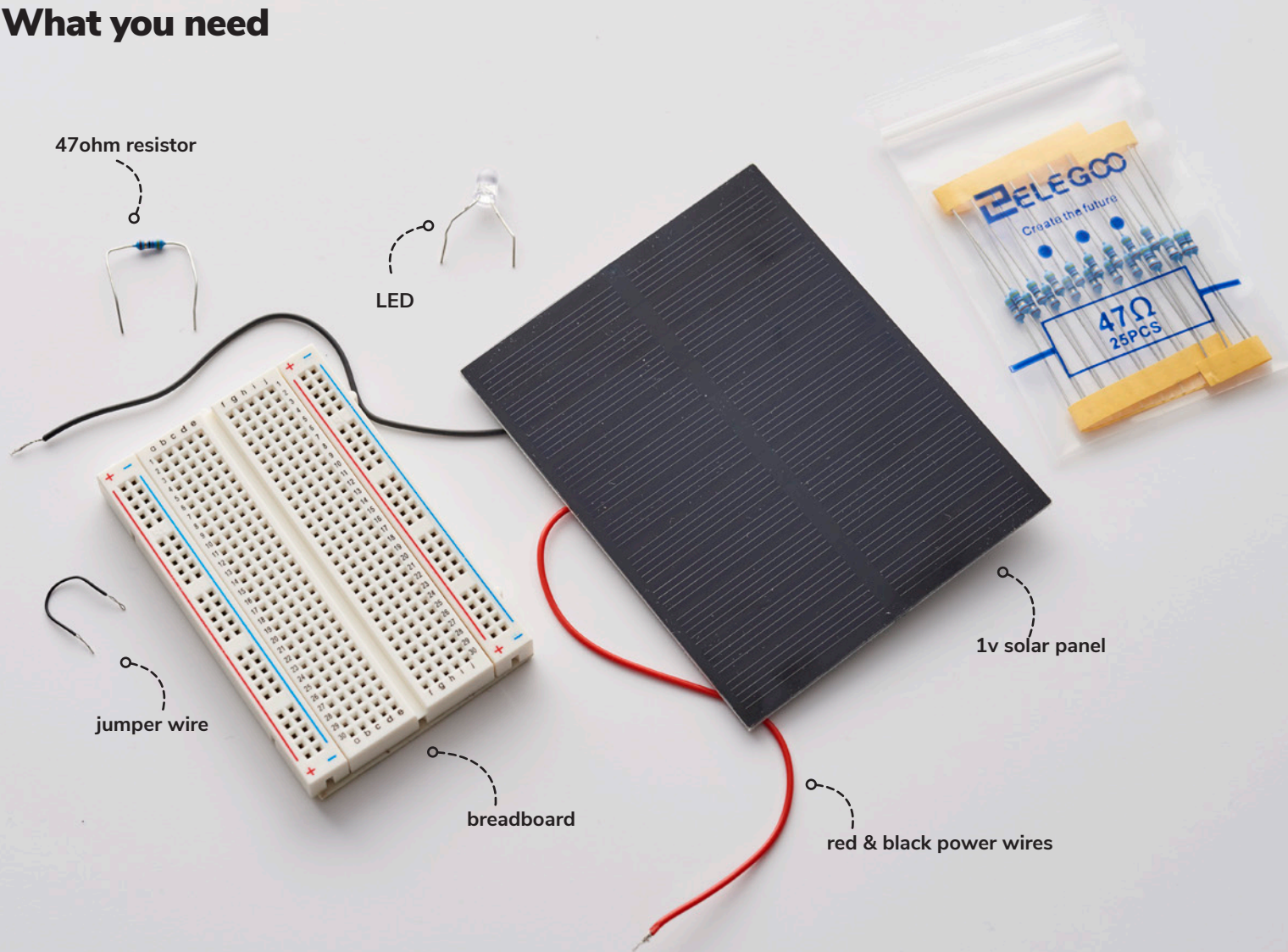


IET: Solar-powered planet

How to build a simple circuit powered by the sun...

What you need



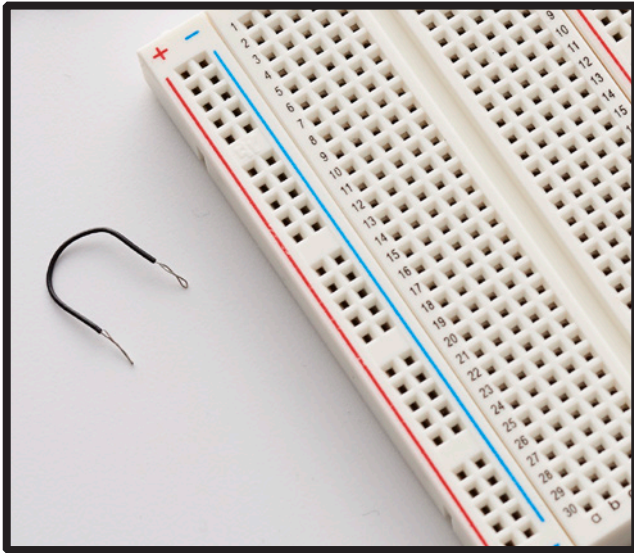
You will need

- standard 5mm LED (approx 15p each)
- 47 ohm resistor, eg a carbon film resistor (approx £10 for pack of 1,000)
- small solar panel or cell capable of supplying 1 volt, with red and black power wires for connecting to breadboard, e.g. a 1v mini solar cell (approx £8 each)
- A length of single core wire (jumper), pre-cut to 0.6mm (approx £3 for 11m)
- 390 tie point prototyping breadboard (approx £6.50 each)
- sunlight (free!)

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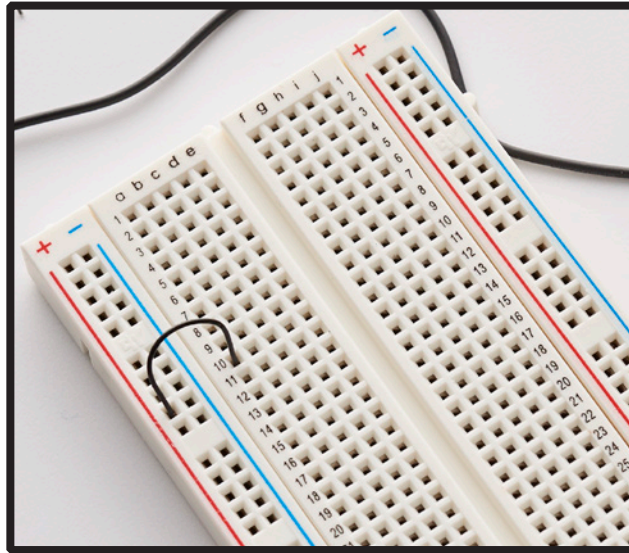
How to build a simple circuit powered by the sun...

Step 1



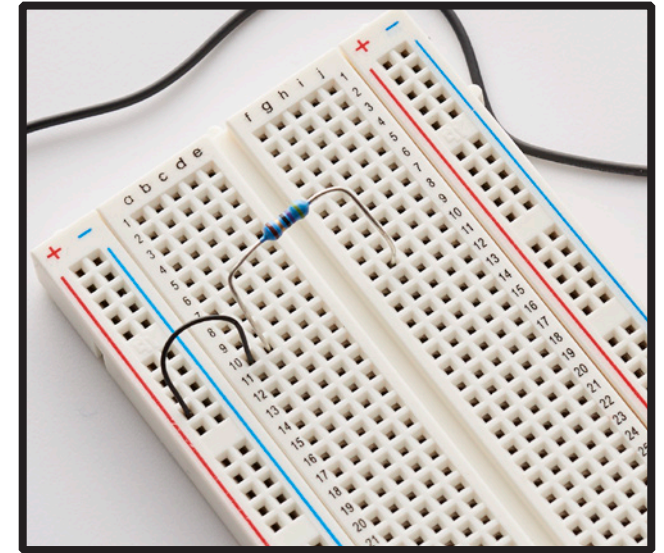
1 Take the 0.6mm-length single core wire (jumper) and remove the insulation from both ends.

Step 2



2 On the breadboard, place a jumper wire from the positive side of the left power rail to one of the breadboard rows.

Step 3

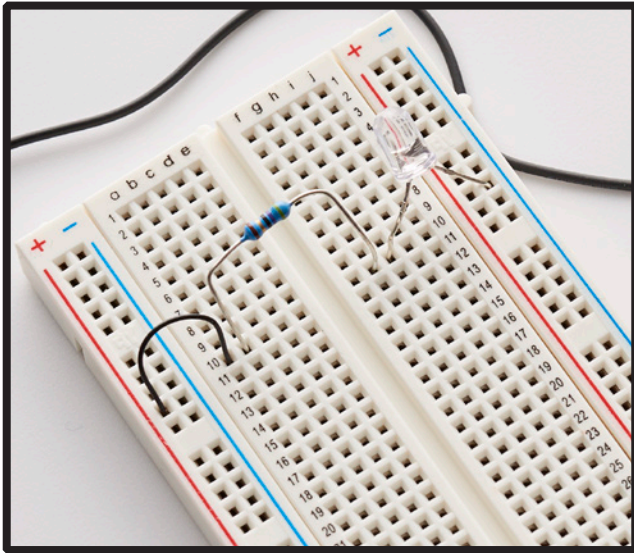


3 Place one lead of the 47 ohm resistor into the same row the jumper wire was placed on the breadboard. Place the other lead of the resistor in the same row on the breadboard, but on the other side of the small trench running down the middle of the breadboard.

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Step 4



4 Connect the positive leg of the LED (the longer one) into the same row as the second lead of the resistor placed in step 3. Then place the shorter, negative leg of the LED into the negative power rail on the right-hand side of the breadboard: any opening in the column labelled with '-'.

Steps 5–7

5 Make sure you are using a 1 volt solar panel

6 Connect the red, positive (+) wire from the solar panel to the left-hand side positive rail on the breadboard.

7 Connect the negative lead from the solar panel into the right-hand side negative rail on the breadboard. This will complete the circuit. If enough sunlight (solar power) is present, the LED will light up!

