ELECTRONIC KIT

ELEKTRONICKÁ STAVEBNICE
ELEKTRONICKÁ STAVEBNICA
ZESTAW ELEKTRONICZNY
ELEKTRONIKUS ÉPÍTŐKÉSZLET

FLEG kit SPACE



89 PROJECTS

72 PARTS

Complete manual
(english, czech, polish, hungarian, slovakian)
download here:

Distributor:
ConQuest entertainment a.s., Kolbenova 961/27d, Praha 9
info@fleg.cz, www.fleg.cz, www.gamehouse.cz
tel.: +420 284 000 111

8+

CREATIVITY
ABILITY
KNOWLEDGE
SCIENCE

Physics Test Instruction

Warm Reminder

The following inner page legend product ratio hasfor different uses, please refer to the actual object.

CAUTION

For children over 3 years old only.Toy product use and play reference manual, please read carefully.

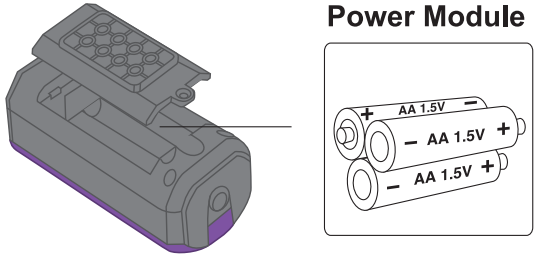
All packing materials, such as tape, plastic sheet bags are not part of the product, not suitable for children to play, for the safety of your children, please pay attention to and properly handle the above packaging materials.

Battery Installation:

1. Ensure that the power host is shut down.
2. Open the battery box cover on the back of the power host using a screwdriver.
3. The subject should follow the correct polarity (+, -). Load three new 1.5V AA batteries.
4. Place the battery case cover and tighten the screws.tt

Precautions For Battery Use:

1. Toy battery type: 3 1.5V AA non-rechargeable batteries.
2. Non-rechargeable batteries cannot be recharged.
3. Rechargeable batteries should only be charged under adult supervision.
4. The rechargeable battery should be removed from the toy before charging.
5. Do not mix old and new batteries or different types of batteries.
6. The battery should be placed with the correct polarity (+, -).
7. Used batteries should be removed from toys.
8. Do not short circuit the power terminal.
9. Take out the battery if it is not used for a long time.
10. Do not put the battery in the fire.
11. Toys with battery cases do not state that toys cannot be connected to more than the recommended amount of power.



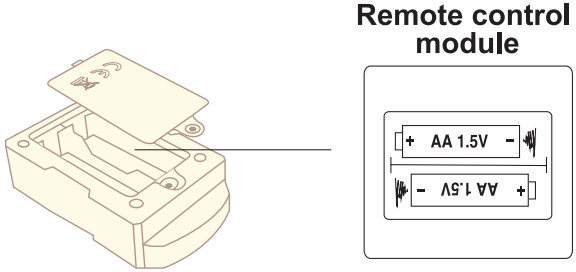
Care And Maintenance:

1. Use a soft dry cloth to wipe the outside of the power supply host to clean it.
2. Avoid direct sunlight and any heat sources.
3. Take out the battery if it is not used for a long time.
4. Do not collide with hard objects or try to disassemble the host.
5. Do not immerse the power host in water and avoid moisture.

Common Troubleshooting:

If for some reason the power host stops responding,Please follow the following steps:

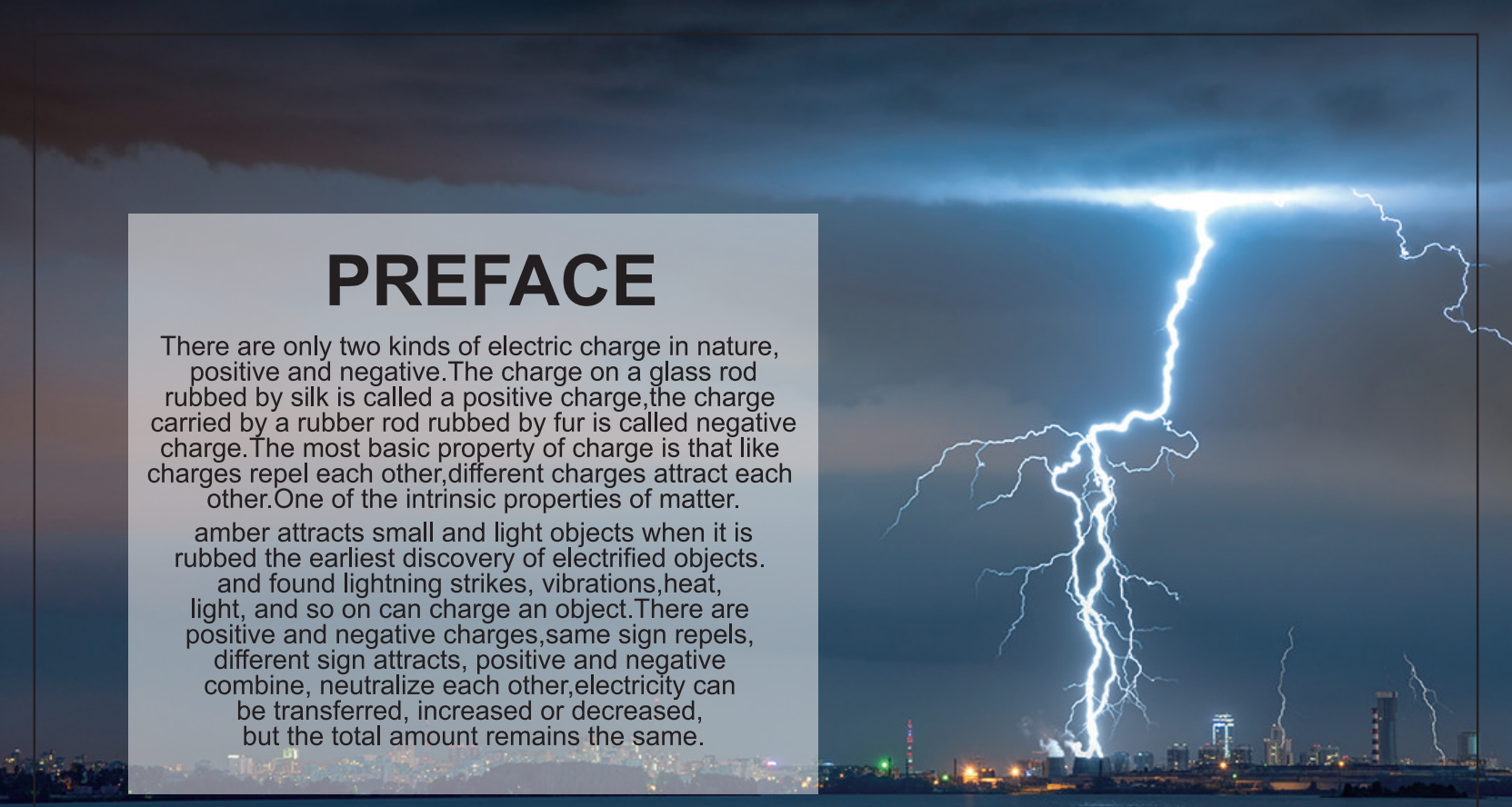
1. Disconnect the cable from the power host.
2. Take out the battery.
3. Place the power host for a few minutes, and then reinstall the battery.
4. Restart the machine and use it again.
5. If the power host still cannot work, please install a new battery.



PREFACE

There are only two kinds of electric charge in nature, positive and negative.The charge on a glass rod rubbed by silk is called a positive charge,the charge carried by a rubber rod rubbed by fur is called negative charge.The most basic property of charge is that like charges repel each other,different charges attract each other.One of the intrinsic properties of matter.

amber attracts small and light objects when it is rubbed the earliest discovery of electrified objects. and found lightning strikes, vibrations,heat, light, and so on can charge an object.There are positive and negative charges,same sign repels, different sign attracts, positive and negative combine, neutralize each other,electricity can be transferred, increased or decreased, but the total amount remains the same.



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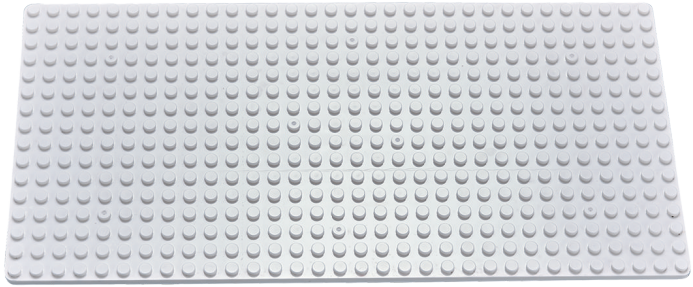
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Three-dimensional combination gameplay

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Spare Parts List



Laminated Boardx2



Power Modulex1



Power generation Module X1



Horn Module x1



Fan modulex1



Switch Module x1



Key Module x1



Rotating Module x1



Photosensitive Modulex1



USB lightx1



USB Modulex1



Leadx4



Three-head conductorx2



Drive motor modulex1



Remote control modulex1

Spare Parts List



Specification
x1



Block board
Bucklex4



Flying Saucer
x1



Fan head
x1



10 Resistance
x1



Rocket bodyx2



Rocket tailx2



Rocket coverx1



Simulate
solar panels
each x1



L-type 3-hole
plug-inx2



L-type 6-hole
plug-inx2



L-type 8-hole
plug-inx2



Double row 10-hole
connecting rodx1



Universal
wheelx2



Cross
shaft
x2



Fixed
pin
x8



Sliding
pin
x3



6-hole building
block module
x4



5-hole building
block module
x4



Tyrex2



Space man
before
x1



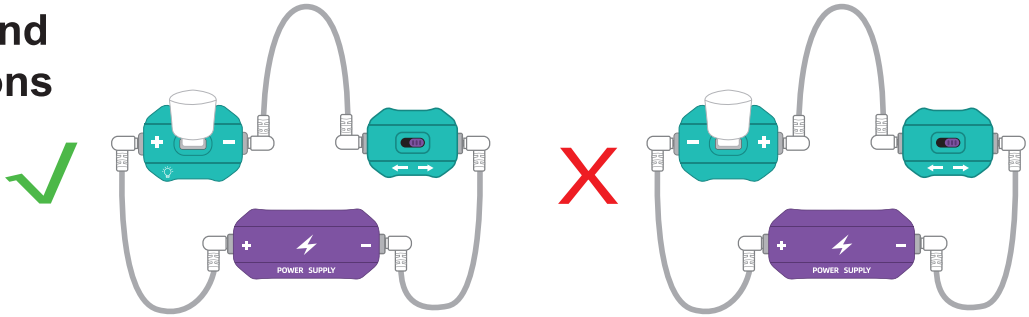
Astronaut
after
x1



Decal
x1

Basic Function Introduction

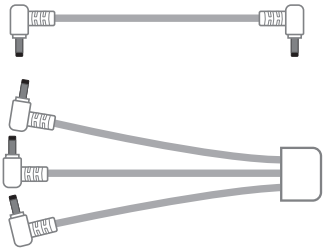
Note the positive and negative connections



Lead Precautions

Please read the following materials carefully before the child experiment.
each child has different abilities. Parents should carefully choose the activities suitable for their children.make sure your child understands the following:

- Only follow the instructions in the lesson plan to connect the lead
- Not all links will be used in an activity
- Do not plug the cable into any outlet port in your home
- Do not connect the same cable to both ends of the power supply host at the same time to prevent battery short circuit
- Please note that the lead is not placed in a humid environment to prevent water burning
- Do not insert any conductive items into the port, such as wire, key, etc., except the lead
- Please do not remove or refit any electronic module at will. Refitting may cause damage or overheating of the module.
- Disconnect the circuit when it is not in use to avoid battery consumption



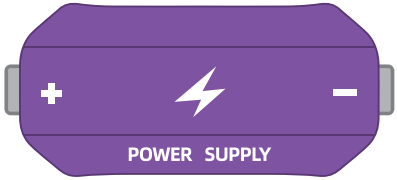
Wire/Three-head wire

The product comes with two different lead,as the child accumulates knowledge,suitable lead can be selected for combination.

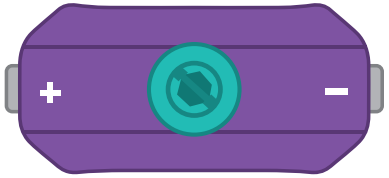
Module Function Introduction

Power Module

Install the batteries,
connect the wires,
provide electric energy



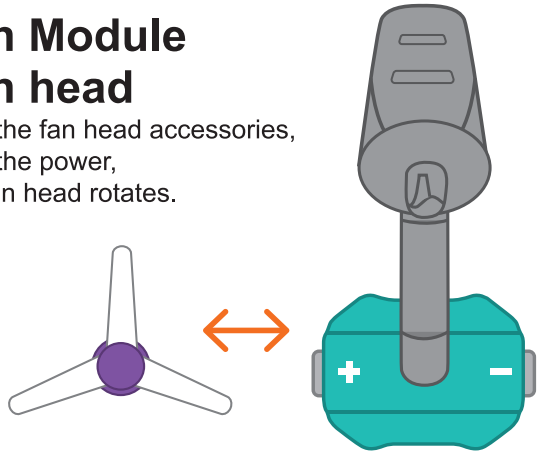
Motor Module Flying saucer



Positive and negative positive connection,
electricity turn clockwise after.positive and negative
connection,power onbackward and backward rotation

Fan Module Fan head

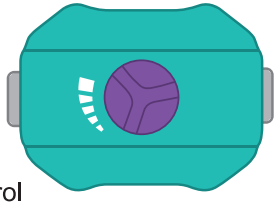
With the fan head accessories,
after the power,
the fan head rotates.



Rotating Module

(Regardless of positive
and negative poles)

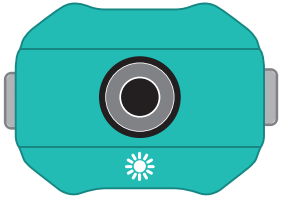
Torsional rotary switch control
the size of the passing current



Photosensitive Module

(Regardless of positive
and negative poles)

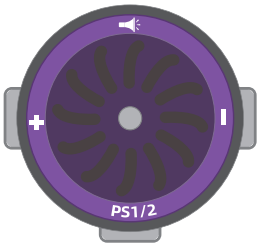
The intensity of the light affects the circuit
the amount of current passing through



Module Function Introduction

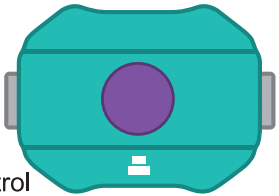
Horn Module

After power-on,
horn module It
makes a beeping sound



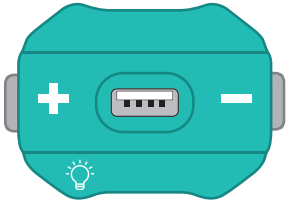
Key Module

(Regardless of positive
and negative poles)
Press the key module to control
the amount of current passing through



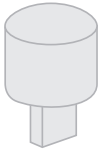
USB Module

Insert table lamp
through current
luminescence



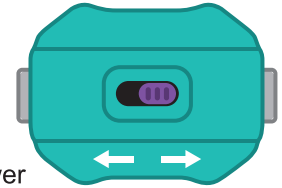
USB Module Table Lamp

Insert the USB module port.
the electricity gives off a light



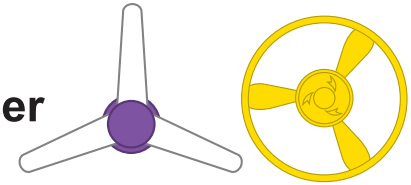
Switch Module

Close the toggle switch, inside
the metal touches the connecting
wire connects the circuit,the power
module starts to work



Fan head Fitting Flying saucer Fittings

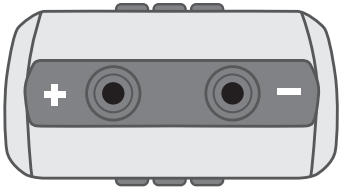
Place above the motor module

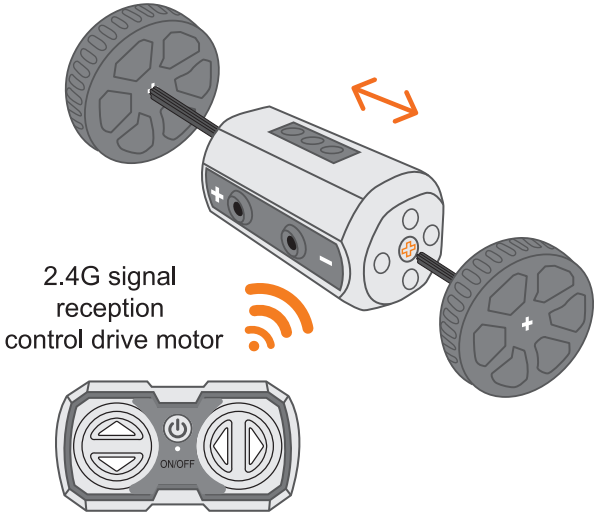


Module Function Introduction

Drive motor module

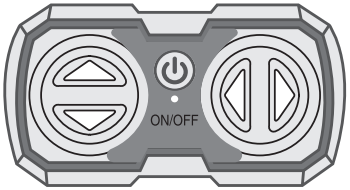
Specific view of the use of matching tires (three-dimensional combination play)





Remote control module

With the drive motor module control three-dimensional combination modeling specific view (three-dimensional combination gameplay)

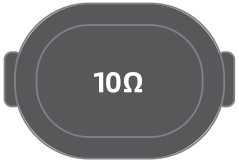




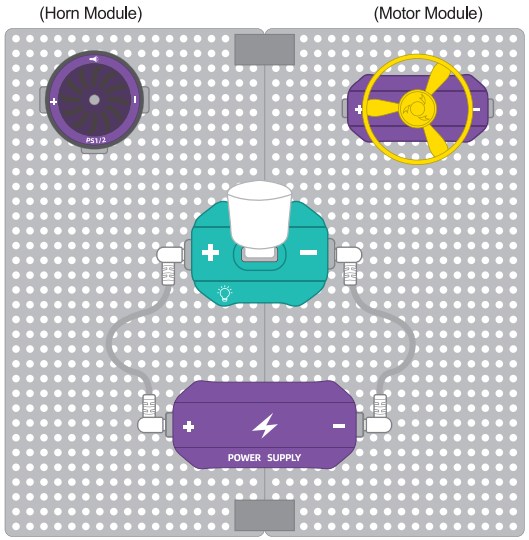
Front and rear control drive motor module

Resistance

The amount of current through is limited by the size of the resistance



01-03 Understanding Simple Circuit



(Motor module preinstalled with flying saucer accessories)
(USB module pre-installed table lamp accessories)

Connecting Circuit

1. Insert one end of the cable into the positive side of the power module
2. Then insert the other end of the wire into the positive side of the USB lamp
3. Plug one end of the other wire into the negative side of the USB desk lamp
4. Insert the other end of the cable into the negative terminal of the power module

OPERATION:

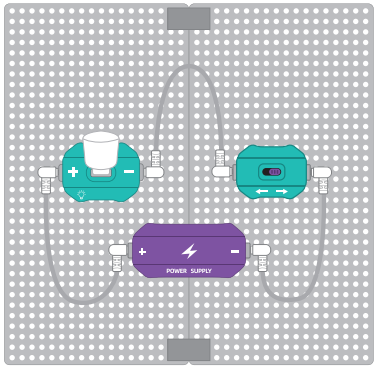
1. Is the USB light on? If not, please check to see if the circuit is connected correctly?
2. What will happen if you replace the USB desk lamp with a horn module? (Experiment 2)
3. Replace the USB desk lamp with a motor module, what will be the reaction? (Experiment 3)

TIPS: USB module can be replaced by horn module/motor module

Why is that?

Switch on the circuit, the current flows out from the positive terminal of the power supply, flows through the link line to the USB table lamp, and then flows back to the negative terminal of the power supply, forming a complete closed circuit, with electrical appliances to start working!get our little minds thinking: how does electricity come from? how is the circuit connected when the electrical appliance is used at ordinary times? what would life be like without electricity?

04 Know The Toggle Switch



(USB module pre-installed table lamp accessories)

Connecting Circuit

1. Insert the cable into the positive terminal of the power module and the positive terminal of the USB table lamp
2. Use the second wire to insert the USB lamp negative terminal into the switch module
3. Insert the third wire into the other side of the switch module Negative electrode of the power module

OPERATION:

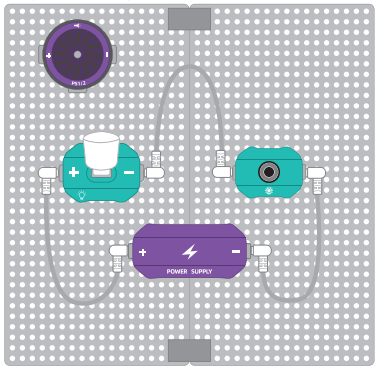
Close the toggle switch, USB desk lamp will respond to what?

Why is that?

Toggle the switch can make the circuit on or off, close the switch, inside the metal touch two wires to open the circuit.switch off, no current through.

05-06 Understand The Photosensitive Switch

(Horn Module)



(USB module pre-installed table lamp accessories)

Connecting Circuit

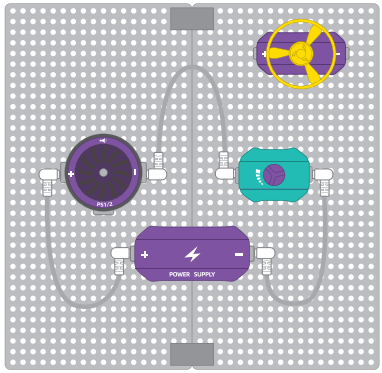
1. Insert one end of the cable into the positive terminal of the power module and the positive terminal of the USB table lamp
2. Use the second wire to insert the negative electrode of the USB desk lamp into the photosensitive module
3. Insert a third wire into the other side of the photosensitive module Negative electrode of the power module

OPERATION:

1. Open the light sensitive module of the flashlight, and the brightness of the USB desk lamp will be changed What's the reaction?
2. Replace the USB desk lamp with a horn module, irradiate the light-sensitive module,How does the horn module react? (Experiment 6)

Photosensitive switch is a kind of resistor whose resistance value changes with the intensity of incident light by using the photoconductance effect of semiconductor.

07-08 Cognizant Rotary Switch



(Motor module preinstalled with flying saucer accessories)

Connecting Circuit

1. Insert one end of the conductor into the positive terminal of the power module and the positive terminal of the horn module
2. Insert a second wire into the horn module negative to the rotating module
3. Insert a third wire into the other side of the rotating module Negative electrode of the power module

OPERATION:

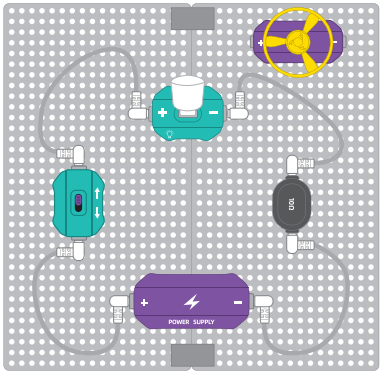
1. How does the horn module react when rotating the module?
2. Replace the horn module with the motor module, twist and rotate the module,How will the motor module react? (Experiment 8)

TIPS: The horn module can be replaced with the motor module

Why is that?

Rotary switch is in a certain range of conversion resistance value, through rotation to adjust the size of the gear, control the size of the current through.

09-10 Cognizant Resistance



(Motor module preinstalled with flying saucer accessories)
(USB module pre-installed table lamp accessories)

Connecting Circuit

1. Insert the conductor into the positive pole and switch module of the power module
2. Use the second wire to plug the other side of the switch module into the USB Positive terminal of table lamp
3. Insert a third wire into the negative end of the switch module and the 10Ω resistor
4. Insert the fourth wire into the other side of the 10Ω resistor to the power module Negative electrode

OPERATION:

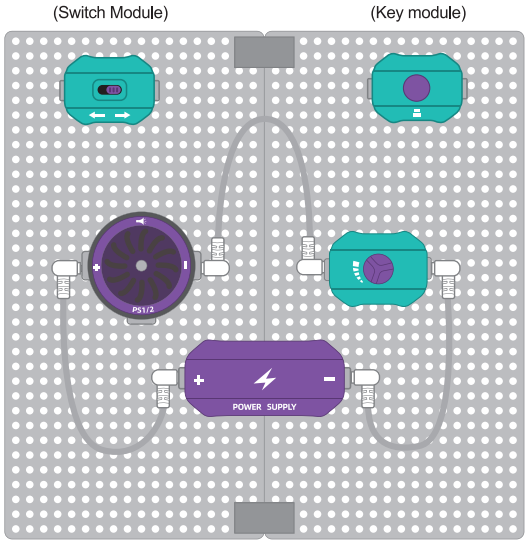
1. Close the toggle switch, through the resistance, how will the USB station light react?
2. Replace the USB desk lamp with a motor module, and pass the resistance, How will the motor module react? (Experiment 10)

TIPS: USB module can be replaced with motor module

Why is that?

The resistance can limit the current through the branch, play the role of dividing voltage and shunt, and ensure the normal operation of the power module.Ω is a unit of resistance. The larger the resistance, the smaller the current, and the lower the working efficiency of the power module

11-13 Recognition Horn Module



Connecting Circuit

1. Insert the conductor into the positive terminal of the power module and the positive terminal of the horn module
2. Insert a second wire into the horn module negative to the rotating module
3. Insert a third wire into the other side of the rotating module to the power supply Module negative

OPERATION:

1. Twist the rotating module to see how the horn module reacts?
2. Replace the rotating module with the switching module. What will the horn module do when the switch is flipped? (Experiment 12)
3. Replace the rotating module with the key module. What will the horn module do when pressing the key? (Experiment 13)

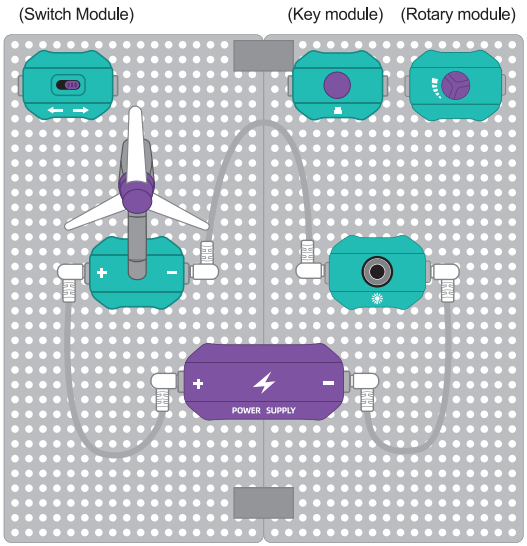
TIPS: The rotating module can be replaced with a switch module/key module



Why is that?

The horn is a very common electroacoustic transducer parts when the current through the coil of the horn, the corresponding magnetic field, the collision between the magnetic field will produce vibration, rotation will deliver sound.

14-17 Introduction to Fan Modules



(Fan module Pre-installed with fan head accessories)

Connecting Circuit

1. Insert one end of the cable into the positive terminal of the power module and fan module
2. Insert the second wire into the fan module negative to the photosensitive module
3. Insert a third wire into the other side of the photosensitive module Negative electrode of the power module

OPERATION:

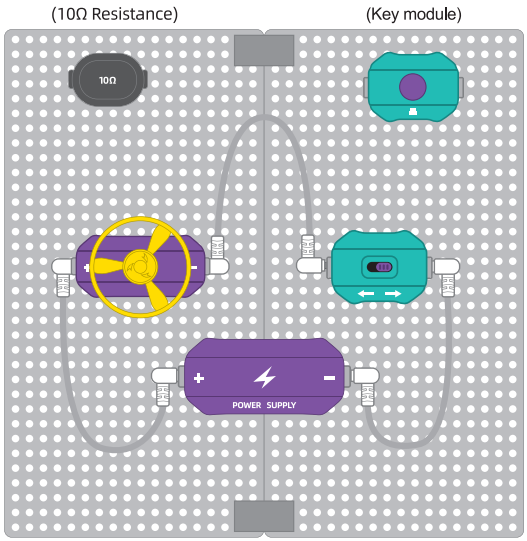
1. How does the fan module react when the light shines on the photosensitive module?
2. Replace the photosensitive module with a switch module What kind of reaction? (Experiment 15)
3. Replace the photosensitive module with a key module, press the key, and press the fan module What's the reaction? (Experiment 16)
4. Replace the photosensitive module with a rotating module, twist the rotating module, How does the fan module react? (Experiment 17)

TIPS: Photosensitive module can be replaced with switch module/key module/rotary module

Why is that?

When the fan module is energized, the coils inside it generate a magnetic field that interacts with the magnets inside,The electrical energy generates kinetic energy, and the fan begins to turn.The light shines on the photosensitive module, blocking the current the capacity decreases and the fan starts to work.

18-20 Cognitive Motor Module



(Motor module preinstalled with flying saucer accessories)

Connecting Circuit

1. Insert the conductor into the positive terminal of the power module and the positive terminal of the motor module
2. Insert a second wire into the motor module negative to the switch module
3. Insert a third wire into the other side of the switch module to the power supply Module negative

OPERATION:

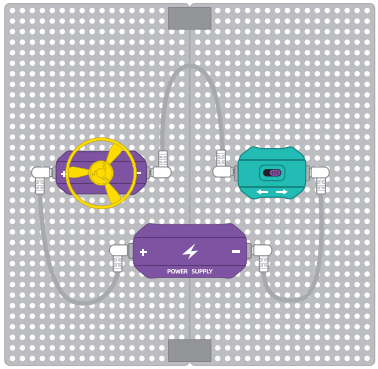
1. Close the toggle switch, how will the motor module react?
2. Replace the switch module with a 10Ω resistor. After power on, the motor module What's the reaction? (Experiment 19)
3. Replace the switch module with the key module, press the key, and the motor module What's the reaction? (Experiment 20)

TIPS: switch module can be replaced with a 10 ohm resistor/key module

Why is that?

A motor converts electrical energy into mechanical energy, which is generated by an electrified coil (stator winding)The magnetic field is rotated and applied to the rotor, and the magnetic field acts on the current to make the motor rotate.

21-22 Understand the positive and negative rotation of the motor



(Motor module preinstalled with flying saucer accessories)

Connecting Circuit

1. Insert the conductor into the positive terminal of the power module and the positive terminal of the motor module
2. Insert a second wire into the motor module negative to the switch module
3. Insert a third wire into the other side of the switch module to the power supply Module negative

OPERATION:

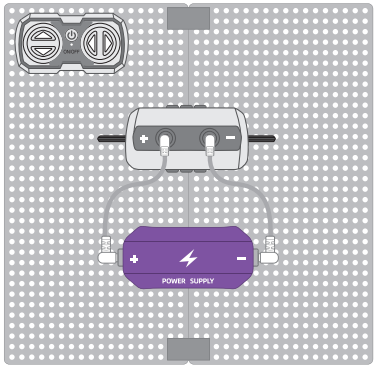
1. Close the toggle switch, how will the motor module react?
2. Convert the two correct negative poles of the motor module and close the switch. What will the motor module respond to? (Experiment 22)

Why is that?

The positive and negative rotation of the motor represents the clockwise and counterclockwise rotation of the motor.
The current flows through the energized coil in different directions. If the direction of the magnetic pole of the coil changes, different rotation effects will occur.

23 Understand the drive motor module

(Remote control module)



Connecting Circuit

1. Insert one end of the wire into the positive terminal of the power module to drive the motor Module positive
2. Insert a second wire into the negative end of the drive motor module Negative electrode of the power module

OPERATION:

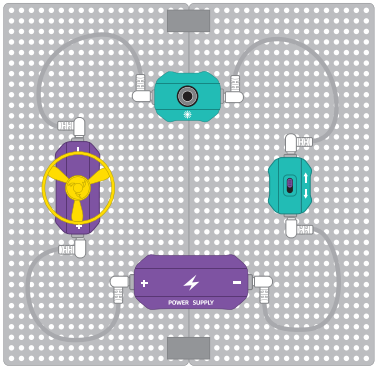
Turn on the circuit, turn on the remote control module switch, and receive the drive Motor signal, operate the remote control module up and down to see how the drive motor module will react?

TIPS: Press the remote control switch, and the wireless receiving signal begins to operate the drive motor

Why is that?

Remote control module and drive module are 2.4G signal transmission, signal reception,Execute the command.Based on the principle that an energized conductor is stressed in a magnetic field,A magnetic field is generated and the rotor has windings.When feeding the rotor windingWith direct current,the current in the winding interacts with the stator's magnetic field,The electromagnetic force is generated and the rotor is forced to rotate.

24 Recognition Circuit Series



(Motor module preinstalled with flying saucer accessories)

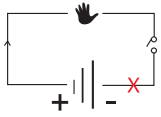
Connecting Circuit

1. Insert the conductor into the positive terminal of the power module and the positive terminal of the motor module
2. Insert a second wire into the motor module negative to the photosensitive module
3. Insert the third wire into the other side of the photosensitive module to the switch module
4. Then insert the fourth wire into the other side of the switch module Negative electrode of the power module

OPERATION:

Close the switch, the light illuminates the photosensitive module,
How will the motor module react?

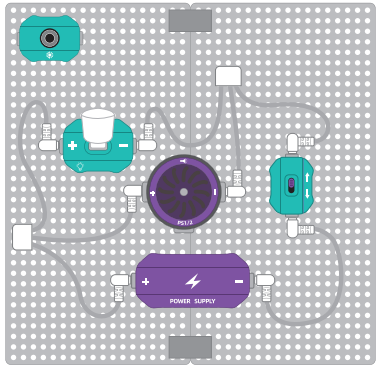
Why is that?



Series circuit is a circuit, the electrical appliances connected to each other influence each other, when there is any place short circuit or break the whole circuit will not run.and the power supply voltage will be divided by the electrical appliances, the current is weakened, the effect of electrical appliances will be weakened.

25-26 Cognitive Circuit Parallel

(Photosensitive Module)



Connecting Circuit (USB module pre-installed table lamp accessories)

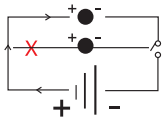
1. Insert the three-head wire into the positive terminal of the power module, the horn module,USB desk lamp positive
2. Use the second three-headed wire to insert the USB desk lamp and speaker module Negative electrode and switch module
3. Insert another wire into the other side of the switch moduleNegative electrode of the power module

OPERATION:

1. Close the toggle switch, what will be the reaction of USB desk lamp and speaker module?
2. Replace the switch module with a photosensitive module, the light illuminates the photosensitive module,What is the reaction of USB lamp and speaker module? (Experiment 26)

TIPS: The switch module can be replaced with a photosensitive module

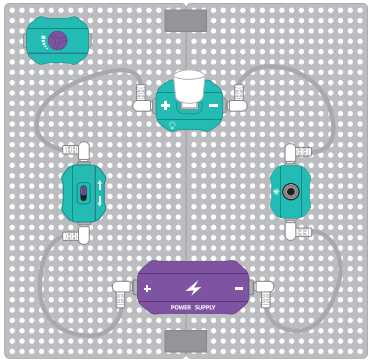
Why is that?



The current of the parallel circuit passes through multiple channels and flows through multiple appliances, and finally joins the power supply.each electrical appliance in the circuit can be used separately.and the circuit regardless of voltage, electrical effect is not affected.

27-28 Recognition And Gate Circuit

(Rotating Module)



Connecting Circuit (USB module pre-installed table lamp accessories)

1. Insert the conductor into the positive pole and switch module of the power module
2. Use the second wire to insert the switch module into USB desk lamp positive
3. Insert the third wire into the negative electrode of the USB table lamp to the photosensitive module
4. Insert the fourth wire into the other side of the photosensitive module to the power module Negative electrode

OPERATION:

1. Close the switch, the light illuminates the photosensitive module, USB desk lamp What's the reaction?
2. Replace the photosensitive module with a rotating module and close the switch.How does the USB light react when the rotation module is turned? (Experiment 28)

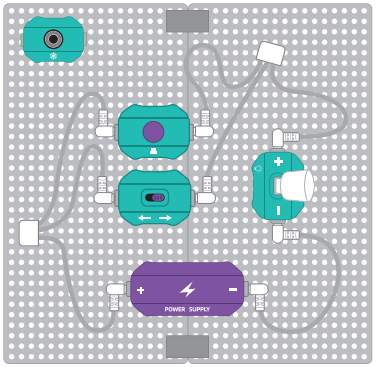
TIPS: Photosensitive module can be replaced with a rotating module

Why is that?

The two switch modules are connected in series with the gate circuit. Thetwo switches must be opened at the same time to allow the current to flow and the USB table lamp to light up.

29-30 Recognition Or Gate Circuit

(Photosensitive Module)



Connecting Circuit (USB module pre-installed table lamp accessories)

1. Insert the three leads into the positive terminal of the power module, the switch module and Key module
2. Insert the key module, switch module and switch module with the second three-headed wire USB desk lamp positive
3. Then insert another wire into the negative electrode of the USB desk lamp to the power module Negative electrode

OPERATION:

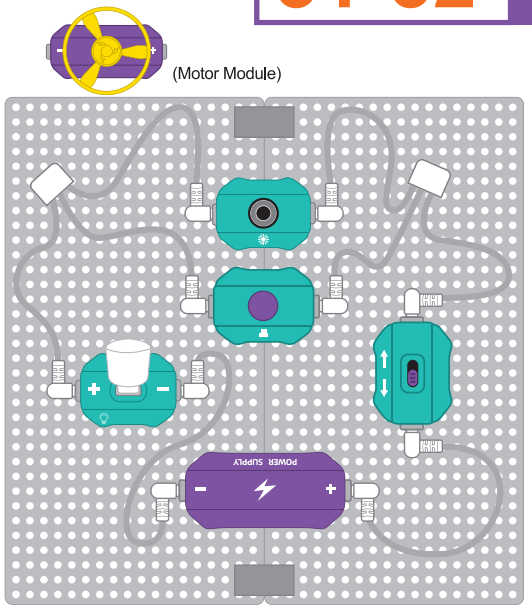
1. Close the switch, press the key, what will be the reaction of the USB lamp?
2. Replace the key module with a photosensitive module, the light illuminates the photosensitive module,How does the USB desk light react? (Experiment 30)

TIPS: Key module can be replaced with a photosensitive module

Why is that?

Or gate circuit is two switch modules in parallel in the circuit, a switch belongs to a path, open one of the switches, the circuit can run, just like the bedside lamp at home, bedside and door are equipped with switch control lights.

31-32 What Is A Hybrid Circuit



(USB module pre-installed table lamp accessories)
(Pre-installed fan head accessories for motor module)

Connecting Circuit

1. Insert the cable into the negative terminal of the power module and the negative terminal of the USB desk lamp
2. Use another three-headed wire to insert the positive electrode and key module of the USB table lampAnd light sensitive module
3. Insert the second three-head wire into the photosensitive module, key module and switch module
4. Use a second wire to insert the switch module into the positive terminal of the power module

OPERATION:

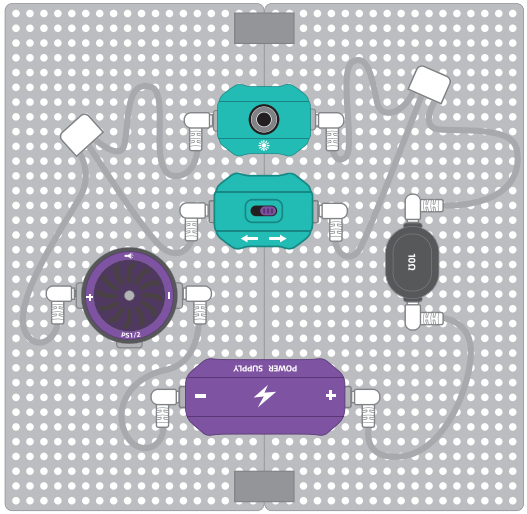
1. Close the toggle switch, press the key module, and the light illuminates the photosensitive module and USB How does the lamp react?
2. Replace the USB desk lamp with a motor module, and add the UFO accessories, repeat the above steps, How will the motor module react? (Experiment 32)

TIPS: USB desk lamp can be replaced with motor module

Why is that?

In daily production and life, in order to more convenient use, more will take the method of hybrid circuit, that is, the series circuit and parallel circuit combined, that is, to ensure the convenience of daily life, but not easily short circuit.

33 Understand the photoresistor



Connecting Circuit

1. Insert the wire into the negative terminal of the power module and the negative terminal of the horn module
2. Use another three-headed wire to insert the positive terminal of the horn module and the switch module and light sensitive module
3. Then use a second three-headed wire to insert the photosensitive module and switch module the other side and 10Ω resistance
4. Insert the second wire into the other side of the 10Ω resistor to the power supply module positive

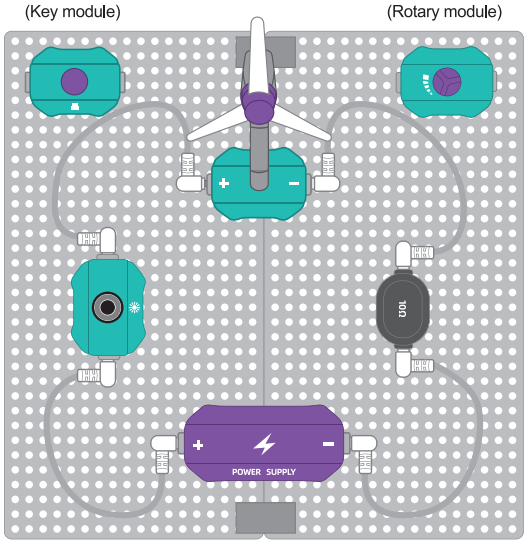
OPERATION:

Close the switch, turn on the light of the phone to illuminate the photosensitive module, and the horn module will have What kind of reaction?

Why is that?

Photoresistor is a resistance made of photosensitive materials, the stronger the intensity of the light,The smaller the resistance, the less it blocks the current.The weaker the light, the greater the resistance,The greater the ability to block the current.

34-36 Cognitive blocking current



(Fan module Pre-installed with fan head accessories)

Connecting Circuit

1. Insert the conductor into the positive electrode of the power module and the photosensitive module
2. Use the second wire to insert the other side of the photosensitive module to the positive terminal of the fan module
3. Insert a third wire into the negative end of the fan module to the 10Ω resistor
4. Insert the fourth wire into the other side of the 10Ω resistor to the power module Negative electrode

OPERATION:

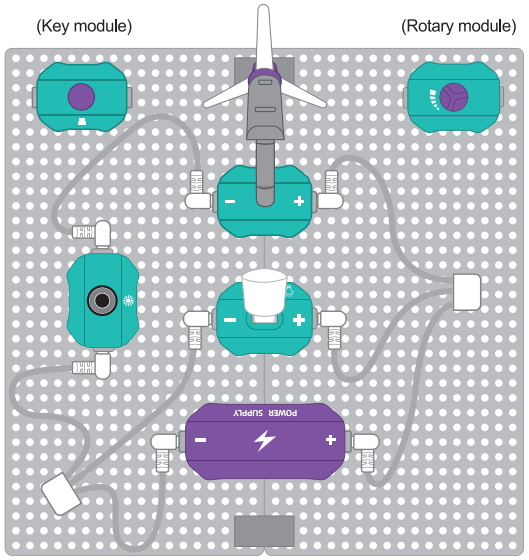
1. How will the fan module react when the light shines on the photosensitive module through the resistance?
2. Replace the photosensitive module with a key module, press the key, and pass the resistance.How does the fan module react?(Experiment 35)
3. Replace the photosensitive module with a rotating module, twist the rotating module, and pass the resistance.How does the fan module react? (Experiment 36)

TIPS: Photosensitive module can be replaced with key module/rotary module

Why is that?

Most of the electrons inside the photoresistor are valence band electrons that cannot move freely, and the resistance value is high at this time.When there is a suitable wavelength of light, the greater the light intensity, the lower the resistance value.So you can pass the resistance value Changes to reflect the intensity of the incident light, and then control the working state of the fan.

37-39 Light speed small table fan



(USB module pre-installed table lamp accessories)
(Fan module Pre-installed with fan head accessories)

Connecting Circuit

1. Insert the three-head wire into the negative terminal of the power module and the negative terminal of the USB table lamp And light sensitive module
2. Use another wire to insert the other side of the photosensitive module to the negative terminal of the fan module
3. Insert the second three-lead wire into the positive terminal of the fan module and the USB desk lampPositive terminal to the positive terminal of the power module

OPERATION:

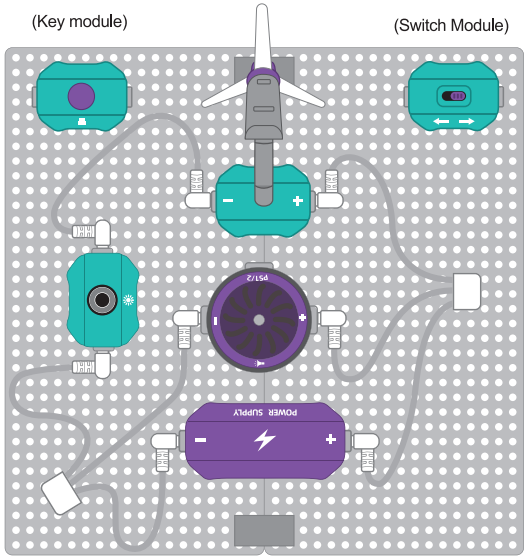
1. How will the light shine on the photosensitive module, USB desk lamp and fan module react?
2. Replace the photosensitive module with a key module, press the key module,How will USB desk lamps and fan modules react? (Experiment 38)
3. Replace the photosensitive module with a rotating module, twist the rotating module,How will USB desk lamps and fan modules react? (Experiment 39)

TIPS: Photosensitive module can be replaced with key module/rotary module

Why is that?

Photosensitive module can be replaced with key module/rotary module After receiving the light signal, the photoresistor generates the corresponding electrical signal.The light intensity is different,The photoresistor output electrical signal is different, and the fan speed changes with the light intensity For example, the fan speed is fast when the light is strong, and the fan speed is slow when the light is weak.

40-42 Light energy music small table fan



(Fan module Pre-installed with fan head accessories)

Connecting Circuit

1. Insert the three-lead wire into the negative terminal of the power module and the negative terminal of the horn module And light sensitive module
2. Use another wire to insert the other side of the photosensitive module to the negative terminal of the fan module
3. Insert the second three-headed wire into the positive terminal and horn module of the fan module Positive terminal to the positive terminal of the power module

OPERATION:

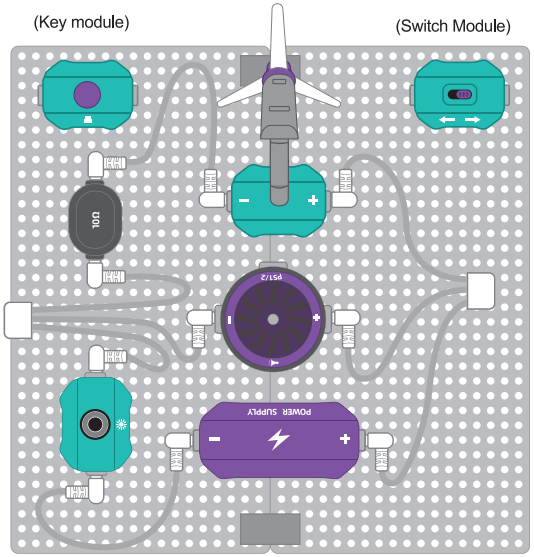
1. How will the light shine on the photosensitive module, horn and fan module react?
2. Replace the photosensitive module with a key module, press the key module,How does the horn module and fan module react? (Experiment 41)
3. Replace the photosensitive module with a rotating module, twist the rotating module,How does the horn module and fan module react? (Experiment 42)

TIPS: Photosensitive module can be replaced with a key module or switch module

Why is that?

When the photoresistor senses the change in light intensity to produce the corresponding electrical signal, the motor The shaft drives the fan blade to rotate at high speed.The speaker receives the current signal and makes a sound.

43-45 Musical windmill



(Fan module Pre-installed with fan head accessories)

Connecting Circuit

1. Insert the conductor into the negative electrode of the power module and the photosensitive module
2. Use another three-head wire to insert the other side of the photosensitive module, the horn module Negative to 10Ω resistance
3. Use the second wire to insert the other side of the 10Ω resistor into the negative terminal of the fan module
4. Use the second three-headed wire to insert the positive terminal of the fan module and the horn module Positive terminal to the positive terminal of the power module

OPERATION:

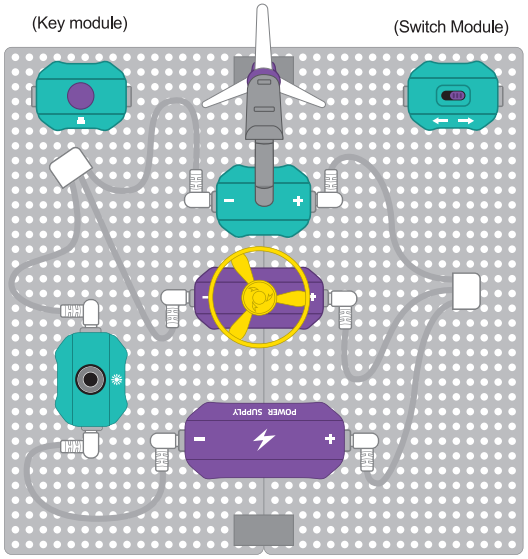
1. How will the light shine on the photosensitive module, horn module and fan module react?
2. Replace the photosensitive module with a key module, press the key module, How does the horn module and fan module react?(Experiment 44)
3. Replace the photosensitive module with a switch module and close the toggle switch. How does the horn module and fan module react?(Experiment 45)

TIPS: Photosensitive module can be replaced with a key module or switch module

Why is that?

When the photoresistor senses the change of light intensity, the resistance value changes, so that the current in the circuit changes.The motor drives the fan blade to rotate through the shaft, the light is strong, the photoresistor resistance is low, the circuit current is large, and the fan blade rotates at high speed.The horn is loud.The resistance value is high, the current is small, and the fan speed is slow or stops rotating.Low or high horn volume.

46-48 Light-controlled induction flying saucer



(Motor module preinstalled with flying saucer accessories)
(Fan module Pre-installed with fan head accessories)

Connecting Circuit

1. Insert the conductor into the negative electrode of the power module and the photosensitive module
2. Insert another three-head wire into the other side of the photosensitive module, the motor From the negative terminal of the module to the negative terminal of the fan module
3. Insert the second three-lead wire into the positive terminal of the fan module and the motor From the positive terminal of the module to the positive terminal of the power module

OPERATION:

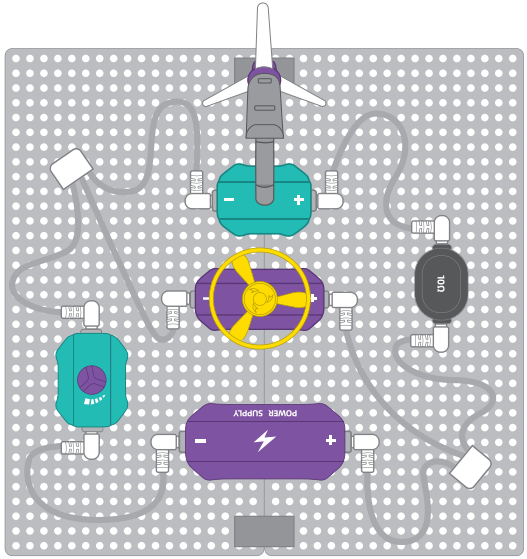
1. How will the light shine on the photosensitive module, motor module and fan module react?
2. Replace the photosensitive module with a key module, press the key module, How will motor modules and fan modules react?(Experiment 47)
3. Replace the photosensitive module with a switch module and close the toggle switch.How will motor modules and fan modules react?(Experiment 48)

TIPS: Photosensitive module can be replaced with a key module or switch module

Why is that?

When the photoresistor senses the change in light intensity and generates the corresponding electrical signal, the motor is driven by the shaftThe flying saucer spins at high speed.When the fan module receives a current signal, the fan module starts to rotate.

49 Speed round music



(Motor module preinstalled with flying saucer accessories)
(Fan module Pre-installed with fan head accessories)

Connecting Circuit

1. Insert the conductor into the negative terminal and rotating module of the power module
2. Insert another three-headed wire into the other side of the rotating module, the motor From the negative terminal of the module to the negative terminal of the fan module
3. Insert the second wire into the positive end of the fan module to the 10Ω resistor
4. Insert a second three-headed wire into the motor on the other side of the 10Ω resistor From the positive terminal of the module to the positive terminal of the power module

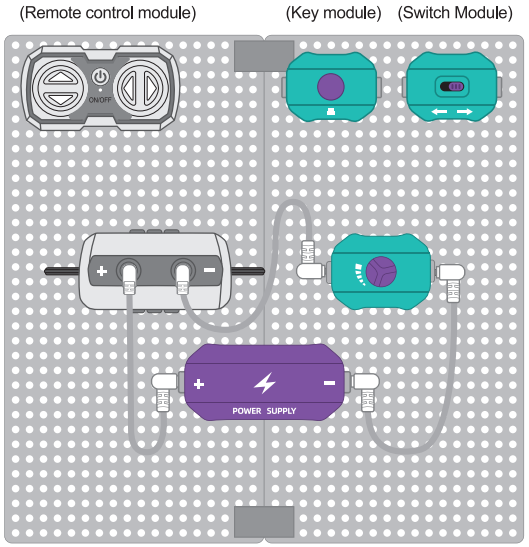
OPERATION:

How will the rotary module, fan module and motor module react?

Why is that?

The torsional rotation module controls the power state and voltage to achieve this. And then adjust the motor speed,Achieve the control of flying saucer speed.When the fan module receives a current signal, the fan module starts to rotate.

50-52 Top speed drive



Connecting Circuit

1. Insert the conductor into the positive terminal of the power module and drive the positive terminal of the motor module
2. Insert the second wire into the drive motor module negative to the rotating module
3. Insert the third wire into the other side of the rotating module Negative electrode of the power module

OPERATION:

1. Open the remote control switch, receive the drive motor signal, twist and rotate the module, and operate How does the remote control module, drive motor module react?
2. Replace the rotating module with a key module, press the key, and operate the remote control module.How does the drive motor module react? (Experiment 51)
2. Replace the rotating module with a switch module, close the switch, and operate the remote control module.How does the drive motor module react? (Experiment 52)

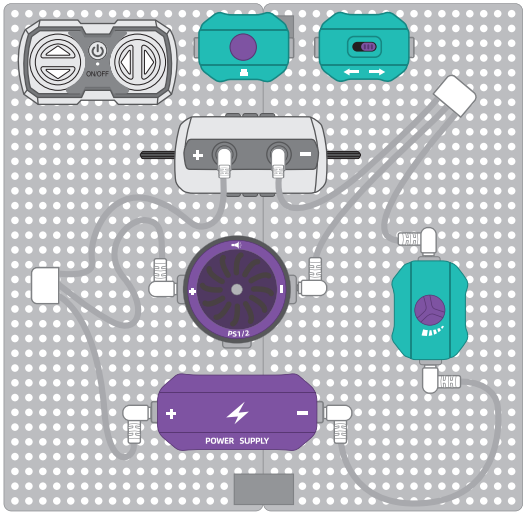
TIPS: Rotating module can be replaced with a key module/switch module

Why is that?

The remote control module and the drive motor module are 2.4G signal transmission, signal reception, and execution Command. For drive motor speed control, the control circuit is controlled by changing the motor winding The direction of the current to achieve. The rotating module controls the flow of current.

53-55 Music whirl

(Remote control module) (Key module) (Switch Module)



Connecting Circuit

1. Insert the three-lead wire into the positive terminal and horn module of the power module Positive electrode and drive motor module positive electrode
2. Insert a second three-headed wire into the negative terminal of the drive motor module.Horn module negative to rotary module
3. Take another wire and insert it on the other side of the rotating module to the power supply Module negative

OPERATION:

1. Open the remote control switch, receive the drive motor signal, twist and rotate the module, and operate How will the remote control module, drive motor module and horn module react?
2. Replace the rotating module with a key module, press the key, and operate the remote control module.How will the drive motor module and horn module react? (Experiment 54)
3. Replace the rotating module with a switch module, close the switch, and operate the remote control module.How will the drive motor module and horn module react?(Experiment 55)

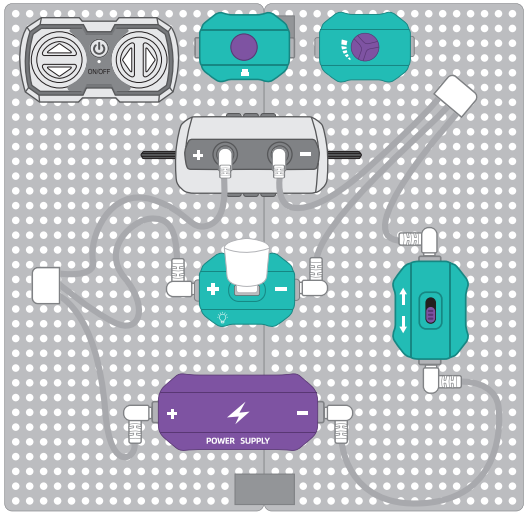
TIPS: Rotating module can be replaced with a key module/switch module

Why is that?

Open the remote control switch. The remote control module receives signals and executes commands.For drive motor speed control,The control circuit is implemented by changing the direction of the current in the motor winding. Torsion rotation module, current Through the size, the rotation rate of the cross shaft is controlled, and the horn module emits a sound.

56-58 Speed tracing

(Remote control module) (Key module) (Rotary module)



(USB module pre-installed table lamp accessories)

Connecting Circuit

1. Insert the three-head wire into the positive terminal of the power module and the USB table lamp Positive electrode and drive motor module positive electrode
2. Insert a second three-headed wire into the negative terminal of the drive motor module.USB table lamp negative to rotary module
3. Take another wire and insert it on the other side of the rotating module to the power supplyModule negative

OPERATION:

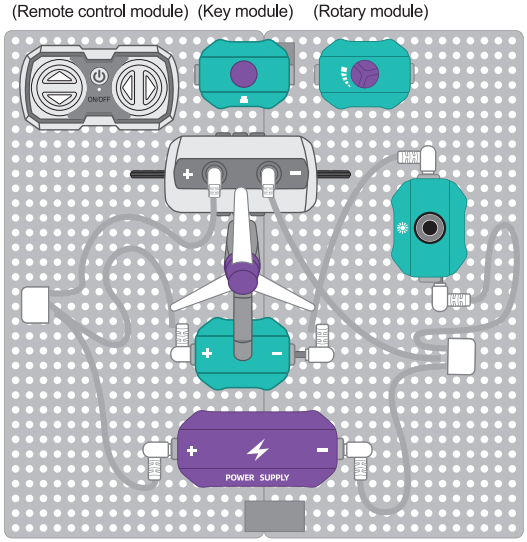
1. Close the switch, open the remote control switch, receive the drive motor signal, operate the remote control How do modules, drive motor modules and USB bench lights react?
2. Replace the switch module with a key module, press the key, and operate the remote control module.How does the drive motor module and USB bench light react?(Experiment 57)
3. Replace the switch module with a rotating module, and rotate the rotating module to operate the remote control How do modules, drive motor modules and USB bench lights react?(Experiment 58)

TIPS: Switch module can be replaced with a key module or a rotary module

Why is that?

Close the switch, turn on the remote control switch, the remote control module signal reception, execute the command.For drive motor Speed control, the control circuit by changing the direction of the current in the motor winding to achieve. The current goes through, Control the rotation rate of the cross shaft, and the USB station lights up.

59-61 Solar power station



Connecting Circuit (Fan module Pre-installed with fan head accessories)

1. Insert the three-headed cable into the positive pole of the power module and the fan module Positive terminal to positive terminal of drive motor module
2. Insert another wire into the photosensitive module to the negative terminal of the fan module
3. Insert the second three-headed wire into the other side of the photosensitive module to drive Motor module negative to power module negative

OPERATION:

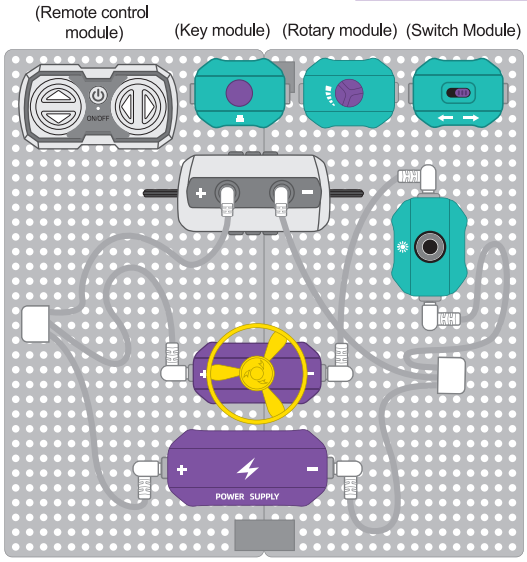
1. Open the remote control switch, receive the drive motor signal, the light illuminates the photosensitive module,What happens when you operate the remote control module, drive motor module and fan module?
2. Replace the photosensitive module with a key module, press the key, and operate the remote control module.How does the drive motor module and fan module react?(Experiment 60)
3. Replace the photosensitive module with a rotating module, rotate the rotating module, and operate the remote control How will modules, drive motor modules and fan modules react?(Experiment 61)

TIPS: Photosensitive module can be replaced with key module/rotary module

Why is that?

The photosensitive module controls the fan module separately, and the light illuminates the photosensitive module to control the motor Power state, voltage size to achieve, and then adjust the motor speed. Turn on the remote control, The drive module receives the current signal and starts to rotate.

62-65 Lightspeed UFO



(Motor module preinstalled with flying saucer accessories)

Connecting Circuit

1. Insert the three-headed wire into the positive terminal andmotor module of the power module Positive terminal to positive terminal of drive motor module
2. Insert another wire into the photosensitive module to the negative electrode of the motor module
3. Insert a second three-head wire into the other side of the photosensitive module.Drive motor module negative electrode to power module negative electrode

OPERATION:

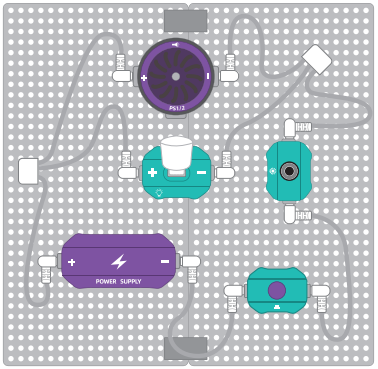
1. Open the remote control module, receive the drive motor signal, the light illuminates the photosensitive module, What happens when you operate the remote control module, drive the motor module and the motor module?
2. Replace the photosensitive module with a key module, press the key, and operate the remote control module.How will drive motor modules and motor modules react?(Experiment 63)
3. Replace the photosensitive module with a rotating module, rotate the rotating module, and operate the remote control module.How will drive motor modules and motor modules react?(Experiment 64)
4. Replace the photosensitive module with a switch module, close the switch, and operate the remote control module.How will drive motor modules and motor modules react?(Experiment 65)

TIPS: Photosensitive module can be replaced with key module/ rotary module/switch module

Why is that?

The photosensitive module controls the motor module separately, and the light illuminates the photosensitive moduleThe power state and voltage of the motor are realized, and then the motor speed is adjusted.The drive module receives the current signal and starts to rotate.

66 Light Of Night



(USB module pre-installed table lamp accessories)

Connecting Circuit

1. Insert the three-head wire into the positive terminal of the power supply and the positive terminal of the USB desk lamp And horn module positive
2. Insert a second three-headed wire into the negative terminal of the connecting horn module USB desk lamp negative, light sensitive module
3. Insert another wire into the other side of the photosensitive module to the key module
4. Insert the second wire into the other side of the key module to the power module Negative electrode

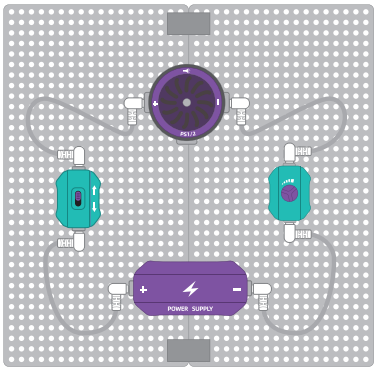
OPERATION:

Press the key, the light illuminates the photosensitive module, the horn module And USB station light will react?

Why is that?

The speaker and USB table lamp module are connected in parallel to the circuit.Press the key,The current forms a loop, and the light illuminates the two electrical appliances of the photosensitive module Working at the same time, making sound and light.

67 The Mystery Of Sound



Connecting Circuit

1. Insert the wire into the positive terminal and switch module of the power supply
2. Insert a second wire into the other side of the switch Horn module positive
3. Insert a third wire into the horn negative terminal to the rotating module
4. Insert the fourth wire into the other side of the rotating module to the power supply Module negative

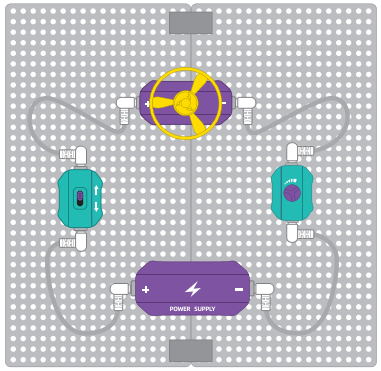
OPERATION:

Close switch, twist rotation module, horn module What's the reaction?

Why is that?

The rotating module changes the size of the resistance that flows through the horn module The current changes, and the horn module emits a sound of different loudness.

68 Speed-controlled Flying Saucer



(Motor module preinstalled with flying saucer accessories)

Connecting Circuit

1. Insert the conductor into the positive pole and switch module of the power module
2. Insert the second wire into the other side of the switch module to the motor module Positive electrode
3. Insert a third wire into the motor negative to the rotating module
4. Insert the fourth wire into the other side of the rotating module to the power module Negative electrode

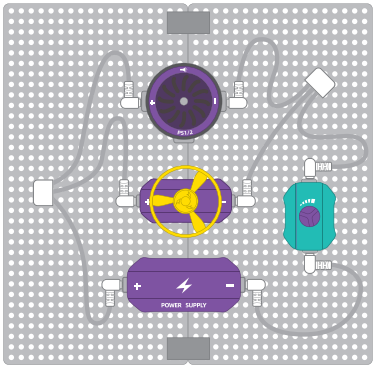
OPERATION:

Close the switch, twist the rotation module, how will the motor module react?

Why is that?

Twisting the knob changes the size of the resistance, the current flowing through the motor module changes,The speed of the motor module changes, and the speed of the flying saucer rotates changes.

69 Flying Alarm



(Motor module preinstalled with flying saucer accessories)

Connecting Circuit

1. Insert a three-lead wire into the positive terminal of the power module and the motor Module positive and horn module positive
2. Insert the second three-headed wire into the negative terminal of the horn module, motor module negative electrode and rotating module
3. Insert another wire into the other side of the rotating module to the power supply Module negative

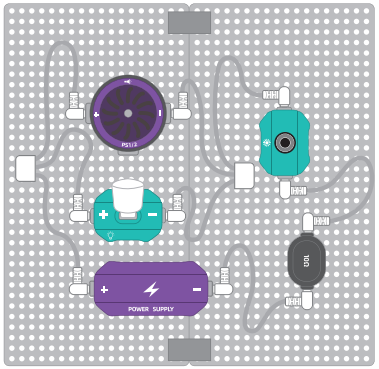
OPERATION:

Rotary module, horn module, motor module What's the reaction?

Why is that?

Twist and rotate the module, the resistance in the circuit becomes smaller, and the current flows Motor module and horn module, power module starts to work.

70 Alarm Detector



(USB module pre-installed table lamp accessories)

Connecting Circuit

1. Insert the three-lead cable into the positive terminal of the power module and the positive terminal of the USB table lamp And horn module positive
2. Use the second three-headed wire to insert the negative terminal and USB of the horn module Lamp negative and light sensitive module
3. Insert another wire into the other side of the photosensitive module to the 10Ω resistor
4. Insert a second wire into the other side of the 10Ω resistor to the power supply Module negative

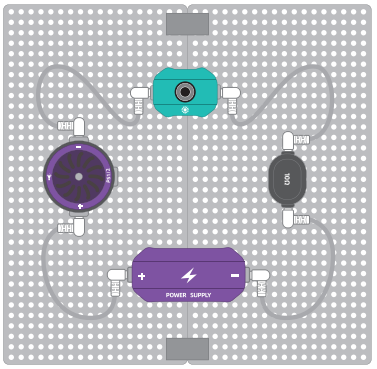
OPERATION:

Use lights to illuminate light sensitive modules,USB desk lamps and horn modules What's the reaction?

Why is that?

The light hits the photosensitive module, the photosensitive module's ability to block the current is reduced,Current flows through the horn module and USB table lamp to produce light and sound.

71 The Cock Crows



Connecting Circuit

1. Insert the conductor into the positive terminal of the power module and the positive terminal of the horn module
2. Insert a second wire into the horn module negative to the photosensitive module
3. Insert the third wire into the other side of the photosensitive module to the 10Ω resistor
4. Insert a fourth wire into the other side of the 10Ω resistor Negative electrode of the power module

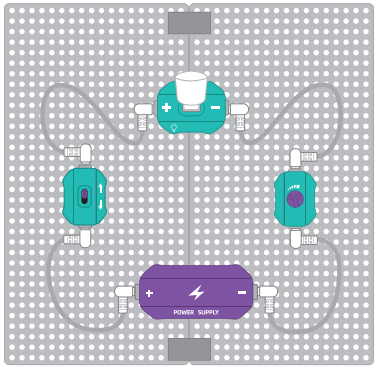
OPERATION:

Use light to illuminate light sensitive module, horn module What's the reaction?

Why is that?

The light hits the photosensitive module, and the photosensitive module blocks the current The capacity is reduced, and the current flows through the horn module to make a sound.

72 Dim the lights



(USB module pre-installed table lamp accessories)

Connecting Circuit

1. Insert the conductor into the positive pole and switch module of the power module
2. Use the second wire to insert the switch module to the positive end of the USB table lamp
3. Insert the third wire into the negative end of the USB table lamp to the rotation module
4. Insert the fourth wire into the other side of the rotating module to the power supply Module negative

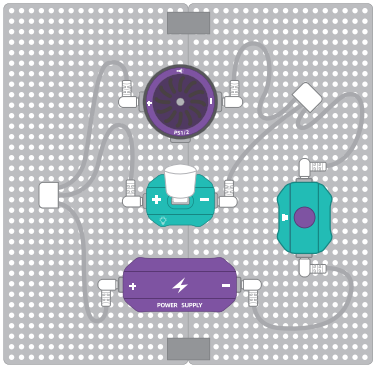
OPERATION:

Close switch, twist rotation module,USB desk lamp What's the reaction?

Why is that?

The current through the USB desk lamp changes with the twist rotation module,The current through the USB desk lamp increases, the USB desk lamp is brighter, and the reverse is darker.

73 Quick responder



(USB module pre-installed table lamp accessories)

Connecting Circuit

1. Insert the three-lead cable into the positive terminal of the power module and the positive terminal of the USB table lamp And horn module positive
2. Insert the second three-headed wire into the negative terminal of the horn module,USB table lamp negative electrode and key module
3. Insert another wire into the other side of the key module to the power supply Module negative

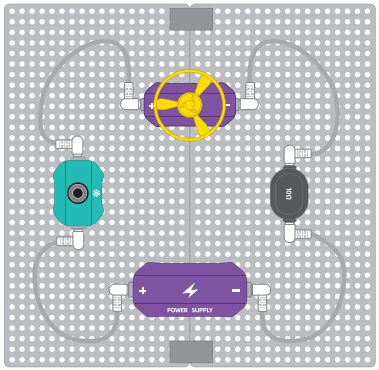
OPERATION:

What happens to the horn module and USB station light when the key is pressed?

Why is that?

Speaker and USB desk lamp in parallel on the circuit, press the key, current A loop is formed, and two electrical appliances work simultaneously, producing sound and light.

74 A small light-controlled windmill



(Motor module preinstalled with flying saucer accessories)

Connecting Circuit

1. Connect the positive electrode of the power module to the photosensitive module
2. Insert the second wire into the other side of the photosensitive module to the motor Module positive
3. Insert the third wire into the negative end of the motor module to the 10Ω resistor
4. Use the fourth wire to plug the other side of the 10Ω resistor into the power supply Module negative

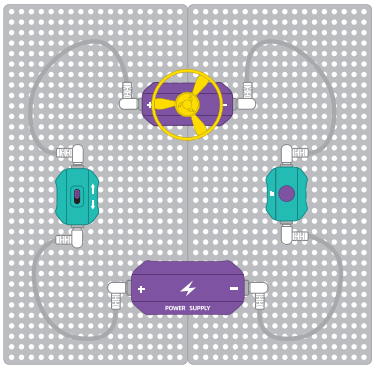
OPERATION:

Shine the light on the photosensitive module to see how the motor module reacts.

Why is that?

The light hits the photosensitive module, and the photosensitive module blocks the current Capacity decreases, current flows through the resistance, and the motor begins to rotate.

75 Flying saucer



(Motor module preinstalled with flying saucer accessories)

Connecting Circuit

1. Insert the conductor into the positive pole and switch module of the power module
2. Insert the switch module into the motor module with a second wire Positive electrode
3. Insert a third wire into the negative electrode of the motor module to the key module
4. Insert the fourth wire into the other side of the key module to the power supply Module negative

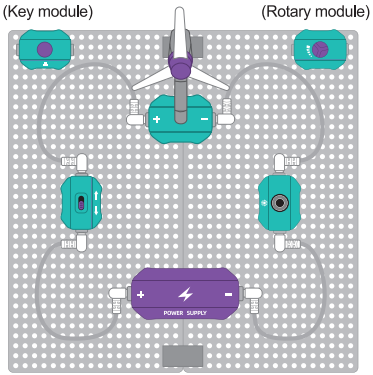
OPERATION:

Close the switch, press the key module, and look at the motor module What's the reaction?

Why is that?

Close the switch, current through the connecting wire to the motor module, press Key when forming a complete closed circuit. The faster the motor spins, As the flying saucer rotates, it gains the upward lift that causes the flying saucer to fly.

76-78 Solar energy windmill



Connecting Circuit (Fan module Pre-installed with fan head accessories)

1. Insert the conductor into the positive pole and switch module of the power module
2. Use the second wire to insert the switch module into the positive terminal of the fan module
3. Insert the third wire into the fan module negative terminal to the photosensitive module
4. Then insert the fourth wire into the other side of the photosensitive module to the negative terminal of the power module

OPERATION:

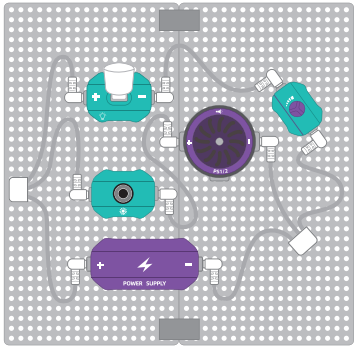
1. Close the switch and the light shines on the photosensitive module. What is the reaction of the fan module?
2. Replace the switch module with a key module. Shine light on the photosensitive module and press the key Module, How does the fan module react?(Experiment 77)
3. The switch module is replaced with a rotating module, the light illuminates the photosensitive module, and the rotation is reversed Module How does the fan module react?(Experiment 78)

TIPS: Switch module can be replaced with a key module or a rotary module

Why is that?

Close the switch and the current flows.The light hits the photosensitive module, The ability of photosensitive modules to block current is reduced, The current flows through the fan module and the fan starts to work.

79 Light control sound engineer



Connecting Circuit (USB module pre-installed table lamp accessories)

1. Insert the three-lead cable into the positive electrode and photosensitive module of the power module And USB desk lamp positive electrode
2. Use another wire to plug the negative end of the USB desk lamp into Rotating module
3. Insert the second wire into the horn module negative to the photosensitive module
4. Insert a second three-lead wire into the other side of the rotating module Horn module negative and power module negative

OPERATION:

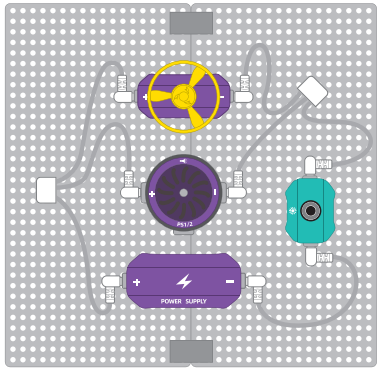
1. What will be the reaction of the USB lamp when the rotation module is rotated? (Rotating module controls USB desk lamp separately)
2. How will the horn module react when the light illuminates the photosensitive module? (The photosensitive module operates the horn module separately)

TIPS: Switch module can be replaced with a key module or a rotary module

Why is that?

Rotation module and USB desk lamp set, photosensitive module and horn module One group, each in parallel in a circuit, rotates the module Can control the lamp brightness, light sensitive module control horn sound.

80 Light energy music UFO



(Motor module preinstalled with flying saucer accessories)

Connecting Circuit

1. Insert the three-lead wire into the positive terminal and horn module of the power module Positive electrode and motor module positive electrode
2. Insert a second three-headed wire into the negative end of the motor module, horn module negative and photosensitive module
3. Insert another wire into the other side of the photosensitive module to the power supply Module negative

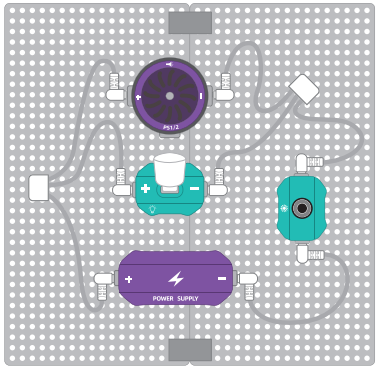
OPERATION:

Light irradiation photosensitive module, horn module,
How will the motor module react?

Why is that?

When the light hits the photosensitive module, the photosensitive module receives it The current to the signal flows through the motor module and horn module. The flying saucer spun and the horn sounded.

81 Light can control sound



(USB module pre-installed table lamp accessories)

Connecting Circuit

1. Insert the three-head wire into the positive terminal of the power module and the USB table lamp Positive and horn module positive
2. Insert the second three-headed wire into the negative terminal of the horn module USB desk lamp negative electrode and photosensitive module
3. Insert another wire into the other side of the photosensitive module to the power supply Module negative

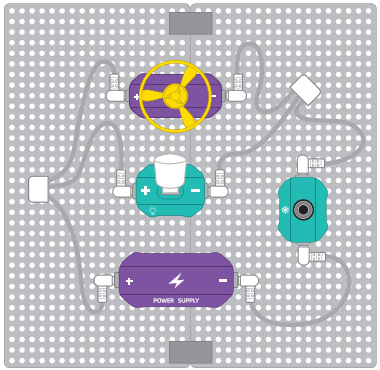
OPERATION:

Light irradiation light sensitive module, horn module, USB desk lamp
What's the reaction?

Why is that?

When the light hits the photosensitive module, the photosensitive module receives the signal Current flows through the horn module and USB desk lamp.
The horn made a sound, The USB station light is on.

82 Small light energy windmill



(Motor module preinstalled with flying saucer accessories)

(USB module pre-installed table lamp accessories)

Connecting Circuit

1. Insert the three-head wire into the positive terminal of the power module and the USB table lamp Positive electrode and motor module positive electrode
2. Insert a second three-headed wire into the negative end of the motor module USB desk lamp negative electrode and vibration module
3. Insert another wire into the other side of the vibration module to the power supply Module negative

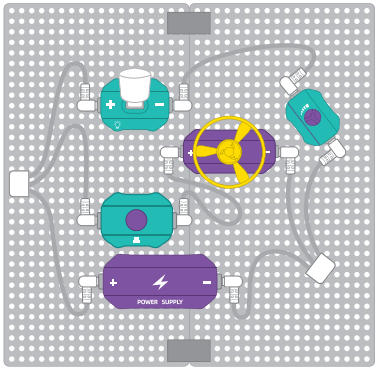
OPERATION:

Light irradiation photosensitive module, motor module, USB desk lamp What's the reaction?

Why is that?

When the light shines on the photosensitive module, the photosensitive module receives the signal current Flow through motor module and USB desk lamp.The UFO turns and the USB light lights up.

83 Dimming saucer



Connecting Circuit

(Motor module preinstalled with flying saucer accessories)

(USB module pre-installed table lamp accessories)

1. Insert a three-lead wire into the positive terminal of the power module, the key module and USB desk lamp positive
2. Insert another wire into the key module to the positive end of the motor module
3. Take the second wire and insert it into the negative end of the USB table lamp to the rotating module
4. Then insert the second three-headed wire into the other side of the rotating module,Motor module negative and power module negative

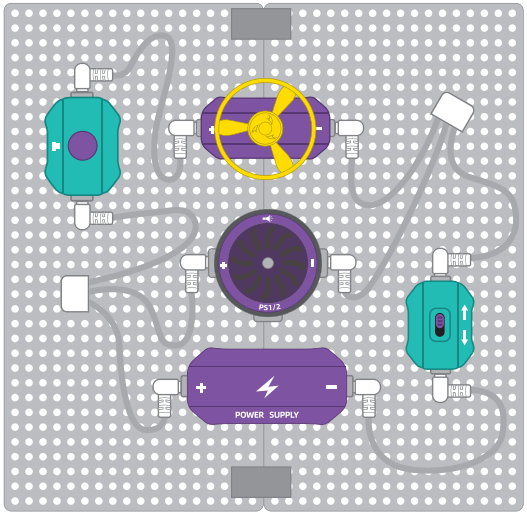
OPERATION:

1. What will be the reaction of the USB lamp when the rotation module is rotated?
   (Rotating module controls USB desk lamp separately)
2. Press the key module, what will the motor module react?
   (The key switch controls the UFO separately)

Why is that?

Slowly twist and rotate the module, the current flowing through the desk lamp changes, USB desk lamp The brightness output is also changed, pressing the key module, and the current flows through the output of the saucer Adjust the size through the power supply, power module work.

84 Musical Windmill



(Motor module preinstalled with flying saucer accessories)

Connecting Circuit

1. Insert the three-lead wire into the positive terminal and horn module of the power module Positive electrode and key module
2. Insert the other first wire into the key module to the positive terminal of the motor module
3. Use a second three-headed wire to insert the motor module negative terminal and horn Module negative electrode and switch module
4. Take the second wire and insert it on the other side of the switch module to the power supply Module negative

OPERATION:

Close the switch. How does the horn module react?
Press key module, motor How will the module react?

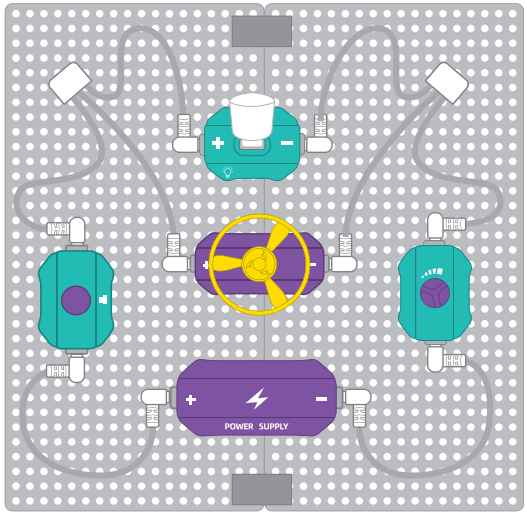
Why is that?

Switch and key each control motor module, horn module, only open the switch, horn module sound.then press the key module the saucer works through the current.

85-86 Ultimate Instruction



(Switch Module)





(Motor module preinstalled with flying saucer accessories)

(USB module pre-installed table lamp accessories)

Connecting Circuit

1. Insert a wire from the positive terminal of the power module to the key module
2. Take a three-head wire and insert it into the positive pole of the key module and the motor module And USB desk lamp positive electrode
3. Take the second three-head wire and insert it into the negative electrode of the USB lamp and the motor Module negative and rotating module
4. Take the second wire and insert it on the other side of the rotating module to the power module Negative electrode

OPERATION:

1. Press the key, twist the rotating module, what will happen to the USB lamp and motor module?
2. Replace the key module into a switch module, close the switch, twist and rotate the module,What happens to USB lamps and flying saucers? (Experiment 86)

TIPS: Key module can be replaced with a switch module

Why is that?

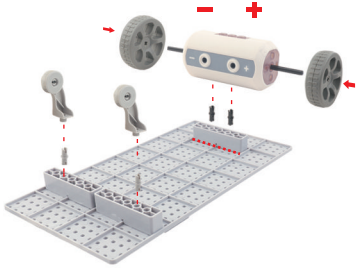
The USB table lamp and the motor module are simultaneously connected in a circuit of the rotating module. It is necessary to rotate the rotating module to adjust the voltage, press the key or close the switch to form a circuit, and both work at the same time.

Three-dimensional combination gameplay

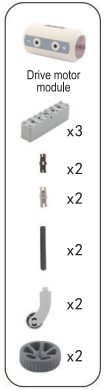


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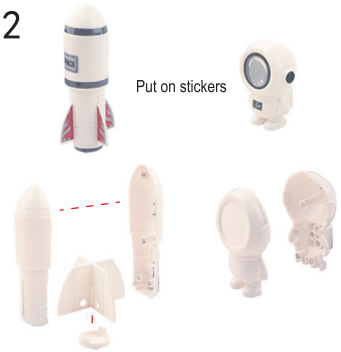
Note the positive and negative directions



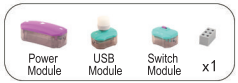
Note the hole spacing and coordinates

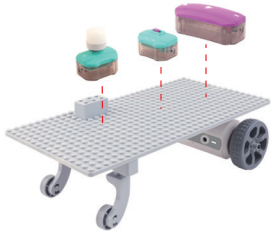


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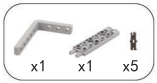
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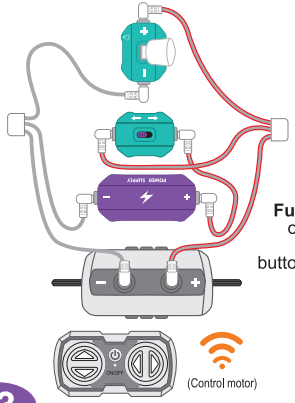


Note the hole spacing and coordinates

4



Note the hole spacing and coordinates

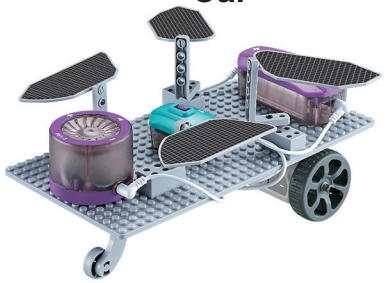


Planar wiring diagram

Make sure that the cable is inserted into the specified port to avoid dysfunction

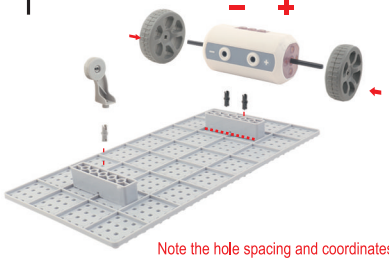
Function description: Open the switch module, USB light on, At the same time, open the remote control module, receive the signal of the drive module,Remote control button can control forward and backward walking left and right.

88 Mars exploration Car

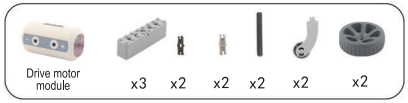


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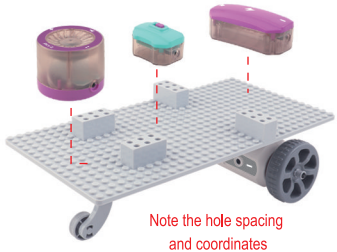
Note the positive and negative directions



Note the hole spacing and coordinates



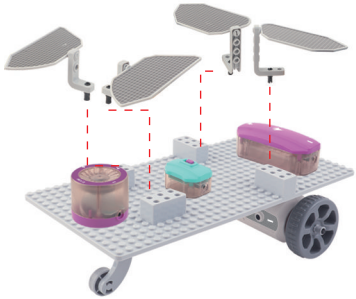
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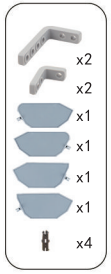


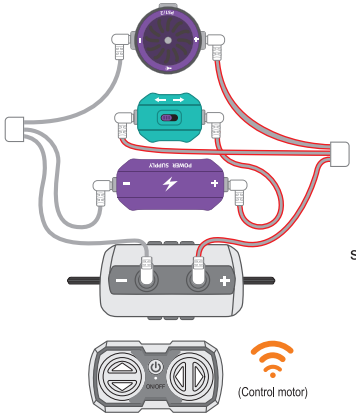
Note the hole spacing and coordinates



3







Planar wiring diagram

Make sure that the cable is inserted into the specified port to avoid dysfunction

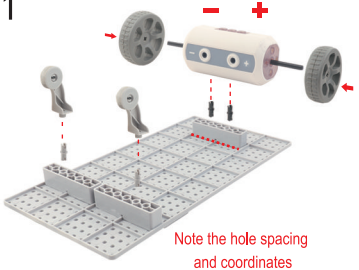
Function description: Open the switch module, the speaker starts to sound,At the same time, open the remote control module, receive the signal of the drive module,Remote control button can control forward and backward walking left and right.

89 Wind power station

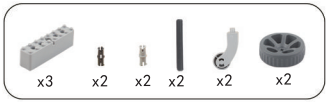


1

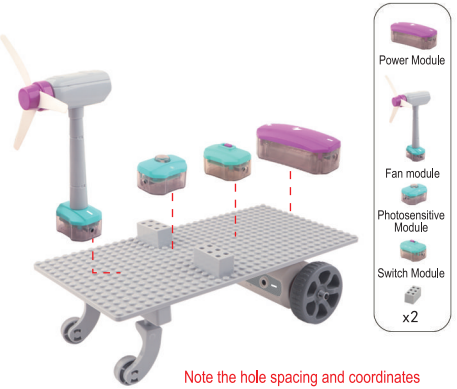
Note the positive and negative directions



Note the hole spacing and coordinates

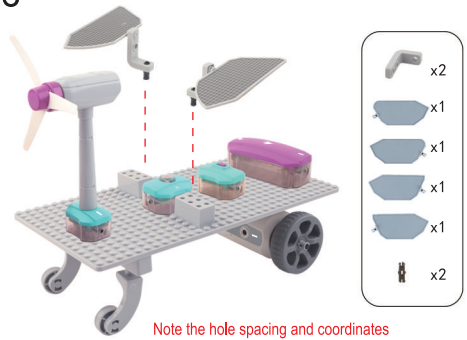


2

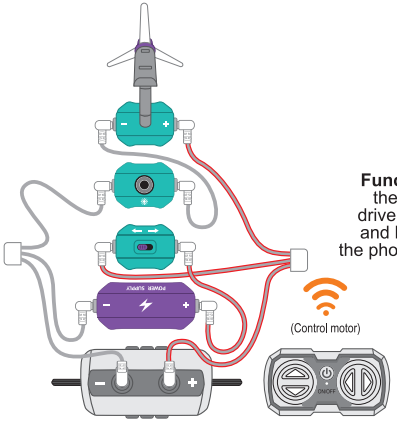


Note the hole spacing and coordinates

3



Note the hole spacing and coordinates



Planar wiring diagram

Make sure that the cable is inserted into the specified port to avoid dysfunction

Function description: Open the switch module, but also open the remote control module switch, receive The signal of the drive module, the remote control button can control the forward and backward left and right When walking, the light illuminates the photosensitive module, and the fan module increases the speed.



A space pilot



Wind power station



Mars exploration Car



Understanding
Photosensitive Switches



Understanding
the horn module



Understanding Resistor