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## 4M 3797

# 4M Green Science Solar Robot Kit

Model: 3797 | Brand: 4M

## INTRODUCTION

The 4M Green Science Solar Robot Kit provides an engaging way to learn about mechanics and renewable energy. This kit allows you to construct a moving robot powered entirely by solar energy, requiring no batteries. It encourages creativity by enabling the adaptation of household recycled materials to customize your robot.

## Safety Information

- **Recommended Age:** Suitable for ages 5 years and up.
- **Choking Hazard:** Contains small parts. Not for children under 3 years. Adult supervision is recommended during assembly and operation.
- Read all instructions carefully before beginning assembly.

## WHAT'S IN THE BOX

The kit includes all necessary components to build the solar robot. Please verify that all parts are present before starting assembly.

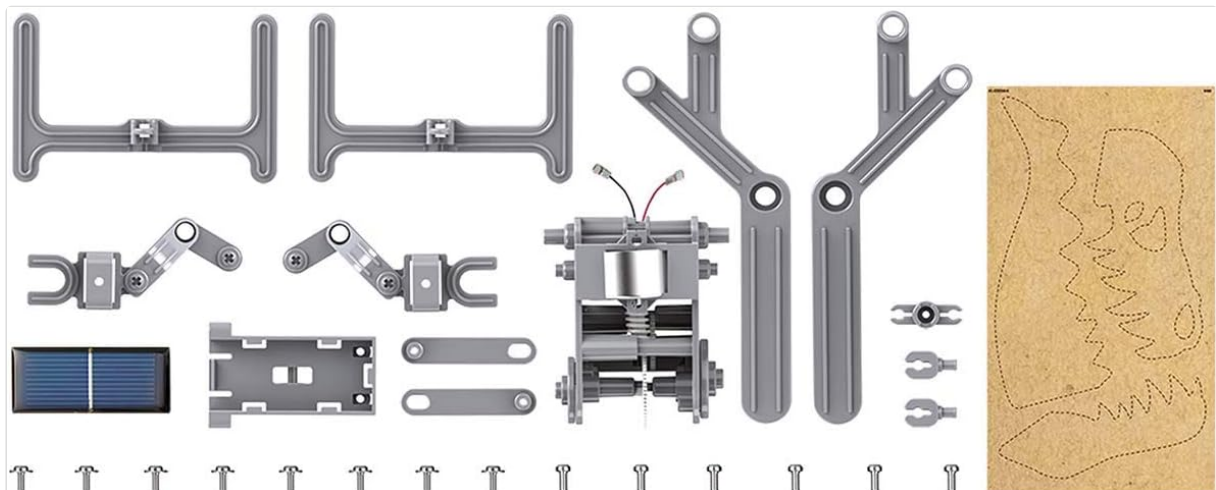


Image: All components of the 4M Green Science Solar Robot Kit laid out, including plastic robot parts, solar panel, motor,

and various screws.

Typical components include:

- Robot body parts (plastic frames, legs, arms)
- Solar panel
- Electric motor
- Gears and axles
- Screws and fasteners
- Wires for electrical connections
- Cardboard cutouts for customization (e.g., dinosaur, monster)

## **ASSEMBLY INSTRUCTIONS**

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Follow these steps to assemble your 4M Green Science Solar Robot. A small crosshead screwdriver (not included) is required.

### **Step 1: Prepare the Main Body**

Carefully detach all plastic parts from their frames. Identify the main body components, including the central gear housing and leg attachments. Assemble these parts using the provided screws, ensuring all connections are secure but not overtightened.

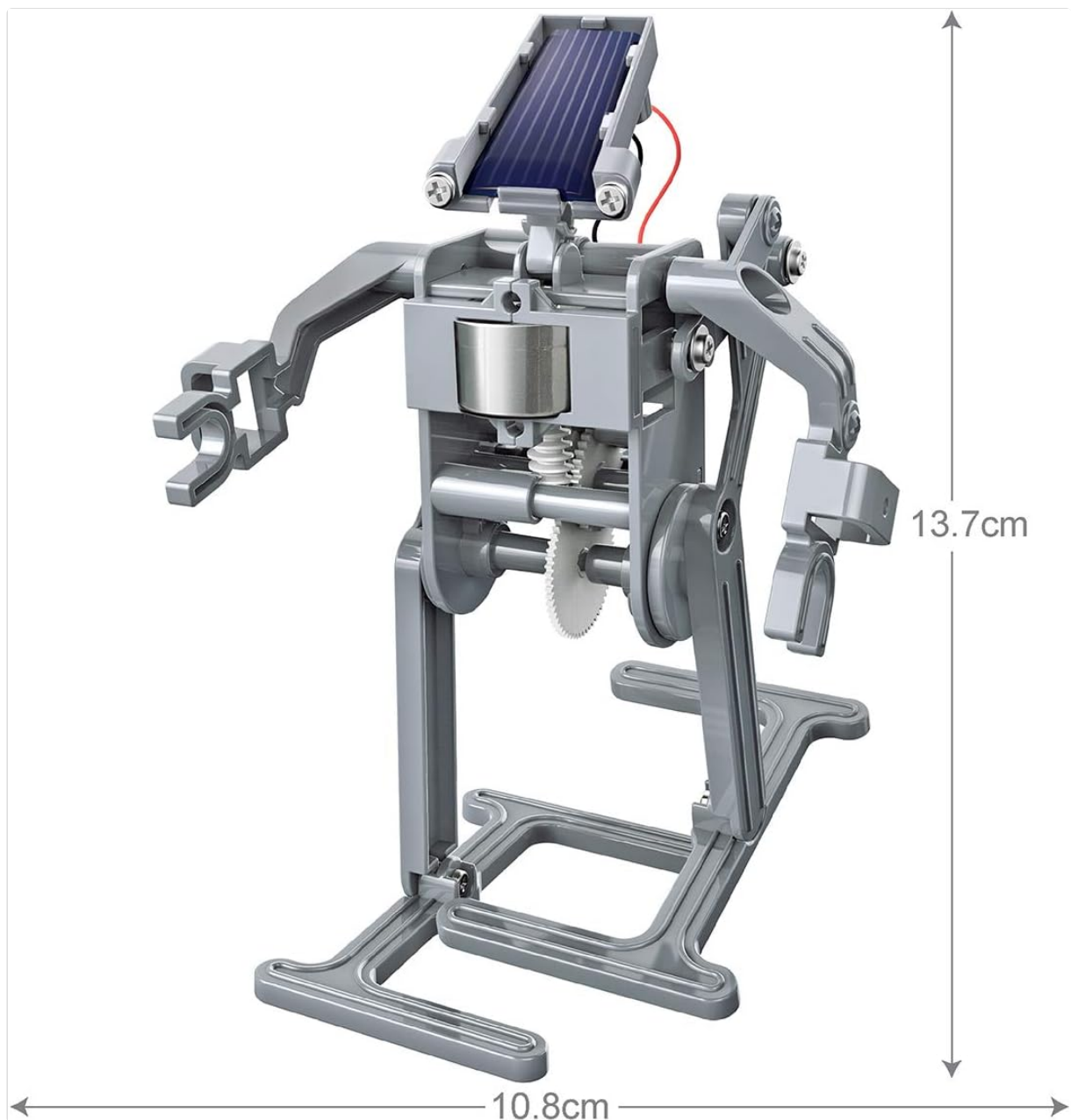


Image: The fully assembled 4M Green Science Solar Robot, illustrating its structure and approximate dimensions.

### **Step 2: Install the Motor and Gears**

Mount the electric motor into its designated slot within the robot's body. Attach the gears to the motor shaft and other axles as indicated in the detailed instructions (refer to the QR code on the packaging for digital instructions if needed). Ensure gears mesh smoothly for proper movement.

### **Step 3: Connect the Solar Panel**

Attach the solar panel to the top of the robot's body. Connect the red and black wires from the solar panel to the corresponding terminals on the motor. Double-check the polarity to ensure correct operation.

### **Step 4: Attach Legs and Arms**

Secure the robot's legs and arms to the main body using the remaining screws and fasteners. Ensure that the leg joints allow for free movement, which is crucial for the robot's walking mechanism.

### **Step 5: Customize Your Robot (Optional)**

Use the provided cardboard cutouts or your own recycled materials (such as empty paper cups or forks) to give your robot a unique appearance, like a dinosaur or a monster. Attach these customizations securely without impeding the robot's movement.



Image: Children observing a solar robot customized with cardboard to resemble a dinosaur.

## Assembly Video

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Video: An official demonstration of the 4M Solar Robot Kit, showcasing its assembly and various functionalities.

## OPERATING INSTRUCTIONS

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The 4M Solar Robot operates using solar energy. No batteries are required.

### Powering On

Place the assembled robot in direct sunlight. The solar panel on top of the robot will convert sunlight into electrical energy, powering the motor and enabling the robot to walk. Ensure the solar panel is facing directly towards the sun for optimal performance.

### Optimal Conditions

- The robot performs best in bright, direct sunlight.
- Performance may be reduced on cloudy days or indoors without strong artificial light.

### Customization and Interaction

Once assembled, observe the robot's movement. You can experiment with different recycled materials to change its appearance and explore how these modifications affect its balance and movement.

Your browser does not support the video tag.

Video: An official demonstration of the 4M Solar Robot Kit, showcasing its assembly and various functionalities.

## MAINTENANCE

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To ensure the longevity and optimal performance of your solar robot, follow these simple maintenance guidelines:

- **Cleaning:** Gently wipe the solar panel and robot body with a soft, dry cloth to remove dust and debris. Avoid using harsh chemicals or abrasive materials.
- **Storage:** When not in use, store the robot in a cool, dry place away from direct sunlight to prevent potential damage to the solar panel or plastic components.
- **Inspection:** Periodically check all screws and connections to ensure they remain secure. Re-tighten if necessary.

## TROUBLESHOOTING

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If your 4M Solar Robot is not functioning as expected, consider the following:

- **Robot does not move:**
  - Ensure the robot is in direct, strong sunlight. Insufficient light is the most common reason for non-operation.
  - Check the wiring connections between the solar panel and the motor. Ensure they are secure and correctly connected (red to red, black to black).
  - Verify that the gears are properly meshed and not obstructed by any foreign objects or loose parts.
  - Confirm that the motor is correctly installed and not jammed.
- **Robot falls over while walking:**
  - Check the assembly of the legs and feet. Ensure they are symmetrical and securely attached.
  - Examine the walking mechanism for any loose or misaligned parts that might affect balance.
  - If customized, ensure added materials do not significantly shift the robot's center of gravity or interfere with leg movement.
- **Parts are too fragile during assembly:**
  - Handle all small components with care.
  - Avoid excessive force when attaching parts or tightening screws.

## SPECIFICATIONS

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<b>Product Dimensions</b>	8.5 x 2.5 x 9.5 inches
<b>Item Weight</b>	4 ounces
<b>Item Model Number</b>	3797
<b>Manufacturer Recommended Age</b>	5 years and up
<b>Power Source</b>	Solar Energy (No batteries required)
<b>Manufacturer</b>	Toysmith

## WARRANTY AND SUPPORT

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For information regarding product warranty, replacement parts, or technical support, please contact 4M customer service. Contact details can typically be found on the product packaging or the official 4M website.

**Online Resources:** For additional assembly tips, creative ideas, and frequently asked questions, visit the official 4M Green Science website or scan the QR code provided on the product packaging.

