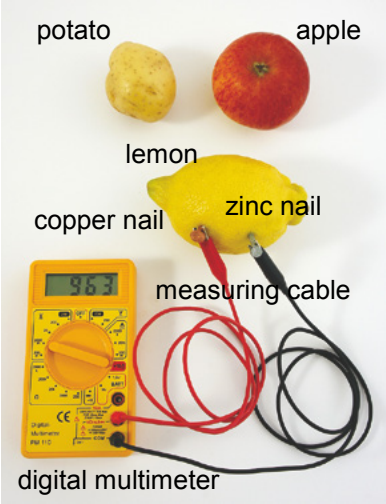
Worksheet 3: How well does the “fruit and vegetable battery” work?

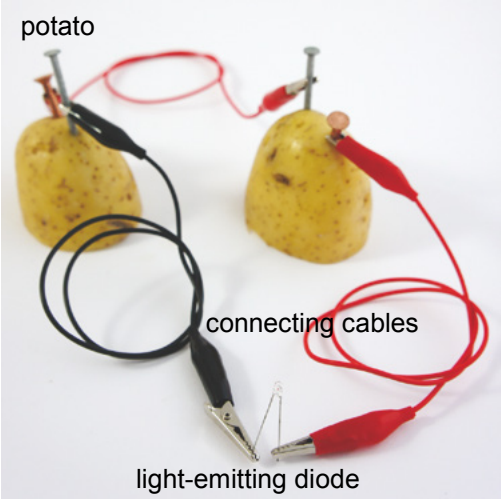
Task 1

1. Put on your safety goggles and clean the nails with sandpaper.
2. Push a copper and a zinc nail into the fruit or the juicy vegetable.
3. Connect the digital multimeter and measure the voltage and then the current strength.
4. Attach the propeller to the motor and connect the motor into the circuit. Then test the circuit with the red LED.
5. Determine which electrode (zinc or copper) is the positive pole and which is the negative pole of the fruit battery.
6. Now connect two fruit batteries in series and repeat the measurements and tests.

Experiment 1



Experiment 2



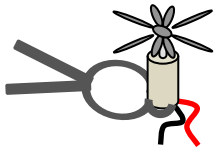
Red light-emitting diode with clear case

Equipment

safety goggles

sandpaper

electric motor



plant clip

Task 2

Enter the measured values into the data table.

Data table

Fruit/vegetable	Number of fruit batteries connected in series	Voltage (V)	Current strength (mA)	Electric motor runs (yes / no)	Red LED with clear case glows (not at all / weak / bright)

Task 3

Cut out the pieces of the text puzzle and place them in the correct order.

Text puzzle

when	connecting cable	forms
For the LED to light up,	the negative pole	the positive pole
The electric motor	of the fruit battery	The copper electrode
The red light-emitting diode	The voltage	is nearly one volt.
are connected in series.	made up of any kind of	the long
lights up	to the positive pole.	with our fruit battery.
one must connect	does not run	weakly
and the zinc electrode	of our fruit battery.	fruit or vegetable
two fruit batteries		