

# Electricity with the Modular System

Basic Electric Circuits

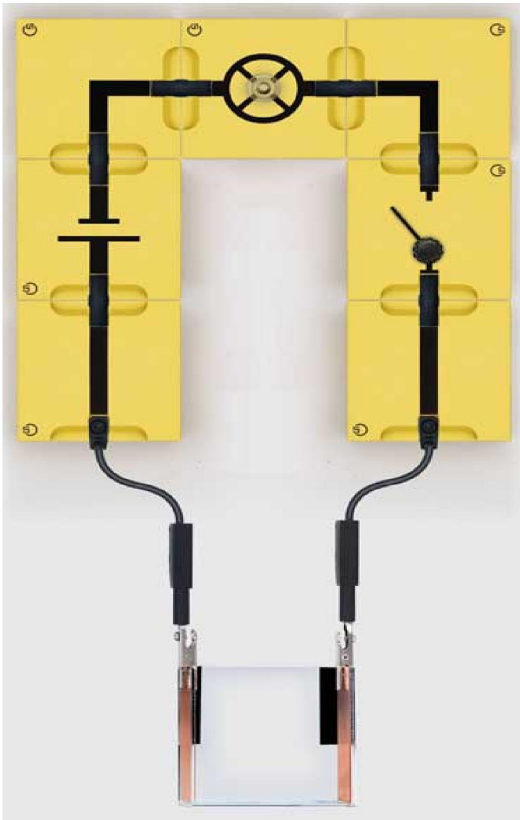
*Conductors and non-conductors*

## Current flow in liquids

### Objective of the experiment

To investigate current flow in liquids.

### 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
2		539 001	Connector blocks BST, straight
2		539 004	Connector blocks BST, 90° angle
1		539 065	Cell, BST
2	from	501 861	Croc-clips
2		500 614	Safety connection lead, 25 cm
6		539 000	Bridging plug, BST
1		675 3400	Water, pure, 1 l
1		673 5720	Sodium chloride, 1 kg
1		301 300	Demonstration experiment frame
1		301 301	Adhesive magnetic board
additionally required			
1			Lemon
1			Piece of washing soap

### Carrying out the experiment

Note:

The cell and the electrodes must be thoroughly rinsed with distilled water after each part of the experiment.

- Screw the lamp into the lamp socket and set up the circuit.
- Fill the cell with distilled water and observe the lamp.
- Repeat the experiment with sodium chloride, lemon juice, then washing soap, each dissolved in distilled water.

### Measuring example

Liquid	Lamp lit up
Distilled water	no
Distilled water with salt	yes
Distilled water with lemon juice	yes
Distilled water with washing soap	yes

### Evaluation

Materials that conduct an electrical current are called conductors.

Distilled water in which a salt, an acid, or a base is dissolved conducts an electrical current (conductor).

Materials that do not conduct an electrical current are called non-conductors or insulators.

Distilled water does not conduct an electrical current (non-conductor).