

# Electricity with the Modular System

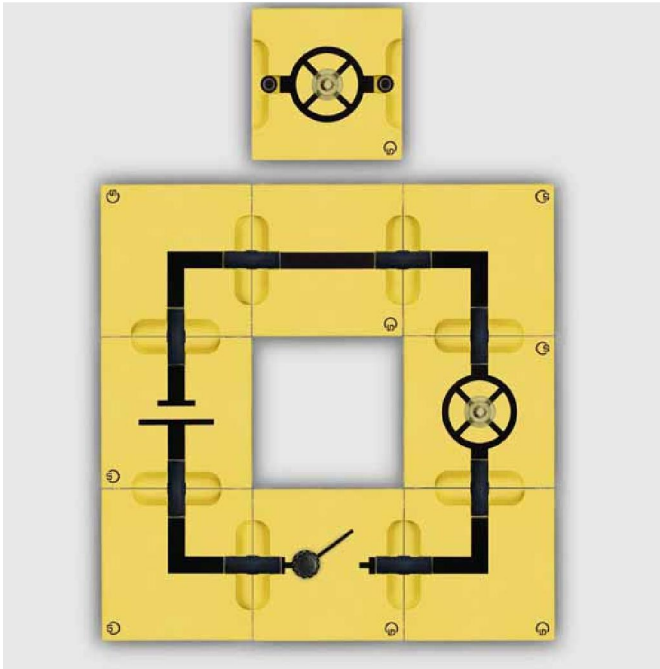
Basic Electric Circuits  
Simple circuit

Connecting incandescent lamps in series

## Objective of the experiment

To investigate the series connection of two lamps.

## Setup



## Apparatus

2		539 024	Lamp sockets E10, BST
2	from	505 11	Incandescent lamps 2.5 V / 0.1 A, E10
1		539 025	Toggle switch, BST
1		539 053	Battery element, BST
1		539 001	Connector block BST, straight
4		539 004	Connector blocks BST, 90° angle
8		539 000	Bridging plug, BST
1		301 300	Demonstration experiment frame
1		301 301	Adhesive magnetic board

### Carrying out the experiment

- Screw the incandescent lamps (2.5 V / 0.1 A) into the lamp sockets.
- Initially, set up the circuit with only one lamp (basic circuit) and observe its brightness after closing the switch.
- Connect a second lamp in series to the first one.
- Observe the brightness of the lamps and compare it to the brightness of the lamp in the basic circuit.
- While the switch is closed, unscrew one of the lamps from the lamp socket. At the same time, observe the other lamp.

### Evaluation

In a series circuit, the lamps are connected to the battery and electrical wires one after the other to form a circuit.

If a second lamp of the same power is connected to another lamp in series, the brightness of the series-connected lamps is lower than the brightness of each single lamp in a circuit.

If one of the lamps burns out in a series circuit, the other lamp will no longer glow.