Electricity with the Modular System

Melting fuse

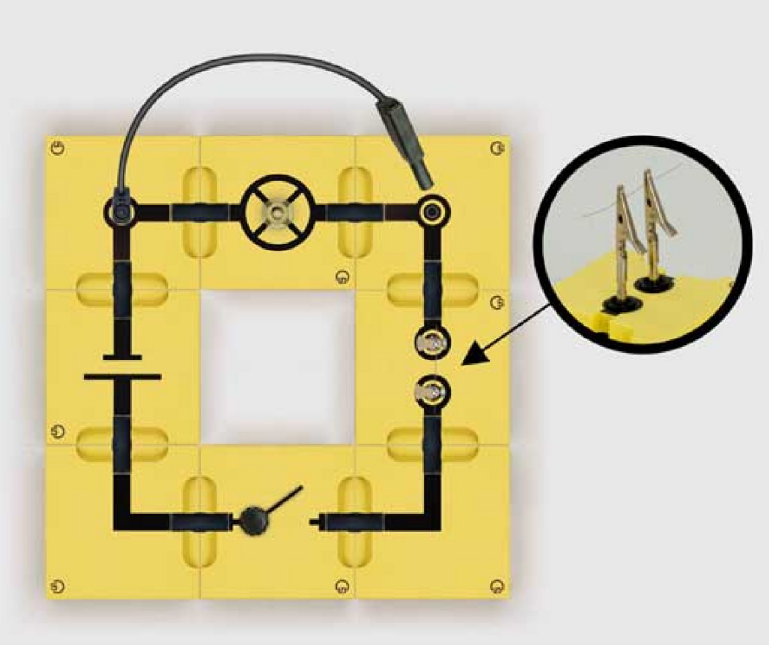
Basic Electric Circuits

Electrical resistance

Objective of the experiment

To demonstrate the layout and working principle of a melting fuse.

Setup



Apparatus

1		539 024	Lamp socket, E10, BST
1	from	505 11	Incandescent lamp 2.5 V / 0.1 A, E10
1		539 025	Toggle switch, BST
1		539 053	Battery element, BST
1		539 003	Connector block BST, straight, 2 sockets
2		539 004	Connector blocks BST, 90° angle
2		539 005	Connector blocks BST, 90° angle with socket
8		539 000	Bridging plug, BST
2	from	501 861	Croc-clips
2		340 89	Coupling plug
1		550 51	Iron wire, d = 0,2 mm
1		500 624	Safety connection lead, 50 cm
1		301 300	Demonstration experiment frame
1		301 301	Adhesive magnetic board

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Carrying out the experiment

- Set up the circuit.
- Close the toggle switch, bypass the lamp with the connection lead and observe the iron wire.

Observation

After bypassing the lamp, the iron wire starts to glow and melts through.

Evaluation

When the current flow increases by bridging the load, a thin wire begins to glow and it melts through due to the thermal effect of the electric current. As a result, the circuit is opened.

Thus, a thin wire can be used as a melting fuse.

A melting fuse is responsible for interrupting a circuit when too much current flows through it.