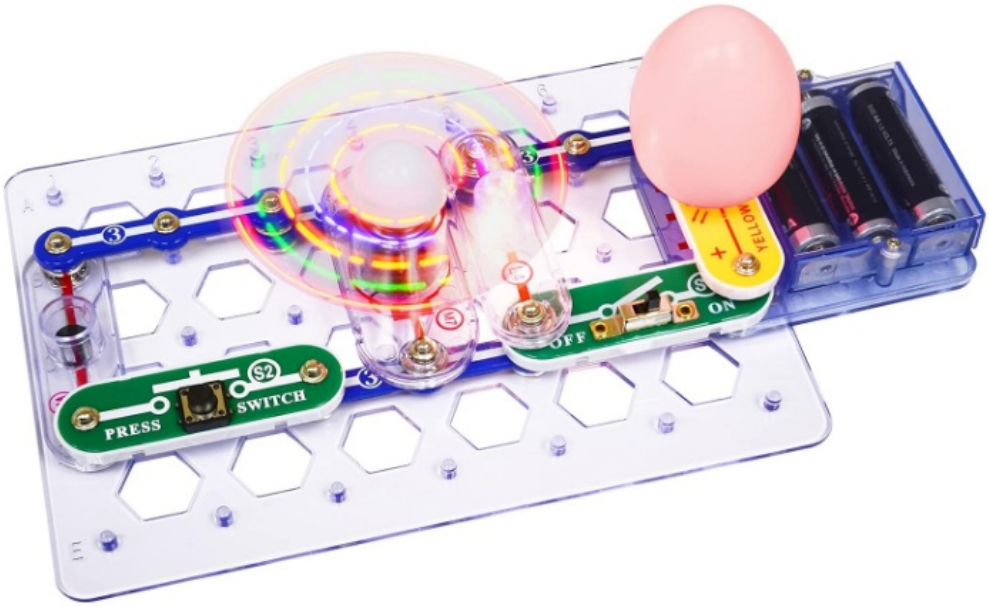
Snap Circuits SCB-20 Electronics Exploration Kit User Manual

Contents

Snap Circuits SCB-20 Electronics Exploration Kit



WARNING:

Always check your wiring before turning on a circuit. Never leave a circuit unattended while the batteries are installed. Never connect additional batteries or any other power sources to your circuits. Discard any cracked or broken parts

Adult Supervision:

Because children's abilities vary so much, even with age groups, adults should exercise discretion as to which experiments are suitable and safe (the instructions should enable supervising adults to establish the suitability for the child). Make sure your child understands and follows all of the safety warnings, and keep them at hand for reference. Never modify your parts, as doing so may disable important safety features in them, and could put your child at risk of injury

Batteries

- Use only 1.5V AA type, alkaline batteries (not included).
- Insert batteries with the correct polarity.
- Do not mix old and new batteries.
- Remove batteries when they are used up.
- Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.
- Do not connect batteries or battery holders in parallel.
- Do not short-circuit the battery terminals.
- Never throw batteries in a fire or attempt to open its outer casing.
- Batteries are harmful if swallowed, so keep away from small children.

Parts List

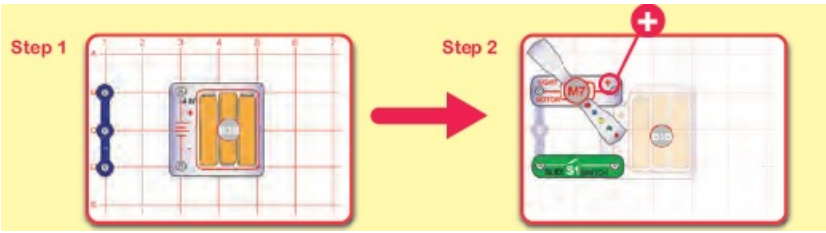
(Colors and styles may vary) Symbols and Numbers

Important: If any parts are missing or damaged, DO NOT RETURN TO RETAILER. Call customer service toll-free at **800-533-2441** or e-mail us at: **help@elenco.com**.

Qty.	ID	Name	Symbol	Part #	Qty.	ID	Name	Symbol	Part #
❒ 1		Mini Base Grid (7.7" x 5.5")		6SCBGM	❒ 1	L4	Lamp		6SCL4
❒ 4	3	3-Snap Wire		6SC03	❒ 1	M7	Light Motor		6SCM7
❒ 1	B3B	Battery Holder - uses 3 1.5V type AA (not included)		6SCB3B	❒ 1	S1	Slide Switch		6SCS1
❒ 1	D10	Red/Yellow LED		6SCD10	❒ 1	S2	Press Switch		6SCS2
❒ 1		Egg		6SCEGG	❒ 1	W1	Horn		6SCW1

How To Use It

For each project, follow the drawings to place all STEP 1 parts on the mini base grid, then place all STEP 2 parts, then place any additional parts indicated by STEPS 3 or 4.



Activate the circuit using the slide switch (S1) or press switch (S2) as indicated in the final step.

Be sure that the light motor (M7), red/yellow LED (D10, and horn (W1) have their "+" marking positioned as per the drawing.

Do not touch the light motor (M7) during operation

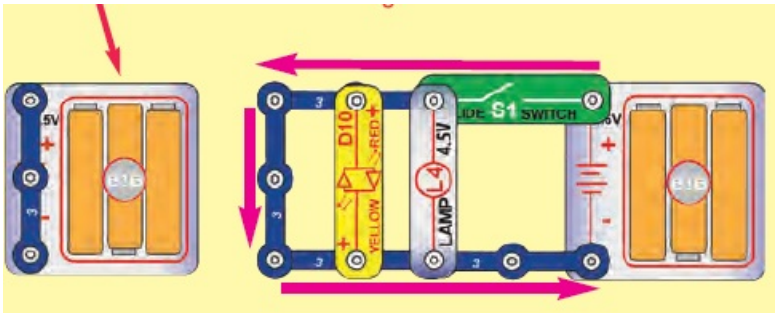
Note: While building the projects, be careful not to accidentally make a direct connection across the battery holder (a “short circuit”), as this may damage and/or quickly drain the batteries.

How to add or replace batteries

Remove the safety cover from the battery holder (B3B) with a Phillips head screwdriver. Insert three (3) 1.5V “AA” batteries (not included) into the battery holder (B3B). Be sure to orient the battery “+” side as marked in the holder. Replace the battery holder cover.

Examples of SHORT CIRCUITS – NEVER DO THESE

Placing a 3-snap wire directly across the batteries is a SHORT CIRCUIT. When the slide switch (S1) is turned on, this circuit has a SHORT CIRCUIT path (as shown by the arrows). The short circuit prevents any other portions of the circuit from ever working.



Troubleshooting

Basic Troubleshooting:

1. Most circuit problems are due to incorrect assembly, always double-check that your circuit exactly matches the drawing for it.
2. Be sure that the light motor (M7), red/yellow LED (D10, and horn (W1) have their “+” marking positioned as per the drawing.
3. Be sure that all connections are securely snapped.

4. Try replacing the batteries.

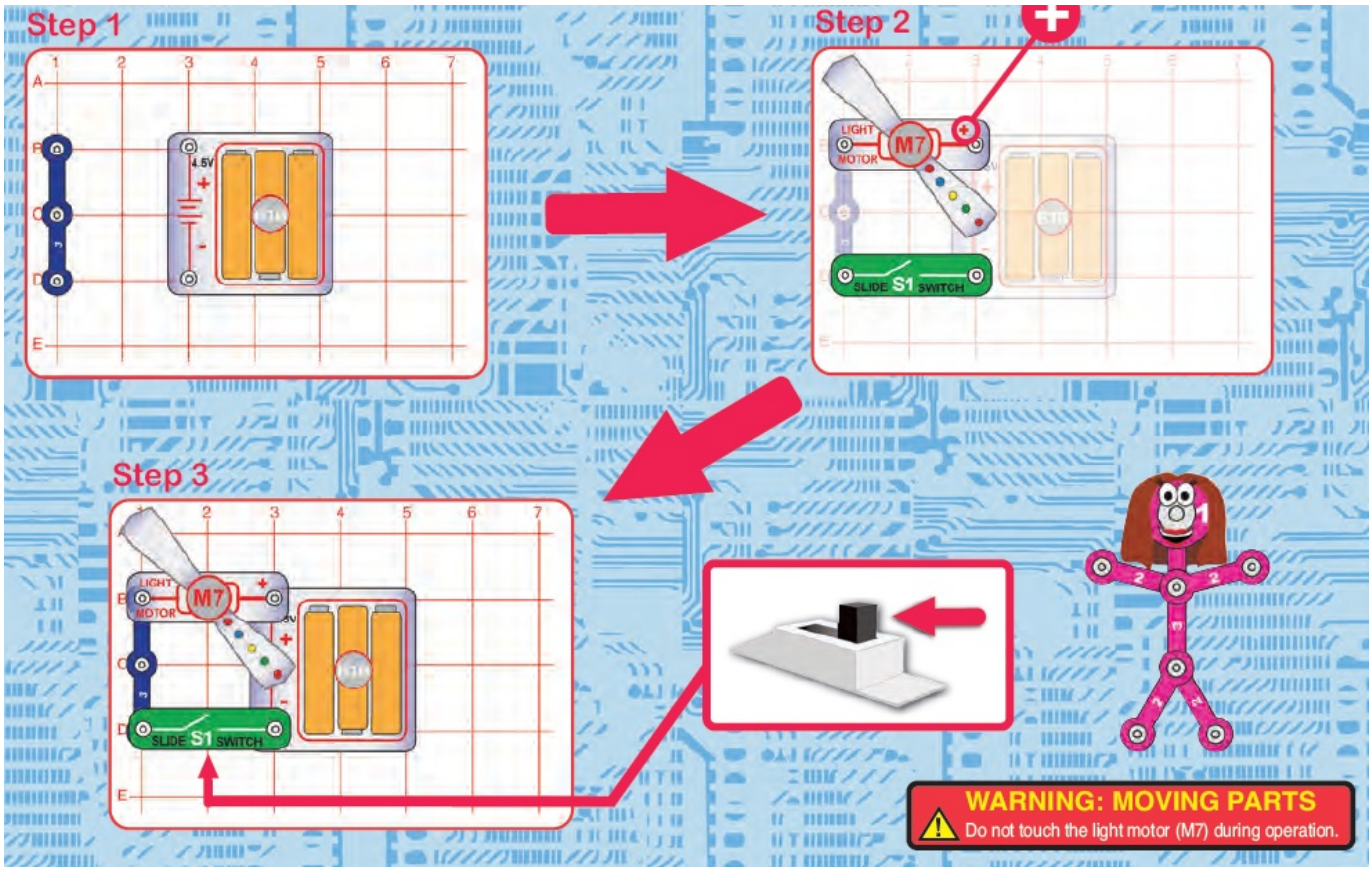
Advanced Troubleshooting (Adult supervision recommended):

If you suspect you have damaged parts, you can follow this procedure to systematically determine which ones need replacing:

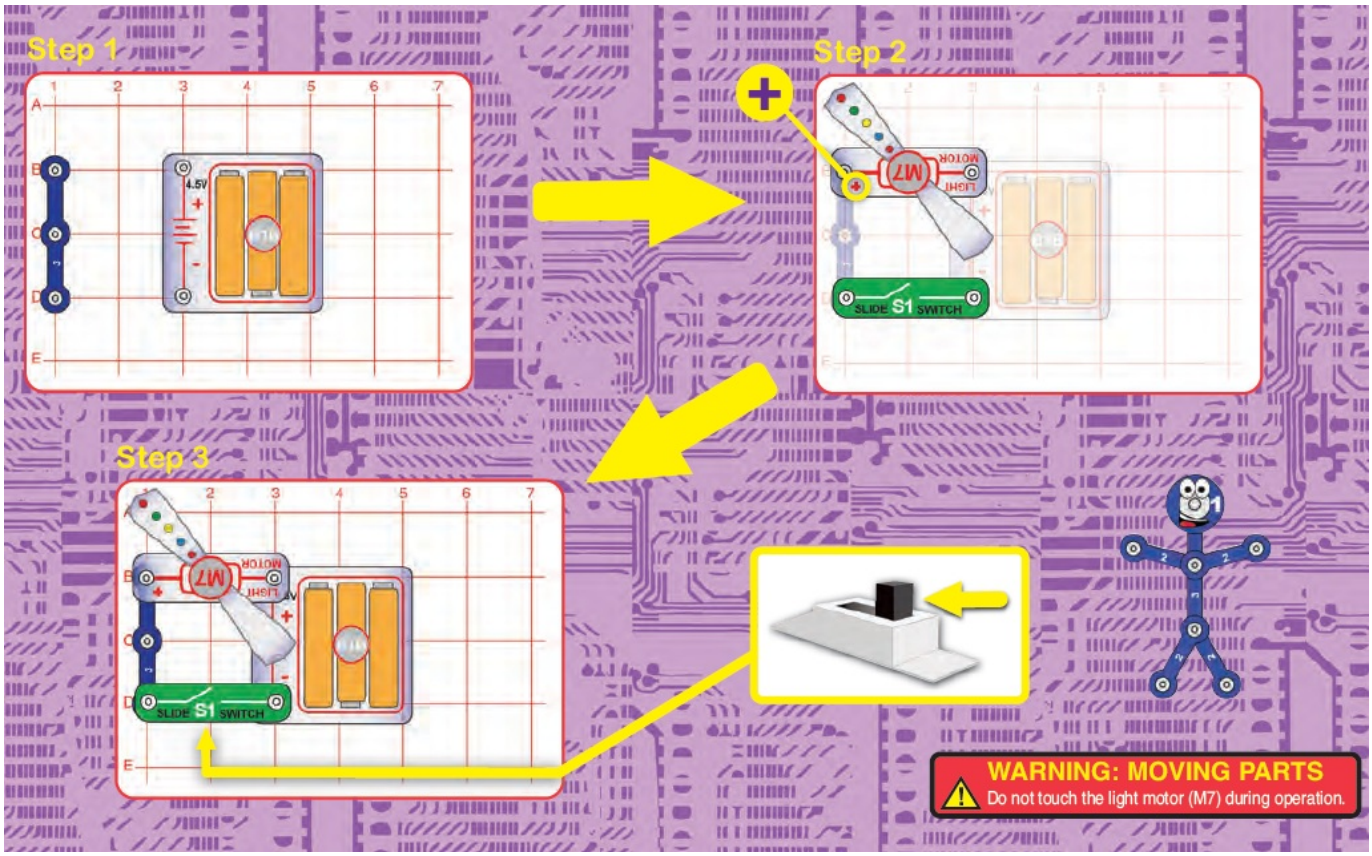
1. Lamp (L4), red/yellow LED (D10), horn (W1), light motor (M7), and battery holder (B7):
    - Place batteries in the holder.
    - Place the lamp directly across the battery holder, it should light. C. Do the same with the LED, it should light red or yellow, depending on how you oriented it.
    - Do the same with the horn (horn + to battery +), it should make an annoying sound.
    - Do the same with the light motor (motor + to battery +), it should spin to the right and its lights should be on.
    - If nothing works, then replace your batteries and repeat, if still bad then the battery holder is damaged.
2. snap wires: Build the Lamp circuit (on page 8), but replace the slide switch (S1) with a 3-snap wire; if the lamp (L4) does not light then one of the two 3-snap wires in the circuit is broken. Systematically test all four 3-snap wires in your set.
3. Slide switch (S1) and press switch (S2): Build the Lamp circuit (on page 8); if the lamp (L4) does not light then the slide switch is broken. Replace the slide switch with the press switch and test it in the same way.

Project Listings

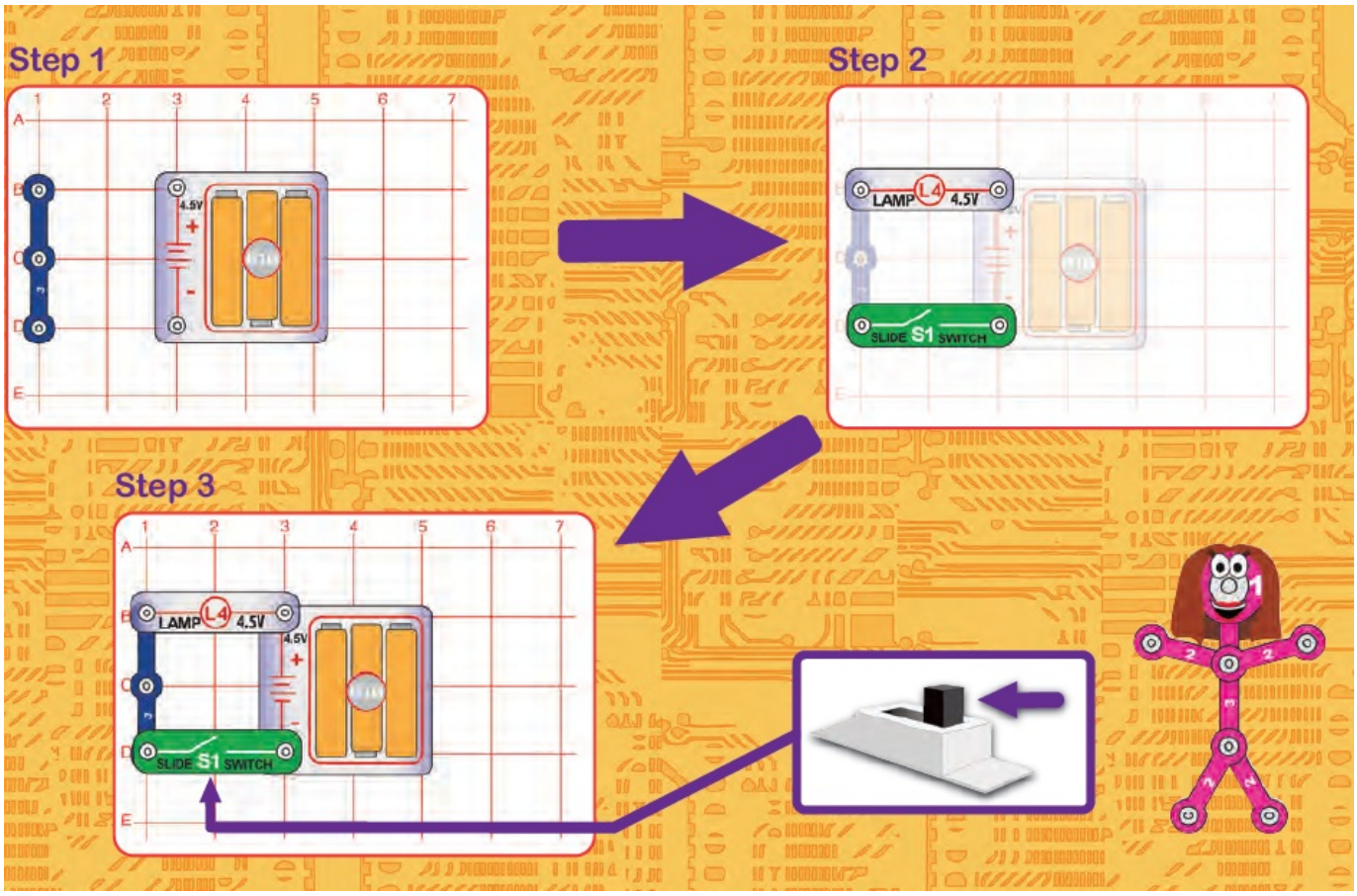
Project 1: Light Motor



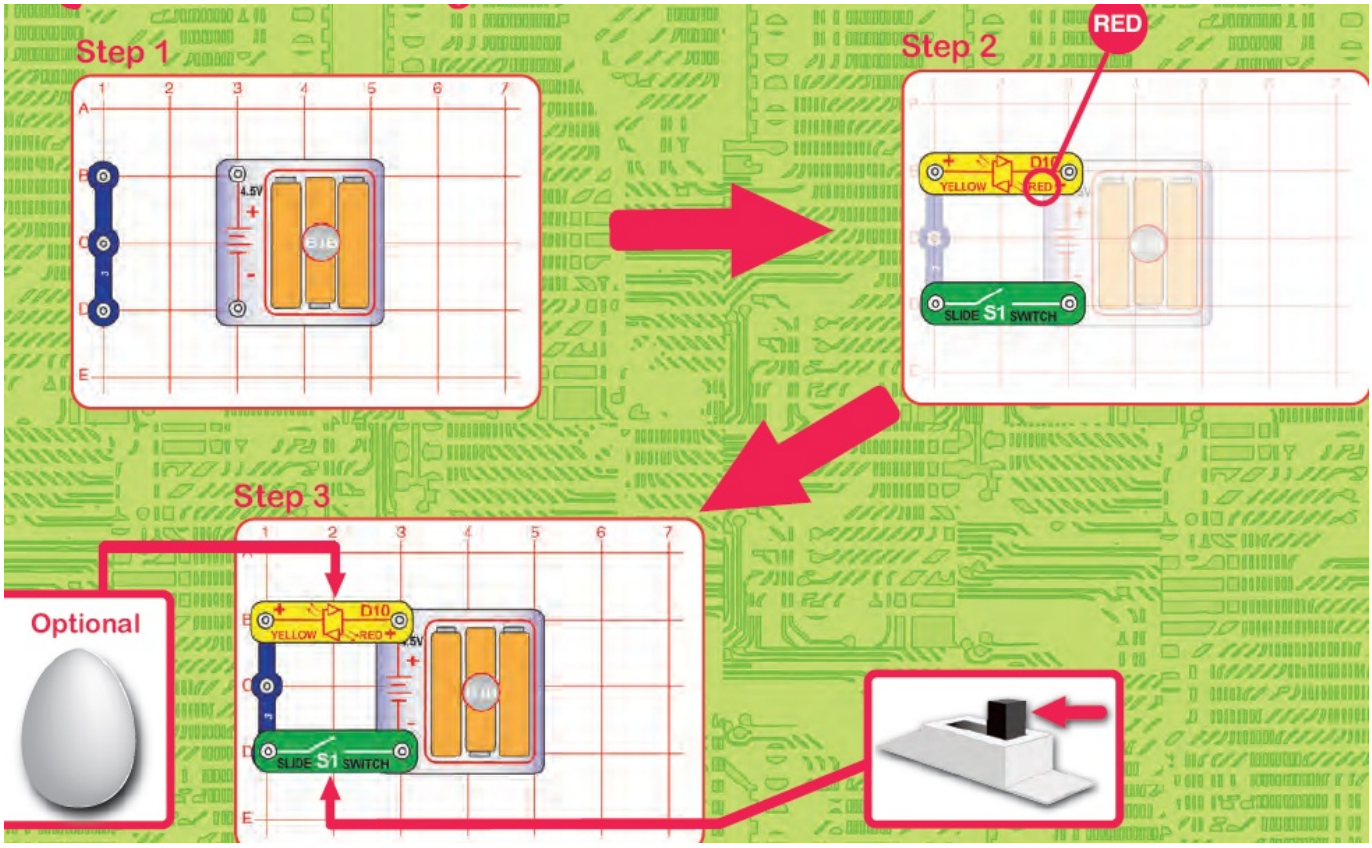
Project 2: Fan



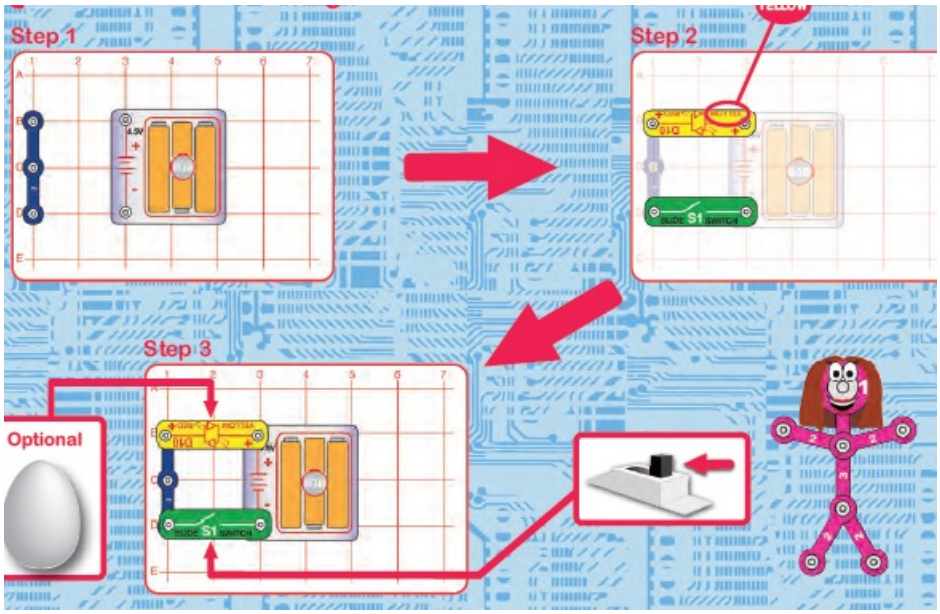
Project 3: Lamp



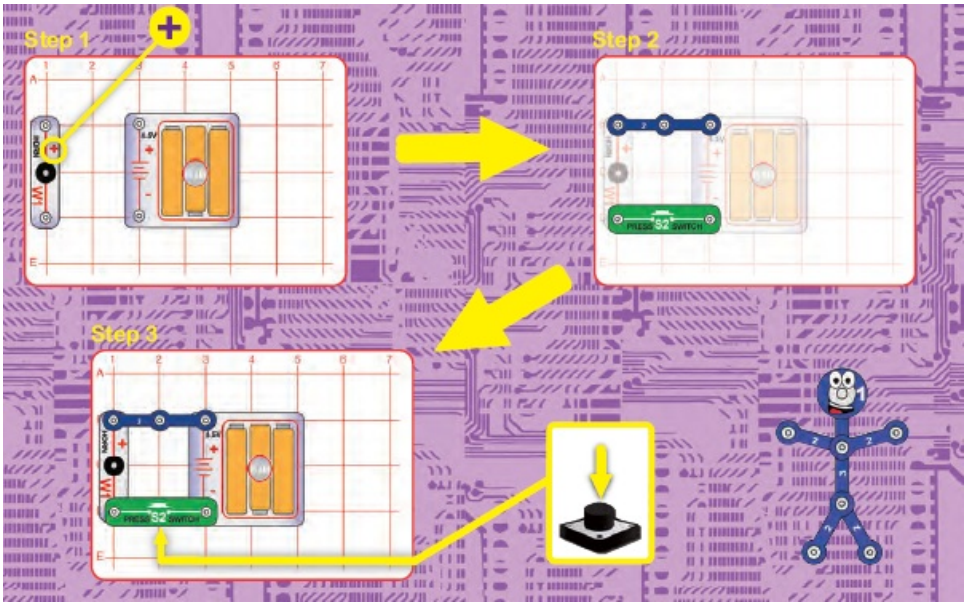
Project 4: Red Light



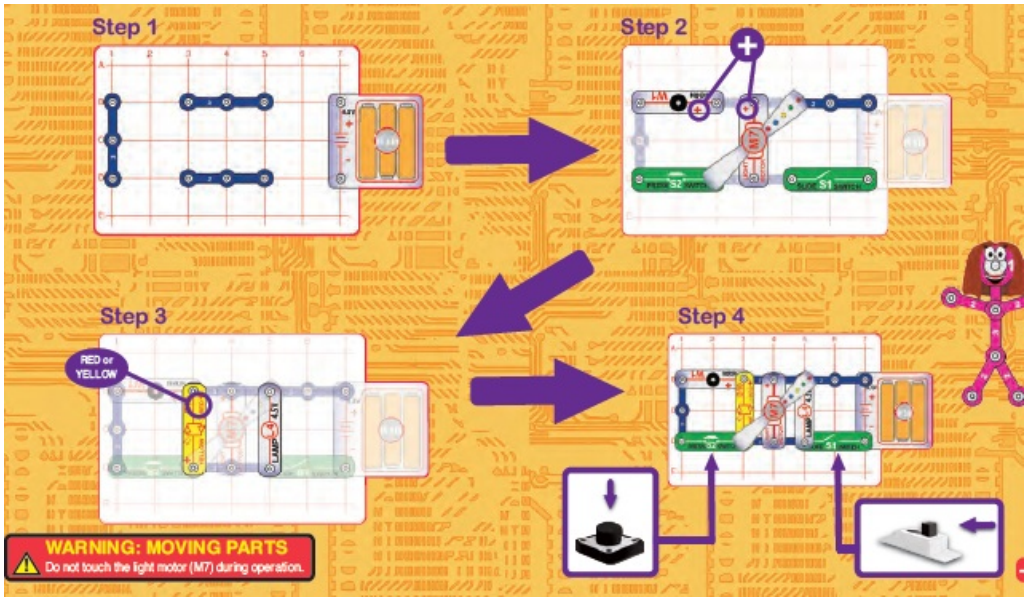
Project 5: Yellow Light



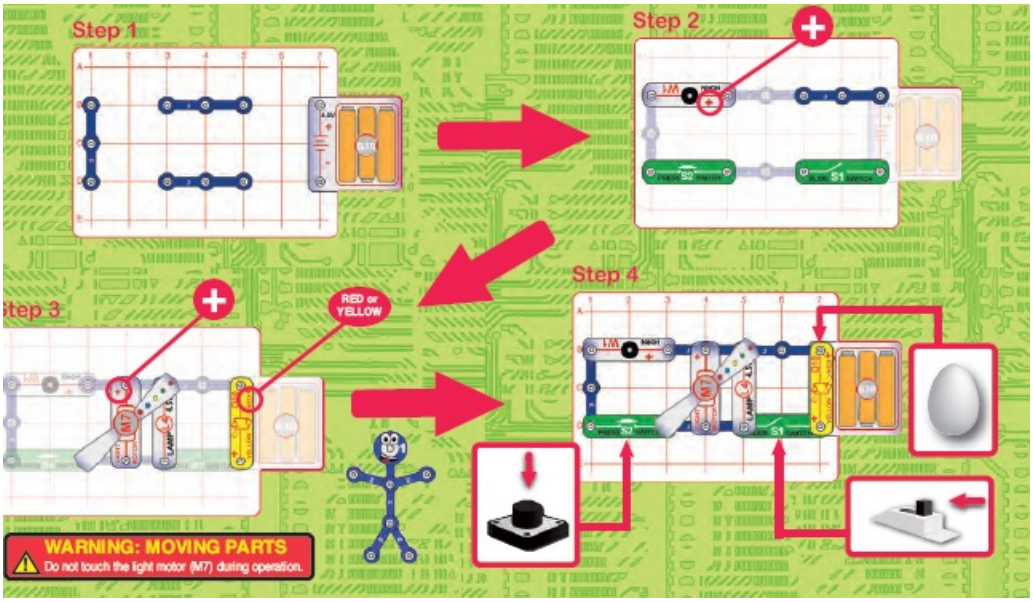
Project 6: Horn



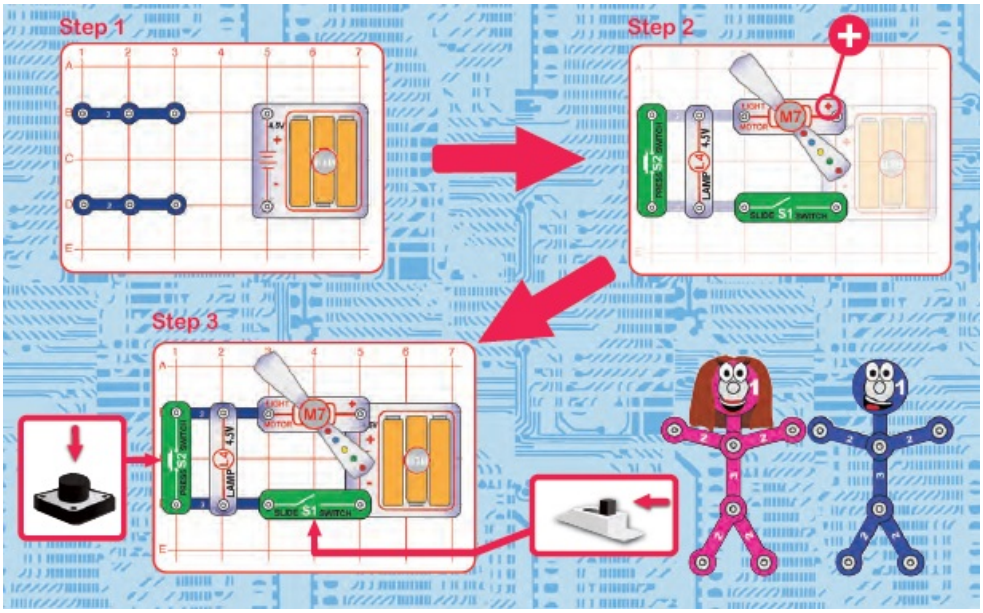
Project 7: Light & Sound



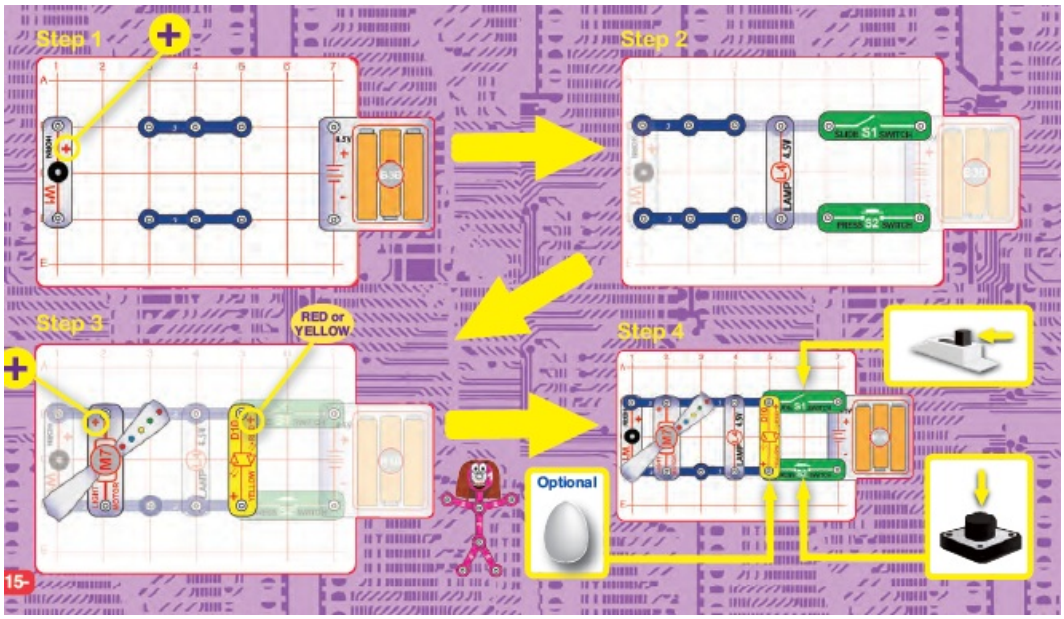
Project 8: Lights & Sound with Egg



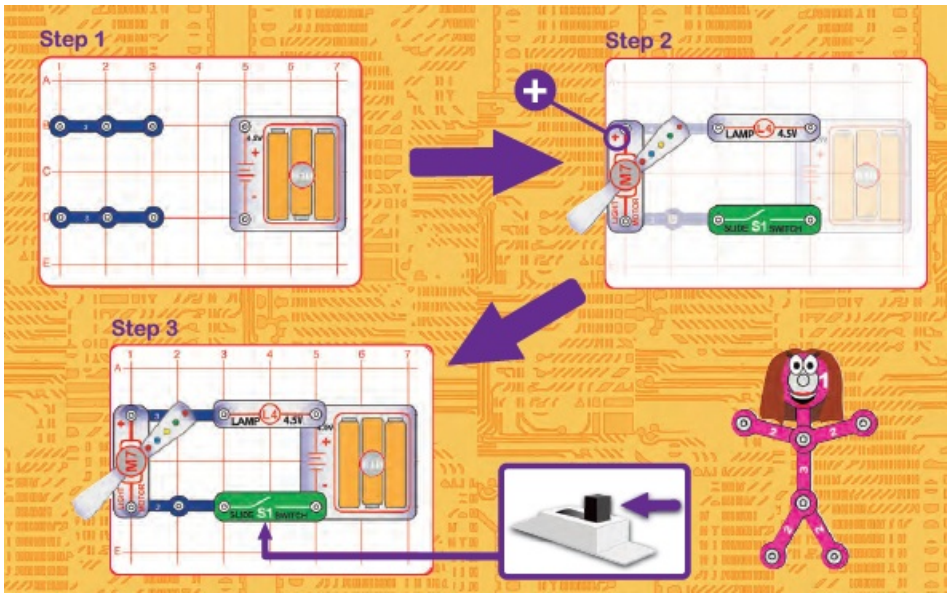
Project 9: 2-Speed Fan



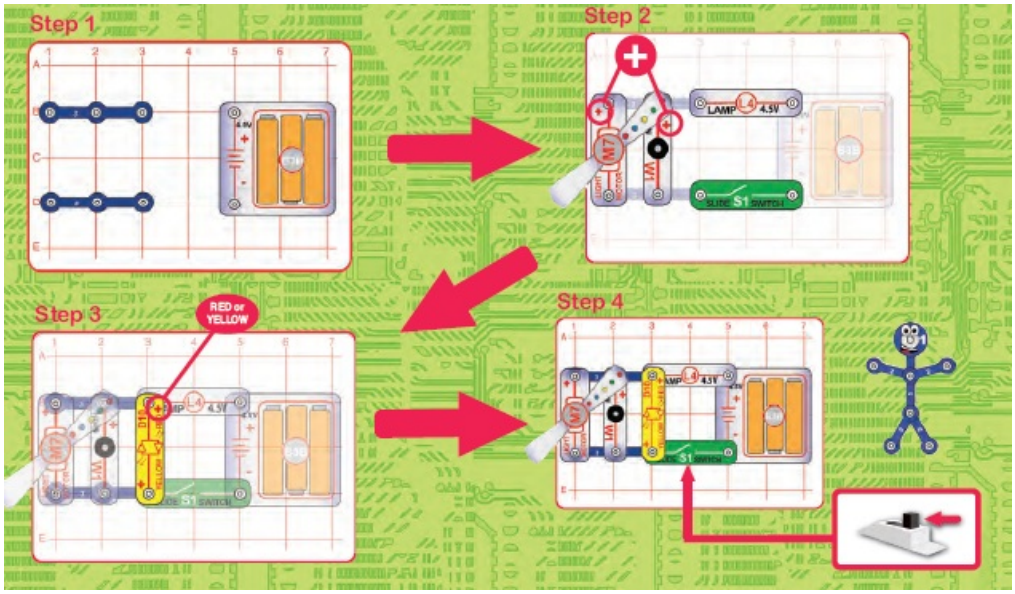
Project 10: 2-Switch Everything



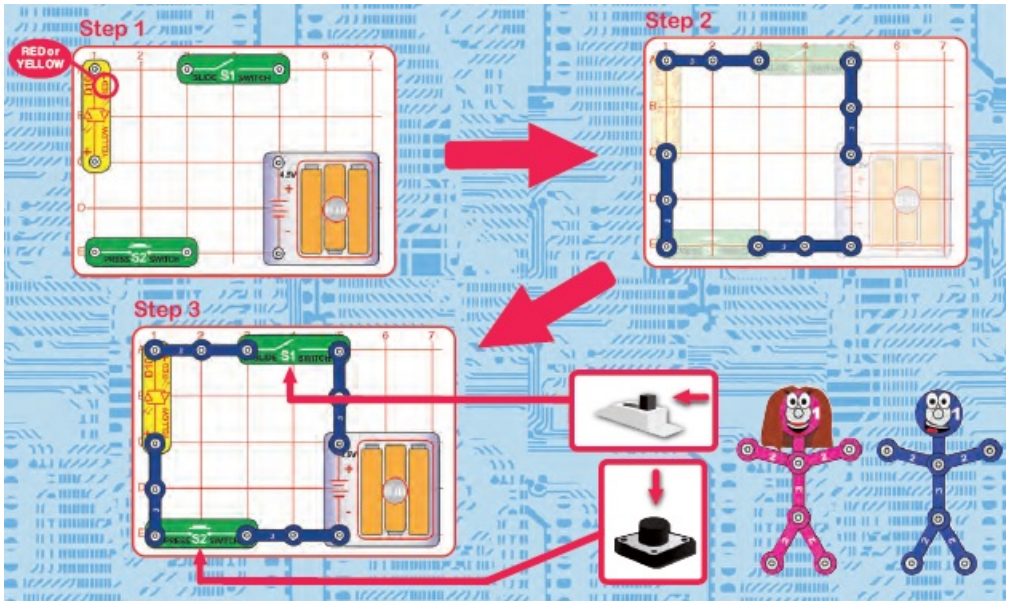
Project 11: Dim Lights



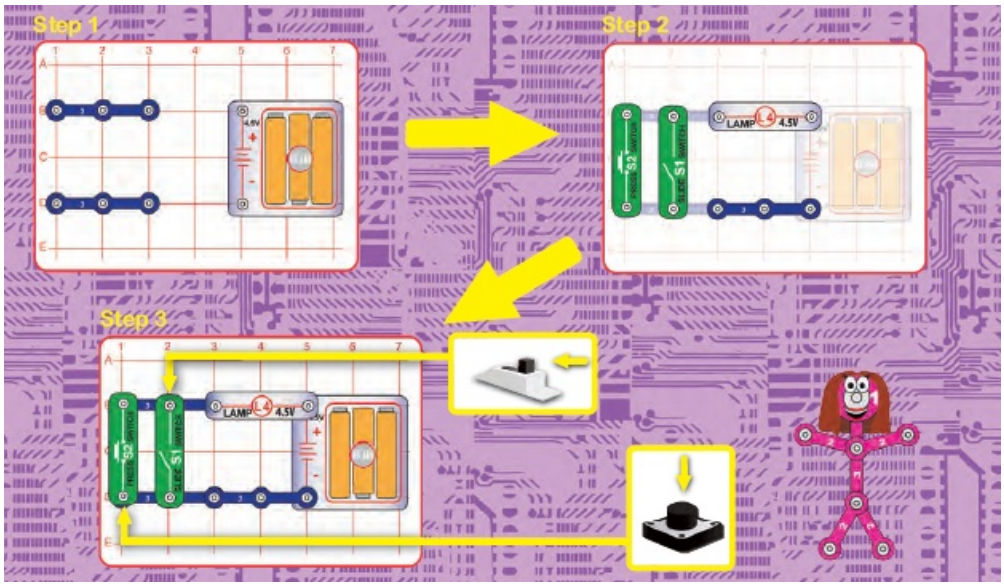
Project 12: Super Dim Lights



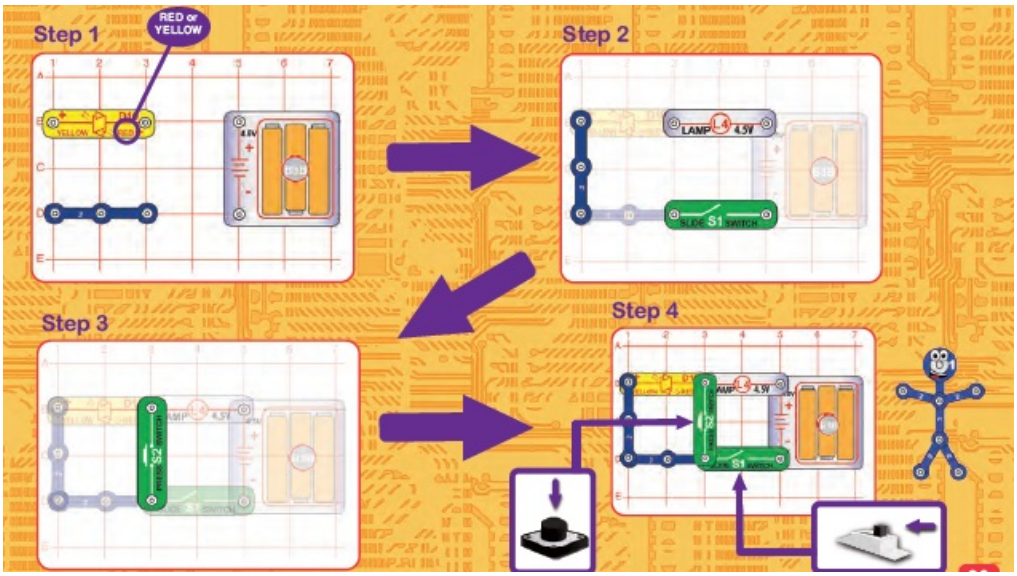
Project 13: 2-Switch Light



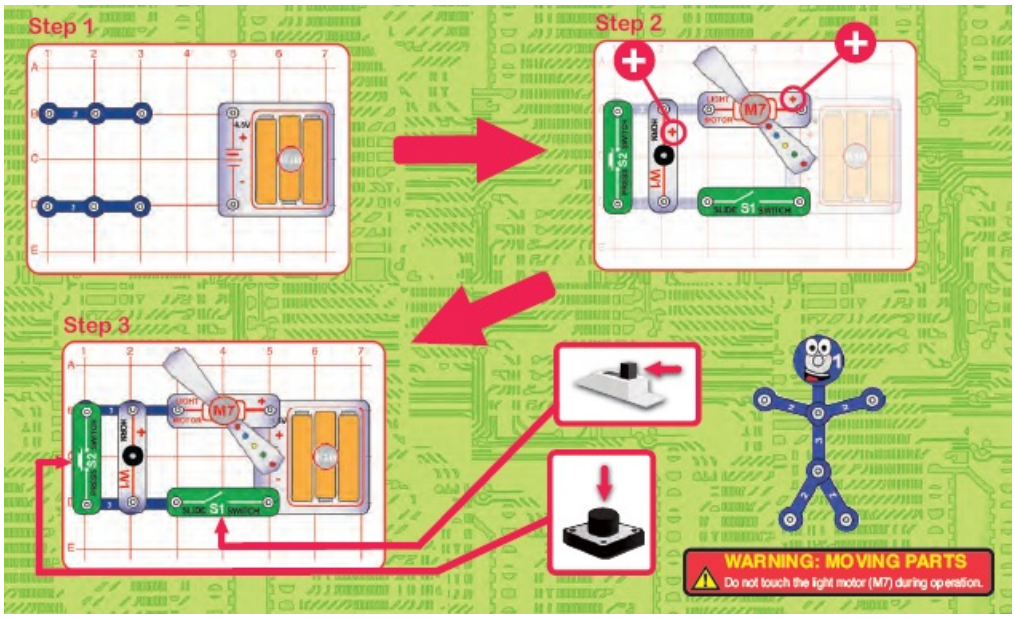
Project 14: Either Switch Lamp



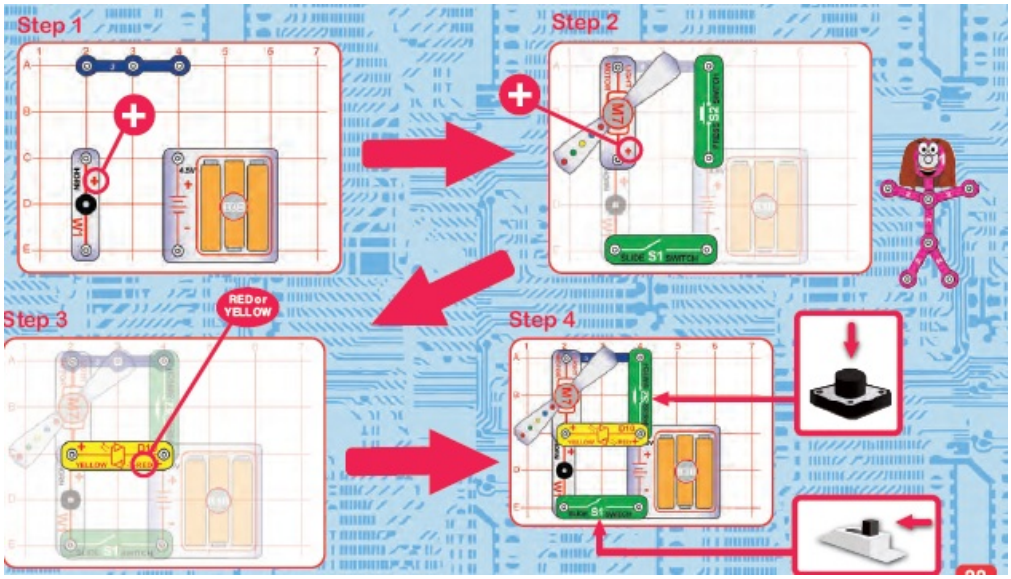
Project 15: Press Light Control



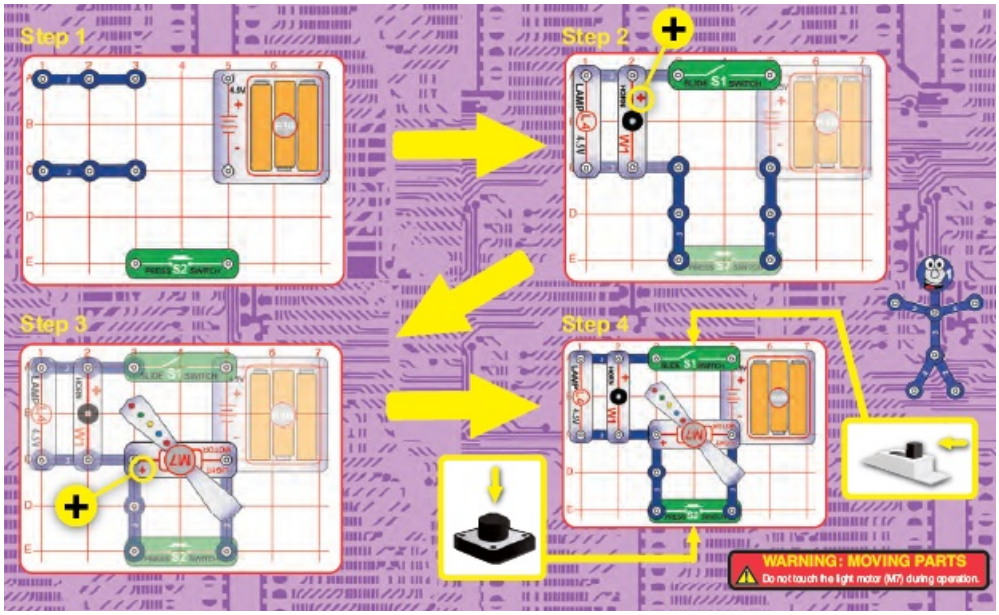
Project 16: Sound or Motion



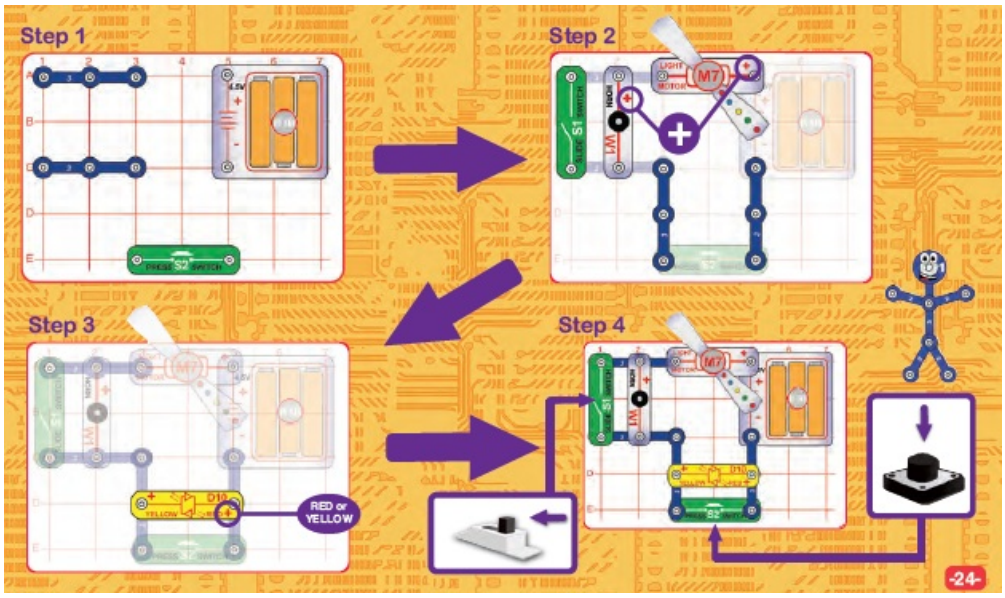
Project 17: 2-Color Light & Sound



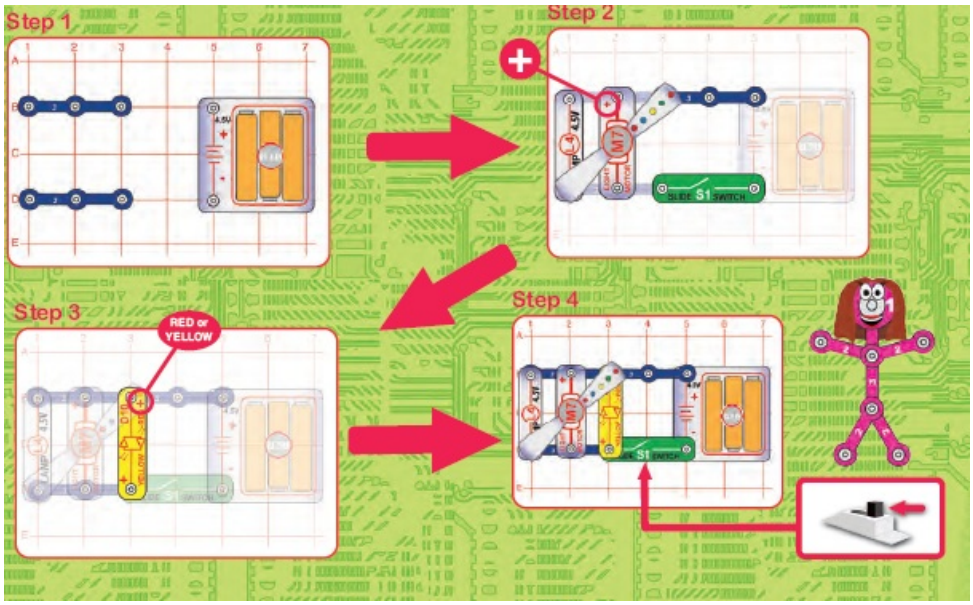
Project 18: Fun with Sound & Lights



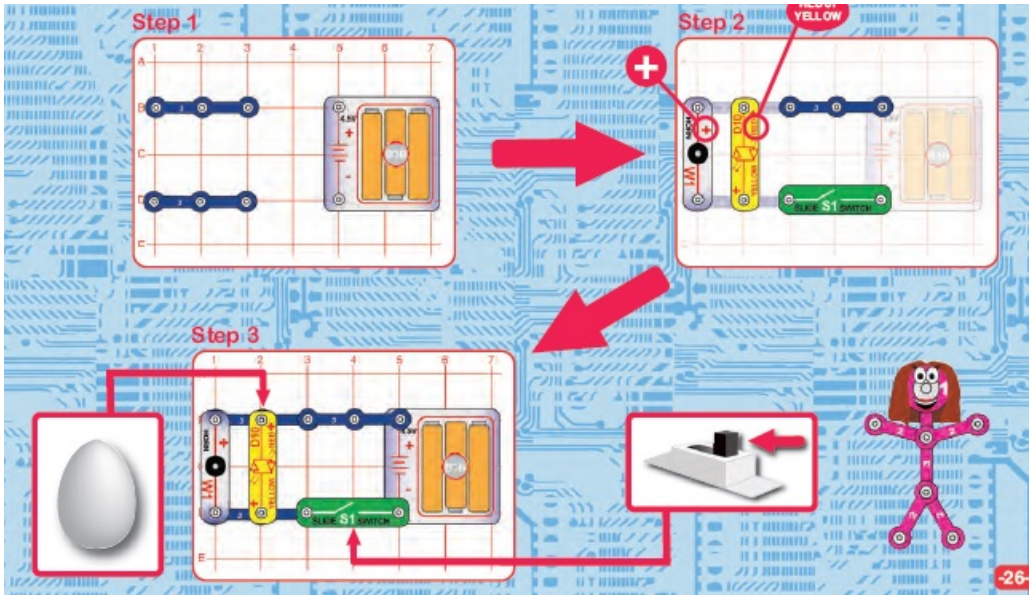
Project 19: Fun with Switches



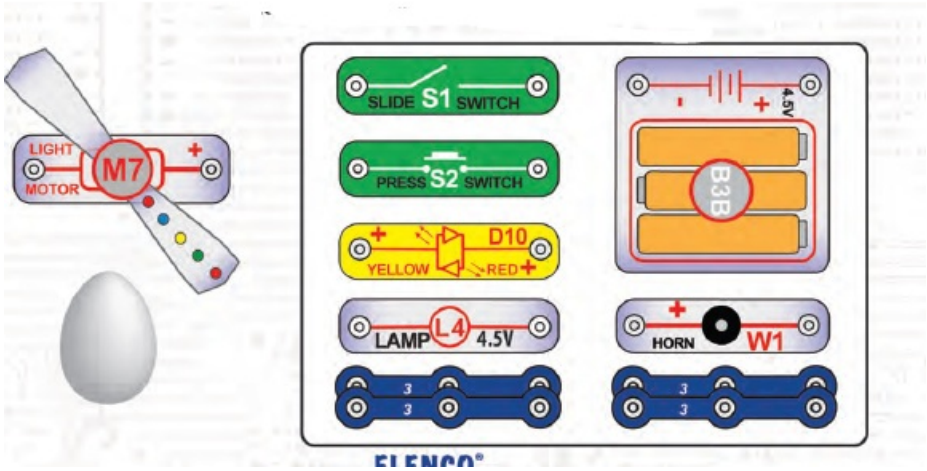
Project 20: Lots of Lights



Project 21: Egg Horn



SCB-20 Block Layout Important: If any parts are missing or damaged, DO NOT RETURN TO RETAILER. Call Customer Service toll-free at **800-533-2441** or e-mail us at: **help@elenco.com**.
Note: A complete parts list is on page 2 of this manual.



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FAQs

What is the Snap Circuits SCB-20 Electronics Exploration Kit?

The Snap Circuits SCB-20 Electronics Exploration Kit is an educational tool designed to introduce children to basic electronics concepts through hands-on experiments.

What age group is the Snap Circuits SCB-20 Electronics Exploration Kit suitable for?

The Snap Circuits SCB-20 Electronics Exploration Kit is suitable for children aged 8 and up.

How many projects can be built with the Snap Circuits SCB-20 Electronics Exploration Kit?

The Snap Circuits SCB-20 Electronics Exploration Kit allows users to build over 20 different electronics projects.

What types of components are included in the Snap Circuits SCB-20 Electronics Exploration Kit?

The Snap Circuits SCB-20 Electronics Exploration Kit includes various components such as snap wires, slide switches, resistors, and capacitors.

Can the Snap Circuits SCB-20 Electronics Exploration Kit be used in educational settings?

Absolutely, the Snap Circuits SCB-20 Electronics Exploration Kit is ideal for classroom use, offering a practical introduction to electronics.

What educational benefits does the Snap Circuits SCB-20 Electronics Exploration Kit offer?

The Snap Circuits SCB-20 Electronics Exploration Kit teaches basic principles of electronics, problem-solving skills, and fosters creativity.

How easy is it to assemble projects with the Snap Circuits SCB-20 Electronics Exploration Kit?

The Snap Circuits SCB-20 Electronics Exploration Kit is designed for ease of use, with components that snap together easily, making assembly straightforward.

What types of projects can be created with the Snap Circuits SCB-20 Electronics Exploration Kit?

The Snap Circuits SCB-20 Electronics Exploration Kit can be used to create projects like simple circuits, a sound-activated switch, and a light-controlled lamp.

How durable is the Snap Circuits SCB-20 Electronics Exploration Kit?

The Snap Circuits SCB-20 Electronics Exploration Kit is made from high-quality materials, ensuring it is durable and long-lasting.

Is the Snap Circuits SCB-20 Electronics Exploration Kit safe for children to use?

The Snap Circuits SCB-20 Electronics Exploration Kit is designed with safety in mind, featuring components that are safe for children to handle.

Where can the Snap Circuits SCB-20 Electronics Exploration Kit be purchased?

The Snap Circuits SCB-20 Electronics Exploration Kit can be purchased online from various retailers, as well as in many toy and educational stores.

Video-Snap Circuits SCB-20 Electronics Exploration Kit

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References

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