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› CYOEST 8-in-1 STEM Kits Instruction Manual

## CYOEST Solar Power Motor Kit

# CYOEST 8-in-1 STEM Kits Instruction Manual

Solar Power Motor Kit for Boys and Girls

## INTRODUCTION

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Welcome to the exciting world of STEM with the CYOEST 8-in-1 Solar Power Motor Kit! This comprehensive set is designed to introduce young learners to fundamental principles of science, technology, engineering, and mathematics through hands-on construction and experimentation. Each kit allows for the assembly of a unique solar-powered or wind-powered model, fostering creativity, problem-solving skills, and an understanding of renewable energy.

Please read this manual carefully before beginning assembly to ensure a smooth and educational experience.

## PRODUCT OVERVIEW

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This kit includes components to build 8 distinct STEM models. The primary focus is on solar power, utilizing small solar panels to drive motors, and also includes wind-powered models. The kits are designed for easy assembly without the need for soldering or glue.



**Image:** A collection of eight fully assembled STEM kits, showcasing various solar-powered and wind-powered models such as cars, airplanes, and fans, all made from wooden components and featuring solar panels or propellers.

### Included Kit Types:

- Solar Power Racer Car
- Solar Power Airplane
- Wind Powered Car
- Wooden Electric Fan
- And other variations of solar and wind-powered vehicles and devices.

# WHY CHOOSE US?

**NO WELDING, NO GLUE**

## STEM KITS:

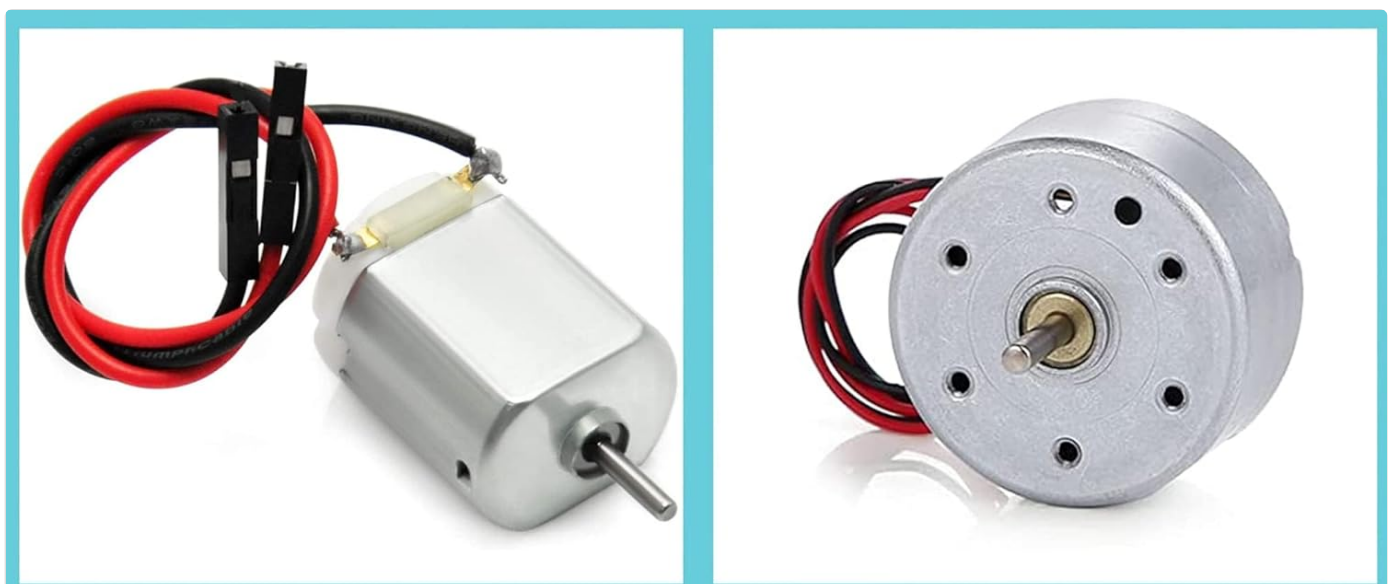
- 1 Solar Power Racer Car
- 2 Solar Power Airplane
- 3 Wind Powered Car
- 4 Wooden Electric Fan



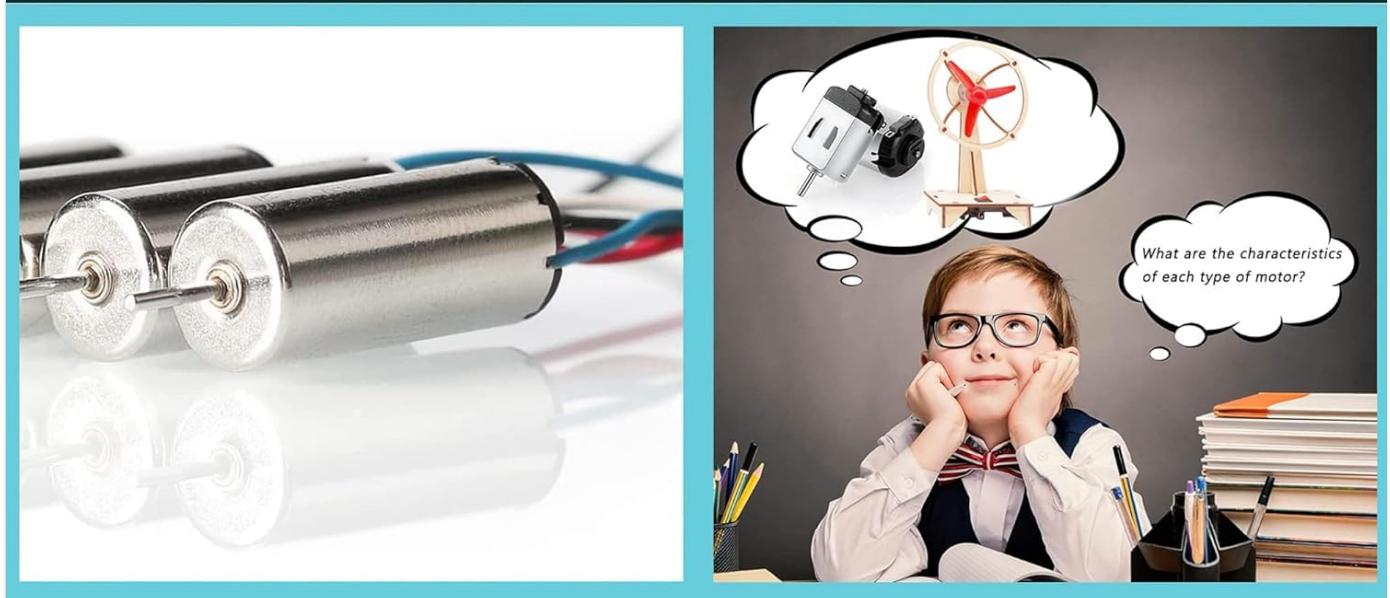
**Image:** A graphic highlighting key features like "No Welding, No Glue" and listing four specific STEM kits: Solar Power Racer Car, Solar Power Airplane, Wind Powered Car, and Wooden Electric Fan, with a child giving a thumbs-up.

### Key Components:

- Pre-cut wooden pieces for various models
- Miniature solar panels
- Electric motors with pre-soldered wires for easy connection
- Wheels, propellers, and other accessory parts
- Battery holders (for non-solar models or alternative power)



### 3 different types of motors with wires already soldered for easy connection



**Image:** Close-up of three different types of small electric motors, emphasizing that their wires are pre-soldered for easy connection, simplifying the assembly process.

## SETUP AND ASSEMBLY

Each kit within the 8-set package comes with its own specific assembly instructions, typically visual diagrams. While detailed steps for each individual model are not provided here, the general assembly process involves:

1. **Unpack Components:** Carefully unbox all parts for the specific model you wish to build. Identify the wooden pieces, solar panel (if applicable), motor, wires, wheels, and any other accessories.
2. **Assemble Wooden Structure:** Follow the provided diagrams to slot the pre-cut wooden pieces together. These kits are designed for interlocking assembly, often without the need for glue.
3. **Connect Electrical Components:** Attach the motor to its designated position. Connect the pre-soldered wires from the motor to the solar panel or battery holder, ensuring correct polarity if indicated (usually red to positive, black to negative).
4. **Attach Moving Parts:** Secure wheels, propellers, or fan blades as per the instructions.

5. **Final Check:** Ensure all connections are secure and all parts are firmly in place before attempting to operate the model.



**Image:** An illustrative diagram demonstrating the concept of solar power, showing a solar panel and motor as key components for a solar-powered car, emphasizing "No battery required, No welding."

**Note:** Some models, like the *Wooden Electric Glider Airplane*, are designed to run on the ground and not to fly. For the *Solar Fan*, ensure not to insert the insulation of the wire into the terminal block.

6.5in × 5.9in



## Wooden Electric Glider Airplane

**NOTE : Can not fly,only run on the ground**

## Solar Fan

**NOTE : Do not insert the insulation of the wire into the terminal block**



3.9in × 5.1in



3.5in × 3.0in



## Wind Powered Car

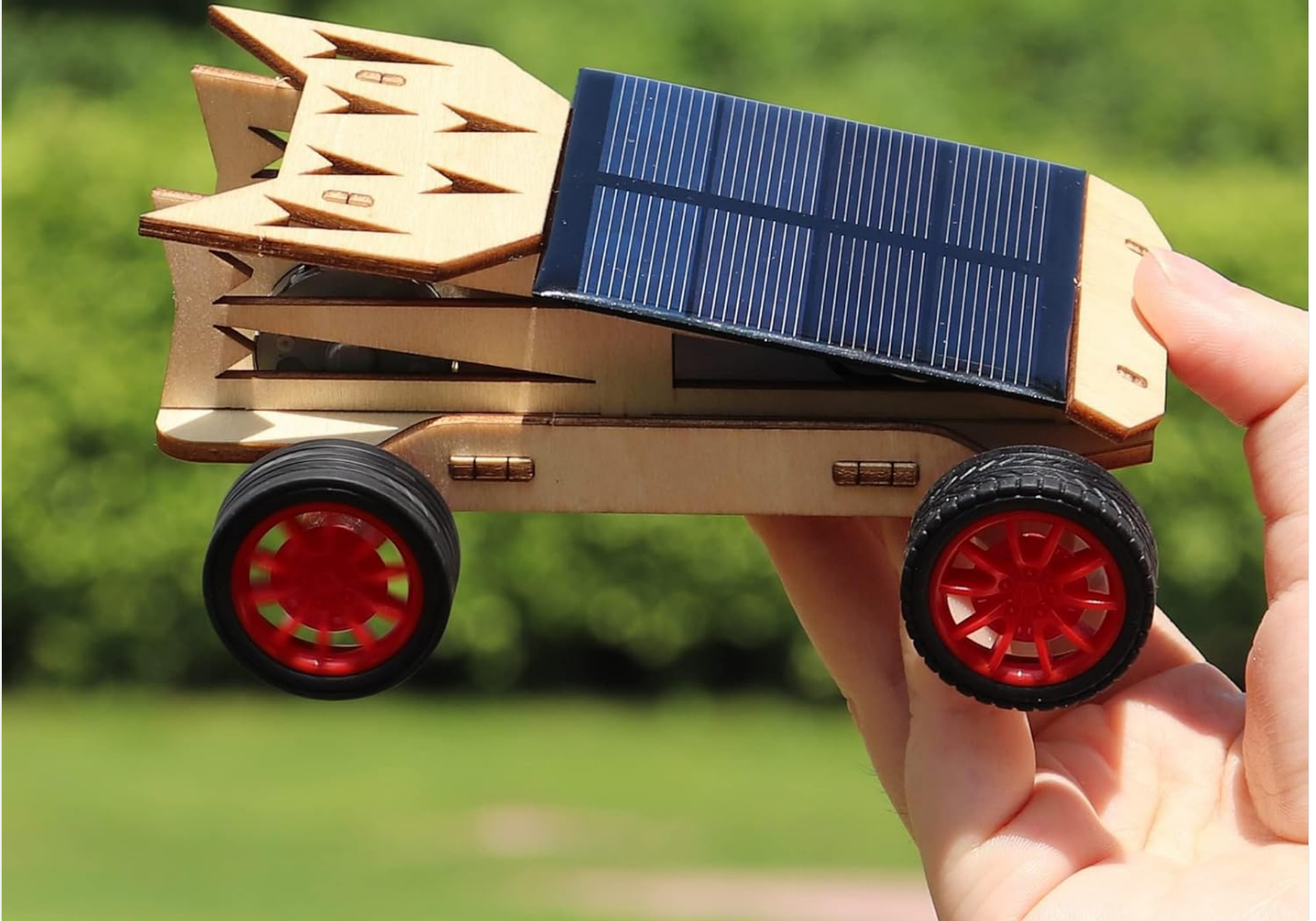
**Image:** Detailed diagrams of the Wooden Electric Glider Airplane, Solar Fan, and Wind Powered Car, including their approximate dimensions and specific notes regarding their operation (e.g., airplane runs on ground, fan wiring).

## OPERATING INSTRUCTIONS

### For Solar-Powered Models:

Once assembled, place the solar panel directly under strong sunlight. The solar panel will convert sunlight into electrical energy, powering the motor and making the model move or operate. No batteries are required for these models when exposed to sufficient sunlight.

# No Battery Required Very Powerful in the Sun Reference Video



**Image:** A hand holding a solar-powered car outdoors in bright sunlight, illustrating that "No Battery Required" and it is "Very Powerful in the Sun."

## For Wind-Powered Models:

For models like the Wind Powered Car or Wooden Electric Fan, ensure the propeller or fan blades are free to rotate. These models may require manual propulsion (e.g., pushing the car) or a strong airflow (e.g., from a fan or wind) to demonstrate their principles.

## MAINTENANCE

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- **Cleaning:** Wipe down wooden and plastic parts with a dry, soft cloth. Avoid using water or cleaning solutions that could damage the wood or electronic components.
- **Storage:** Store the assembled models or unbuilt kits in a dry place away from direct sunlight and extreme temperatures to prevent warping of wooden parts or damage to electronic components.
- **Component Care:** Handle solar panels and motors with care. Avoid bending or scratching the solar panels. Ensure

wires remain securely connected.

## TROUBLESHOOTING

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| Problem                            | Possible Cause  | Solution   |
|------------------------------------|---|--|
| Solar model does not move/operate. | Insufficient sunlight; loose wire connection; solar panel obstructed.   | Move to direct, strong sunlight. Check all wire connections are firm. Ensure solar panel is clean and unobstructed.  |
| Motor is not spinning.             | Incorrect wire connection (polarity); motor damage; insufficient power. | Verify wire polarity (red to positive, black to negative). Ensure adequate power source (strong sunlight for solar, fresh batteries for battery-powered). If still not working, motor may be faulty. |
| Wooden parts do not fit together.  | Incorrect orientation; burrs on wood.                                   | Refer to the assembly diagram carefully. Gently sand any rough edges or burrs if necessary. Do not force parts.  |

## SPECIFICATIONS

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**Product Name:** CYOEST 8 Set STEM Kits - Solar Power Motor Kit

**Model:** STEM Kits (B0D41F75RB)

**Brand:** CYOEST

**ASIN:** B0D41F75RB

**Power Source:** Solar Power (primary), Battery (for some models, not included)

**Material:** Wood, Plastic, Electronic Components

**Recommended Age:** 10+ (as per product image)

**Customer Reviews:** 5.0 out of 5 stars (based on 1 rating at time of data retrieval)

## SAFETY INFORMATION

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- **Choking Hazard:** Contains small parts. Not suitable for children under 3 years. Adult supervision is recommended during assembly and play.
- **Electrical Safety:** While designed for safety, ensure wires are connected correctly. Do not short-circuit components.
- **Material Safety:** The wooden components are generally safe, but avoid splinters.
- **Outdoor Use:** Solar models require direct sunlight. Ensure a safe, open area for operation, away from water or obstacles.

## WARRANTY AND SUPPORT

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Information regarding specific warranty terms or direct customer support contact details for the CYOEST 8 Set STEM Kits was not available in the provided product data. For any inquiries or support, please refer to the seller's information on the platform where the product was purchased or visit the official CYOEST brand store if available.

You can often find seller contact information on the product listing page or within your order history.

