

Before Installation:

You need to prepare a small Phillips screwdriver and 3 AA batteries.

During the building, you need to use a screwdriver to install the screws, and a battery to make the finished model work normally.

Precautions:

1. Please be careful when opening the material package to avoid sudden loss of small materials. Losing small materials may cause your installation to fail!

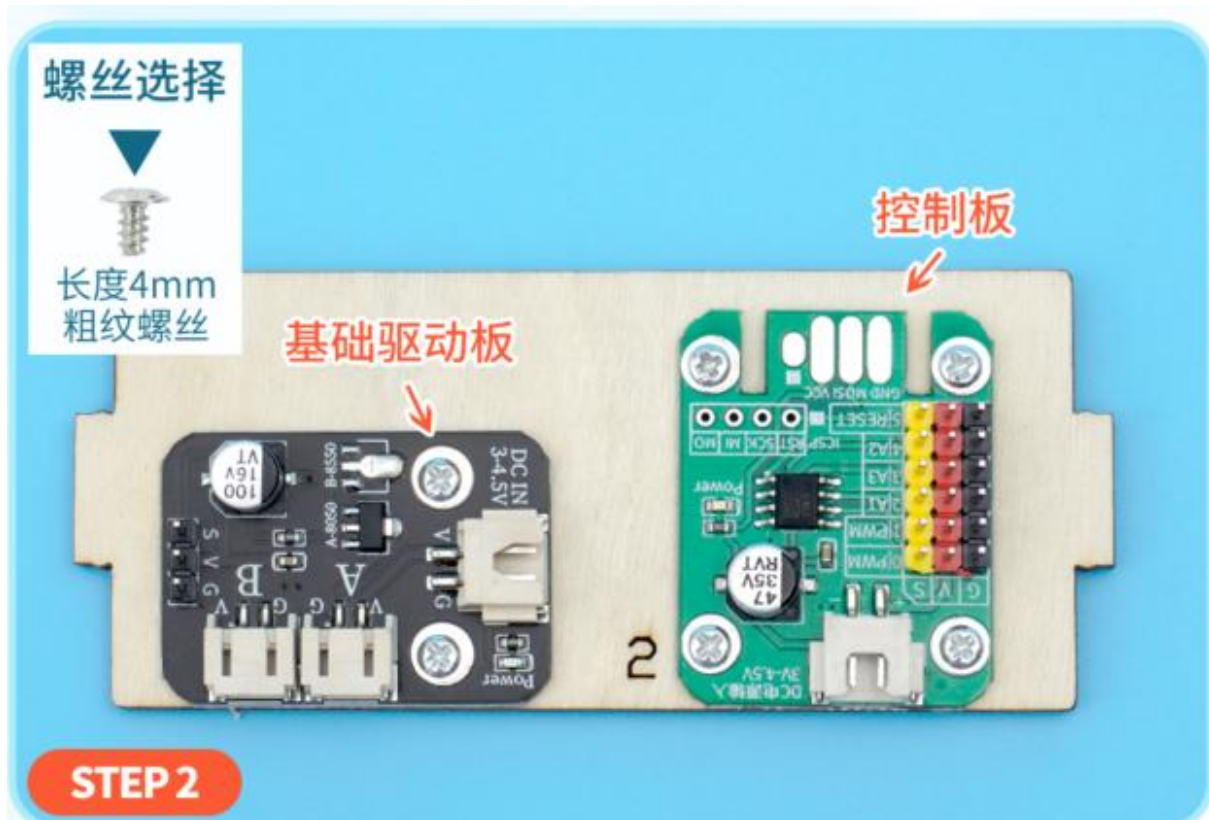
2. For any Children, it's not suggest to ask them to assemble it alone at home, parents or teachers need to be accompanied.

Installation Steps:

STEP 1. Prepare all accessories and wood materials. Please check the numbers on the materials carefully when assembling the wood materials. Boards with numbers installed on the front and no numbers on the back.



STEP 2. Install the basic driver board and control board on wooden board (2) with 4mm coarse thread screws

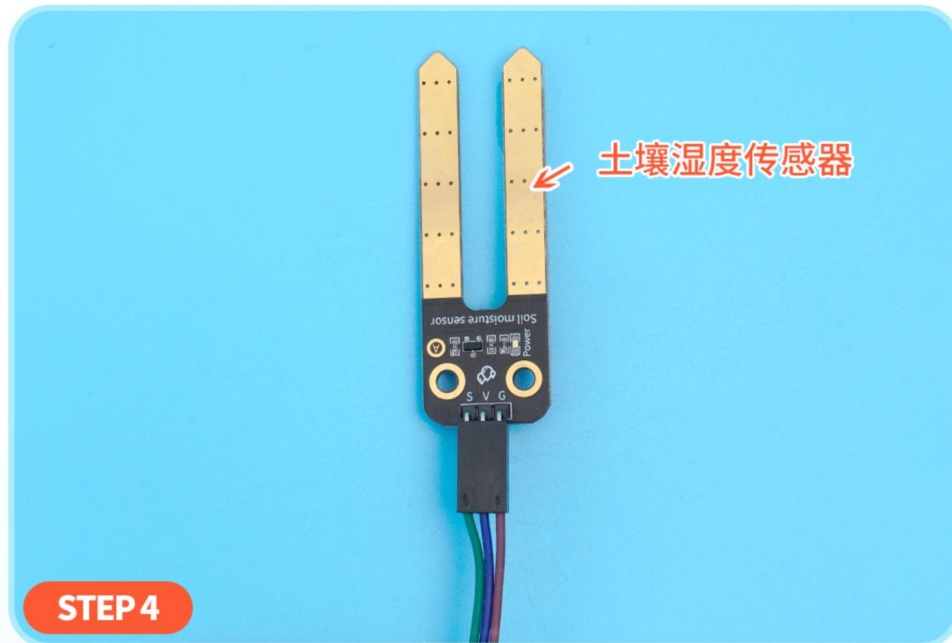


STEP 3. First install the two key switch modules on boards ⑨ (backside) and ⑩ (backside) with 4mm coarse thread screws, then install the red key caps on the key switches, and finally insert 20cm 3P Dupont wires on the key switch modules.



- 首先用4mm粗纹螺丝把两个按键开关模块安装在⑨、⑩号板上，然后把红色按键帽安装到按键开关上，最后在按键开关模块上插入20cm的3P杜邦线。

STEP 4. Insert the 30cm 3P Dupont wire into the soil moisture sensor.



- 把30cm的3P杜邦线插入土壤湿度传感器上。

STEP 5. Install the LED light module on board ⑦ (backside) with 4mm thick thread screws, and then insert a 20cm 3P Dupont wire.



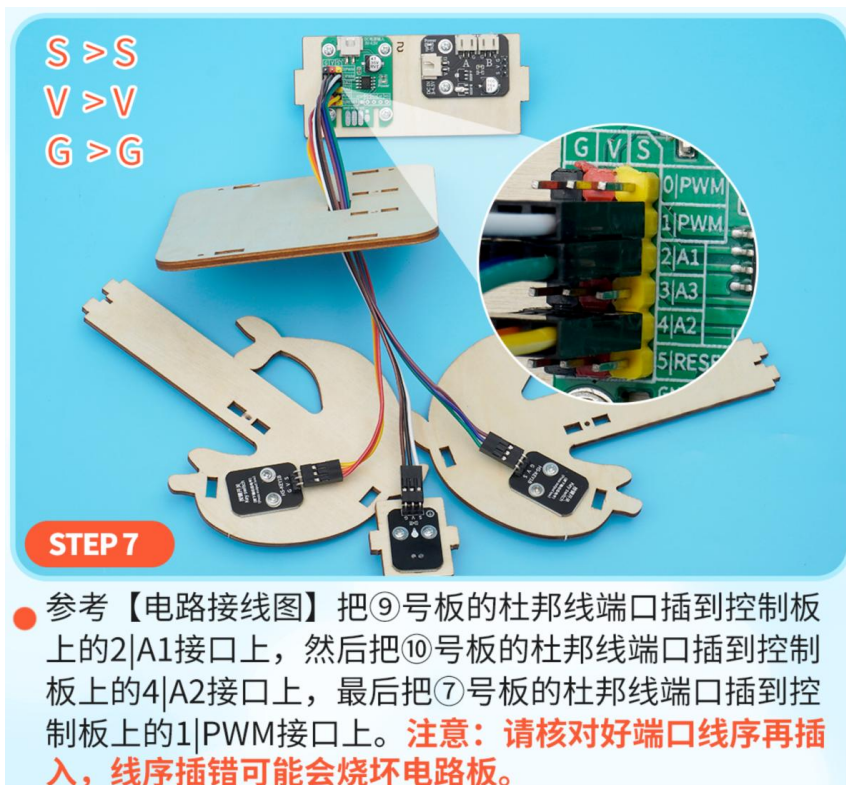
- 用4mm粗纹螺丝把LED灯模块安装在⑦号板上，然后再插入20cm的3P杜邦线。

STEP 6. Pass the Dupont wires on boards ⑦, ⑨, and ⑩ through the opening of board ① (Front-side).

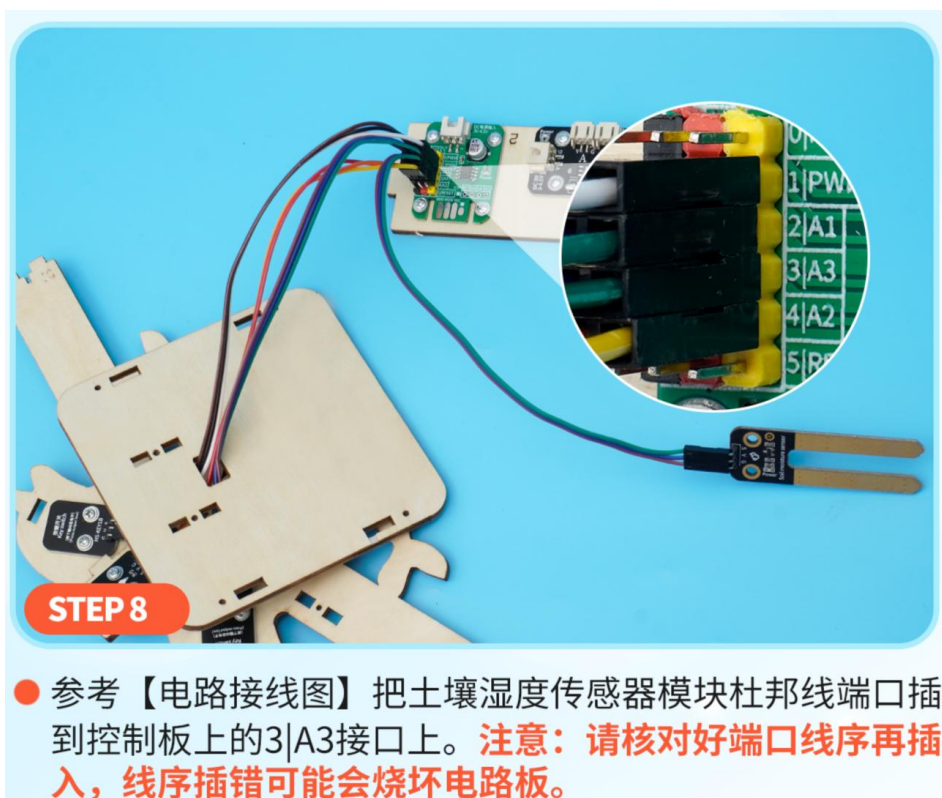


STEP 7. Refer to [Circuit Wiring Diagram]. Insert the Dupont wire port of No. ⑨ board into the 2 | A1 interface on the green control board, and then insert the DuPont wire port of No. 10 board into the 4 | A2 interface on the control board.

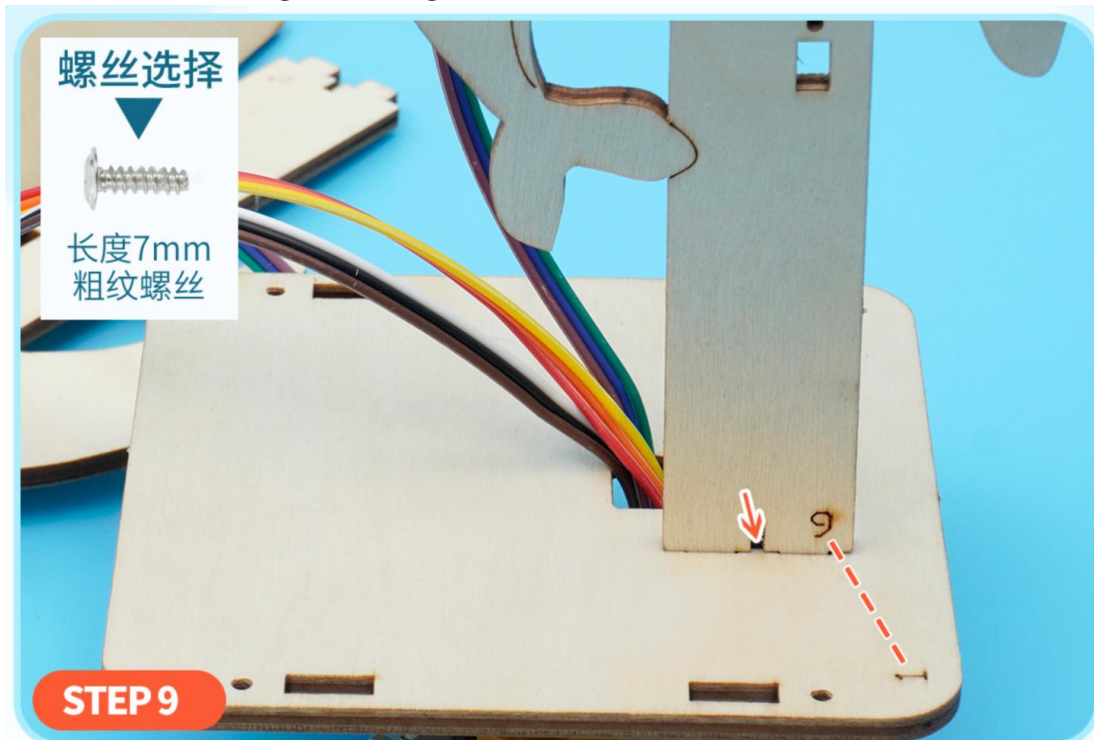
Finally, plug the DuPont line port of No. ⑦ board into the 1|PWM port on the control board. Note: Please check the line sequence of the port before inserting it. If the line sequence is inserted incorrectly, the circuit board may be burned.



STEP 8. Refer to [Circuit Wiring Diagram] and insert the soil moisture sensor module DuPont line port into the 3|A3 port on the control board. **Note: Please check the line sequence of the port before inserting it. If the line sequence is inserted incorrectly, the circuit board may be burned.**



STEP 9. Install board ⑨ on board ① with 7mm thick thread screws.



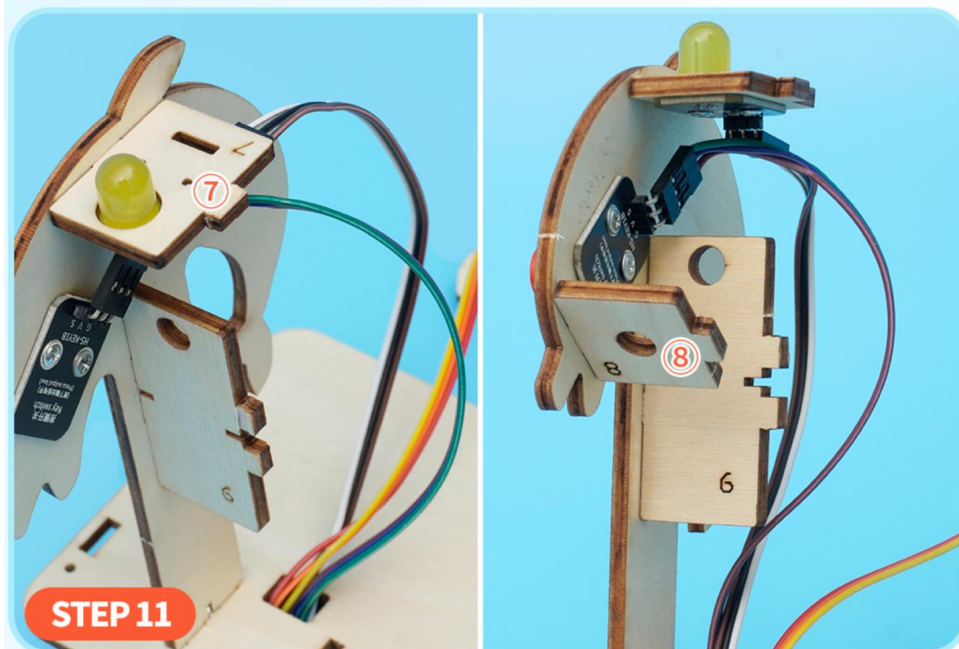
- 用7mm粗纹螺丝把⑨号板安装在①号板上。

STEP 10. Install board ⑥ (round hole up) on board ⑨ with 7mm thick thread screws.



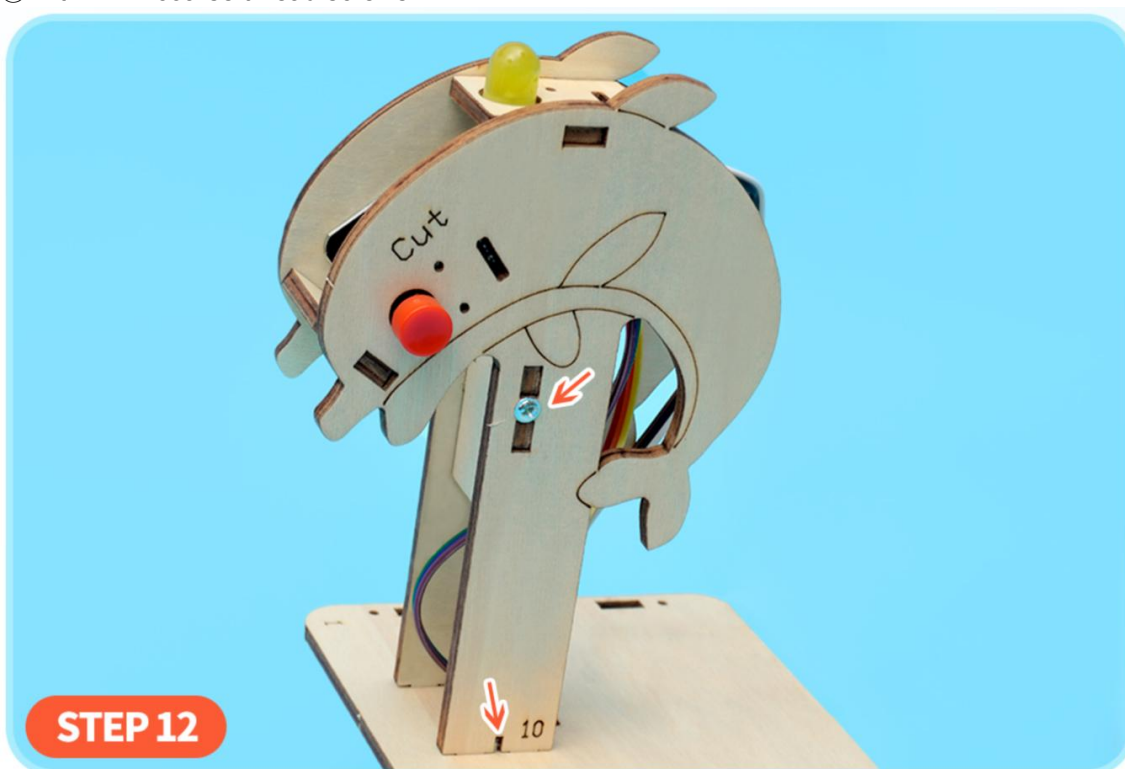
- 用7mm粗纹螺丝把⑥号板安装在⑨号板上。

STEP 11. Install boards ⑦ and ⑧ on board ⑨.



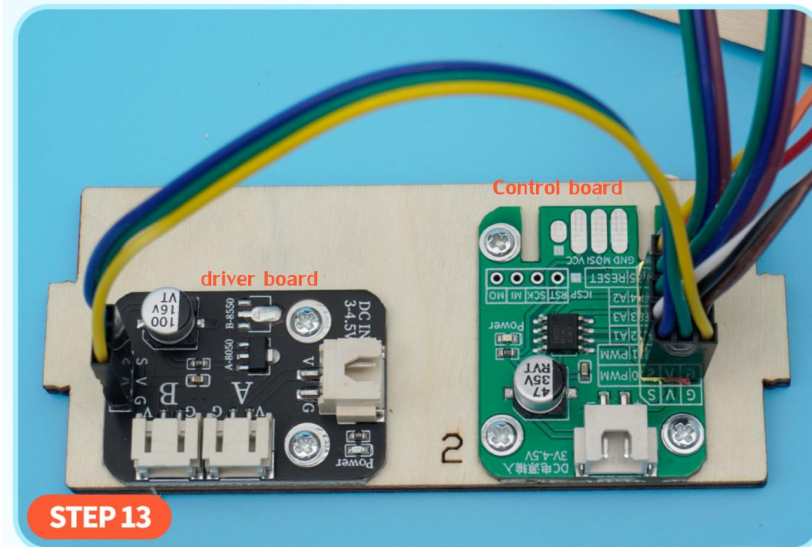
● 把⑦、⑧号板安装在⑨号板上。

STEP 12. First, install board ⑩ on boards ①, ⑥, ⑦, and ⑧, and then fix board ⑩ on boards ① and ⑧ with 7mm coarse thread screws.



First, install board ⑩ on boards ①, ⑥, ⑦, ⑧,
and then fix board ⑩ on boards ①, ⑧ with 7mm coarse thread screws.

STEP 13. Refer to [Circuit Wiring Diagram]. Insert one end of the 10cm Dupont cable into the O|PWM interface on the control board, and insert the other end into the basic driver board. **Note: Please check the port line. Insert the wires in the correct sequence, otherwise the circuit board may be burnt if the wire sequence is inserted incorrectly.**



Insert one end of the 10cm Dupont cable into the O|PWM interface on the control board, and insert the other end into the basic driver board.

STEP 14. Firstly, pass the wire of the battery box through the hole of board ①, then insert the wire port of the battery box into the power interface of the control board, and finally stick double-sided tape on the bottom of the battery box.



- 首先把电池盒导线穿过①号板洞口然后把电池盒导线端口插入控制板的电源接口，最后在电池盒底部粘上双面胶。

STEP 15. Use double-sided tape to stick the battery case on board ①.



- 用双面胶把电池盒粘在①号板上。

STEP 16. Install plate ④ on plate ③ with 7mm thick thread screws.



- 用7mm粗纹螺丝把④号板安装在③号板上。

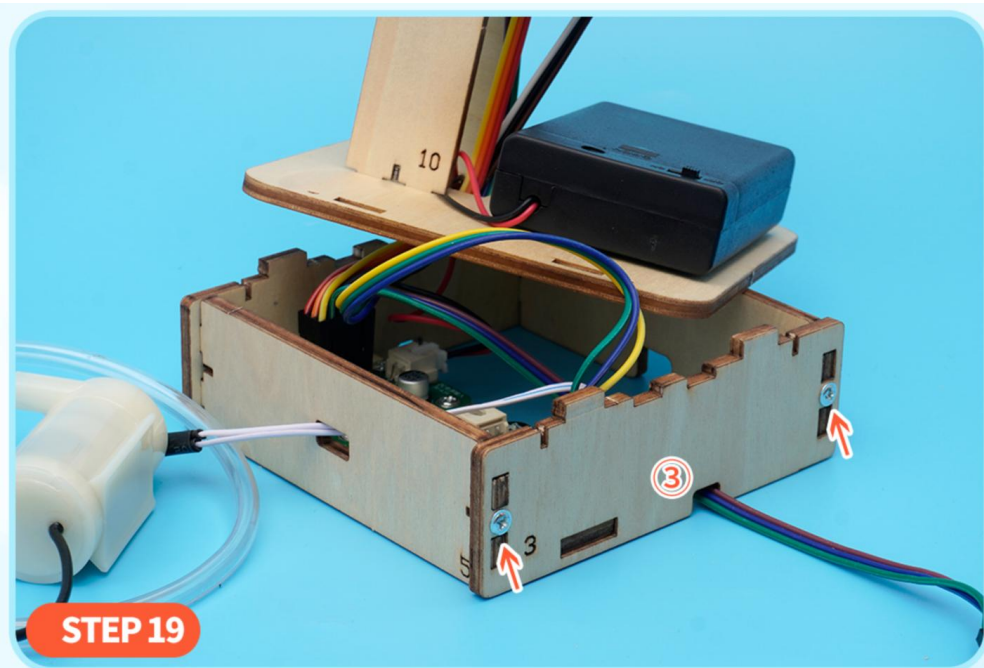
STEP 17. First insert the hose into the water pump, and then pass the terminal wire of the water pump through the hole on the No. ⑤ plate.



STEP 18. First, install board ② to board ③, then install board ⑤ to board ③ with 7mm thick-thread screws, and finally insert the terminal wire of the water pump to A on the basic drive board interface.



STEP 19. Install board ③ on boards ②, ④, and ⑤ with 7mm coarse thread screws.



STEP 19

● 用7mm粗纹螺丝把③号板安装在②、④、⑤号板上。

STEP 20. Install board ① on boards ③, ④, and ⑤ with 7mm coarse thread screws.



STEP 20

● 用7mm粗纹螺丝把①号板安装在③、④、⑤号板上。

STEP 21. Congratulations, the automatic watering system is completed! Put the battery in the battery box, then insert the soil moisture sensor and hose into the soil, and finally turn the switch on the battery box to the ON direction, the automatic watering system can start working. **Note: OFF means closed, ON means open.**



- 恭喜你，自动浇花系统制作完成！
在电池盒内装入电池，然后把土壤湿度传感器和软管插入土壤里，最后把电池盒的开关拨至ON方向，自动浇花系统就可以开始工作了。**注意:OFF表示关闭，ON表示打开。**

STEP 22.

- ①The LED light is always on, which is the automatic mode. If the soil humidity is not enough, it will automatically water, and if the soil humidity is enough, it will automatically stop watering.
- ②When the LED light is off, it is the manual mode. Press and hold the Press button, and the water will come out for 5 seconds.
- ③Press and hold the button on the Cut to switch modes, press and hold the Cut for a long time until the light goes out to switch modes.
- ④The flashing LED light means that the water is being pumped.

Troubleshooting:

Insert the battery, turn on the switch, the automatic watering system does not work.

1. The water pump is running but cannot pump out water. It is recommended to suck the hose with your mouth.
2. Check whether the battery is low, and it is recommended to replace it with a new one.
3. Check whether the DuPont line port is inserted in the correct position. If the position is not correct, it will cause a short circuit or fail to operate. It is recommended to reconnect.

Science Knowledge:

Soil Moisture Sensor: The soil moisture sensor module has two copper strips that are sensor probes. When they are inserted into the soil, they can detect the soil's moisture. The wetter the soil, the more conductive it is, reflecting the lower the resistance between them. The soil is dry and the conductivity is relatively poor, so the resistance between them is higher. It is an analog sensor, so we get the voltage value through an analog input. Because the humidity of the soil can be divided into several levels, when we use the soil moisture sensor to make an automatic watering system, it will be convenient to use.