

Electronics with the Modular System

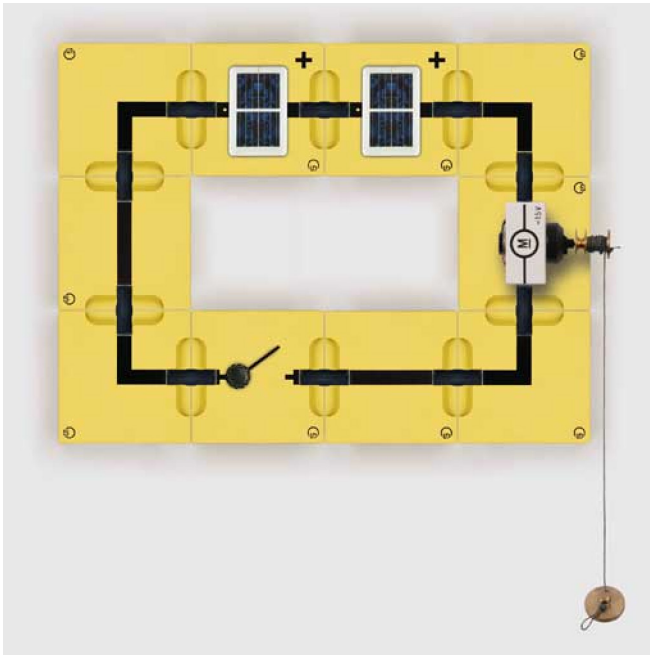
Basic Electronic Circuits
Solar cells

Converting light energy
into mechanical
energy – Micromotor

Objective of the experiment

To demonstrate the conversion of light energy into mechanical energy.

Setup



Apparatus

2	539 042	Solar cells, BST
1	539 025	Toggle switch, BST
1	579 37	Micromotor
1	309 48	Fishing line
1	from 340 85	Set of 6 weights, 50 g each
2	539 001	Connector blocks BST, straight
1	539 003	Connector block BST, straight, 2 sockets
4	539 004	Connector blocks BST, 90° angle
10	539 000	Bridging plug, BST
1	301 300	Demonstration experiment frame
1	301 301	Adhesive magnetic board

Carrying out the experiment

Note:

This experiment can be performed during normal daylight. Direct solar radiation is not necessary.

- Attach one end of the fishing line (about 50 cm in length) to the micromotor wheel. Hang the weight on the other end of the line.
- Set up the circuit and close the toggle switch.
- Observe the motor and the weight.

Observation

After closing the switch, the motor begins to rotate. The weight is pulled up.

Evaluation

With a solar cell, light energy is transformed into electrical energy: $E_{\text{Light}} \rightarrow E_{\text{El}}$.

The electrical energy is then transformed into mechanical energy by means of a motor: $E_{\text{El}} \rightarrow E_{\text{Mech}}$.

As a result, mechanical work can be done on the weight.