

E. HOW IT WORKS

Micheal Faraday is not well known to a lot of people today, but his work as a scientist in the 1800's was really remarkable. His experiments with electricity and magnets, eventually led him to the invention of the electric motor. He continued his work for many years and began to experiment with different methods to create electricity. He figured out that by passing a magnet through loops of wire, (or by moving a coil against a magnet) he could generate a current! With the toy motor we used in this kit, wires are coiled around the center axle. There are magnets placed inside the wall of the motor casing. When the crank or pulley is turned, the center axle spins with the help of the magnets and a current is produced, which is strong enough to light up the LED lamp. And it all runs smoothly with the help of the commutator and brush, which connects the circuit to the spinning axle without tangling any wires. We refer to this process as electromagnetic induction, which is the basis of your Eco-Tech generator! While today's generators are much more powerful than those Faraday created, the basic theory is still the same as the source of power for your Eco-Tech Bulb!

F. FUN FACTS

Almost a billion people in the world still live without a consistent, reliable source of electricity. They rely on dangerous and expensive kerosene lamps which pollute the environment. These lamps not only take up a large portion of a family's income, but also prevent children from learning as the kerosene fumes can cause headaches and eye strain. The technology inside the EcoTech Bulb doesn't require sunlight, oil or a battery to work, providing a environmentally friendly and cheap alternative to kerosene lamps. Access to light through this powerful and innovative design will help lift millions of people out of poverty in the future.

G. TROUBLESHOOTING

If the LED does not turn on in Gravity-Powered Mode: • Fill the water bottle up with more water to increase the weight and force put on the gearbox. • Make sure the button is pushed all the way towards the wire side of the gearbox. Do not push the button when the water bottle is connected to the gearbox. If the LED does not turn on in Hand-Powered Mode: • Make sure to turn the handle clockwise when using your right hand to operate the light. • Check if the button is pushed all the way towards the handle side of the gearbox. Also check the following: • Check if the red and black wires from the motor and light are matched with the same colour within the terminals. Make sure the black and red wires are secured properly by pegs in the two terminals. • If it is difficult to push the button to change the mode on the device, slight turn the crank to realign the gears. The button should push smoothly through once the gears are aligned.

QUESTION AND COMMENTS

We treasure you as a customer and your satisfaction with this product is important to us. In case you have any comments or questions, or you find any parts of this kit missing or defective, please do not hesitate to contact our distributor in your country, whose address is printed on the package. You are also welcome to contact our marketing support team at Email: infodesk@4M-IND.com, Fax (852) 25911566, Tel (852) 28936241, Web site: WWW.4M-IND.COM

ECO-TECH BULB

PLEASE SCAN THE QR CODE TO VIEW MULTI-LANGUAGE INSTRUCTIONS

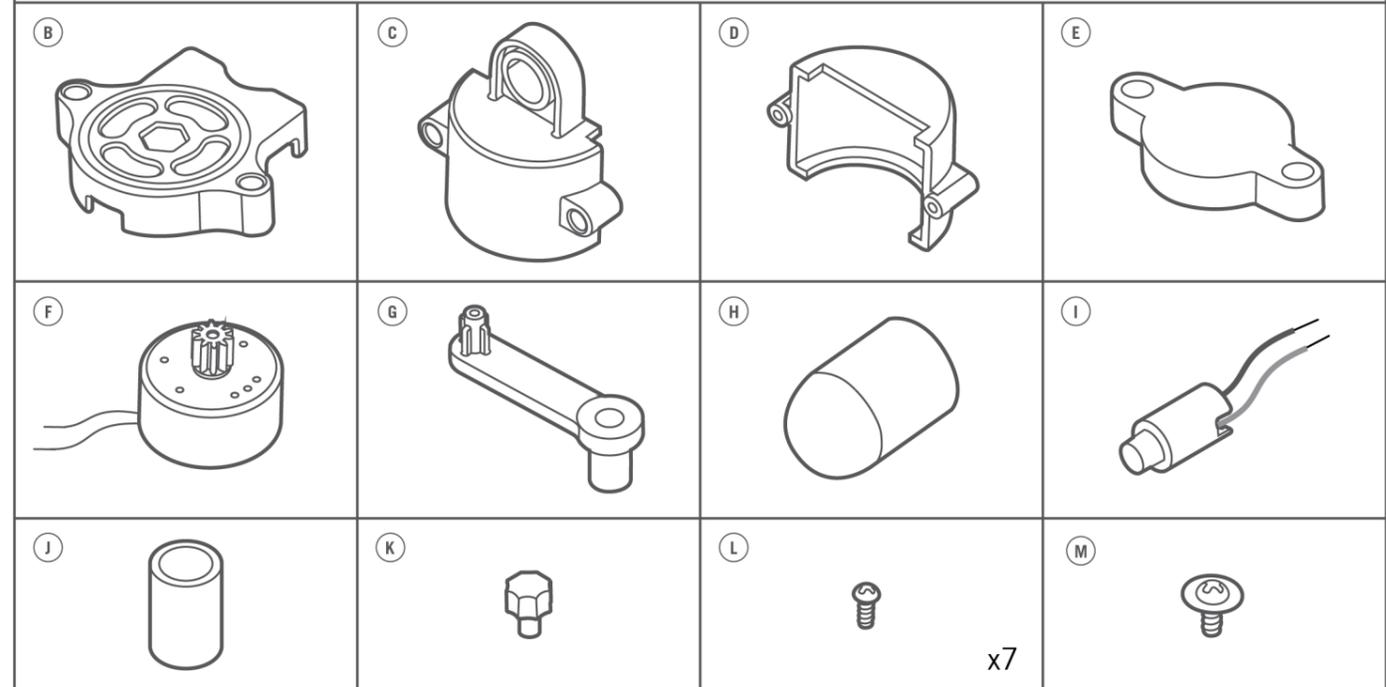
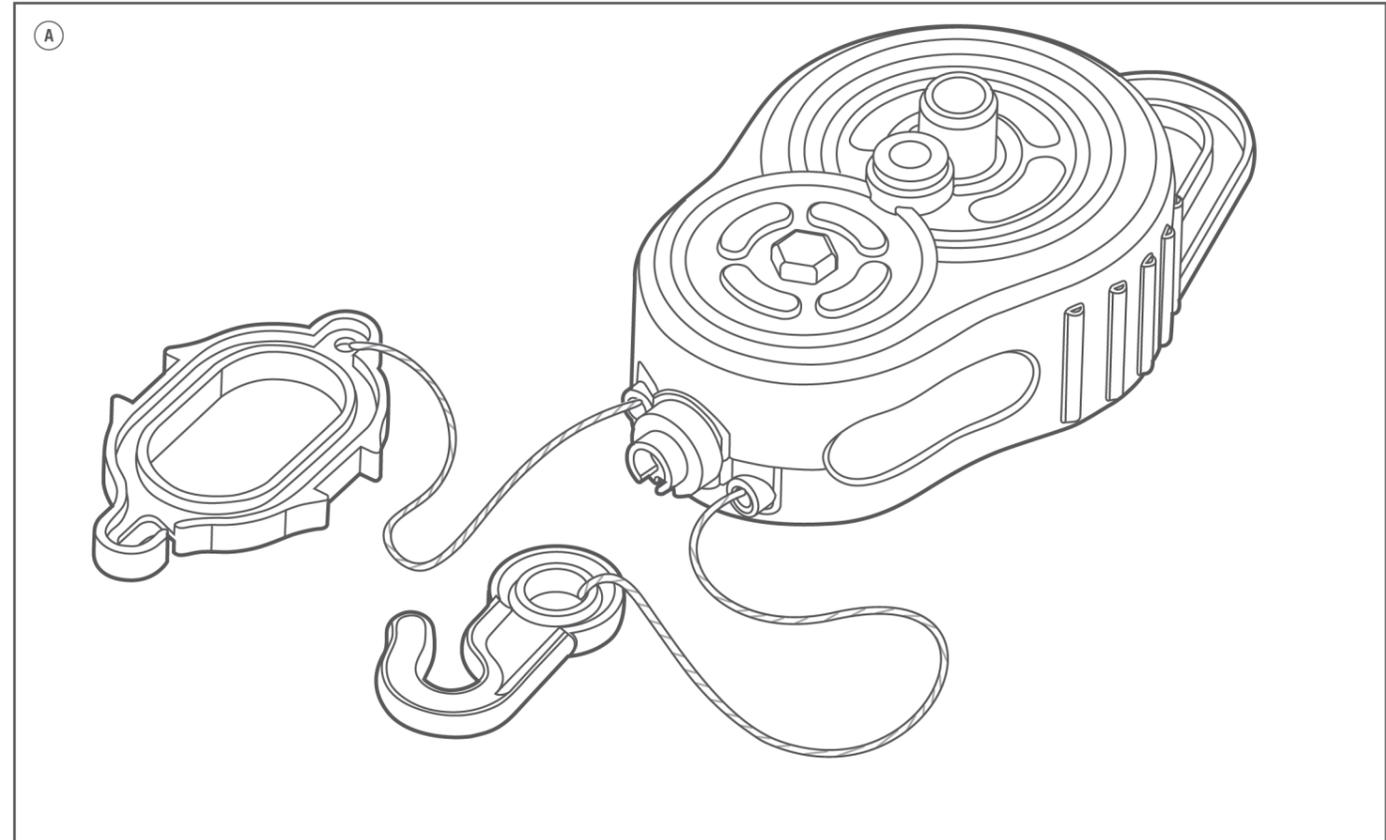
FR. Veuillez scanner le code QR pour afficher les instructions multilingues pour ce kit. DE. Bitte scannen den QR-Code, um die mehrsprachige Anleitung für dieses Set anzusehen. NL. Scan de QR-code om de instructies voor deze set in verschillende talen te bekijken. IT. Scansiona il codice QR per visualizzare le istruzioni multi-lingua per questo kit. ES. Escanea el código QR para ver instrucciones en varios idiomas para este kit. JA. QRコードをスキャンして、本キットの多言語説明書をご覧ください。

WARNING:
CHOKING HAZARD - Small parts.
Not for children under 3 years.

TO PARENTS: PLEASE READ THROUGH THESE INSTRUCTIONS BEFORE PROVIDING GUIDANCE TO YOUR CHILDREN.

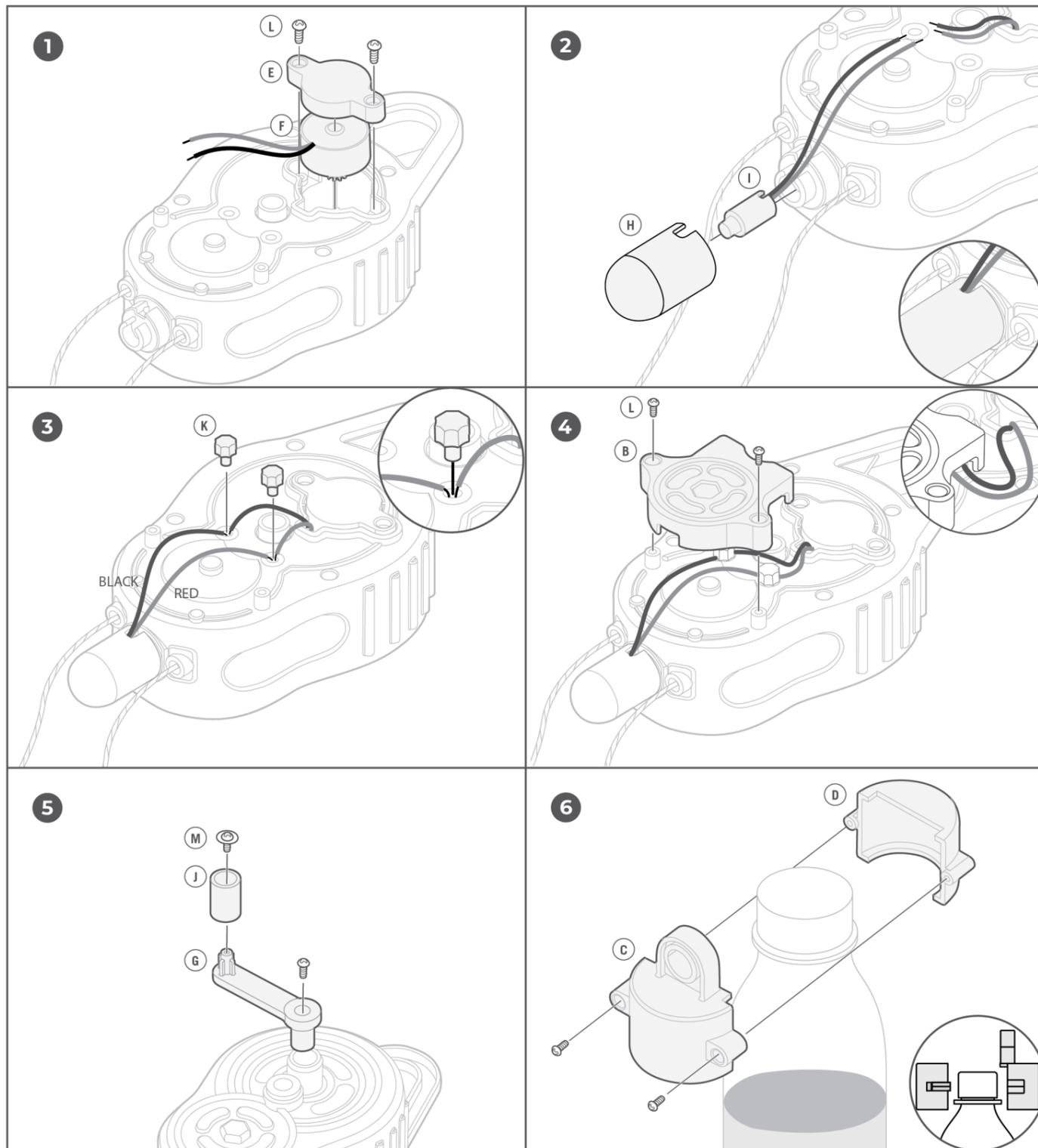
A. SAFETY MESSAGES

1) Adult assistance and supervision is required at all times. 2) This kit is intended for children over the age of 5. 3) This kit and its finished product contain small parts which may cause choking if misused. Keep away from children under the age of 3. 4) Do not shine the light directly into anyone's eyes. 5) Do not stand under the water bottle to avoid any head injuries. 6) Do not push the mode-changing button when the water bottle is connected to the gearbox.



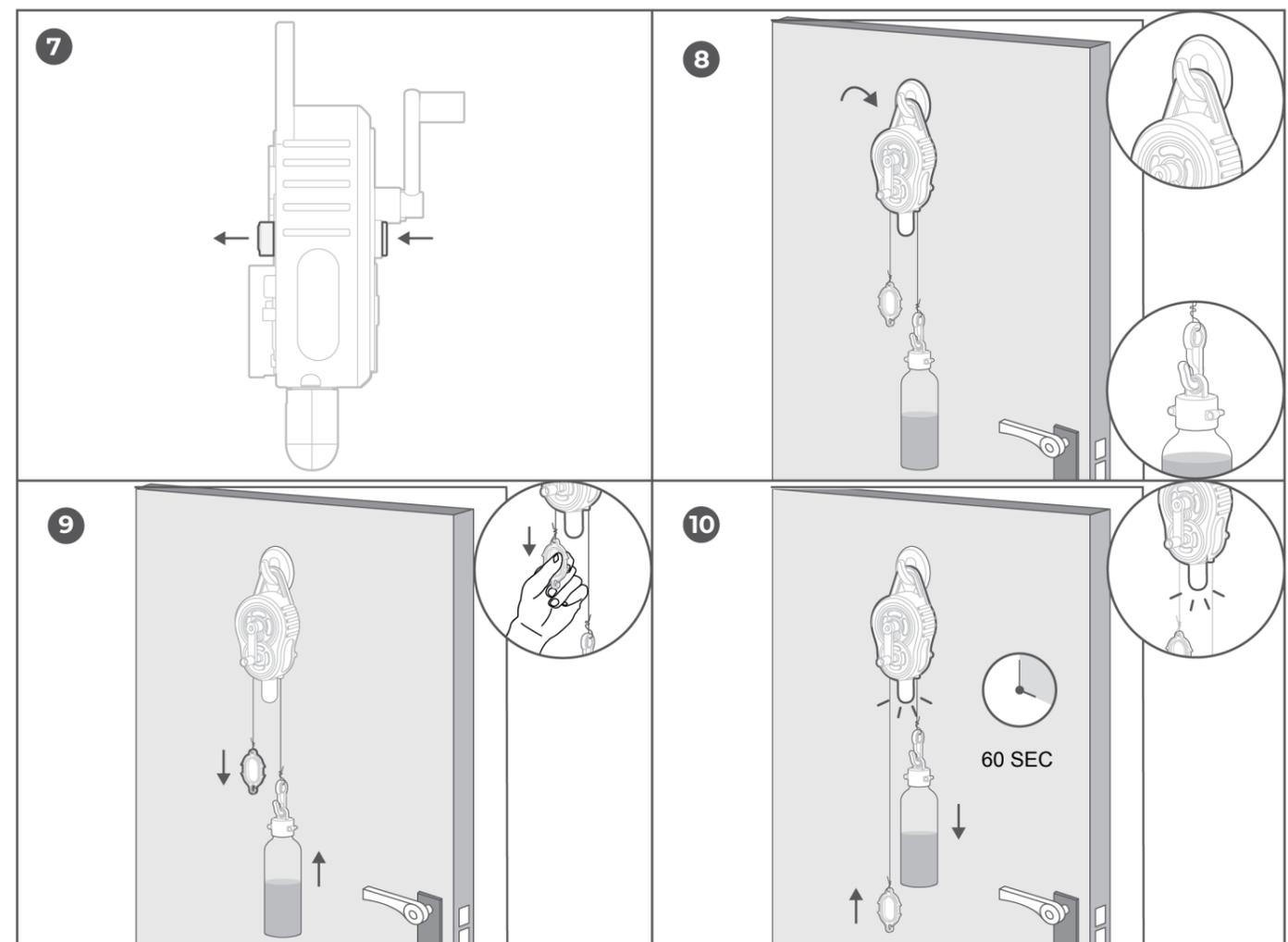
B. CONTENTS

Part; A: Gearbox, B: Wire Cover, C: Bottle Connector (Left), D: Bottle Connector (Right), E: Motor Cover, F: Motor, G: Handle Joint, H: Bulb Cover, I: LED Light, J: Handle, K: Peg, L: Small Screw, M: Washer Screw. Also required but not included: A recycled 1 litre (35 ounce) water bottle and a small crosshead screwdriver.



C. ASSEMBLY

- Slide the motor (F) into the gearbox (A) and secure it in place screwing in the motor cover (E) with two small screws (L) as shown. The motor wires should face the center of the gearbox.
- Insert the light (I) into the hole at the bottom of the gearbox (A), making sure that the wires come out through the hole's slot. Line up the slot at the bottom of the cap (H) with the LED light's wires before you slide in over top.
- Secure the two black wires together with a peg (K). Repeat with the red wires.
- Cover the two wire terminals with the wire cover (B) and secure with two small screws (L), allowing the wires to come out the side hole as shown. Secure with two small screws.
- Attach the handle (J) to the handle joint (G) and secure it with a washer screw (M). Attach the handle joint to the gearbox with a small screw (L).
- Fill a 1 litre (or 35 fl. oz.) recyclable water bottle a bit more than half full. Align the two bottle connectors (C, D) with the cap of the water bottle. Secure the two pieces together with two small screws as shown.

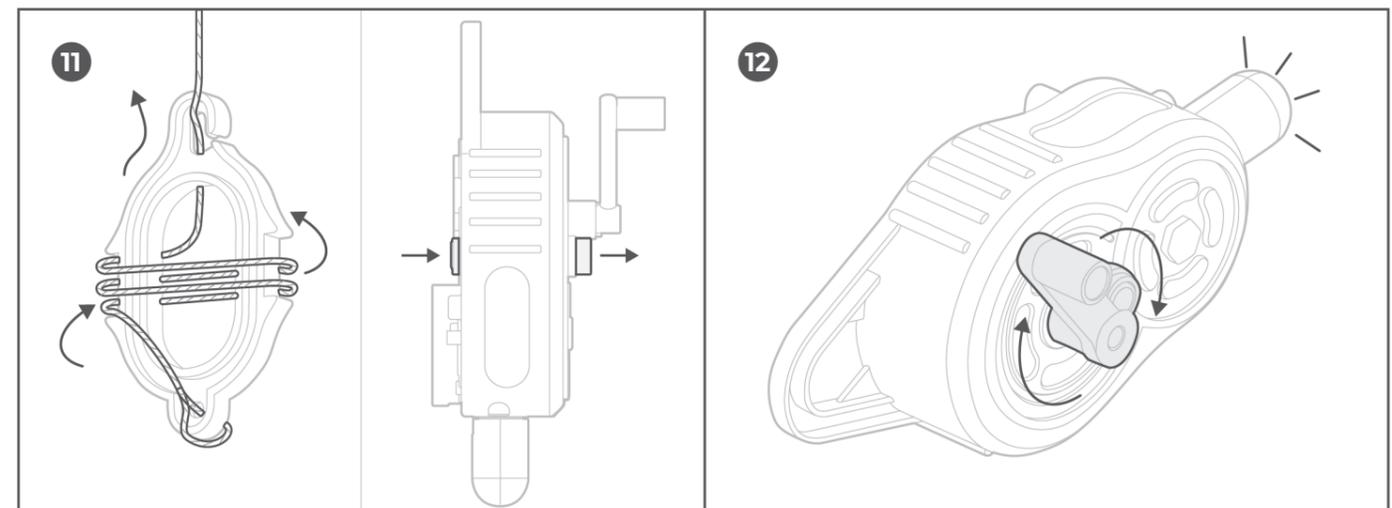


D. OPERATION

The Eco-Tech Bulb is a dual-powered generator which transforms gravity or hand motion into electrical energy.

GRAVITY-POWERED MODE

- To switch the device to gravity mode, press the button on the side with the handle so that the button is pushed out on the other side. Turn the crank to align the gears if the button is hard to push.
- Ask an adult for help with finding a secure hook around 5.8 feet (70 inches) above the ground to place the gearbox on. Place the top of the device onto a door hook. Hook the 1L water bottle onto the device.
- Pull the handle on the left side of the gearbox all the way down so that the water bottle is lifted up close to the LED light as shown.
- Watch as the bottles descends to the ground and turns on the light in the process! The light should turn on for over a minute.



HAND-POWERED MODE

- Take the bottle off the gearbox's hook and pull the handle all the way down. Wrap the excess string around the handle to prepare the hand crank powered light for use as shown. Push the button so that it protrudes out of the handle side of the gearbox.
- Turn the handle to turn on the light! Be careful not to turn the crank too fast to avoid damaging the gears inside the Eco-Tech Bulb.