

CraftHausz

Windmill Cottage



The Origin of Windmills

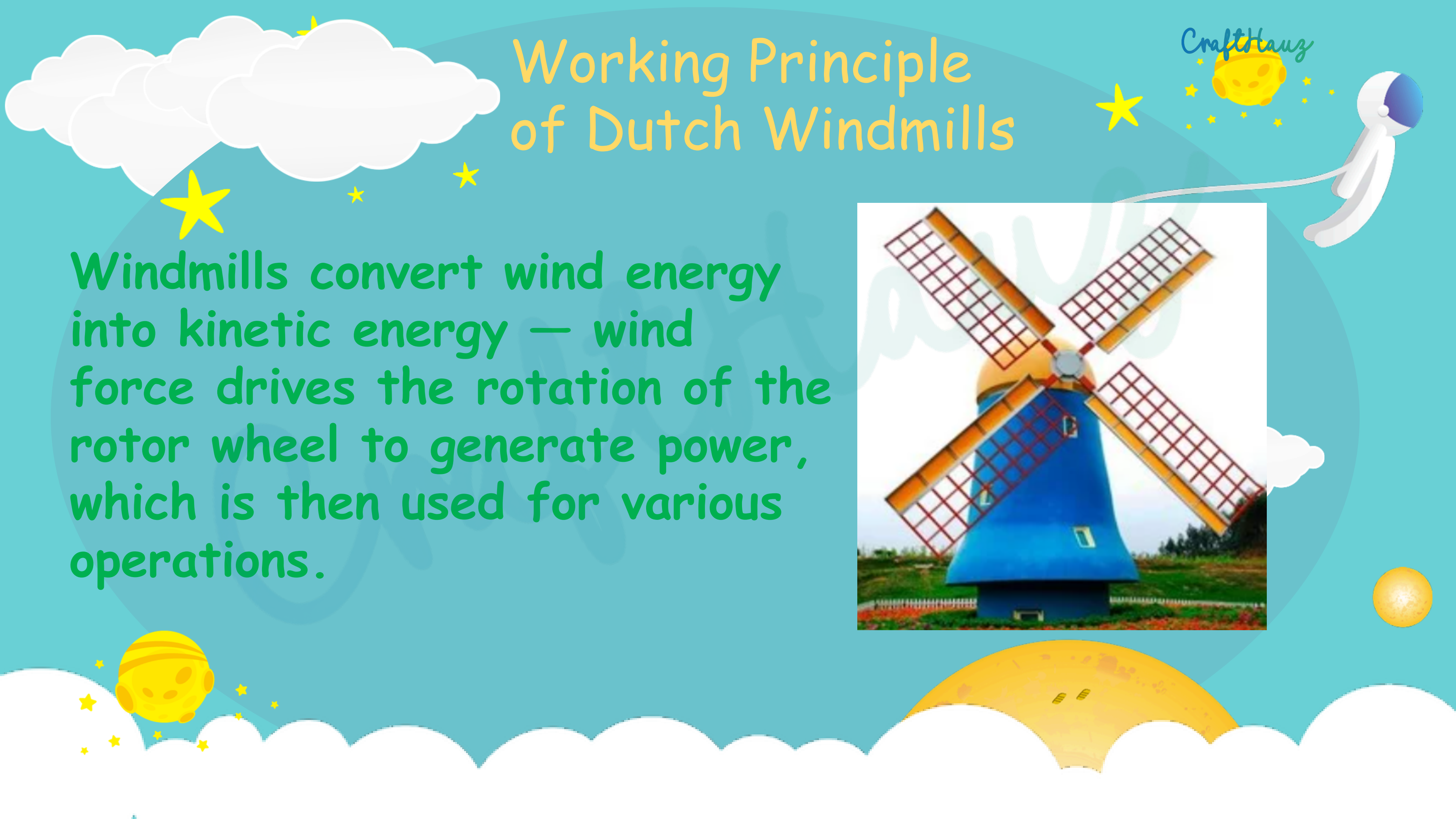
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In 1229, the Dutch invented the first windmill that could provide power for human use. Since then, windmills have become a symbol of Dutch national culture. The Dutch designate the second Saturday of May each year as Windmill Day. On this day, windmills across the country turn in unison, and the whole nation joins in the celebration.

As the Dutch launched large-scale land reclamation projects from the sea, windmills played an enormous role in these arduous endeavors. Adapted to the local climate—characterized by frequent rainfall, high humidity, and variable wind directions—windmills were further improved. First, a movable roof was added to the structure. Additionally, to enable the windmill to catch wind from any direction, the roof was mounted on rollers. This specific design came to be known as the Dutch-style windmill.

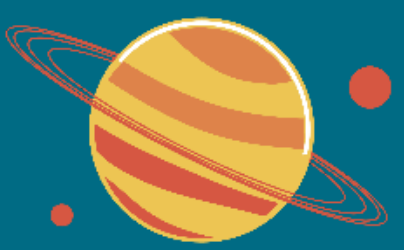
Working Principle of Dutch Windmills

Windmills convert wind energy into kinetic energy — wind force drives the rotation of the rotor wheel to generate power, which is then used for various operations.



Experiment Procedure

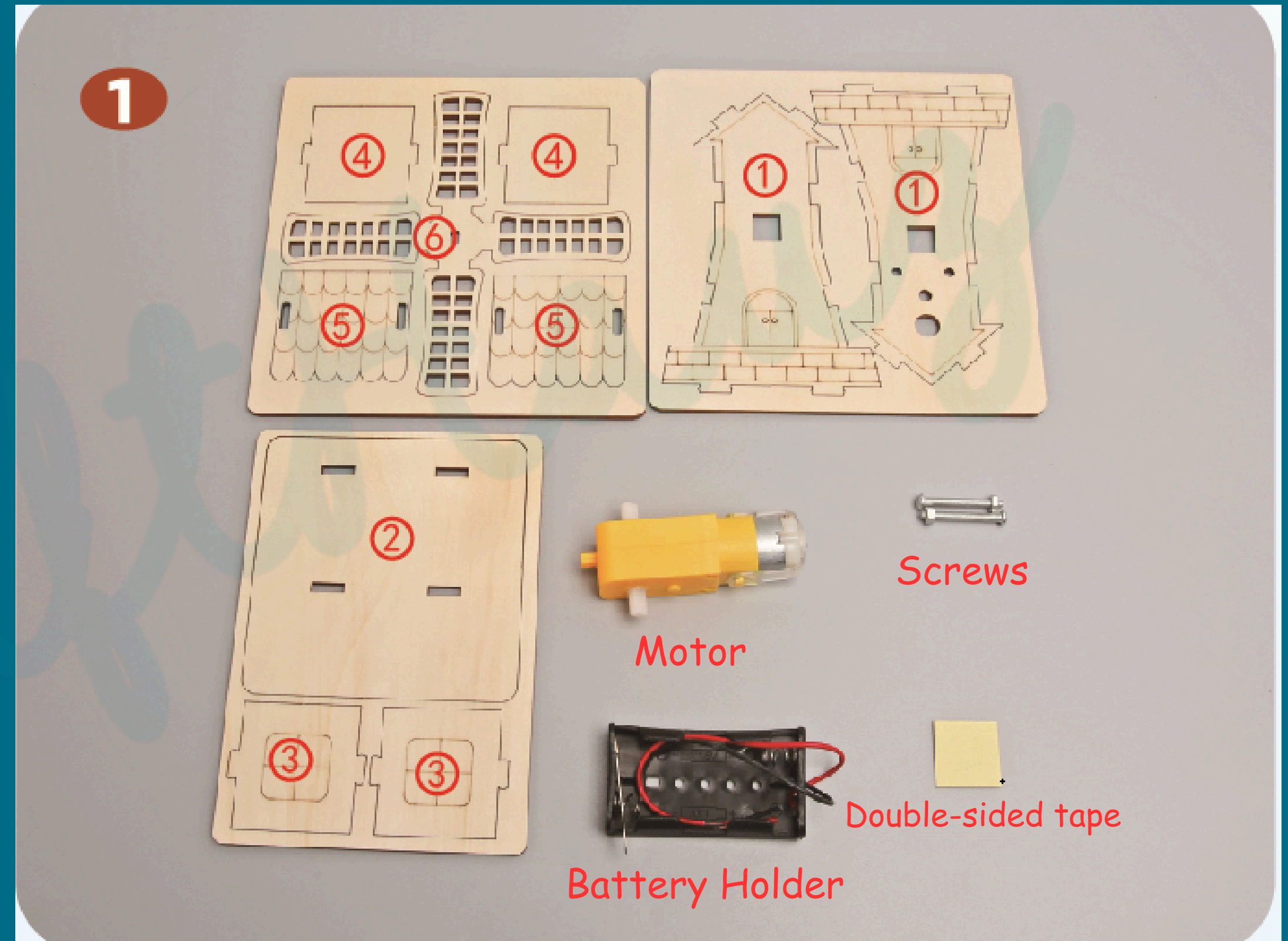


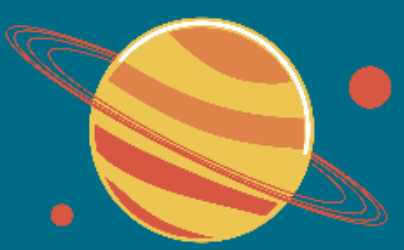


01



Material





02

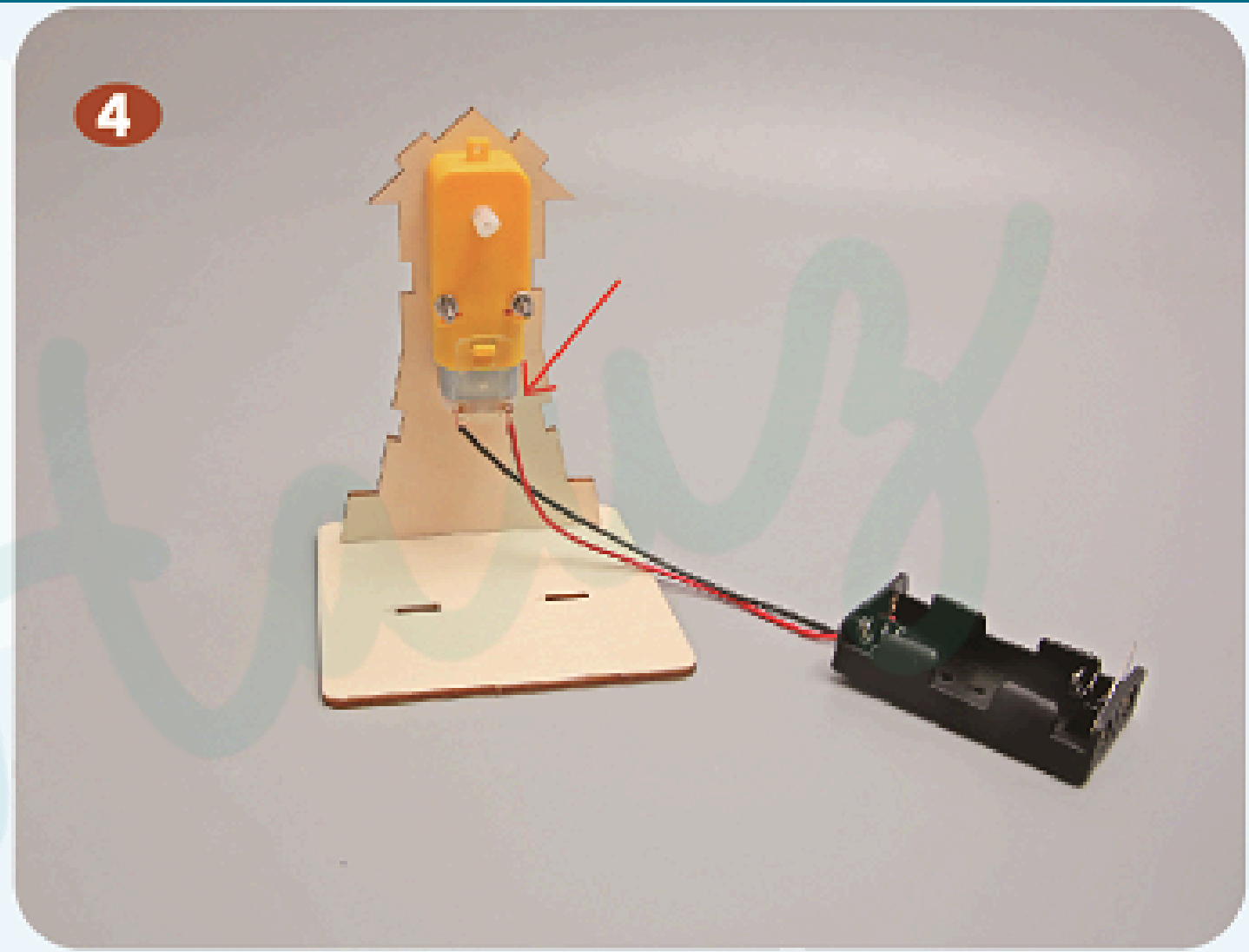


Install the motor onto Board No.1 as shown in the figure, and secure it with long screws.



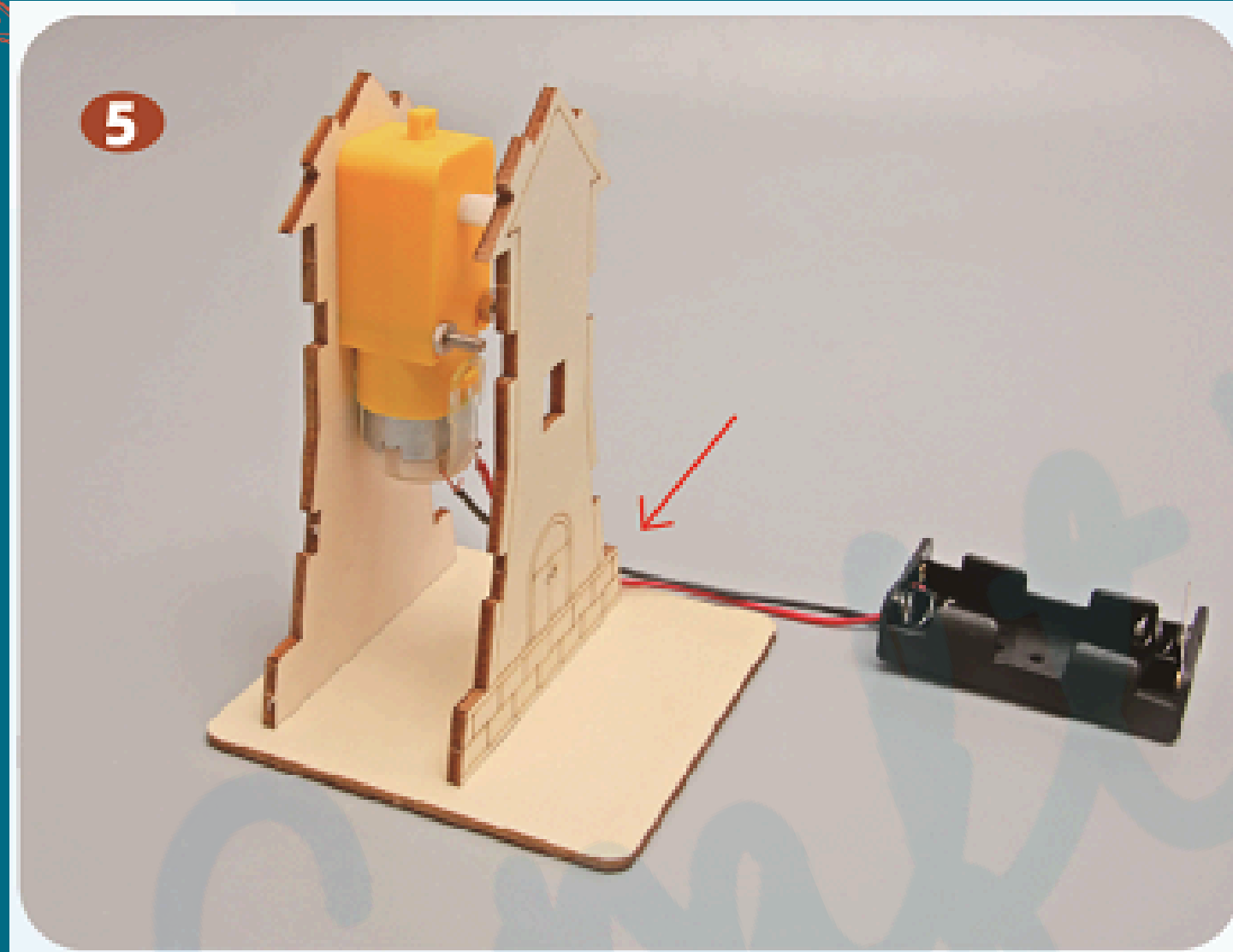
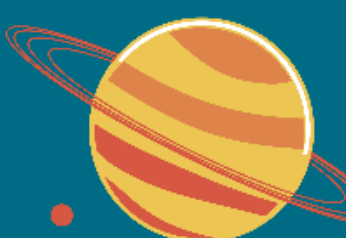


Assemble Board No.2 as shown, paying attention to the position of the holes.



Connect the battery holder as shown in the figure.



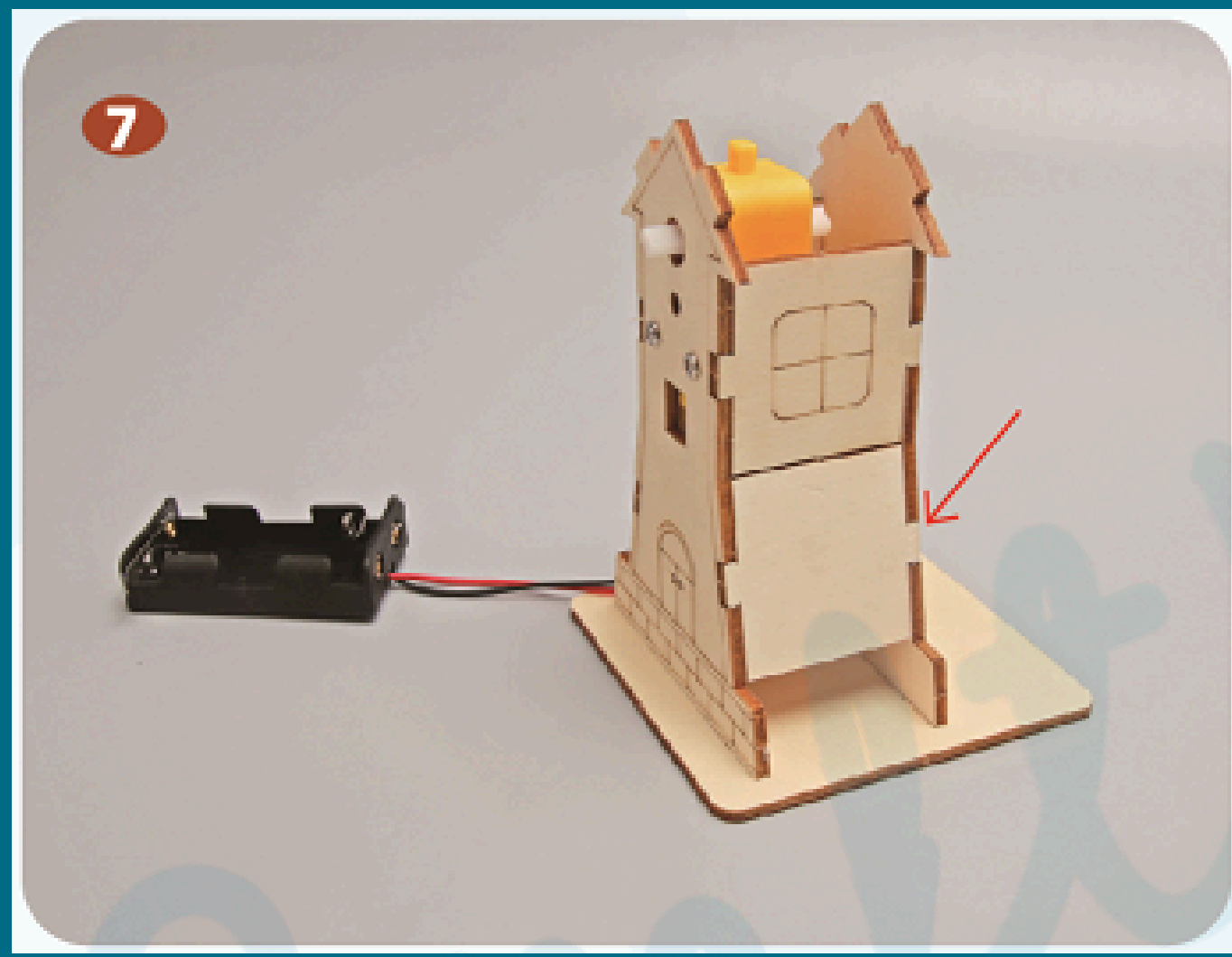
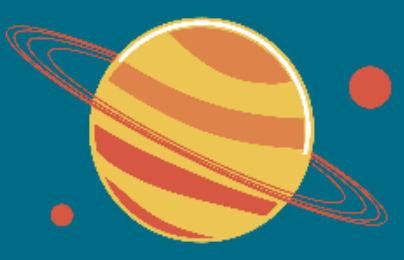


5
Install the other Board No.1 into the groove of Board No.2 as shown.



6
Install the two pieces of Board No.3 on both sides above Board No.1 as shown.



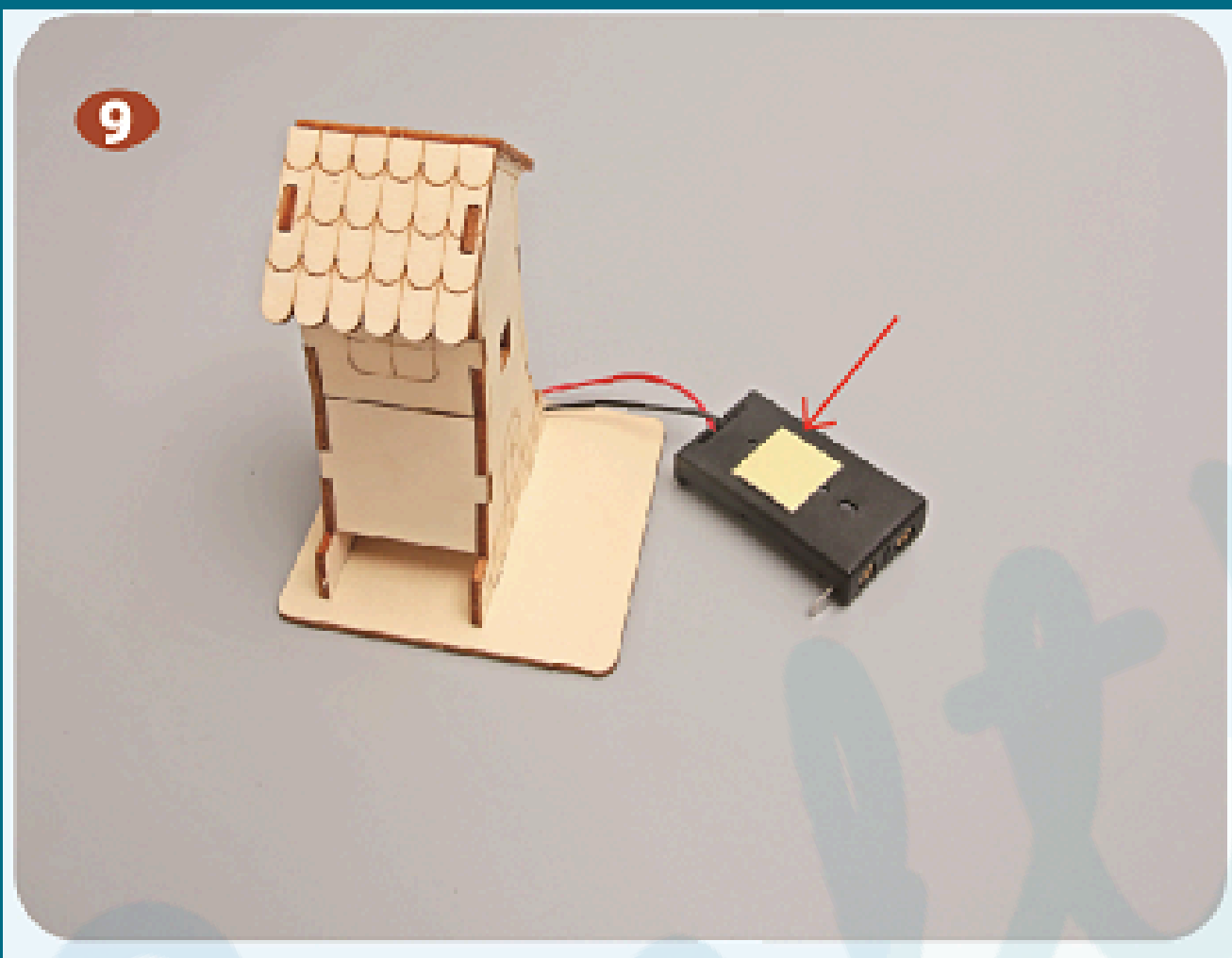
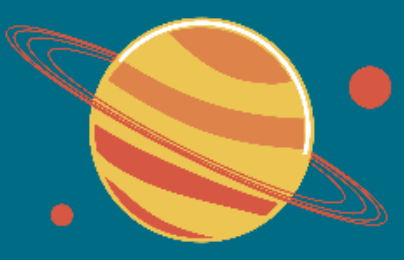


7
Clip the two pieces of Board No.4 onto the lower side of Board No.1 as shown.



8
Install the two pieces of Board No.5 on the top as shown.



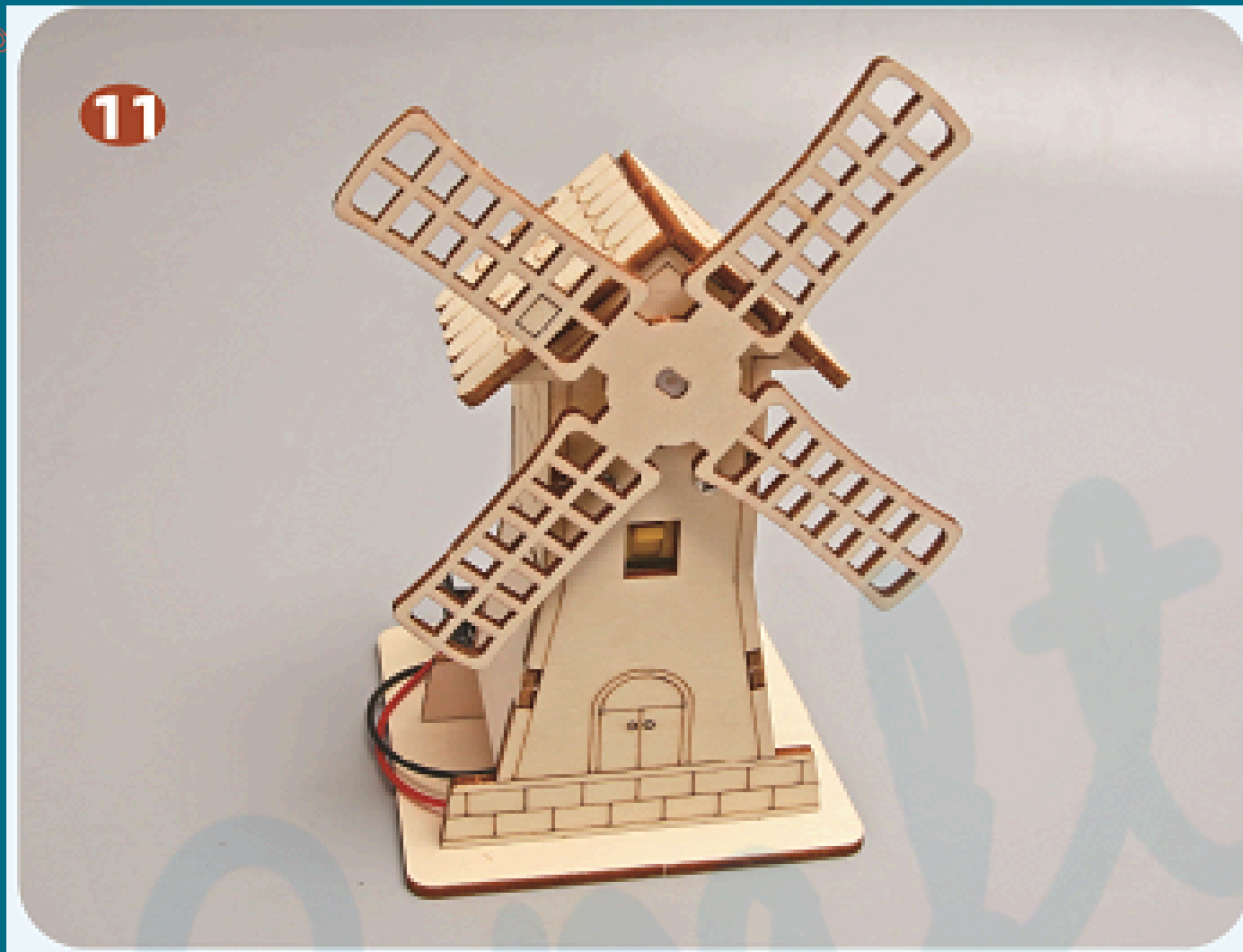
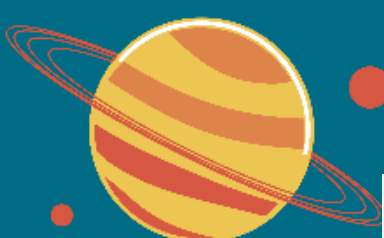


Stick the double-sided tape onto the battery holder.



Attach the battery holder to Board No.2 as shown in the figure.





11 Install Board No.6 onto the motor bracket as shown.



12 Insert the batteries and start the experiment!



Applications of Dutch Windmills:

- Lands reclaimed through drainage have become key areas for land reclamation and expansion in the Netherlands, injecting vitality into local economic development. The iconic scenery of windmills has also brought economic benefits to the country's tourism industry.
- The Dutch also used windmills to process agricultural and sideline products, which gradually spurred the growth of shipbuilding, trade, paper manufacturing, wool weaving, linen weaving, food processing, fishery and other industries. This interlinked industrial chain flourished over time, laying a solid foundation for the Netherlands' development.