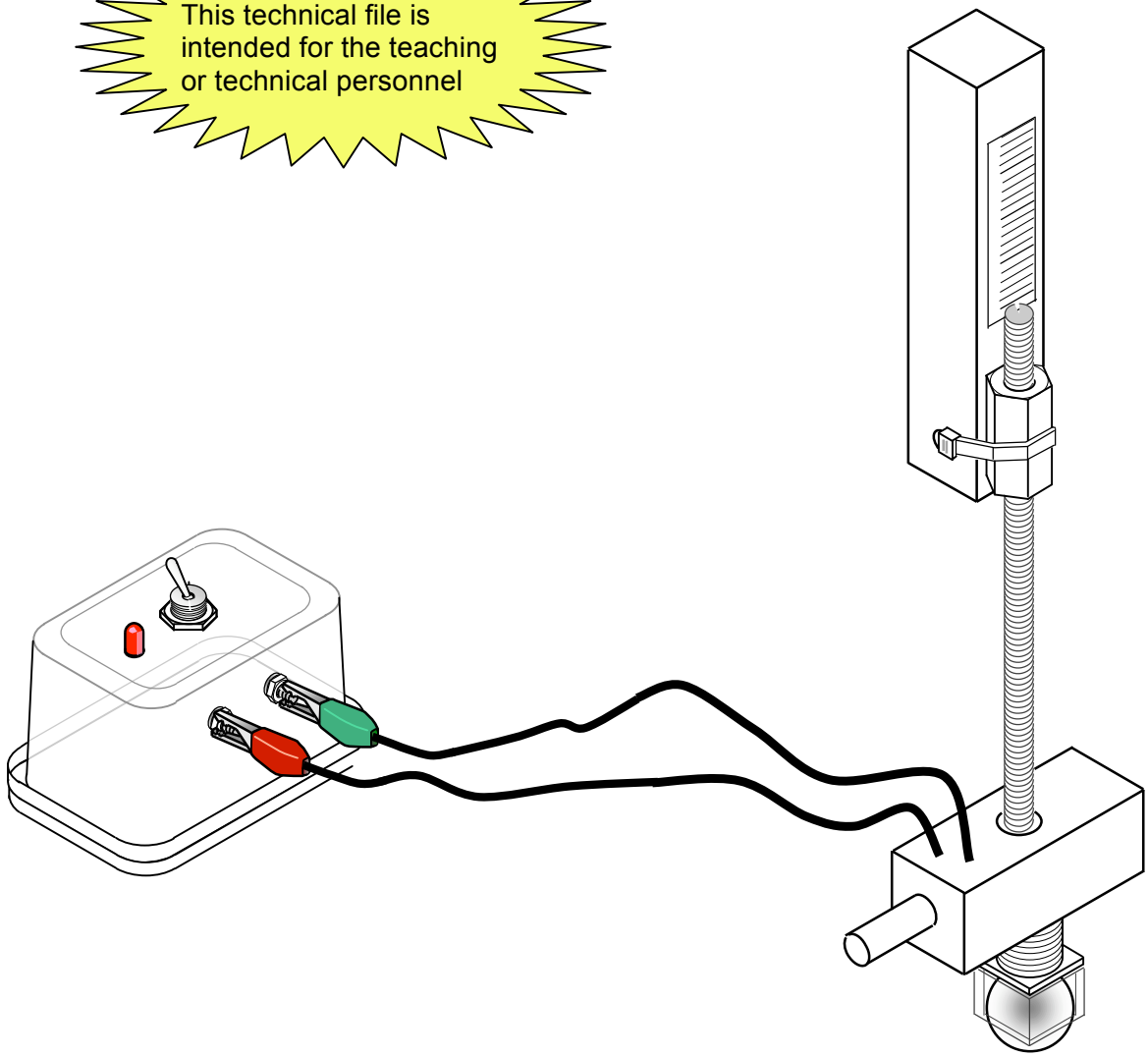
centre de développement pédagogique
pour la formation générale en science et technologie

Working document

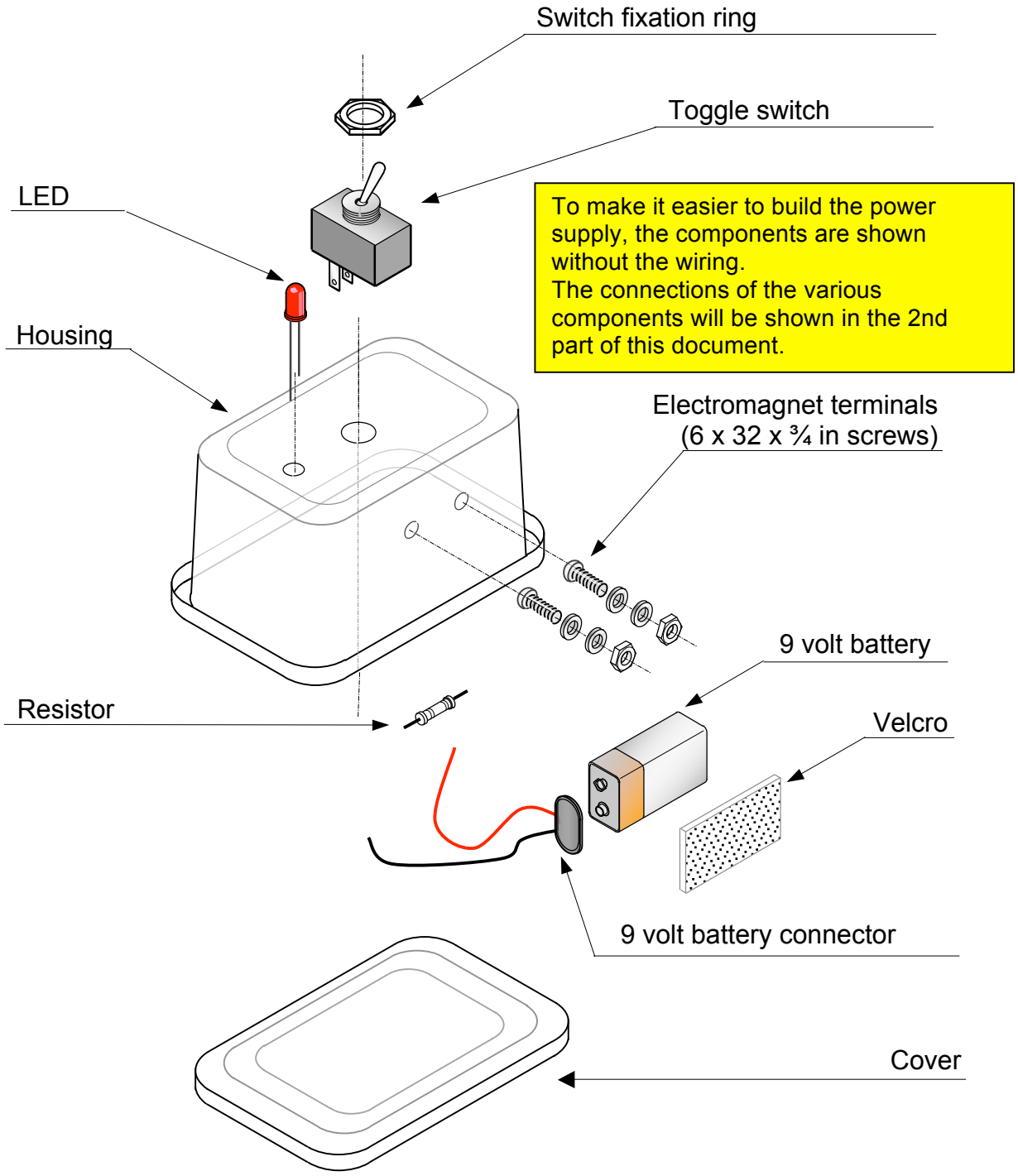
TECHNICAL FILE FOR THE ELECTROMAGNET POWER SUPPLY

This technical file is intended for the teaching or technical personnel



AEOLUS' CHARIOT (Simplified LES)

January 2012



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ACTIVITY: **AEOLUS' CHARIOT** (Simplified LES)		
TITLE: **EXPLODED DRAWING OF THE ELECTROMAGNET POWER SUPPLY**		
DATE: **07 FEB. 2012**	SCALE: **NOT TO SCALE**	DRAWING: **N°3**

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FABRICATION AND ASSEMBLY RANGE

ELEMENT: **ELECTROMAGNET POWER SUPPLY**

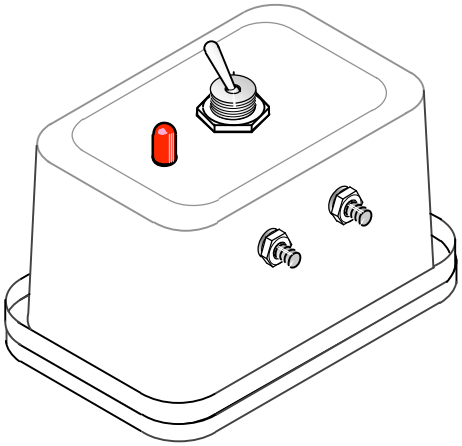
SET: **"AEOLUS' CHARIOT" LES**

RANGE: **2**

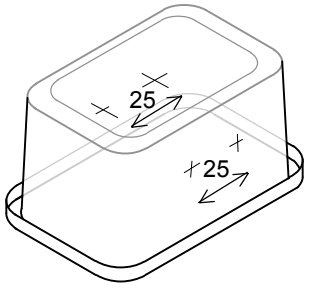
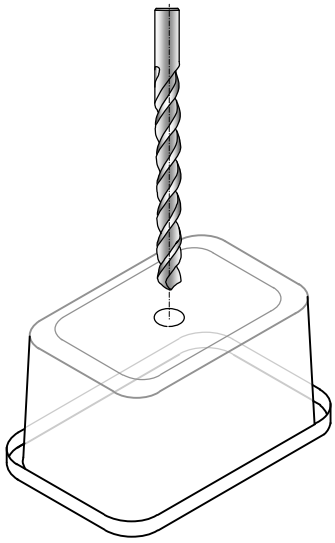
SHEET: **1 of 2**

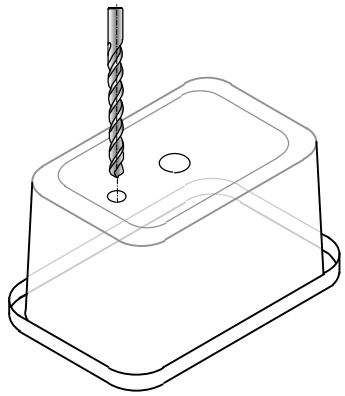
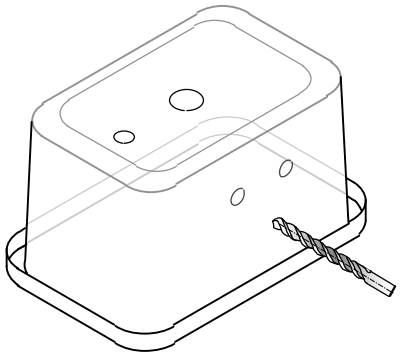
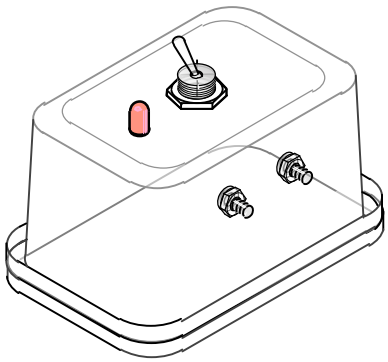
MATERIALS: **Various**

NUMBER: **1**



1e PARTIE

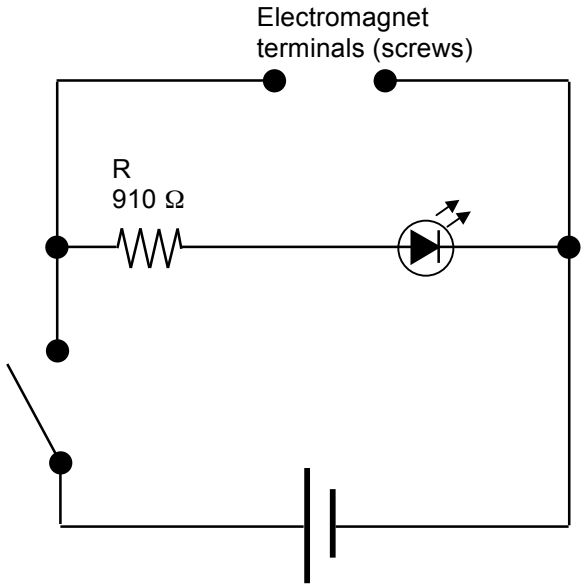
N°	PHASE, SUB-PHASE OR OPERATION	PHOTO OR DRAWING	MACHINE-TOOL, TOOLS
10	**HOUSING**		
11	Using a plastic food storage container measuring about 50 mm x 75 mm x 115 mm, mark the location of the holes that will receive the electrical components. **NOTE: The location of the holes is approximate. You must simply respect the proportions on the drawing at right. We suggest you leave about 25 mm distance between the LED and the switch, as well as between the screws of the electromagnet terminals.**		– Pencil – Ruler
12	Keeping in mind its diameter, drill the hole for the switch. **<u>Remark</u>: Hold the container in a drill vise for this operation.**		– Bit of the same Ø as the switch – Drill – Drill vise

FABRICATION AND ASSEMBLY RANGE OF THE ELECTROMAGNET POWER SUPPLY			SHEET: **2 of 2**
N°	**PHASE, SUB-PHASE OR OPERATION**	**PHOTO OR DRAWING**	**MACHINE-TOOL, TOOLS**
13	Drill the hole for the LED at a 4.5 mm (11/64 in) diameter.		– 4.5 mm (11/64 in) Ø bit – Drill – Drill vise
14	Drill the two 3 mm (1/8 in) diameter holes for the electromagnet terminals		– 3 mm (1/8 in) Ø bit – Drill – Drill vise
15	Insert the electrical components (LED, switch, electromagnet terminals) at the appropriate locations.		

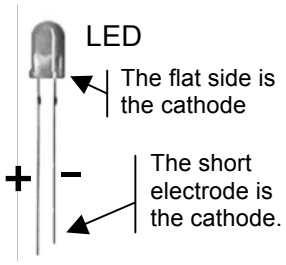
2nd PART

CONNECTING THE ELECTRICAL COMPONENTS OF THE ELECTROMAGNET POWER SUPPLY

Circuit diagram



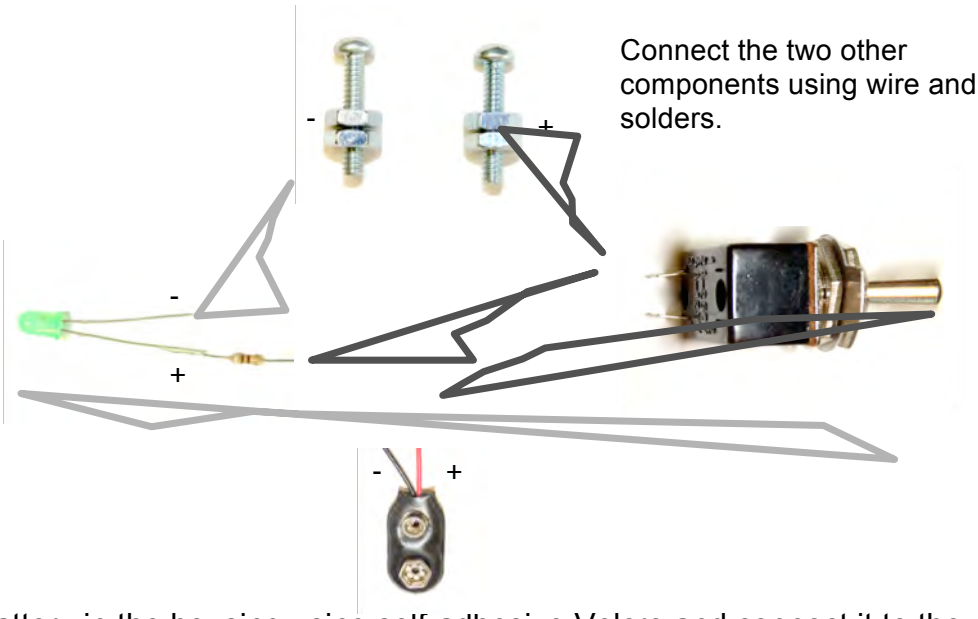
1- Solder the LED anode (positive electrode) to one of the legs of the resistor.



2- Connect the components of the circuit inside the box, referring to the diagram below.

Roll the electrical wire around the screws and squeeze it between the two nuts inside the box.

Connect the two other components using wire and solders.



3- Install the battery in the housing using self-adhesive Velcro and connect it to the circuit using the connector.