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› Lucky Doug 12-in-1 STEM Solar Robot Kit Instruction Manual

Lucky Doug 1232-67-1

Lucky Doug 12-in-1 STEM Solar Robot Kit Instruction Manual

Model: 1232-67-1

INTRODUCTION

This manual provides detailed instructions for assembling and operating the Lucky Doug 12-in-1 STEM Solar Robot Kit. This educational building set allows users to construct up to 12 different unique robots powered by solar energy, fostering an understanding of science, technology, engineering, and mathematics principles through hands-on engagement.

SAFETY INFORMATION

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

Always ensure adult supervision during assembly and operation, especially for younger users, due to the presence of numerous small components and the need for precision during construction.

KIT CONTENTS

The Lucky Doug 12-in-1 STEM Solar Robot Kit includes approximately 190 pieces, allowing for the construction of various robot models. Before beginning assembly, verify that all components are present and undamaged.



Figure 1: Overview of Kit Components. The kit contains multiple plastic frames with various robot parts, a solar panel, a motor, connecting wires, assorted gears, wheels, and a detailed instruction manual.

Key components include:

- Plastic parts on sprues (requiring detachment)
- Solar panel module
- Electric motor and gearbox assembly
- Connecting wires
- Various gears, shafts, and connectors
- Wheels and tracks
- Sticker sheets for detailing
- Detailed instruction manual

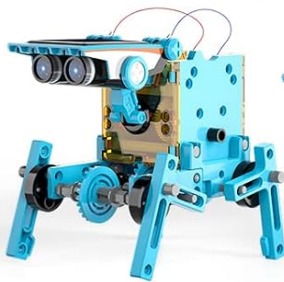
ASSEMBLY INSTRUCTIONS

The kit allows for the construction of 12 distinct robot models. Each model requires specific assembly steps detailed in the included manual. It is recommended to follow the instructions carefully, step-by-step.

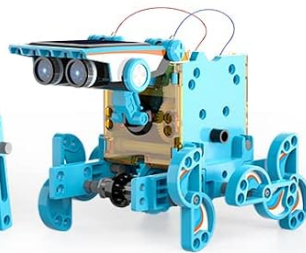
1. **Part Preparation:** Carefully detach each plastic part from its frame using a wire cutter or a small hobby knife. Ensure all excess plastic (burrs) is removed from the connection points to allow for proper fit and function.
2. **Sorting:** Organize parts by type or number as indicated in the manual. Using small bags or containers can help prevent loss of tiny pieces.
3. **Gearbox Assembly:** Begin by assembling the central gearbox module, which houses the motor and primary gears. Pay close attention to the alignment of gears to ensure smooth operation.
4. **Robot Body Construction:** Follow the specific diagrams for your chosen robot model to build the main body structure.
5. **Solar Panel Integration:** Attach the solar panel module and connect the wires to the motor as instructed. Ensure secure connections for optimal power transfer.
6. **Adding Accessories:** Install wheels, legs, arms, or other specialized components according to the model's design.
7. **Testing:** After completing each major section or the entire robot, test the movement and functionality under direct sunlight or a strong halogen light.

12-in-1 SOLAR ROBOT KIT

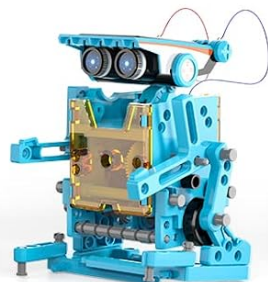
Entry Level



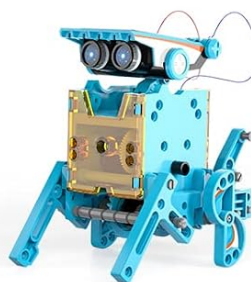
Quadru-bot



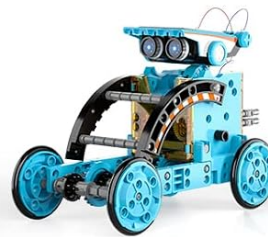
Beetle-bot



Walker -bot



Dog-bot



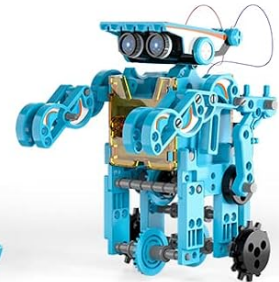
Auto-bot



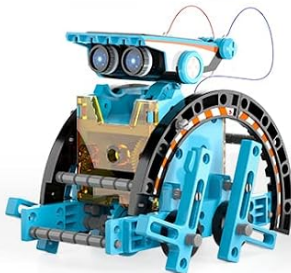
Surf-bot



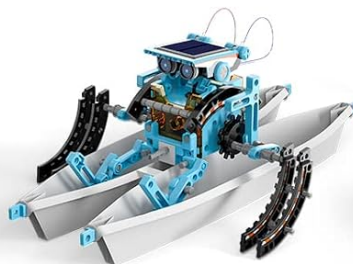
Crab-bot



Zombie-bot



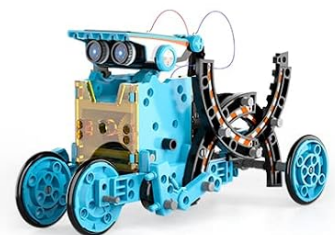
Turtle-bot



Row-bot



Roly-Poly Bot



Slither-Bot

Senior Level

Figure 2: 12-in-1 Robot Models. This image displays the variety of robots that can be constructed, ranging from land-based vehicles to water-faring designs.

Note: Some pieces may require a firm push to connect, but avoid excessive force to prevent breakage. If a piece does not fit, re-check for burrs or incorrect orientation.

OPERATING INSTRUCTIONS

The Lucky Doug Solar Robot Kit is primarily powered by solar energy. No batteries are required for its basic operation under sufficient light.

1. **Solar Power Activation:** Place the assembled robot in direct sunlight. The solar panel on the robot's head will convert sunlight into electrical energy.
2. **Movement:** The generated electricity powers the motor, which in turn drives the gears and causes the robot to move. Different robot configurations will exhibit various movements such as crawling, rolling, or floating.
3. **Optimal Conditions:** For best performance, operate the robot outdoors in bright, direct sunlight. Indoor operation may require a strong 100W halogen light.

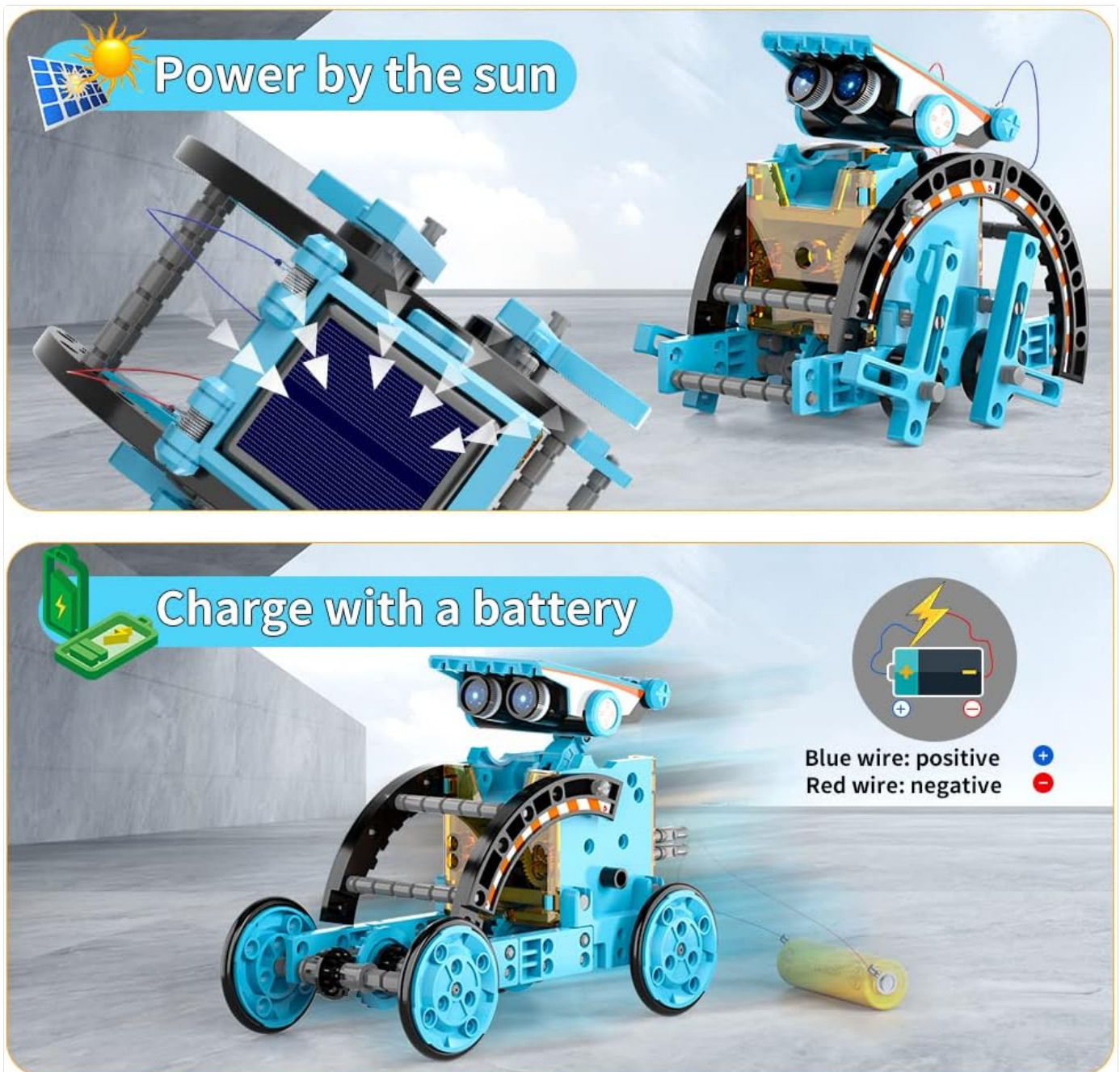
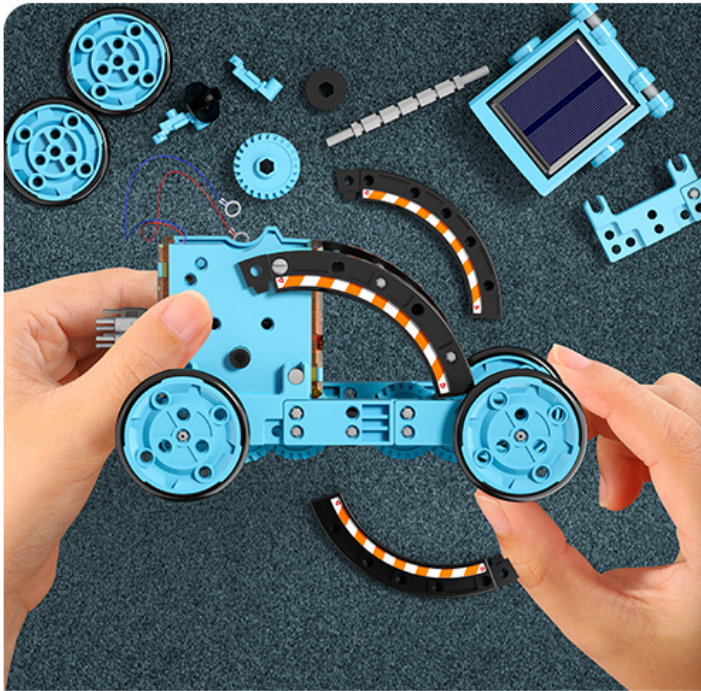


Figure 3: Powering the Robot. The robot can be powered directly by sunlight via its solar panel or optionally by a battery for indoor or low-light conditions.

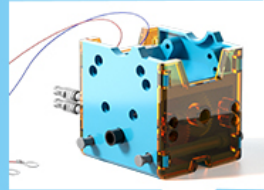
DIY Hands-on Assemble Test

► Stimulate Kid's Imagination And Creativity



Powered by the Sun, No Battery Needed

Offer child practical experiences of working with green technology.



STEP 1

Robot body gearbox module assembly.



STEP 2

The robot head is installed and stickers are attached.



STEP 3

Test whether the motor can work in the sun, if not, please use the battery to test.



STEP 4

Start to build the robot!

Figure 4: How Solar Power Works. This diagram explains the energy conversion process from sunlight to mechanical movement in the robot.

MAINTENANCE

- **Cleaning:** Wipe down plastic parts with a soft, dry cloth. Avoid using harsh chemicals or abrasive cleaners.
- **Storage:** Store the kit and assembled robots in a cool, dry place away from direct sunlight when not in use to prevent material degradation.
- **Disassembly:** When disassembling a robot to build another model, do so carefully to avoid damaging the plastic connectors.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Robot does not move.	Insufficient sunlight; loose wire connections; gears not properly aligned.	Move the robot to direct sunlight. Check all wire connections to the solar panel and motor. Ensure all gears are correctly installed and rotate freely without binding.
Parts do not fit together.	Excess plastic (burrs) remaining from the sprue; incorrect part orientation.	Carefully trim any remaining plastic from the connection points. Refer to the manual to confirm correct part orientation.
Robot moves slowly or inconsistently.	Low light conditions; friction in the gearbox or moving parts.	Ensure the robot is in bright, direct sunlight. Check for any parts causing excessive friction and adjust as needed.

SPECIFICATIONS

- **Brand:** Lucky Doug
- **Model Number:** 1232-67-1
- **Material Type:** Plastic (BPA-free, non-toxic, skin-safe ABS plastic)
- **Item Dimensions (L x W x H):** 11.02 x 2.56 x 7.09 inches
- **Assembly Required:** Yes
- **Power Source:** Solar (no batteries required for solar operation)
- **Recommended Age:** 8+ years (Manufacturer Minimum Age: 36 months, Manufacturer Maximum Age: 720 months)
- **Educational Objective:** STEM (Science, Technology, Engineering, Mathematics)



Figure 5: Assembled Robot with Dimensions. This image shows one of the possible robot configurations with its approximate measurements.

SUPPORT AND CONTACT

For any questions regarding the Lucky Doug 12-in-1 STEM Solar Robot Kit, please refer to the following information:

- **Product Questions:** You can click "Ask a Product Question" through your order details on Amazon. The manufacturer aims to reply within 24 hours.
- **Safety Standards:** All toys are made of BPA-free, durable ABS plastic material that meets US TOY safety requirements.

For additional information or to explore other products, visit the [Lucky Doug Store on Amazon](#).

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question