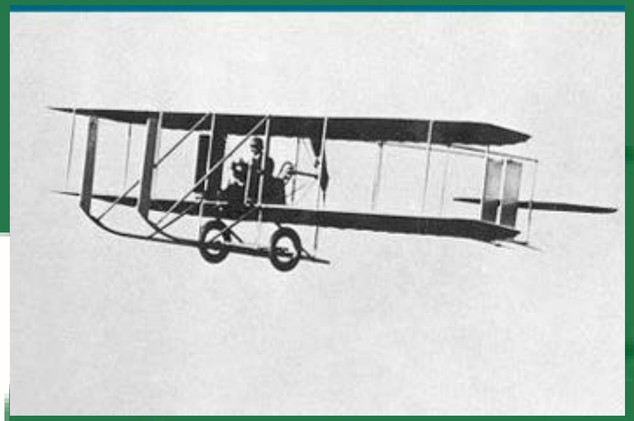
Helicopter

Do you know the names of the airplanes in the pictures?

Do you know who invented the world's first airplane?

In 1903, on December 17, the Wright brothers successfully tested the world's first airplane, the Flyer I, in Kitty Hawk, North Carolina, USA.

Since the invention of the airplane, it has become an indispensable means of modern transportation. It has profoundly changed and influenced people's lives, opening a new chapter in humanity's exploration of the blue sky.



What is this?

Its Solar Panels

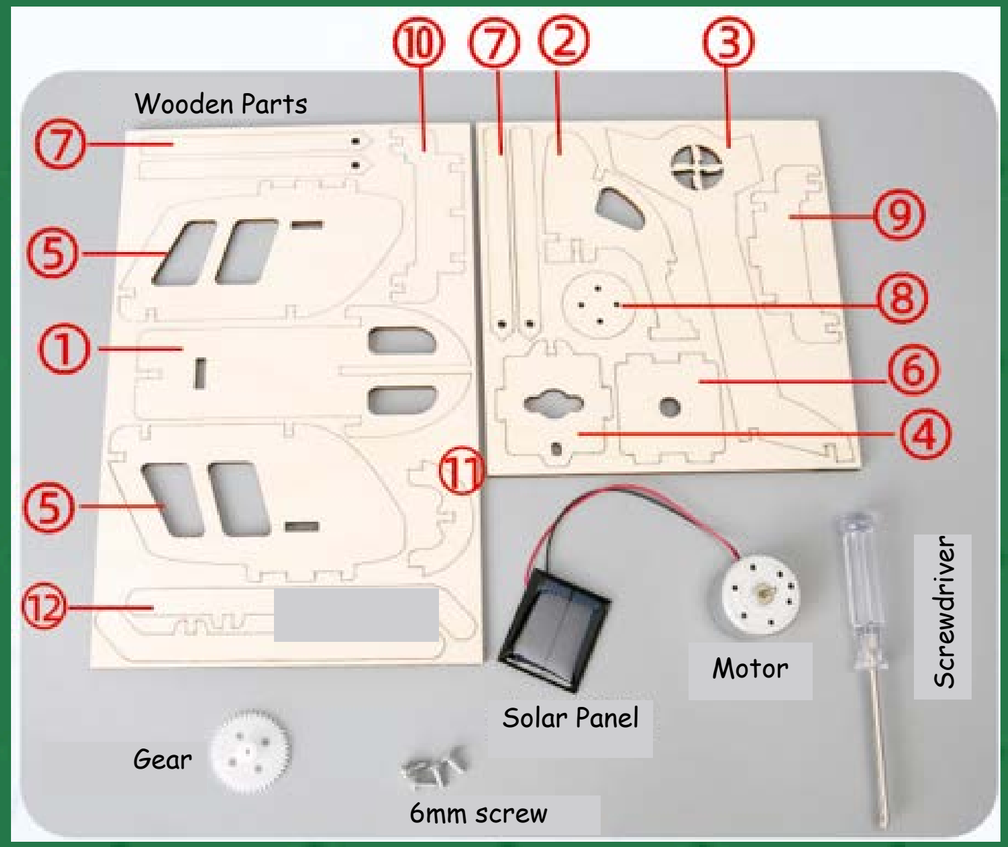
Where is solar power used?


TÛRANOR PlanetSolar
CANDINO

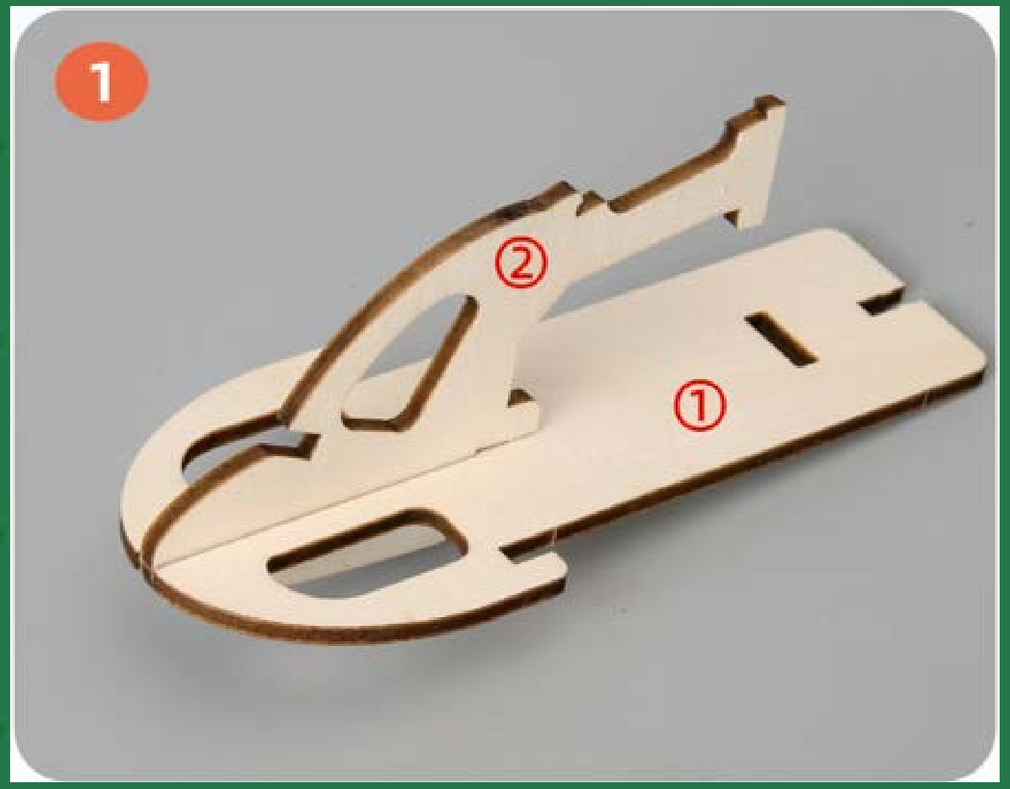
Solar power is used in
many fields.
Next, let's make a
solar-powered
helicopter together!

Experiment Steps

Materials


Wooden Parts
10
7
2
3
7
9
5
8
1
6
4
11
5
12
Motor
Screwdriver
Solar Panel
Gear
6mm screw

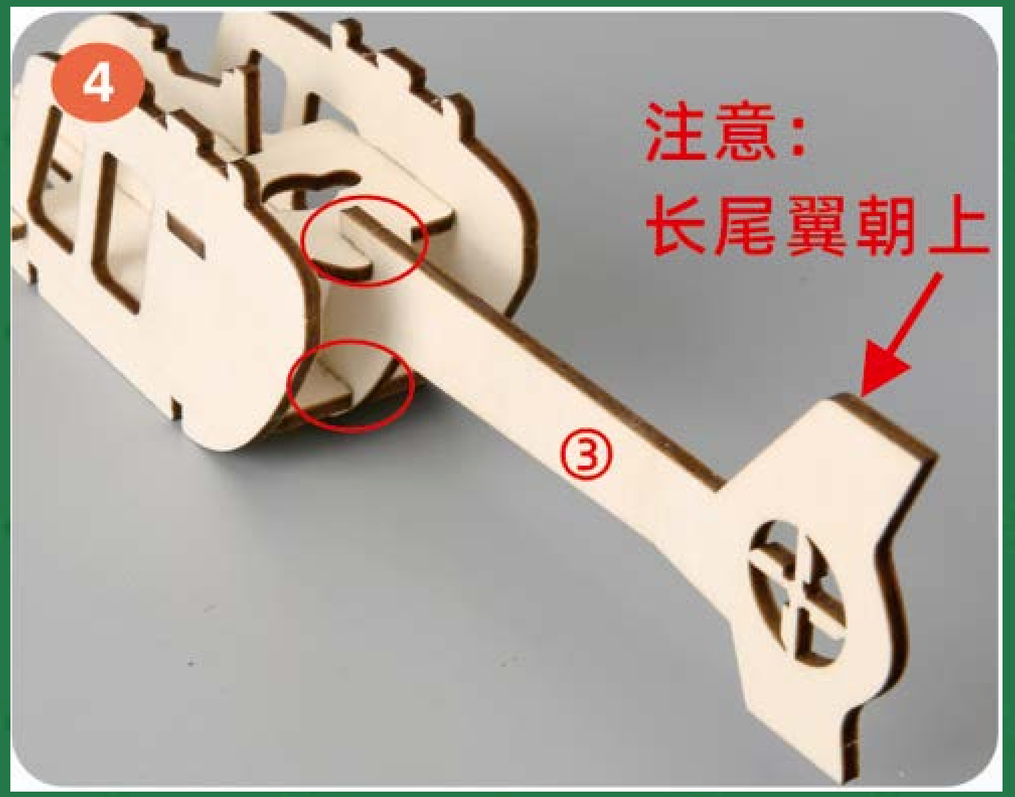
Insert board #2 into the slot of board #1.



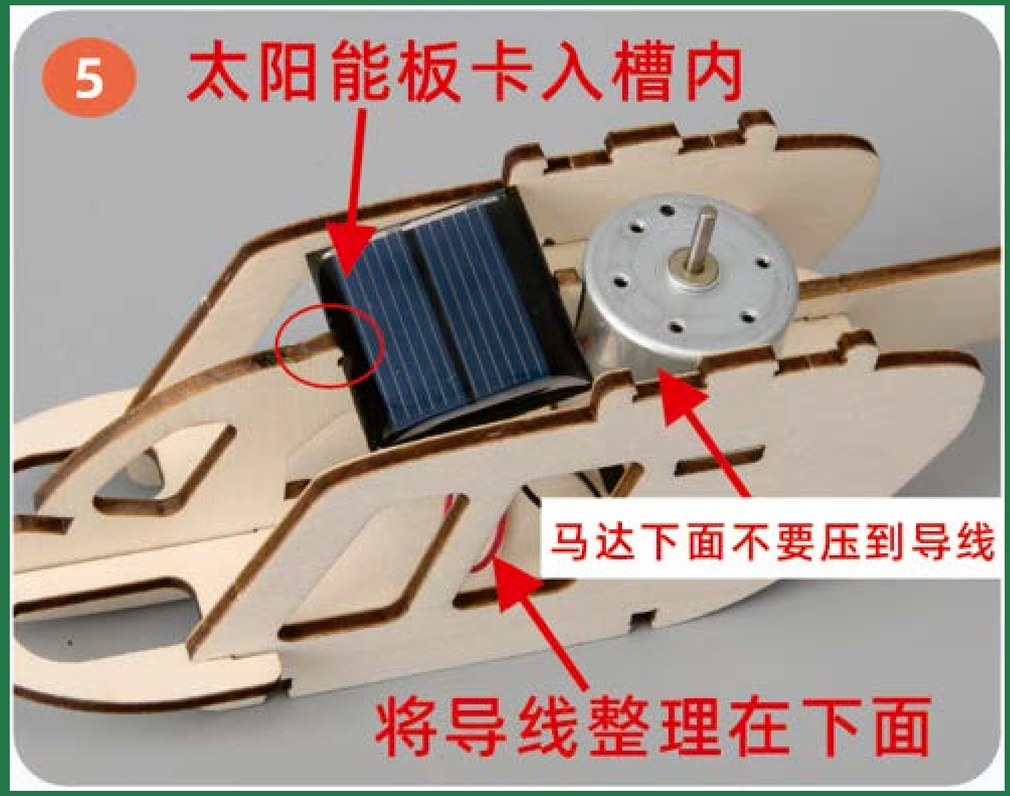
Insert board #4 from below into the tail of board #2 (see red circle for slot position).

Insert two #5 boards on both sides as shown. (see red circle for slot position)

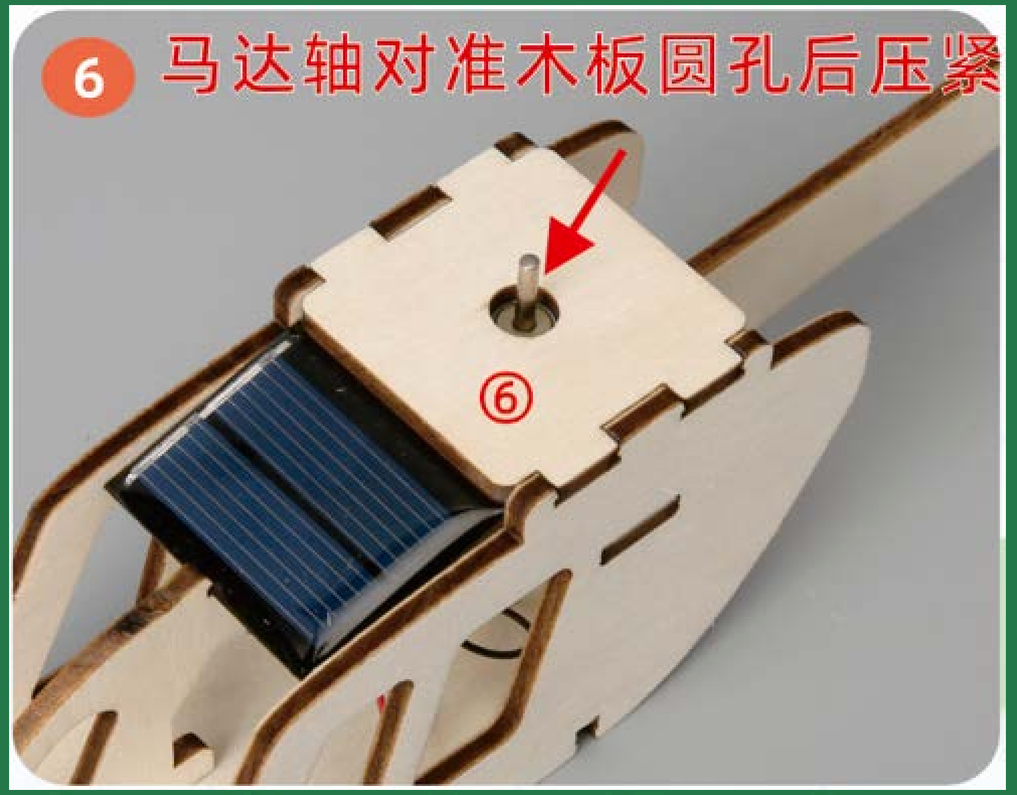
Install the #3 tail wing (note: the long tail wing faces upward).



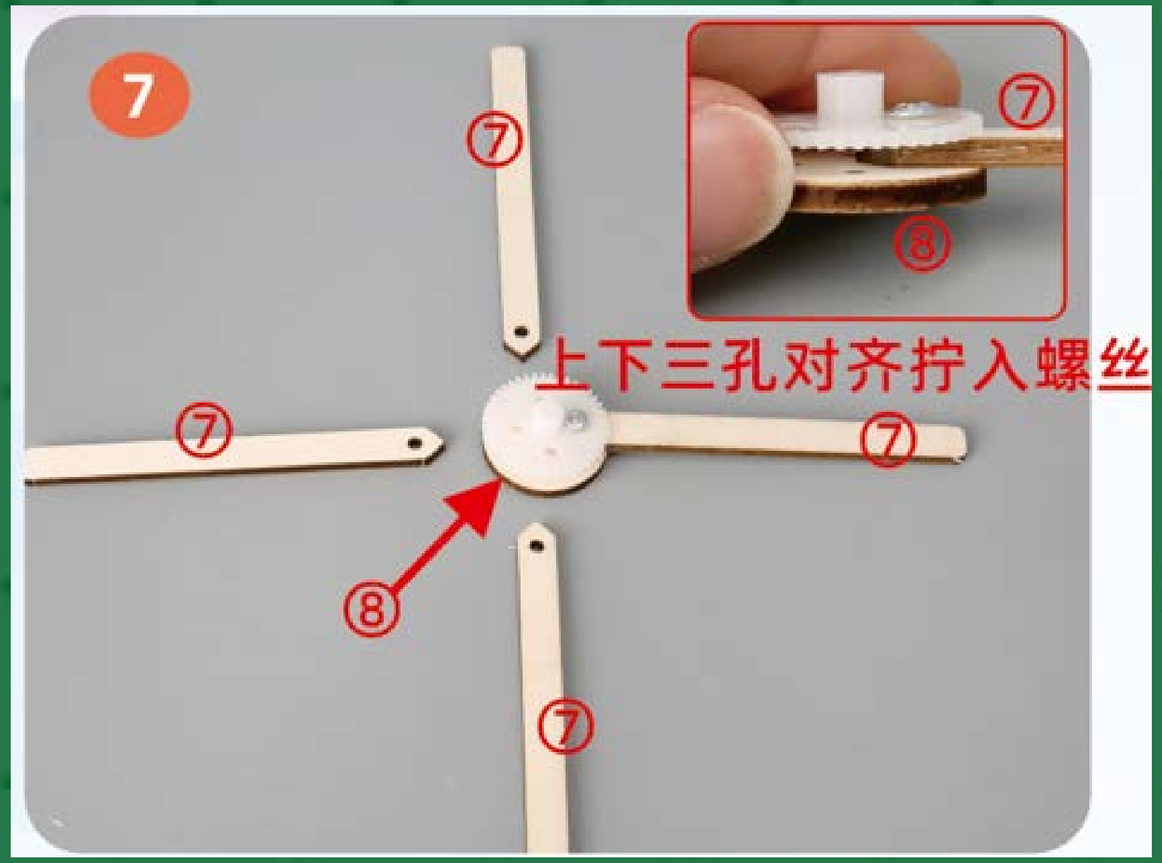
Place the motor, then insert the solar panel into its slot (make sure the wires are underneath).



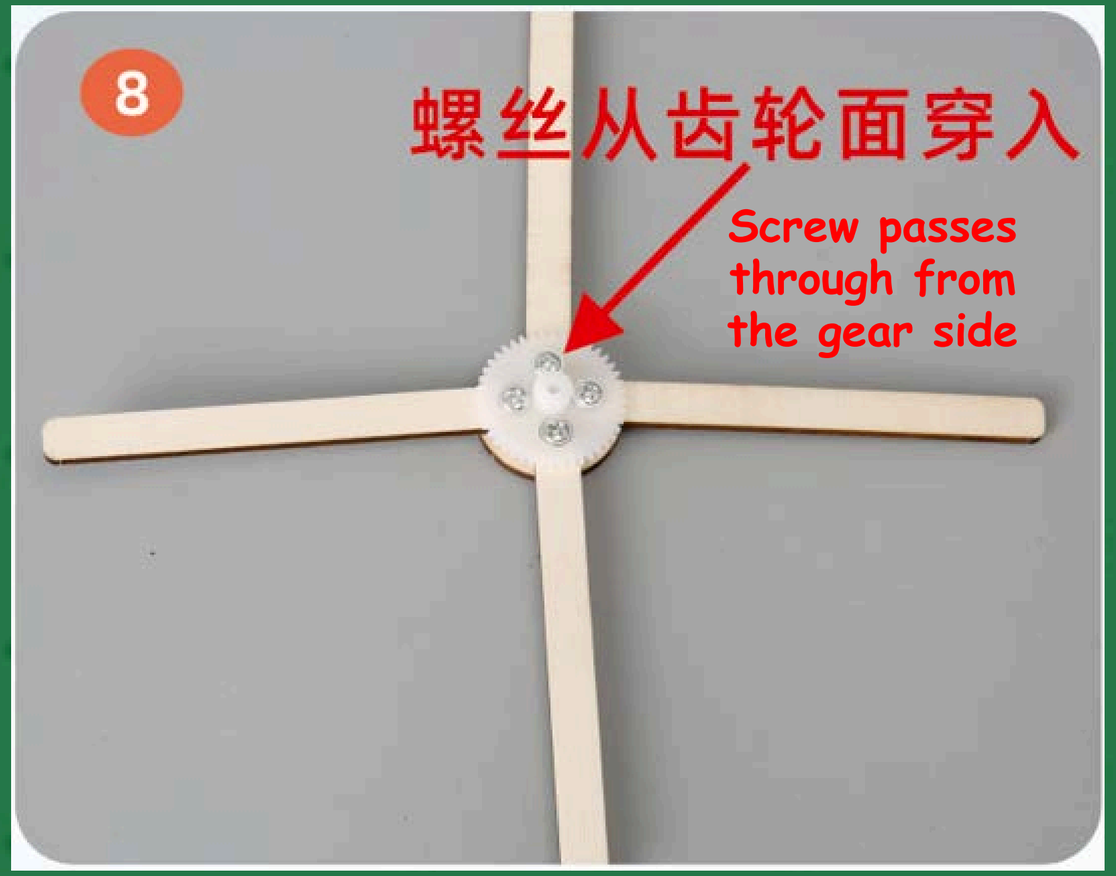
Press board #6 to fix the motor shaft in place.



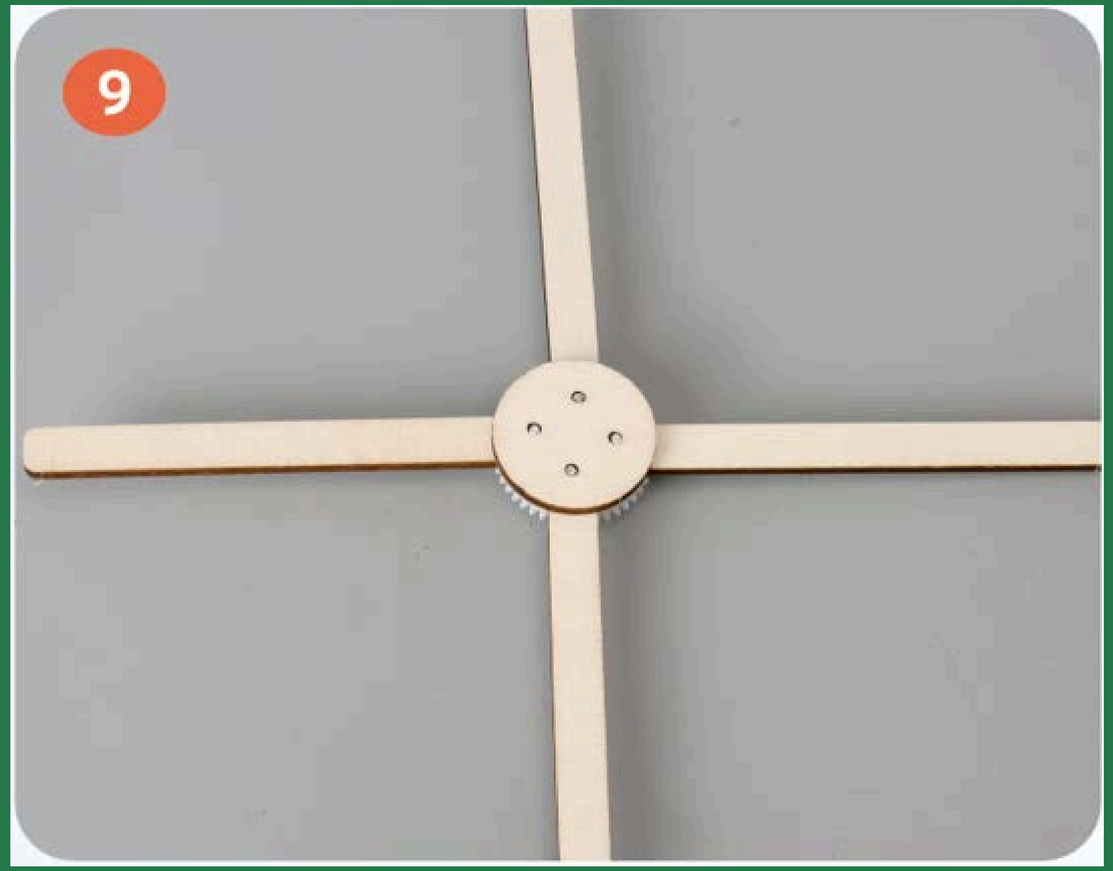
Assemble the rotor: attach four #7 boards to the gear using screws (see diagram).



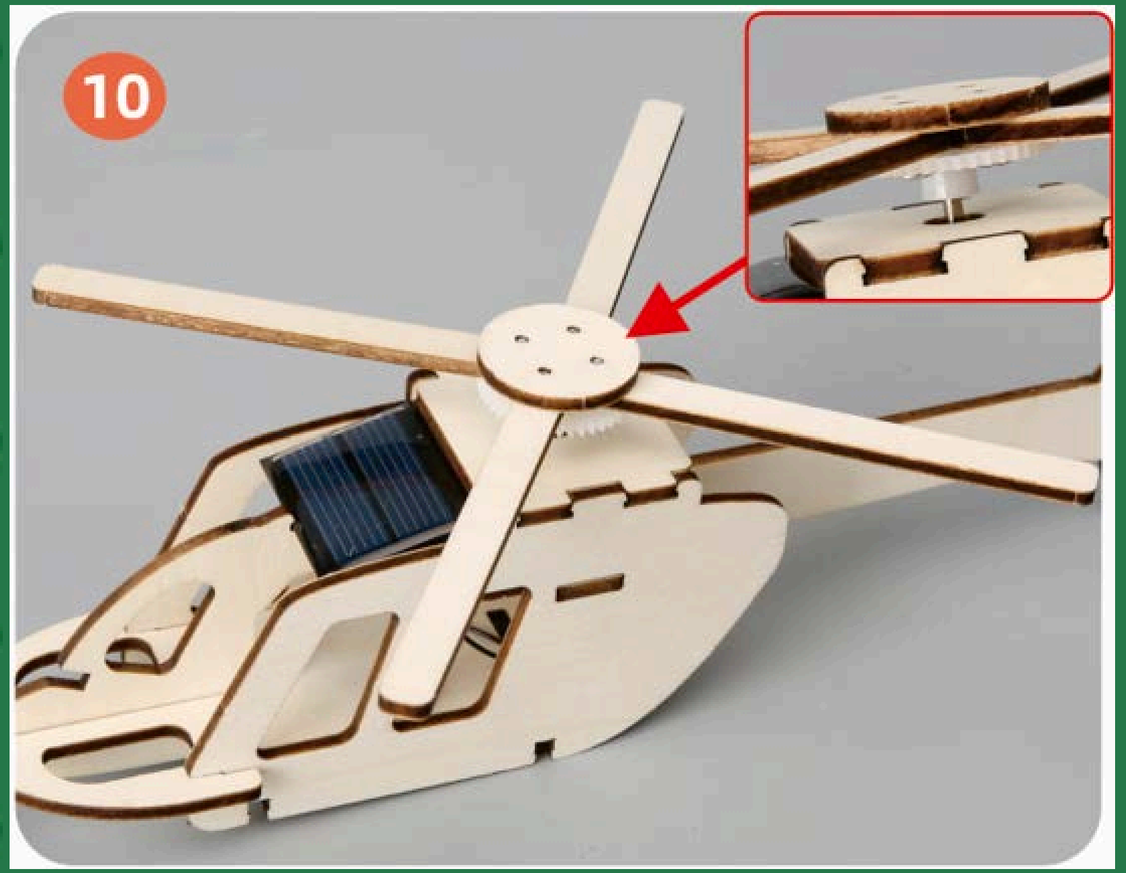
Effect after installation (inner view)



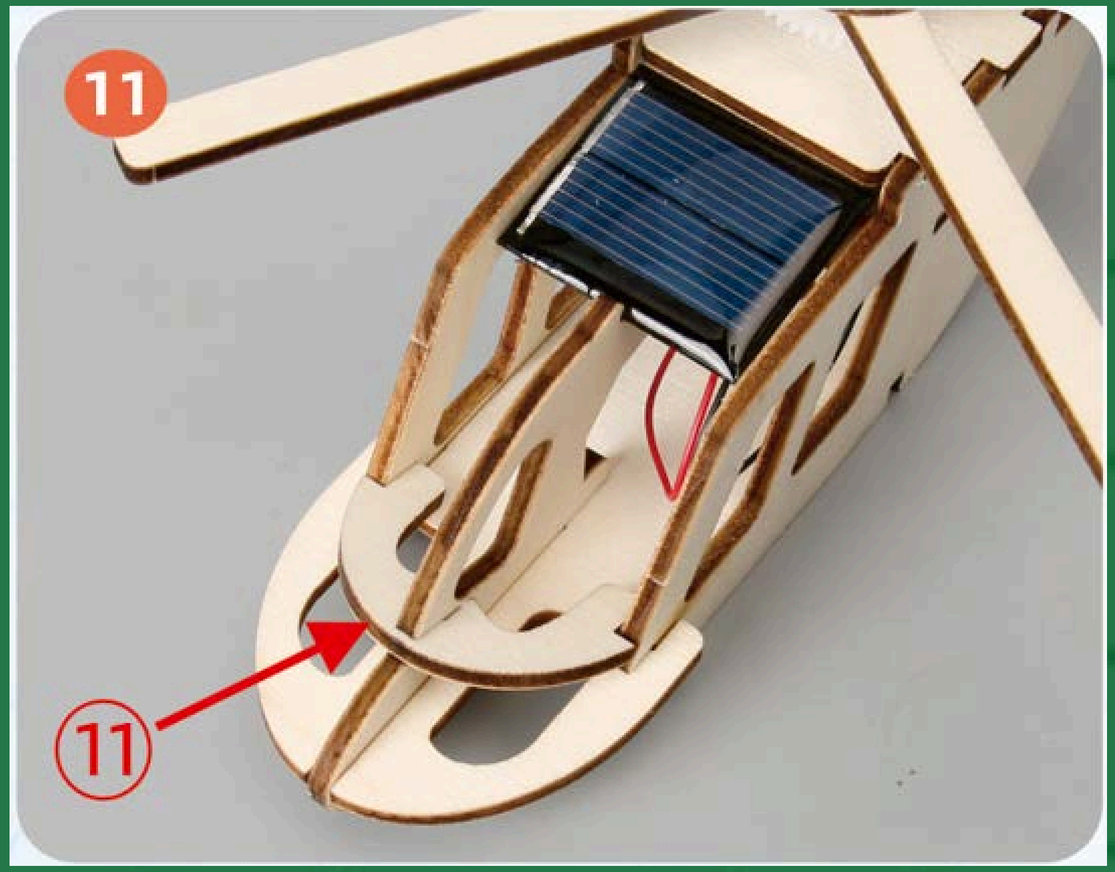
Outer view



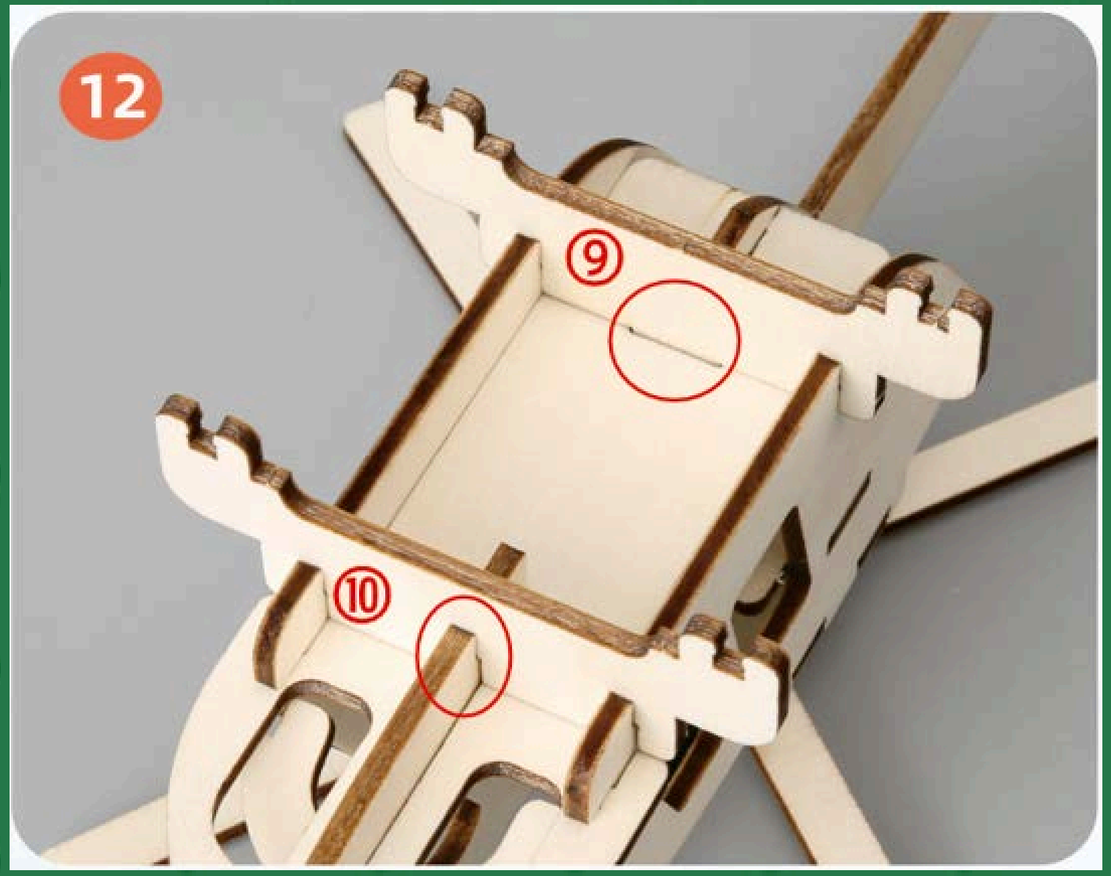
Mount the rotor onto the motor shaft.



Insert board #11 into the front of the helicopter.



Flip the helicopter over and insert boards #9 and #10 at the bottom.



Insert two #12 boards (landing skids) into the bottom slots, with the curved ends facing forward.

Your solar helicopter
is complete!
Take it outside
under strong sunlight
to test it!

Science Knowledge

Why can the solar helicopter spin?

When the solar helicopter is placed under sunlight, the solar panel absorbs the sunlight and converts it into electricity.

The electricity powers the motor, causing it to spin, which makes the helicopter's rotor blades rotate.

Do you know how a real helicopter takes off?

Principle of Helicopter Flight

A helicopter's lift and movement come from its continuously rotating rotor blades.
As the main rotor spins, it pushes air downward, creating an upward airflow that generates lift.

By changing the angle and speed of the rotor blades, the helicopter can perform various maneuvers such as ascending, descending, and hovering.