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Apitor APR031

Apitor Robot E STEM Kit Instruction Manual

Model: APR031

1. INTRODUCTION

The Apitor Robot E STEM Kit is an educational construction set designed to introduce children aged 6-12 to fundamental principles of science, technology, engineering, and mathematics. This kit allows for the construction of 14 different mechanical models using 218 pieces and a motor, fostering hands-on learning and problem-solving skills. The models demonstrate various physics concepts, including gravity, levers, and gear mechanisms.



Image 1.1: The Apitor Robot E STEM Kit, certified as an educational product by STEM.ORG.



Image 1.2: A collection of various mechanical models that can be constructed using the Apitor Robot E STEM Kit.

2. SAFETY INFORMATION

Please read and understand all safety instructions before assembly and operation.

- **Choking Hazard:** This kit contains small parts and is not suitable for children under 3 years of age. Keep all components away from infants and young children who may place inedible objects in their mouths.
- **Battery Safety:** The kit requires AA batteries (not included). Ensure batteries are inserted with correct polarity. Do not mix old and new batteries, or different types of batteries. Remove batteries if the kit will not be used for an extended period.
- **Adult Supervision:** Adult supervision is recommended during assembly and play, especially for younger users, to ensure proper construction and safe handling of components.
- **Material Safety:** All building blocks are made from high-quality ABS material. Do not attempt to modify or ingest any parts.

3. WHAT'S IN THE BOX

The Apitor Robot E STEM Kit includes the following components:

- 218 Building Pieces
- 1 Motor Unit
- Learning Materials Manual
- Detailed Step-by-Step Picture Instructions
- Sorting Tray for components



Image 3.1: A detailed view of the Apitor Robot E STEM Kit contents, showing the box, sorted pieces, motor, and instruction manuals.

4. SETUP AND ASSEMBLY

The Apitor Robot E kit allows for the construction of 14 distinct mechanical models. Follow the provided instructions carefully for each model.

4.1. Required Materials (Not Included)

- AA Batteries (quantity may vary per model, typically 2-4)

4.2. Assembly Process

1. **Unpack Components:** Carefully remove all pieces from the packaging. Utilize the included sorting tray to organize smaller components.
2. **Consult Instructions:** Refer to the detailed step-by-step picture instructions provided in the manual. Each model has its own specific assembly guide.
3. **Digital Instructions:** For additional building models and interactive guides, download the "Apitor Kit" app. The app provides instructions for all 14 models.
4. **Battery Installation:** Install the required AA batteries into the motor unit, ensuring correct polarity (+/-).
5. **Connect Motor:** Integrate the motor unit into your chosen model as indicated in the instructions.



Image 4.1: A child using a tablet to view digital building instructions from the Apitor Kit app.

Mechanical Marvels World

Gravity Principle



Lever Principle

Image 4.2: Children engaging with the kit, illustrating the application of gravity and lever principles in mechanical models.

5. OPERATING INSTRUCTIONS

Once a model is successfully assembled and batteries are installed, it is ready for operation. The specific operation will depend on the model built.

- **Power On:** Locate the power switch on the motor unit or the assembled model (if applicable) and switch it to the "ON" position.
- **Observe Movement:** Watch how the gears, levers, and other mechanical components interact to create movement.
- **Experiment:** The kit encourages experimentation. Users can observe how changes in design or component placement affect the model's function.
- **Learning Materials:** Refer to the included Learning Materials manual for explanations of the scientific principles demonstrated by each model.

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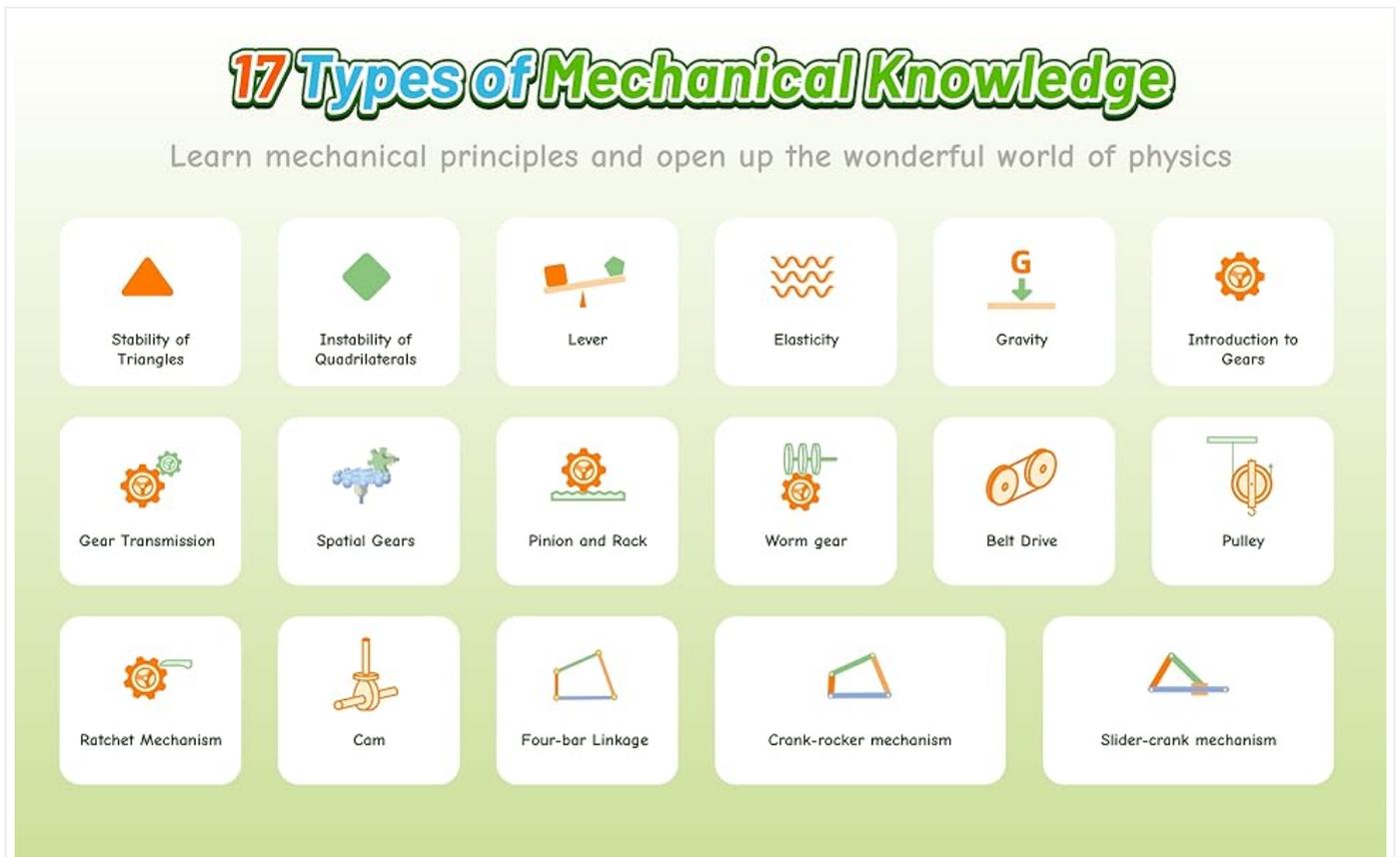


Image 5.1: An illustration detailing 17 different types of mechanical knowledge that can be explored with the kit, such as levers, gears, and pulleys.

6. MAINTENANCE

Proper maintenance ensures the longevity and functionality of your Apitor Robot E STEM Kit.

- **Cleaning:** Wipe components with a dry, soft cloth. Avoid using water or chemical cleaners, as these can damage the plastic or electronic components.
- **Storage:** Store all pieces in a cool, dry place away from direct sunlight. Use the provided sorting tray or a similar container to keep pieces organized and prevent loss.
- **Battery Removal:** Always remove batteries from the motor unit when the kit is not in use for extended periods to prevent leakage and damage.
- **Inspection:** Periodically inspect all pieces for wear or damage. Replace any broken or severely worn parts if possible.

7. TROUBLESHOOTING

If you encounter issues with your Apitor Robot E STEM Kit, refer to the following common troubleshooting steps:

| Problem | Possible Cause | Solution |
|---------|----------------|----------|
|---------|----------------|----------|

| Problem | Possible Cause | Solution |
|---|---|--|
| Model does not move or motor is unresponsive. | Batteries are dead or incorrectly installed. Motor switch is off. Loose connection to the motor. Gears or moving parts are jammed. | Replace batteries with fresh AA batteries and check polarity. Ensure the motor switch is in the "ON" position. Verify all connections to the motor are secure. Check for any obstructions or misaligned gears and clear them. |
| Pieces do not fit together. | Incorrect piece selection. Pieces are misaligned. | Double-check the instruction manual to ensure you are using the correct pieces for the step. Align pieces carefully before attempting to connect them. |
| Model is unstable or falls apart. | Assembly error. Missing pieces. | Review previous assembly steps in the manual to identify any missed or incorrect connections. Ensure all required pieces are used as per the instructions. |

8. SPECIFICATIONS

| Feature | Detail |
|--------------------|-----------------------------|
| Model Number | APR031 |
| Product Dimensions | 10.43 x 7.48 x 2.36 inches |
| Item Weight | 1.17 pounds |
| Recommended Age | 6 - 12 years |
| Number of Pieces | 218 |
| Power Source | AA Batteries (not included) |
| Material | High-quality ABS plastic |

9. WARRANTY AND SUPPORT

For warranty information, product support, or to report missing/damaged parts, please contact Apitor customer service directly. Refer to the packaging or the official Apitor website for contact details.

Manufacturer: Apitor