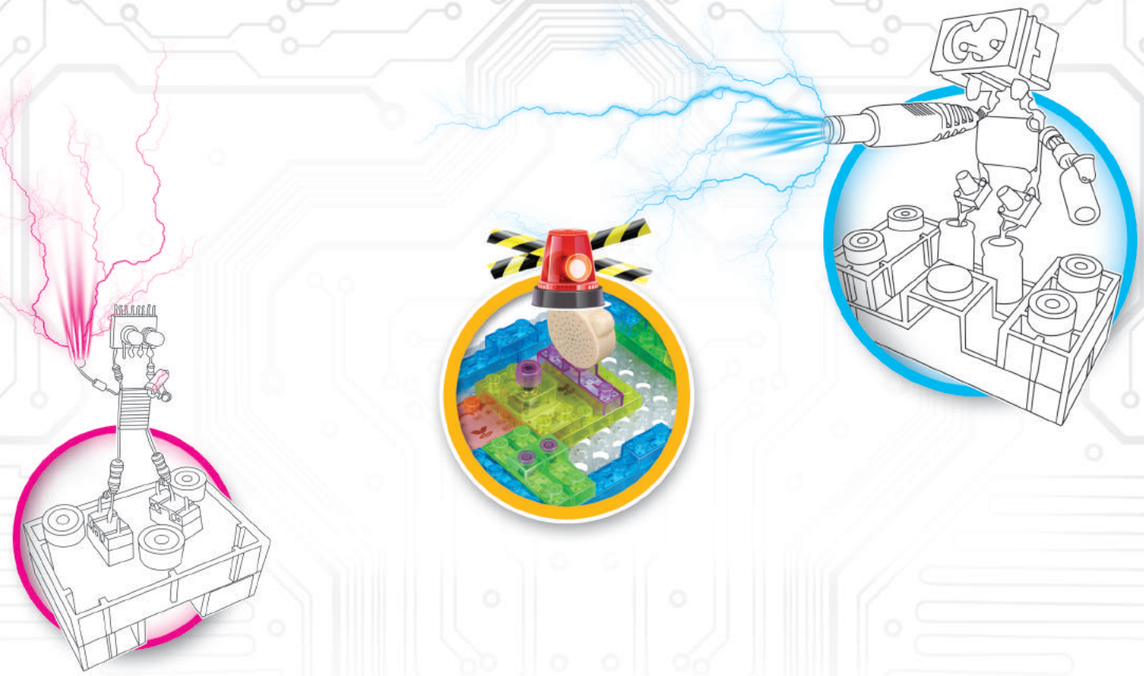
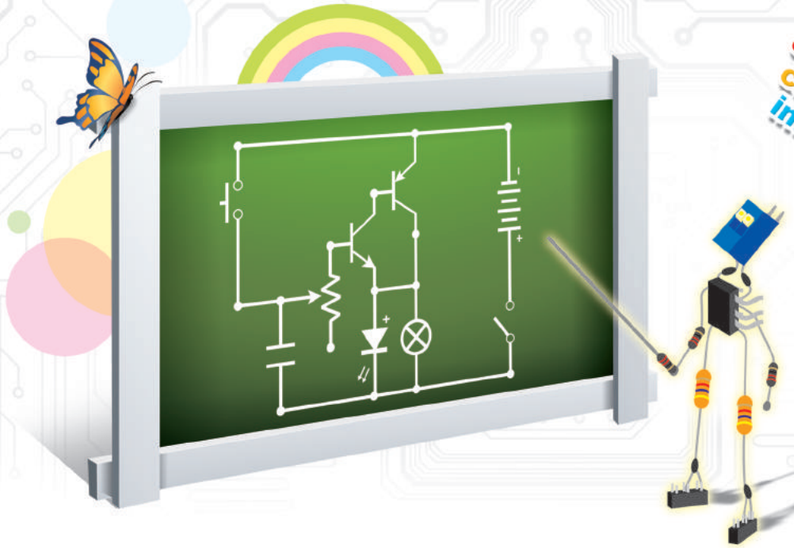


Included with colorful building instruction that is conveyed with important information, please keep it.

DIMPLE

ELECTRONIC BLOCKS

8+



Stimulate kids' creativity and imagination!

BUILDING INSTRUCTION

120 Projects

PART NUMBE: 45 PCS

FOREWORDS

Integrated Circuit Building Blocks are provided for kids at ages 8+.
The instruction brochure is specially designed for catering all electronic series of products, conveying with both pictures and indications. Based on the principles of circuit diagram, the building blocks are stretched to human control, magnetic control, light control, water control, voice control and touching. In the process of building the circuits, you will experience for so much amazing from the sounds, light or whatever, which will surprise you with the strong senses of achievements.
Integrated Circuit Building Blocks, covers with variety of projects in step by step, aims at being suitable for all ages of kids, it integrates learning with entertainments and principals of electricity, which all these will better lead children into the wonderland of electricity.

Only one assembling example are offered in the following instruction, because they are the expression of the principals. Also we are looking forward to see your creativity and imagination that can be expressed in projects. Surprise us!

INSTRUCTION

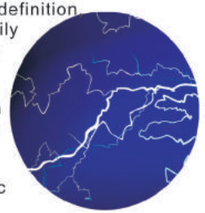
1. ***Integrated Circuit Building Blocks***, consisted with several plate of electronic components and wires in different lengths, which all plate are printed with numbers, eg. when you see 76 is printed in the block, it means lamp should be set here.
2. All plate can be assembled in different structures.
3. More details, please see in the following instructions.

About Electricity

1.What is Electricity?

Q: We all know that so many things are connected to electricity, such as lamp, TV, air conditioner, can you tell me what is electricity?

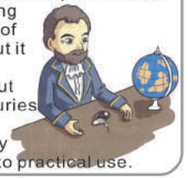
A: Electricity is just an abstract definition it exists in everywhere in our daily life. Actually, it can be defined as one kind of energy that referred as the movement of sub-atomic particles (with their electrical charges) through a material due to an electrical charge outside the material. There are some obvious phenomena happens in our daily life, such as lightening and static electricity, and magnetism.



2.Who Discovered Electricity?

Q: Who Discovered Electricity?

A: I am going to tell you a story about it that can be traced back to at least 600 BCE. When, in ancient Greece, it was found that rubbing fur on amber caused an attraction between the two. This discovery is credited to the philosopher Thales of Miletus. One day, when he was polishing his amber at home, he found that a piece of fur was attracted by the amber after he put it on the desk, than he split them, but it happened again. So he made record about the phenomenon. It was to be many centuries before anyone was able to connect this phenomenon with lightning, and a century more before electrical currents were put to practical use.



3.How to Categorize Electricity?

Q: Are we using the same electricity to motivate the air conditioner and the remote controller?

A: Good question! Actually they are totally different. What we use in the air conditioner is called alternative current, because the flow of electric charge periodically reverses direction. All the home appliances are in alternative current; whereas, we use direct current in the remote controller, in which the flow of electric charge is only in one direction. Batteries operated are belong to direct current.

4.Wireless

Q: Daddy tells me that the weather report is transferred by the satellite, but it is impossible for us to settle down the wire in the space, how do we deliver the messages?

A: Wireless communication is the transfer of information between two or more points that are not connected by an electrical conductor. So scientists upload the information by the wireless waves ,so it can transfer to wherever they want.

About Electricity

5.What did human do in electricity research ?

Q: What did human do in electricity research after Miletus' discovery?

A: Dated back to the 17th century, Benjamin Franklin, a famous American scientist, proved that lightning was caused by electricity by describing an experiment in which an electrical conductor would be used to extract power from a thundercloud. In the experiment, he flew a kite with a metal key attached to it into a suitable cloud. The precise historical details are unclear, but he may have then retrieved the key and discharged electricity from it. By using the principles, he successfully invented for lightening rod.In 1799, the Italian scientists Alessandro Volta went on to create a "voltaic pile" consisting of alternate layers of copper and zinc separated by paper soaked in salt water. This generated a larger current and is credited as the first battery. In 1821,the English scientists Michael Faraday discovered the first electric motor in the world, even though it was very simple, nowadays, all the other motors that we use today aregenerated from that one. Ten years later, Faraday contributed to the world with his second crucial invention, dynamo.In 1866, the first industrial dynamo was invented by a German called Siemens.

6.Unit of Electricity

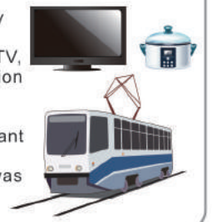
Q: All physical quantities have unit, how about electricity?

A: Ampere (amp) is the unit of electricity, which its name is in honored for the famous French physician and the contribution that he made.

7.Application of Electricity

Q: All the home appliances are out of work when blackout happens. It is very inconvenient without electricity in life.

A: Absolutely! We need electricity more and more, because it can either use for cooking, watching TV, or transportation. All the application contribute to the world with more convenience and efficiency. With exaggeration, it is equally important to Oxygen for human being.
If there was no electricity, there was no progress in the world.



8.What is Triboelectrification?

Q: I found it very interesting that the plastic ruler cannot attract for any bits of paper ,but when it was rubbed among the hair for several time, it does.

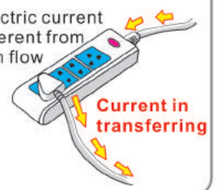
A: Yes, that's it! This is the phenomenon of Triboelectrification. Rubbing glass with fur, or a comb through the hair, can build up triboelectricity. Most everyday static electricity is triboelectric. The polarity and strength of the charges produced differ according to the materials, surface roughness, temperature, strain, and other properties.

About Electricity

9.What is Current?

Q: What is current? Is that like water flow? Can it flow too?

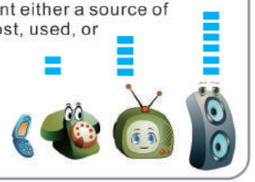
A: Yeah, good question too. Electric current can flow too. But It is totally different from water flow. Electric current is an flow of electric charge.



10.What is voltage?

Q: "1.5V",We always can see such kind of signal. What is Voltage?

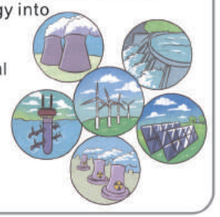
A: Voltage is equal to the work done per unit of charge against a static electric field to move the charge between two points. A voltage may represent either a source of energy (electromotive force), or lost, used, or stored energy (potential drop).
Common voltage supply for the flashing light batteries.



11.Electricity generation

Q: How to make electricity for daily using?

A: There are seven fundamental methods of directly transforming other forms of energy into electrical energy: coal-fired power generation, Hydropower Generating, nuclear energy power generation, tidal electric power generation and Solar thermal energy. Certainly there are more methods for electricity generation to be found, since the scientists are always on the way of research.



12.Batteries Recycling

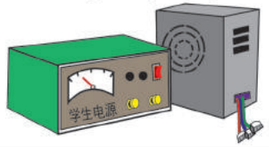
Q: How to recycle for used batteries?

A: Battery recycling aims to reduce the number of batteries being disposed as municipal solid waste. Batteries contain a number of heavy metals and toxic chemicals and their dumping has raised concerns over soil contamination and water pollution.Most types of batteries can be recycled. However, some batteries are recycled more readily than others, such as lead-acid automotive batteries (nearly 90% are recycled) and button cells (because of the value and toxicity of their chemicals). Other types, such as alkaline and rechargeable, e.g., nickel–cadmium (Ni-Cd), nickel metal hydride (Ni-MH), lithium-ion (Li-ion) and nickel–zinc (Ni-Zn), can also be recycled.So dear kids, please do something for Batteries Recycling in our daily life from now on.

About Electricity

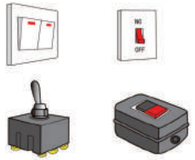
13.Power Supply

A power supply is an electronic device that supplies electric energy to an electrical load. The primary function of a power supply is to convert one form of electrical energy to another. It can be defined into DC(=direct current) and AC(alternating current) power supply. The common use of DC power supply are batteries, in which chemical energy is reversed into electricity. Circuits in every family belongs to AD power supply.



14.Switch

Switch is a device that control all the other component in the circuit, it used for power connection and disconnection. A switch should be connected in series with the other functional component, otherwise, it would cause short circuit.

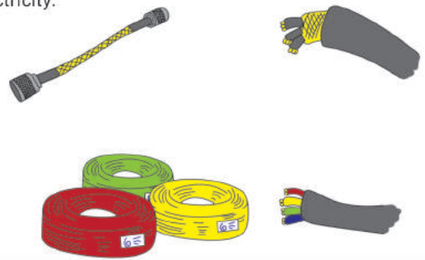


15.Home Appliances

Home appliances are electrical/mechanical machines which accomplish some home functions by reversing some other energy, such as cooking or cleaning.

16.Wire

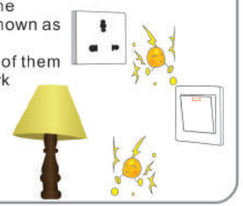
Wire is mainly used for connect the circuit and transfer the electricity.



About Electricity

17.Circuit

Like flowing water, current is flowing in the circuit too. Electric circuit, that is to accomplishing the current transferring by connect the power supply, switch and other functional component with wires. It can be mainly defined by series and paralleled circuit. A circuit composed solely of components connected in series is known as a series circuit; likewise, one connected completely in parallel is known as a parallel circuit.When two lamp are connected in the series circuit, if one of them is burnt out, the other one cannot work too. However, it won't happen in the parallel circuit. All home circuit are belonged to paralleled circuit for avoiding interferences.



18.Conductor

A conductor is an object or type of material that allows the flow of electrical current in one or more directions. The conductibility vary on different material. For example, metal, pencil core, acid or alkali salt. Human are conductor too. So, please pay more attention on electricity safety.

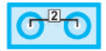
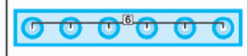
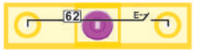
19.Insulator

A substance that resists electricity is called insulator, such as glass, rubber, ceramics, plastic ruler and etc. The plastic cover outside the wires, wire nippers, screwdriver, these are our common application of insulator.

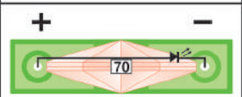
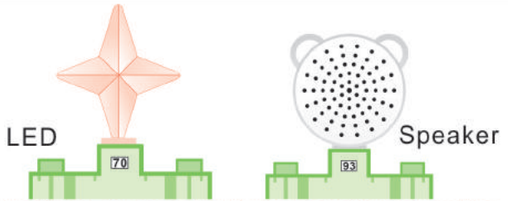
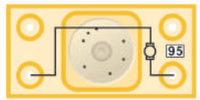
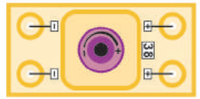
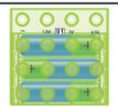
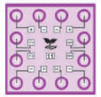
20.Semiconductor

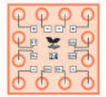
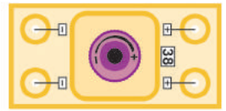
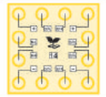
A semiconductor material has an electrical conductivity value falling between that of a conductor, such as diode and triode. The conductivity of semiconductor material can be easily affected by the increasing temperature and flashing lights.

Component Lists

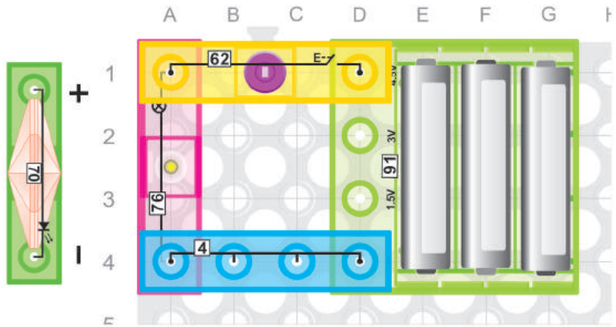
Numbers	Components	Amount	Diagram
1	Wire 1	3	
2	Wire 2	8	
3	Wire 3	3	
4	Wire 4	3	
5	Wire 5	1	
6	Wire 6	1	
61	Press Switch	2	
62	Switch	1	

Numbers	Components	Amount	Diagram
80	Touching Plate	1	
83	Reed Switch	1	
76	Lamp	1	
9	Spring Wire	1	
7	Magnet	1	
59	Motor Shaft Cap	1	
64	Motor Shaft	1	
100	Elevation	4	

Numbers	Components	Amount	Diagram	Note
70	LED	1		 Note: Please pay more attention to the module code and the direction of the symbols, make sure that you can recognize the anode and the negative.
93	Speaker	1		
95	Motor	1		
38	Volume	1		
91	Battery box	1		**Note** **Battery Requirements:** 1.Power type: DC 2.Rated voltage: 4.5V 3.Battery: 3X1.5V“AA”
11	Three-in-One	1		 Motor and Motor Shaft, Fan Blade, Motor Shaft Cap Note: When you are connecting the motor in the circuit, it should be necessary to connect with the two points that are in wires.

Numbers	Components	Amount	Diagram	Note
24	FM Radio	1		  Adjust the volume by rotating the button.
14	Integration of amplifier	1		
10	Antennae	1		 Antenna Antenna Base Antenna Pole Connect the antenna pole with the base.
60	Fan Blade	1		
39	Base Plate	1		

Kindly Note: Colors of the accessories may be variety! If they haven't been marked or listed, please check the numbers of the accessories when you are assembling.

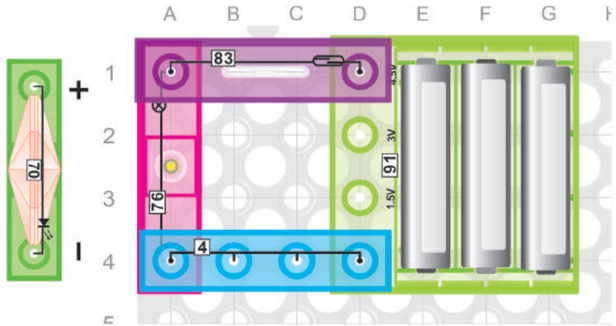


1.Lamp Switch

Press the switch [62],the lamp will be on. Press it again, the lamp will be off.

2.LED Switch

Replace the lamp [76] with the LED [70], keep its anode upward.Press the switch [62] , the LED [70] will be on. Press it again, the LED will be off.

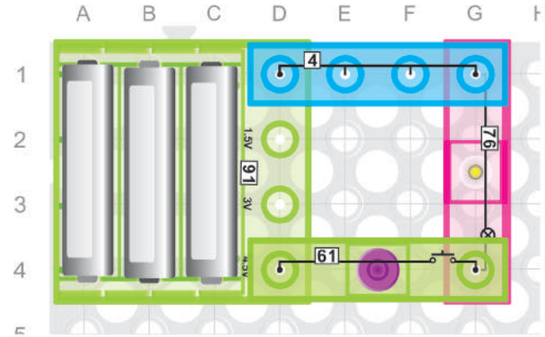


3.Magnetic Lamp

Put the magnet [7] near by the reed switch [83] , the lamp will be on.Move away the magnet [7] , the lamp will be off.

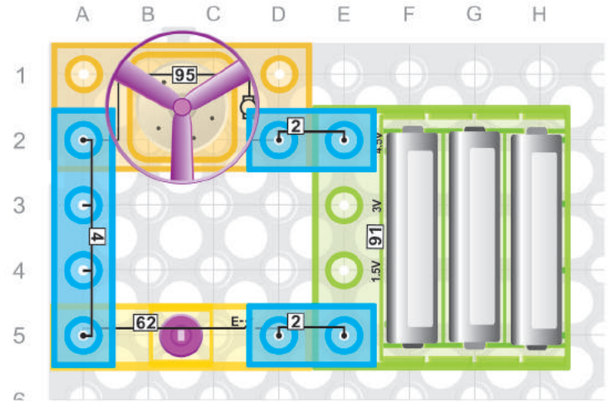
4.Magnetic Control LED

Replace the lamp [76] with the LED [70] , keep its anode right. Put the magnet [7] near by the reed switch [83] , the LED will be on. Move away the magnet [7] , the lamp will be off.



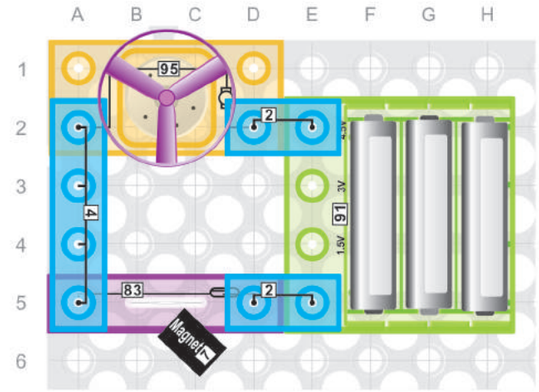
5.Switch Control Lamp

Press the press switch [61] , the lamp will be on. Release the button, the lamp will be off. Replace the lamp [76] with the LED [70] , keep the anode upwards, keep pressing tightly on the press switch [61] , LED [70] will be light up. Release it, LED [70] will be off.



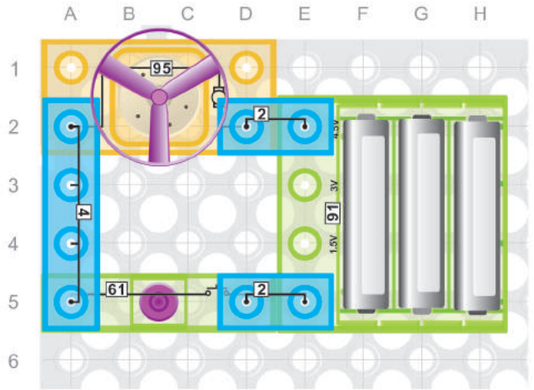
6.Fan

Put on the fan blade [60] , then press the switch [62] , the fan will start working.



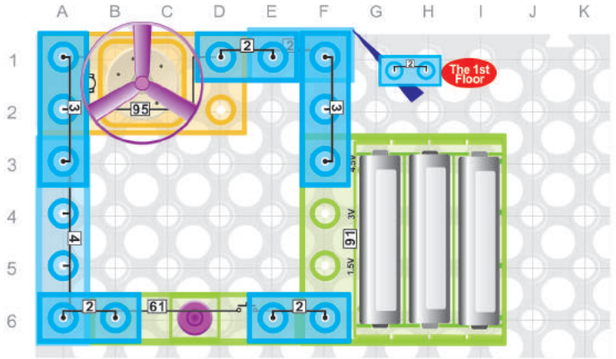
7.Magnetic Control Fan

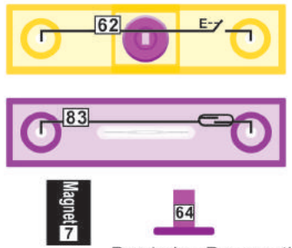
Put on the fan blade 60, move the magnet 7 near by the reed switch 83, the fan will be on. Remove the magnet 7, the fan will be off.



8.Switch Control Fan

Put on the fan blade 60, press the press switch 61, then the fan will start working. Release the press switch 61, the fan will stop.





Reminder: Remove the shaft cap before putting on the flying saucers.

9.Switch Control Flying Saucers

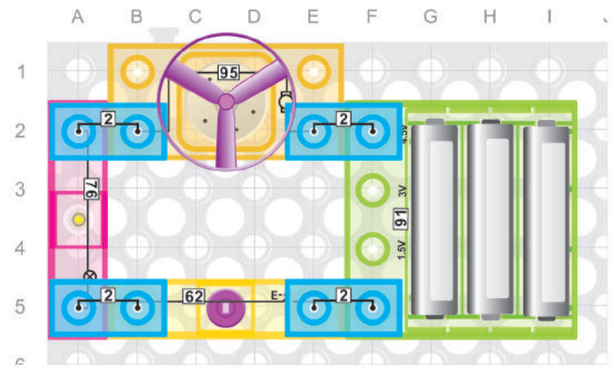
Firstly, put on the fan blade 60 , you will find that the air of the fan are flowing downwards, that's due to the running in reversion of motor 95 . Now, put down the cap 64 that is on the fan blade 60 .
Build the circuit, then tightly press the press switch 61 till the motor 95 run fast, now release it 61 , you will see the flying saucers are taking off.(Caution! Never let it fly towards faces!)

10.Switch Control Flying Saucers

Replace the press switch 61 with the switch 62, put on the fan blade, then press the switch 62. Wait for a little while till the motor 95 run fast. Press it 62 again, the flying saucers will fly.

11.Magnetic Control Flying Saucers

Replace the press switch 61 with the reed switch 83 , move the magnet 7 towards it 83 . Wait for a little while till the motor 95 run fast, remove the magnet 7 , then the flying saucers will fly.

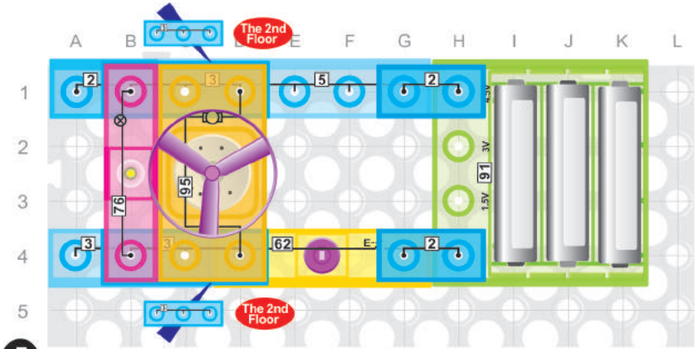


12.Lamp and Motor in Series Connection

Firstly put on the fan blade, close up, then press the switch 62 ,the fan will start working, now you can see the lamp 76 is on at the same time. Press the switch 62 again, the fan will stop, and the lamp 76 will be off.

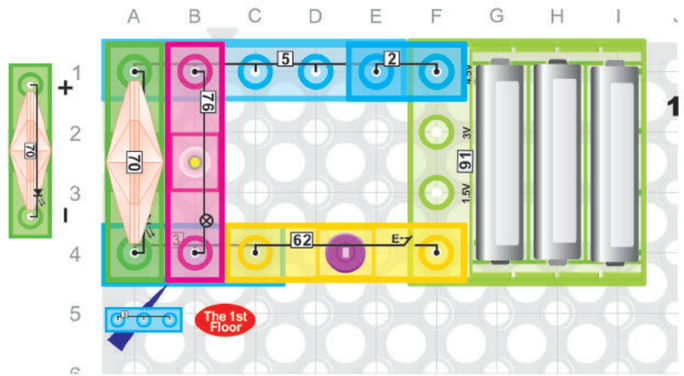
13.Switch Control, Lamp and Motor in Series Connection

Replace the switch 62 with the press switch 61 , put on the fan blade 60 , then press the press switch 61 , the fan will start working, the lamp 76 will be on too.Release the lamp 76 , the fan will stop, and the lamp 76 will be off.



14.Lamp and Motor in Paralleled Connection

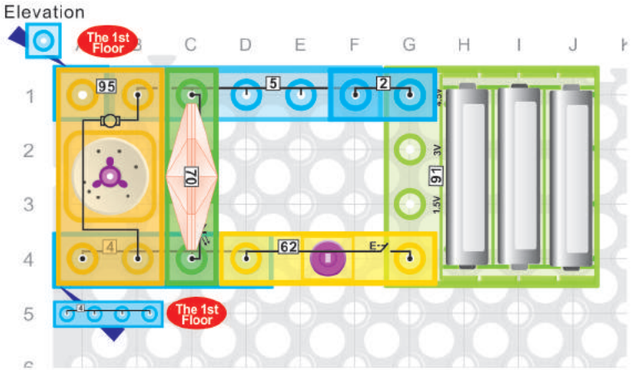
Put on the fan blade 60 ,press the switch 62 , the fan will start working, the lamp 76 will be on too. Press the switch 62 again, the fan will stop, the lamp 76 will be off.



15.LED and Lamp in Paralleled Connection

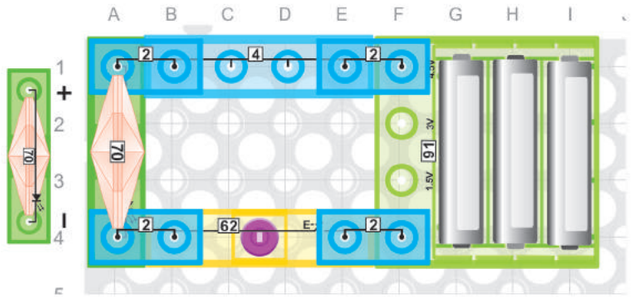
Press the switch 62 ,The LED 70 will be light up with the lamp 76 .

Elevation



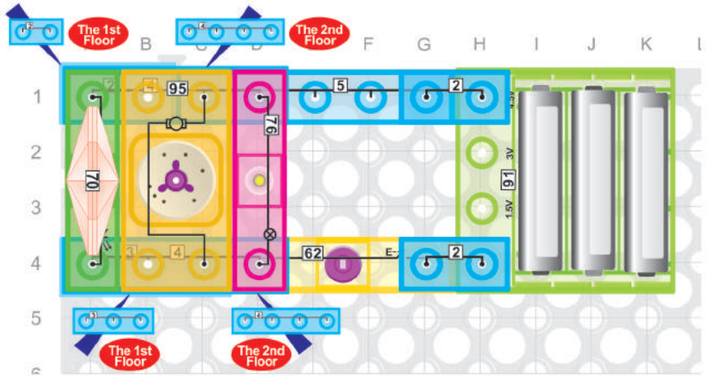
16.Motor and LED in Paralleled Connection

Press the switch 62 ,the LED 70 will be light up, the motor 95 will start running.



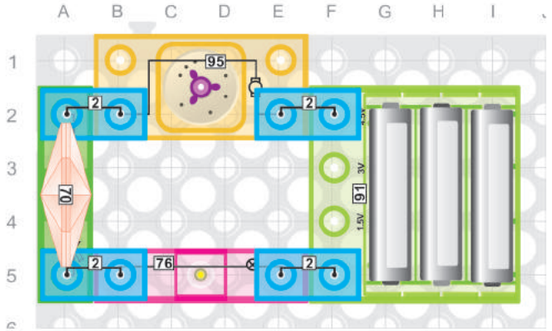
17.Unilateral Conductivity of LED

Press the switch 62, you will find that the LED 70 will be on with the brightest, because the unilateral conductivity of LED 70 only allow the current to flow from positive electrode to negative electrode, otherwise is not allowed.



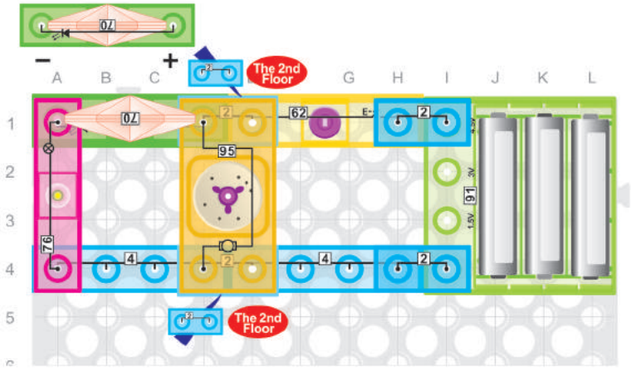
18.Lamp, LED and Motor in Paralleled Connection

Press the switch 62 ,the LED 70 and the lamp 76 will be light up, also the motor 95 will start running at the same time.



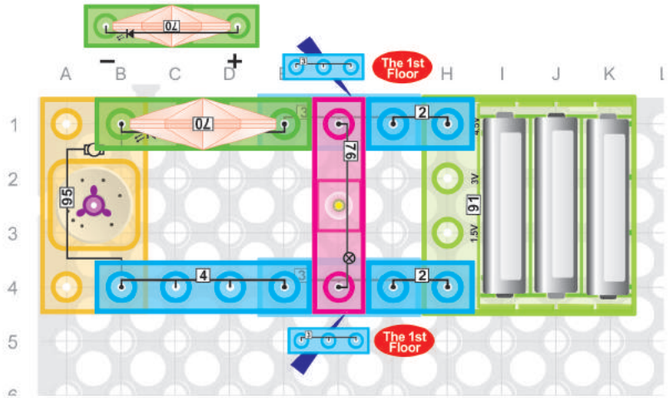
19.Lamp, LED, and Motor in Series Connection

In the series connection, you will find that only LED 70 can work, because the current is too low to light up either the lamp 76 or the motor 95 .



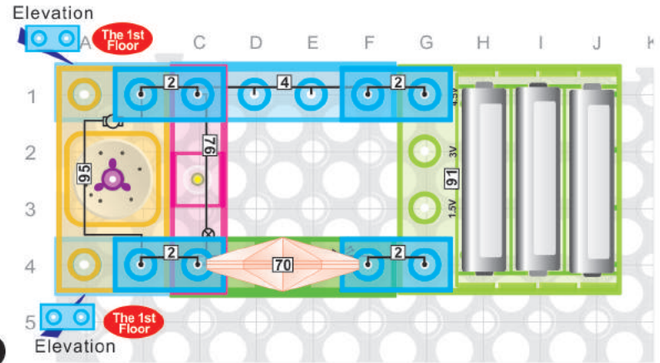
20.Lamp, LED, and Motor in Series-parallel Connection (I)

Build the circuit, you will find that both the motor 95 and the LED 70 are working, unless the lamp 76 . Because the lamp 76 is connected with the LED 70 are in series circuit, and the current is too low to light up the lamp.Just like the example in the diagram, the lamp 76 is connected with the LED 70 in series, then they are connected with the motor 95 in paralleled, this is named as Series-parallel Connection.



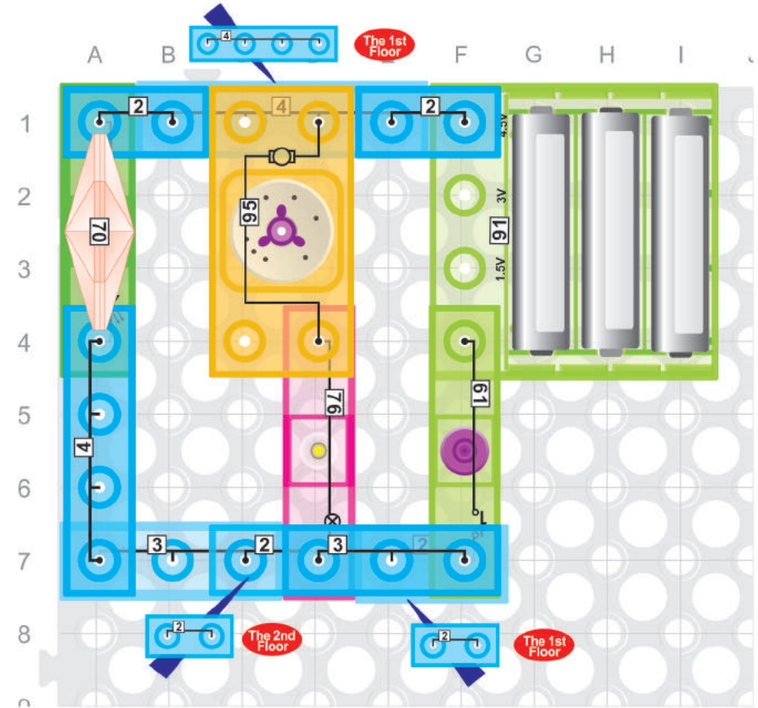
21.Lamp, LED, and Motor in Series-parallel Connection (II)

Build the connection, the lamp 76 and the LED 70 will be on, but the motor 95 won't. The same principles as above.



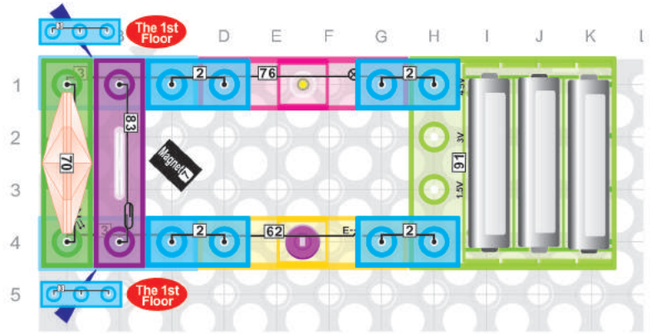
22.Lamp, LED, and Motor in Series-parallel Connection (III)

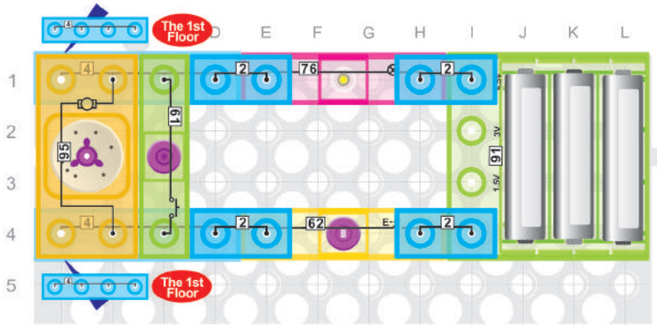
Build the circuit, you will find only the LED 70 will be light up, but not the motor 95 and the lamp 76.



23.Lamp, LED, and Motor in Series-parallel Connection (IV)

Build the circuit, press the press switch 61 ,both the LED 70 , lamp 76 and the motor 95 will start working at the same time.





24.Light up the Lamp and the LED in Turns

Press the switch 62 ,the LED 70 will be light up. When you move magnet 7 towards the reed switch 83 ,the lamp 70 will be light up, instead the LED 76 will stop working.

25.Energize the Motor and the LED in Turns

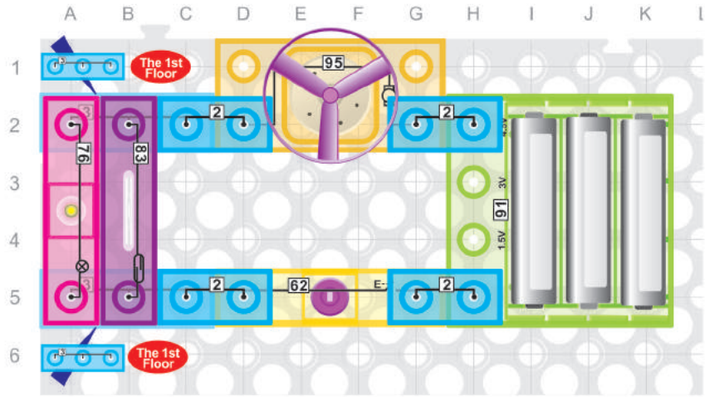
Replace the lamp 76 with the motor 95 , press the switch 62 ,the LED 70 will be light up.When you move the magnet 7 towards the reed switch 83 , the motor 95 will be light up, instead the LED 70 will stop working.

26.Adjustable Brightness of the Lamp

Press the switch 62 ,the lamp 76 will be on, the motor 95 will start working at the same time. Press the press switch 61 ,the motor 95 will stop while the lamp 76 will become brighter.

27.Magnetic Control the Adjustable Brightness of the Lamp

Replace the press switch 61 with the reed switch 83 ,by using the magnet, you can control the brightness of the lamp.



28.Agnetic Control the Variable Speed Fan

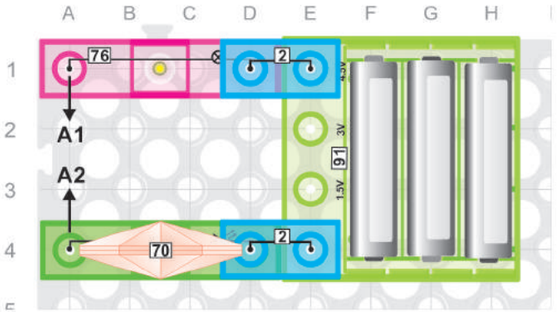
Press the switch 62 ,the lamp 76 will be on, the fan will start running. By moving the magnet towards the reed switch 83 ,you can control the speed of the fan.

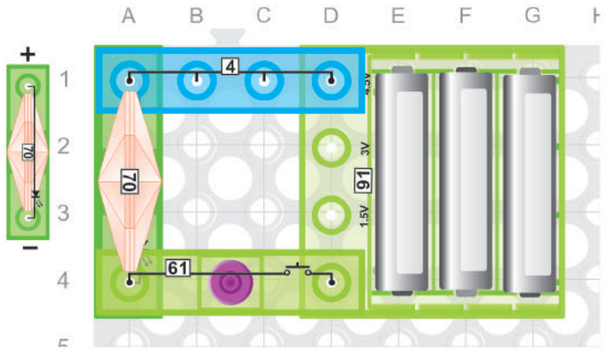
29.Switch Control the Variable Speed Fan

Replace the reed switch 83 with the press switc 61 ,press the press switch 61 ,you can control the speed of the fan now.

30.Testers of Conductor

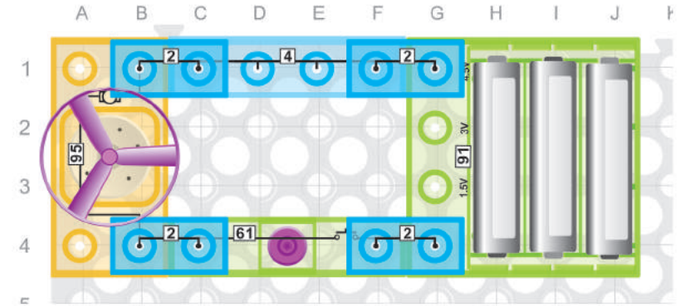
The tester can check whether the material contain conductivity. You just need to connect the material with A1 and A2, if you see the LED 70 is on, it means the material is conductor, or it is insulator.





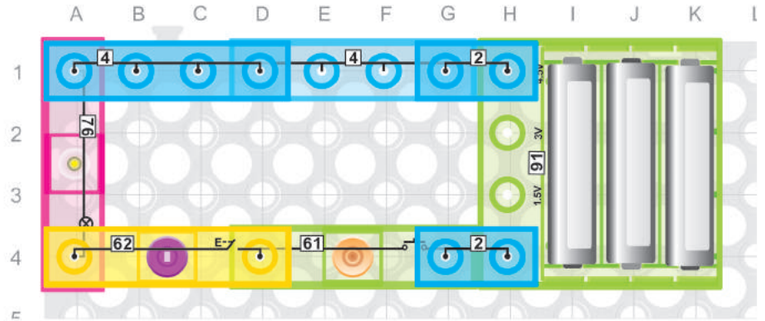
31.Simple Telegram Training Simulator

Press the press switch 61 ,press it in rhythm, the LED 70 will blink. This can be used for exercising typing of telegram.



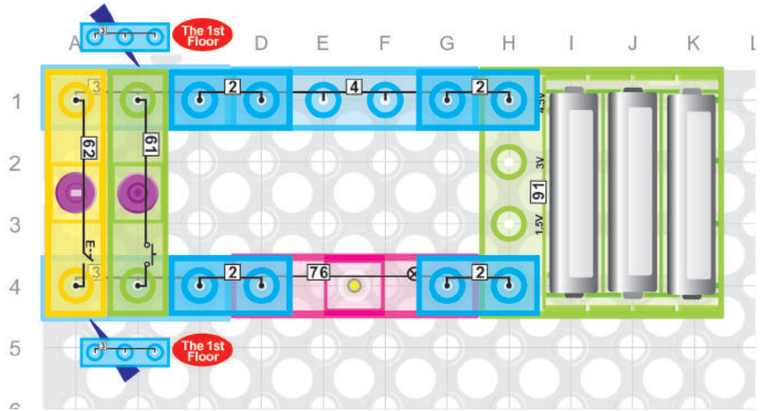
32.Reverse Control Circuit of Motor

Press the press switch 61 ,the fan blade will run in counterclockwise. Release the switch 61 , the motor 95 will stop. Then put on the motor 95 in reverse connection, press the press switch 61 , the motor 95 blade will run in counterclockwise too. By using the method on above, now you can replace the press switch 61 with thereed switch 83 .



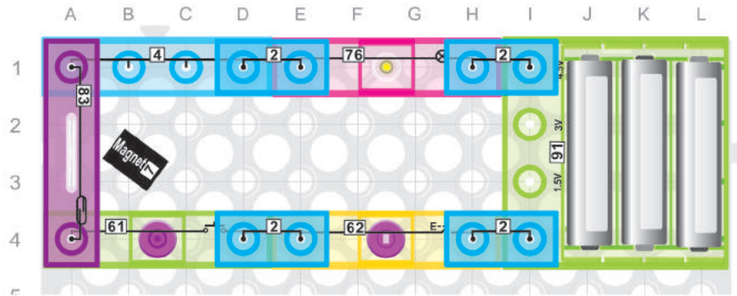
33.Two Switches in Series Connection, Control One Lamp

Build the circuit, press the switch 62 , then press the press switch 61 , the lamp 76 will be on.Or you can press these two switches (61&62) at the same time, the lamp 76 will be on too.



34.Two Switches in Paralleled Connection, Control One Lamp

Either you can the press switch 61 or the switch 62 to light up the lamp 76 . However, if you want to turn off the lamp 76 , you should cut off both of the switches.

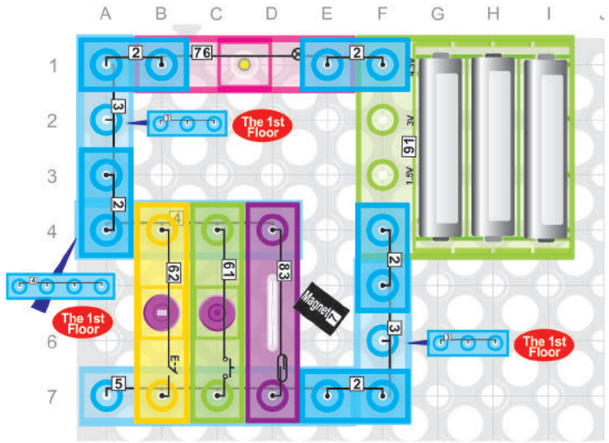


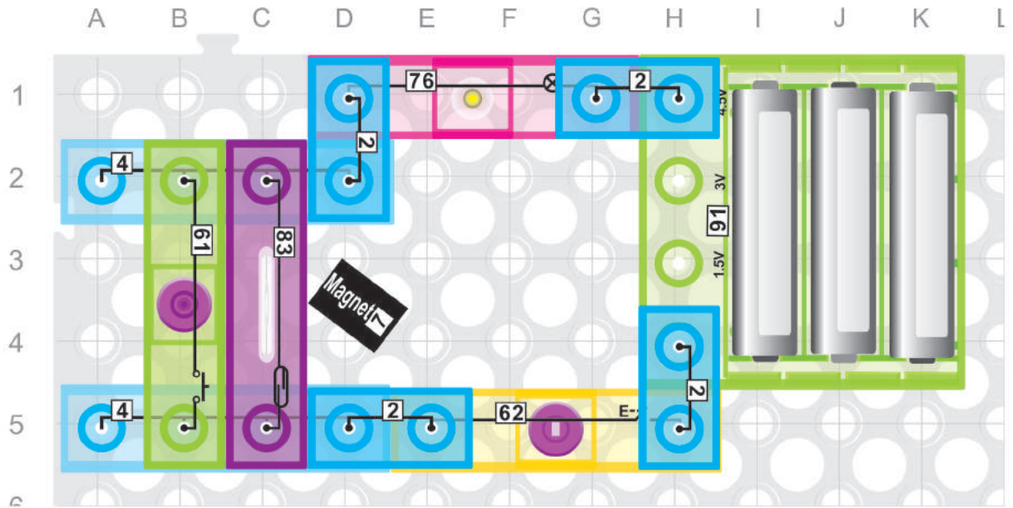
35.Three Switches in Series Connection, Control One Lamp

Build the circuit, press the switch 62 and tightly press the press switch 61,then move the magnet 7 towards the reed switch 83 , now you can see the lamp 76 is light up.

36.Three Switches in Paralleled Connection, Control One Lamp

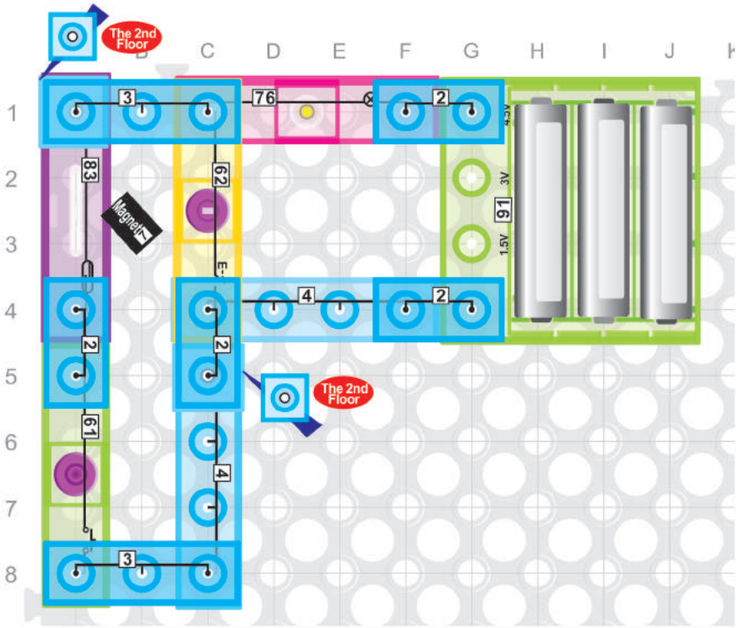
Build the circuit, you can either press the switch 62 or press switch 61 , or move the magnet 7 towards the reed switch 83, you can light up the lamp 76 . But if you want to turn off the lamp 76 , all of them should be turned off.





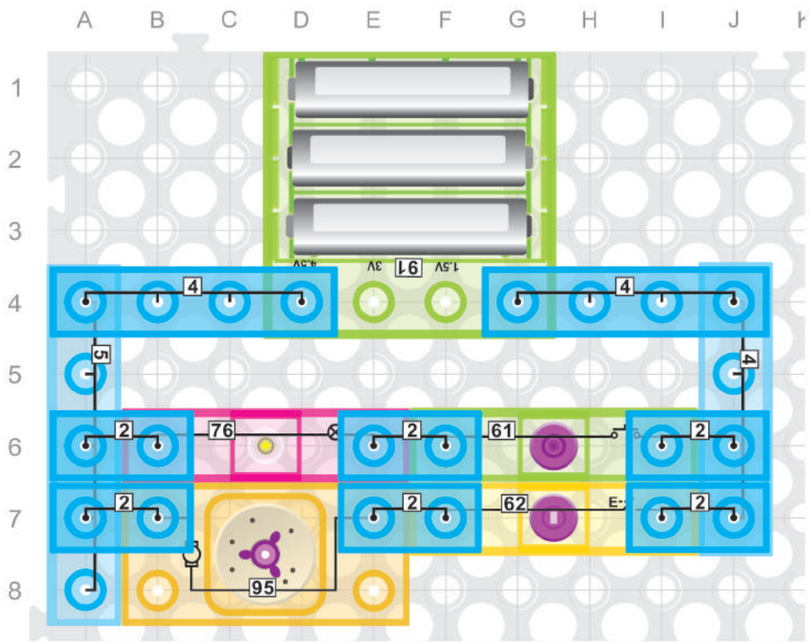
37.Three Switches in Series-parallel Connection, Control One Lamp (I)

In the circuit, the lamp 76 cannot run by just pressing the switch 62 , besides, you should choose to press the press switch 61, or moving the magnet 7 towards the reed switch 83 , then the lamp 76 will be light up. However, if you want to turn off the lamp 76 , you should press the press switch 61 and the reed switch 83 , or you can cut off the main switch.



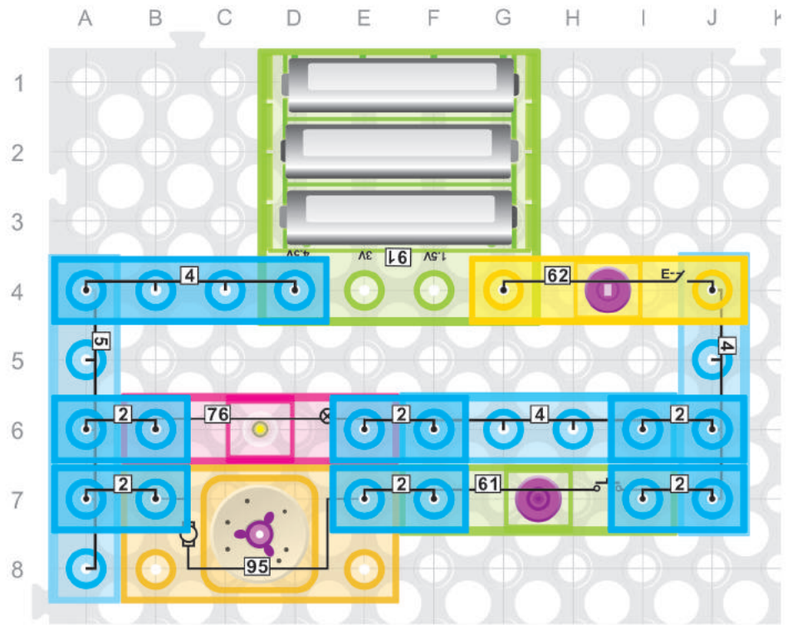
38.Three Switches in Series-parallel Connection, Control One Lamp (II)

There are two way to light up the lamp 76 in the circuit, you can press the switch 62 , or cut off the reed switch 83 and the press switch 61 at the same time.



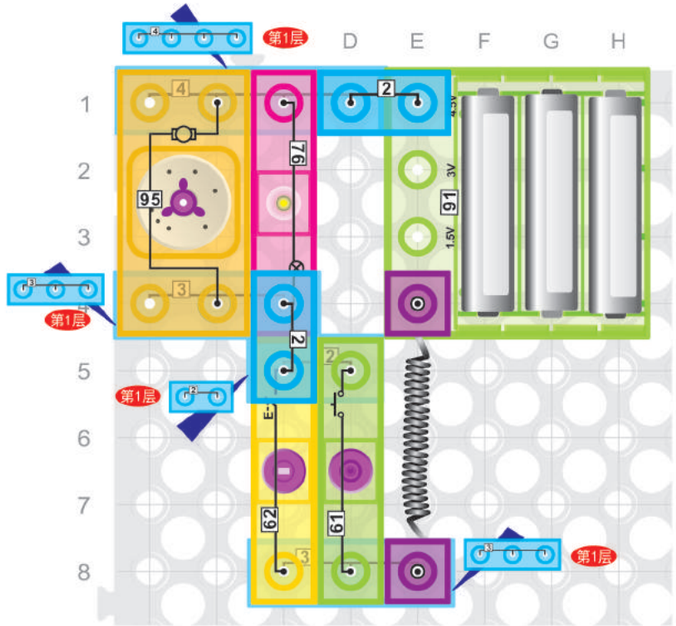
39.Two Switches Control Each Electrical Appliances

Press the switch 62 , the motor 95 will start running. Press the switch 62 again, then the motor 95 will stop.Press or release the press switch 61 , the lamp 76 will be on and off.



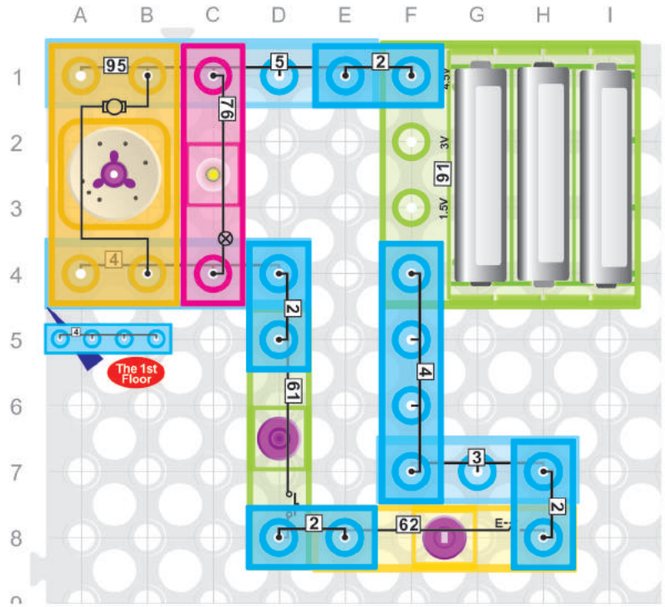
40.Two Switches in Series-parallel Connection, Control Two Electrical Appliances

Press the switch 62 , the lamp 76 will be light up. Press the press switch 61 , you will see the motor 95 start working. Then press the switch 62 again, both the lamp 76 and the motor 95 will stop.



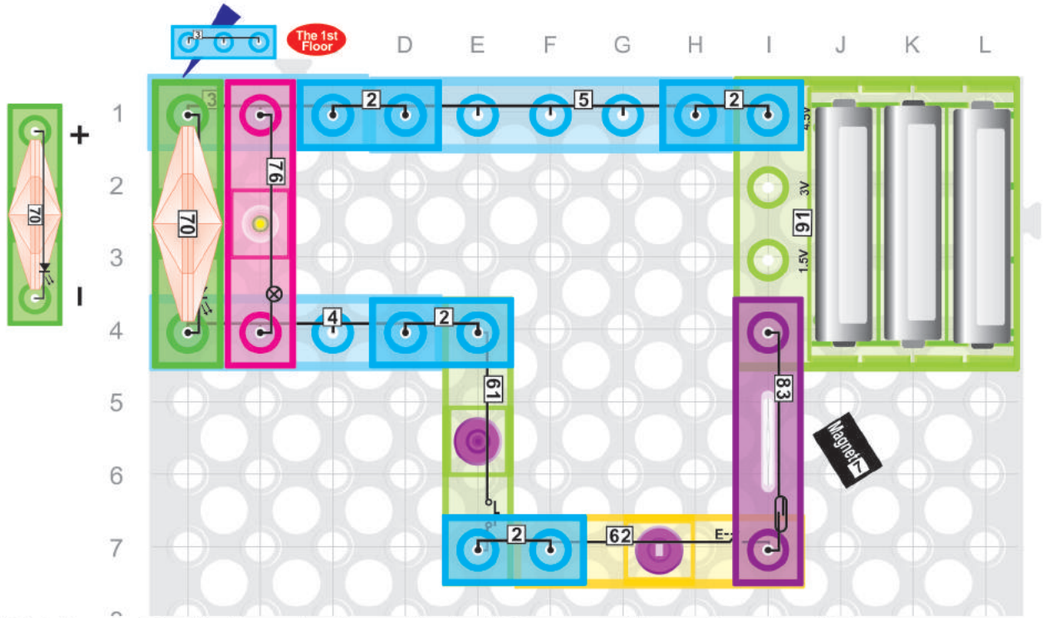
41.Two Switches in Paralleled Connection, Control Two Paralleled Electrical Appliances

Either you can press the press switch 61 or the switch 62 to light up the lamp 76 . If you want to turn off the lamp 76 , or stop the motor 95 , you should cut off both the press switch 61 and the switch 62 .



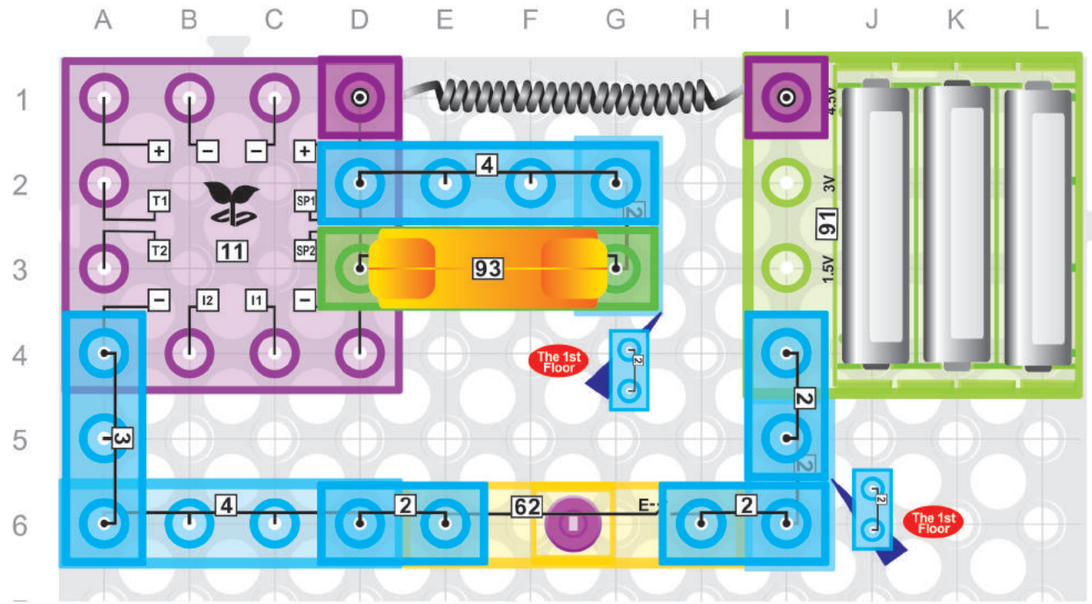
42.Two Switches in Paralleled Connection, Control Two Paralleled Electrical Appliances

In the paralleled connection, if you want to start the motor 95 and the lamp 76 , you should press the switch 62 and the press switch 61 at the same time. Or you can press the switch 62 firstly, then tightly press on press switch 61 ,yes, the motor 95 and the lamp 76 will start working too.



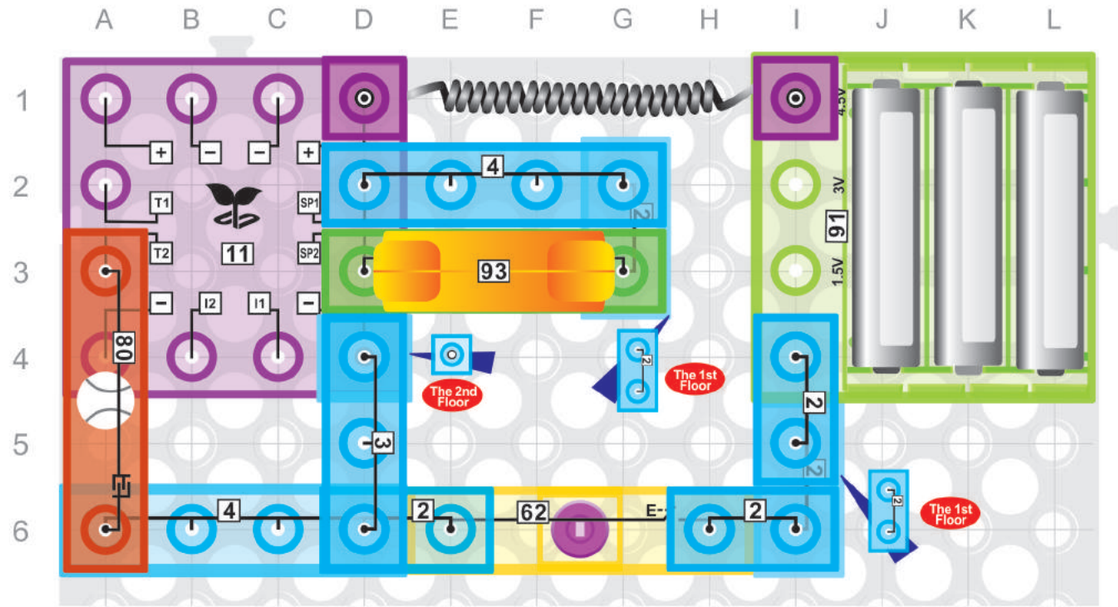
43.Three Switches in Paralleled Connection, Control Two Paralleled Lamp

In the circuit, if you want to turn on the lamp 76 and the LED 69 , you should press switch 62 at first, then tightly press switch 61, lastly, move the magnet 7 towards the reed switch 83. However, in the paralleled circuit, even when the lamp or the LED is broken, the other one can still work.



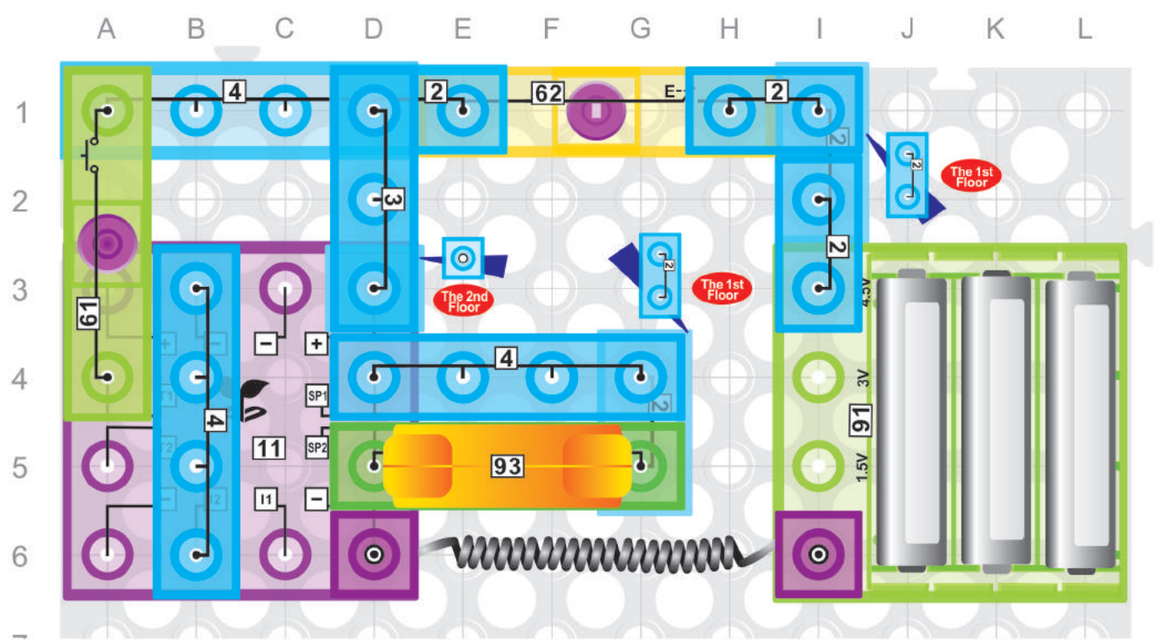
44.Siren

Press the switch 62 , you will hear the siren from the speaker 93 .



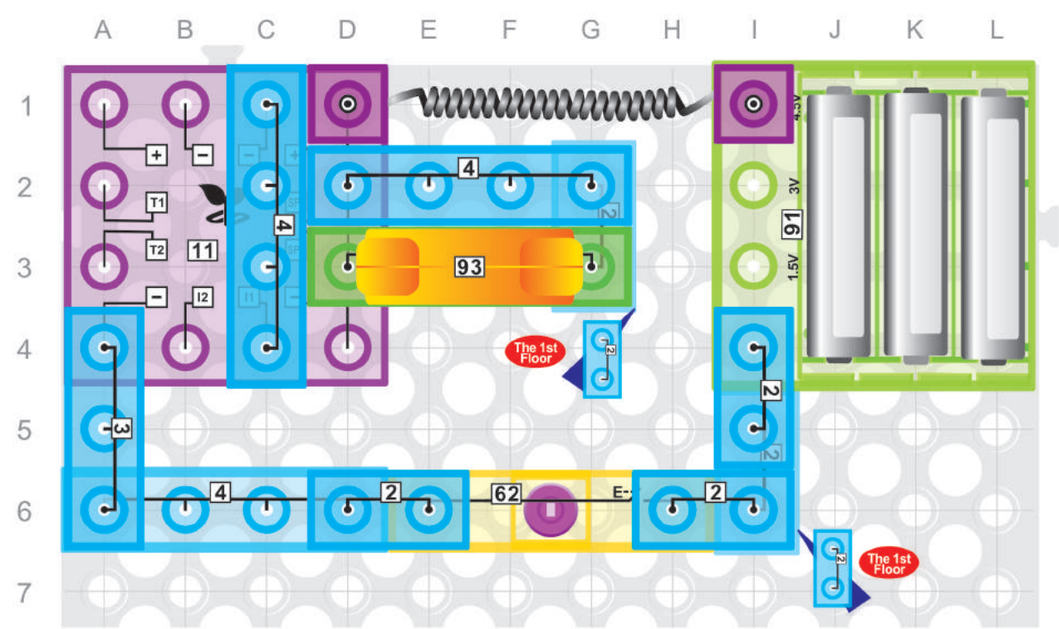
45.Machine Gun Sounds

Press the switch 62 , you will hear some siren from the speaker 93 . When you touch the touch plate 80 , the sounds will be gun now. Tightly press the touching plate 93 , now, it is the machine gun sounds.



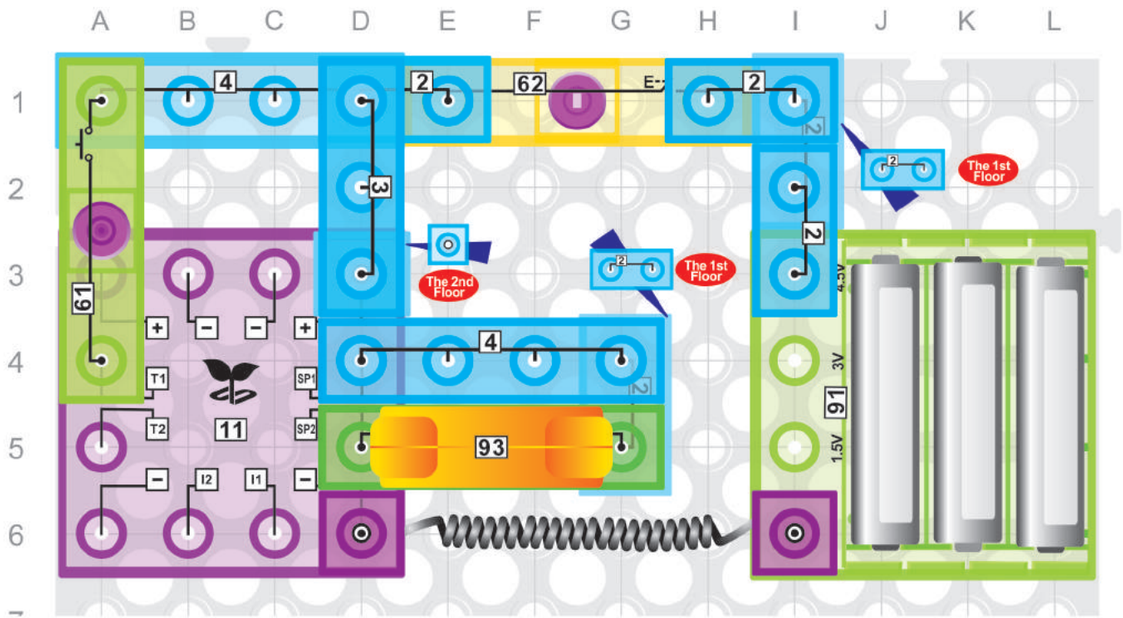
46.Space Battle Sounds

Press the switch 62 , you will hear the space battle sounds from the speaker 93 .
Continue to the press switch 61 can hear the other sounds.



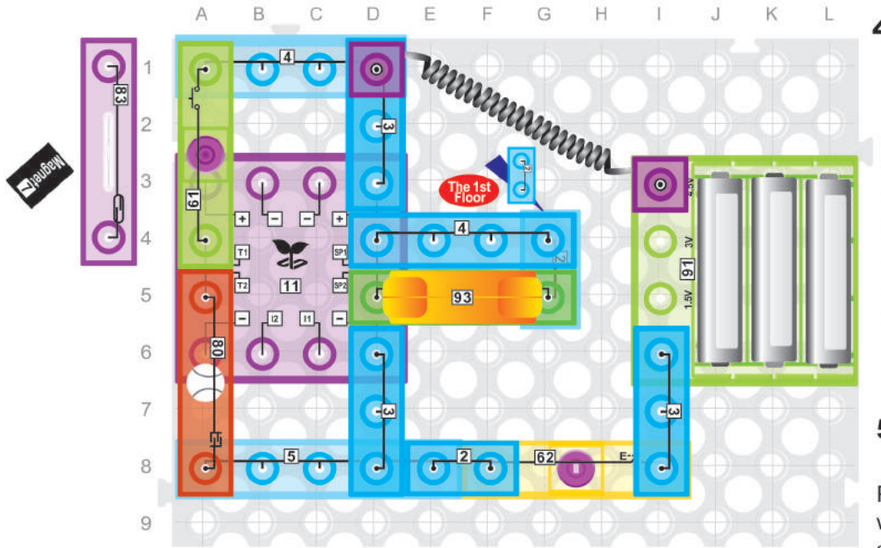
47.Music

Press the switch 62 , you will hear some music from the speaker 93 .



48.Siren of Fire Emergency

Press the switch 62 , you will hear the siren from the speaker 93 . When you press the press switch 61 , you will hear siren of fire emergency.



51.Magnetic Control Siren

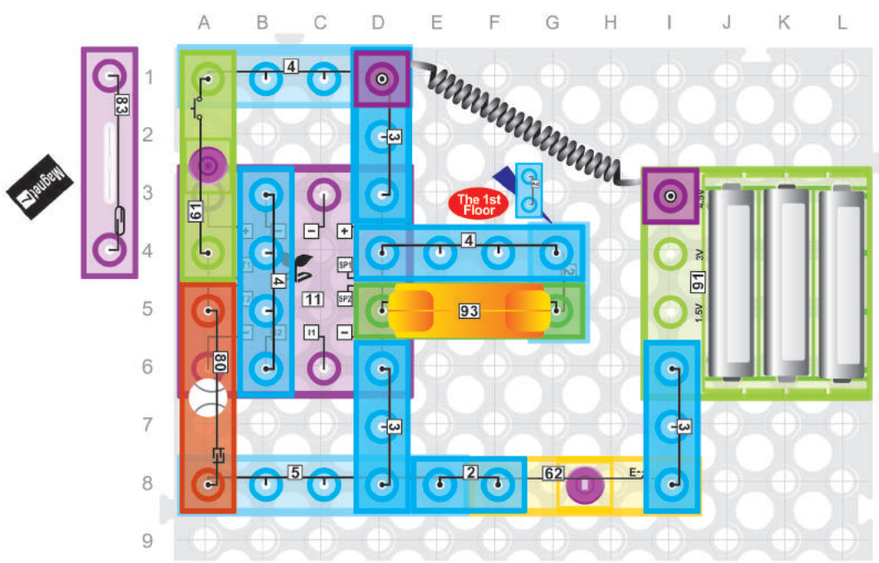
Replace the press switch 61 with the reed switch 83 , there's siren heard from the speaker 93 . Move the magnet 7 towards the reed switch 83 , then is siren of fire emergency.

49.Touching Control Machine Gun Sounds

Press the switch 62 , you will hear the siren from the speaker 93 . Then touch the touching plate 80 for several times, you will hear the gun sounds. Press the touching plate for a little while, you will hear the machine gun sounds.

50.Switch Control Fire Emergency

Press the switch 62 , you will hear the siren from the speaker 93 , then press the press switch 61 , now you will hear the siren of fire emergency.



52.Switch Control the Sounds of Space Battle

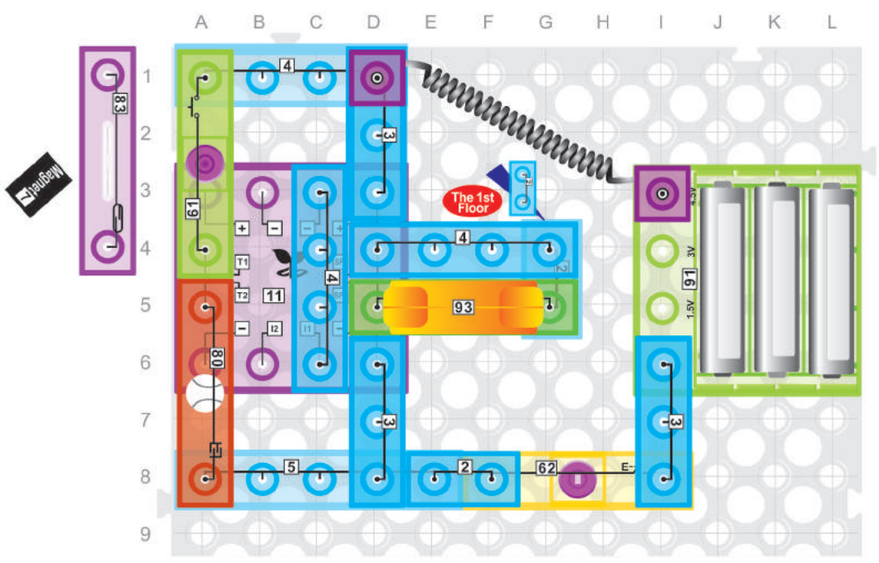
Press the switch [62], you will hear the sounds of space battle from the speaker [93]. Press the press switch [61] for a little while, the sounds will be changed.

53.Touching Control the Sounds of Space Battle

Press the switch [62], then touch the touching plate [80], you will hear the sounds of space battle. Keep on touching the touching slices, the sounds will be changed.

54.Magnetic Control the Sounds of Space Battle

Replace the press switch [61] with the reed switch [83], press the switch [62], you will hear the sounds of space battle from the speaker [93]. Then move the magnet [7] towards the reed switch [83] for several times, the sounds will be changed.



55.Music

Build the circuit, press the switch [62], you will hear some music from the speaker [93].

56.Switch Control Music Player

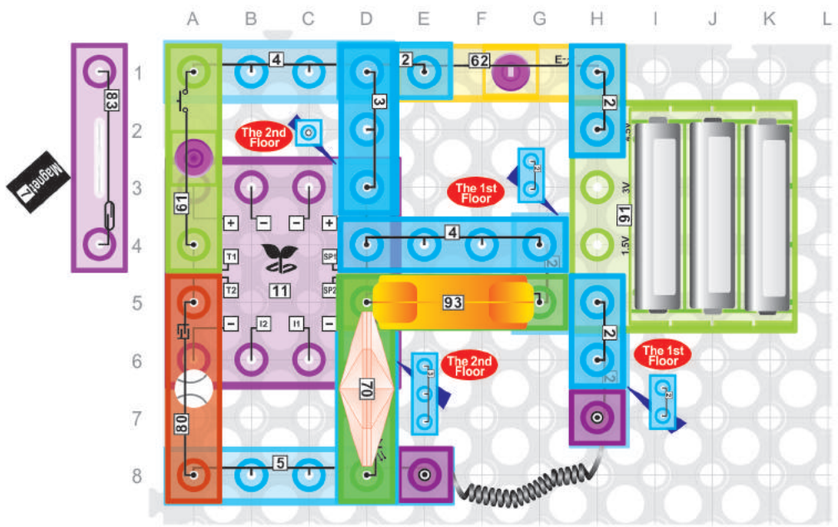
Press the switch [62], you will hear some music from the speaker [93]. Press the press switch [61], it can control the music player, now the music will be restarted.

57.Touching Control Music Player

Press the switch [62], now music is on. Touch the touching plate [80], the music will be restarted.

58.Magnetic Control Music Player

Replace the press switch [61] with the reed switch [83], then press the switch [62], you will hear some music from the speaker [93]. Move the magnet [7] towards the reed switch [83], the music will be restarted. Move the magnet [7] away, the music will stop playing.Put the magnet [7] on the reed switch [83], the music will start again.



59.Siren with Blue Light Warning

Press the switch 62 , the siren will be heard from the speaker 93 . At the same time, you can see the blue light warning in the LED 70 .

60.Touching Control Machine Gun Sounds & Blue Light Warning

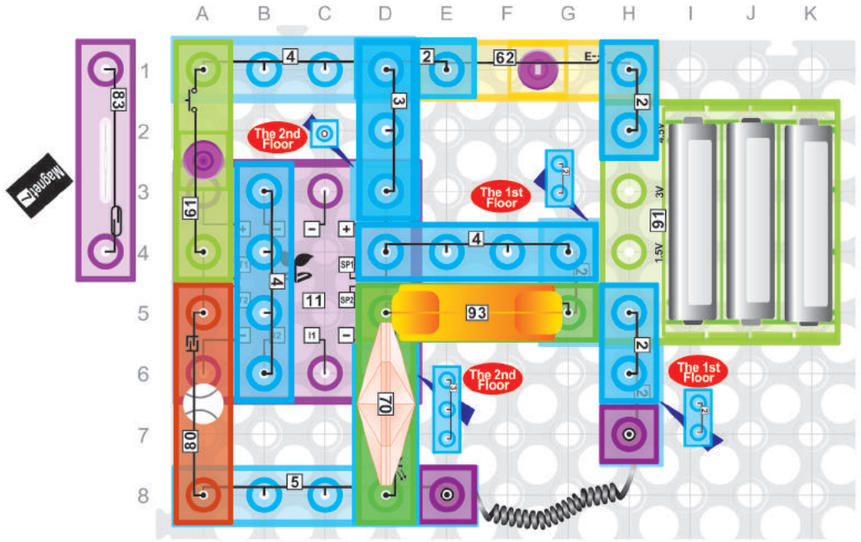
Press the switch 62 , and keep touching the touching plate 80 , the sounds of machine gun will be heard from the speaker 93 , with the blue light warning on the LED 70 . Press tightly the touching plate 80 , now you will hear some machine gun sounds from the speaker 93 .

61.Switch Control Fire Emergency Siren& Blue Light Warning

In the circuit, It is the switch 62 and the press switch 61 that control the sounds and lights, when you press both of them, you will hear the siren from the speaker 93 , with the blue light warning on the LED 70 .

62.Magnetic Control Fire Emergency Siren & Blue Light Warning

Replace the press switch 61 with the reed switch 83 , press the switch 62 , now you can hear siren from the speaker 93 , with the blue light warning on the LED 70 . Move the magnet 7 towards the reed switch 83 , now the siren of fire emergency is on.



63.Switch Control Space Battle & Blue Light Warning

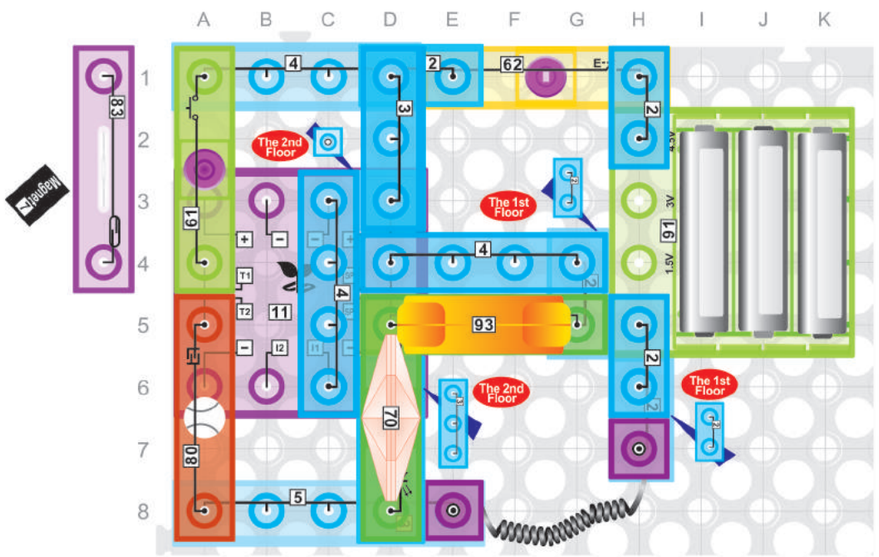
Build the circuit, press the switch 62 , the sounds of space battle will be on, with the blue light warning on the LED 70 . Then press the press switch 93 for several times, the sounds will be changed.

64.Touching Control Sounds of Space Battle & Blue Light Warning

Press the switch 62 , you will hear the sounds of space battle from the speaker 93 , with the light warning on the LED 70 at the same time. Then touch the touching plate 80 for several times, the sounds will be changed.

65.Magnetic Control Sounds of Space Battle & Blue Light Warning

Replace the press switch 61 with the reed switch 83 , press the switch 62 , you will hear sounds of space battle from the speaker 93 , with the blue light warning on the LED 70 at the same time. Then keep moving the magnet 7 towards the reed switch 83 , the sounds will be changed.



69.Magnetic Control Music & Blue Light Warning

Replace the press switch 61 with the reed switch 83, then press the switch 62, you will hear some music from the speaker 93, meanwhile, with the blue light warning on the LED 70 .Move the magnet 7 towards the reed switch 83, the music will be restarted. Move away, the music will be off.Put the magnet 7 on the reed switch 83 ,don't move it, the music will be restarted.

66.Music & Blue Light Warning

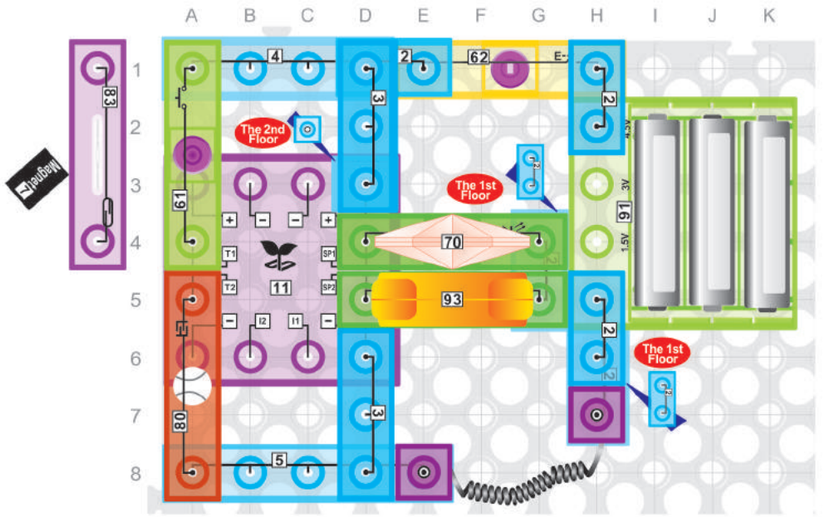
Build the circuit, press the switch 62, you will hear music from the speaker 93, with the blue light warning

67.Switch Control Music & Blue Light Warning

Press the switch 62 , music is on, with the blue light warning on the LED 70. When you press the press switch 61 , then the music will be restarted. It controls the music player.

68.Touching Control Music & Blue Light Warning

Press the switch 62, music is on, with the blue light warning on the LED 70 . Touch the touching plate 80 now, then the music will be restarted.



72.Switch Control Fire Emergency Siren in Low Pitch & Light

In the circuit, press the switch 62 ,you will hear the siren in low pitch from the speaker 93 .Press the press switch 61 , now is the siren of fire emergency in low pitch, with the flashing blue light on the LED 70 .

73.Magnetic Control Fire Emergency Siren in Low Pitch & Light

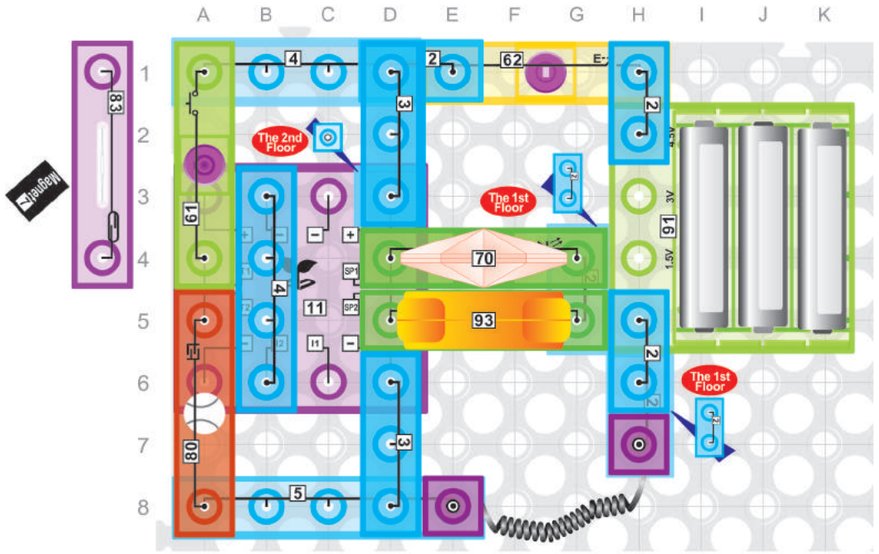
Replace the press switch 61 with the reed switch 83 ,then press the switch 62 , you will hear siren in low pitch from the speaker 93 ,meanwhile, with the blue light warning from the LED 70 .Move the magnet 7 towards the reed switch 83 ,siren of the fire emergency in low pitch will be heard now, with the flashing blue light of the LED 70 .

70.Siren with Sound in Low Pitch & Light

Build the circuit, press the switch 62 , you will hear siren in low pitch from the speaker 93 , with the flashing blue light on the LED 70 .

71.Touching Control Sounds of Gun with in Low Pitch Sound& Light

Press the switch 62 , you will hear siren in low pitch from the speaker 93 , touch the touching plate 80 , sounds of gun in low pitch will be heard, with the flashing blue light on the LED 70 . Press tightly the touching piece 80 ,sounds of gun in low pitch will be heard from the speaker 93 ,with the flashing blue light of LED 70 .Release your hand, the sounds will stop, also the LED will be off.



74.Sounds of Space Battle in Low Pitch

Build the circuit, press the switch 62 you will hear the sounds of space battle in low pitch. At the same time, you can see flashing blue light on the LED 70 .

75.Switch Control Sounds of Space Battle, in Low Pitch

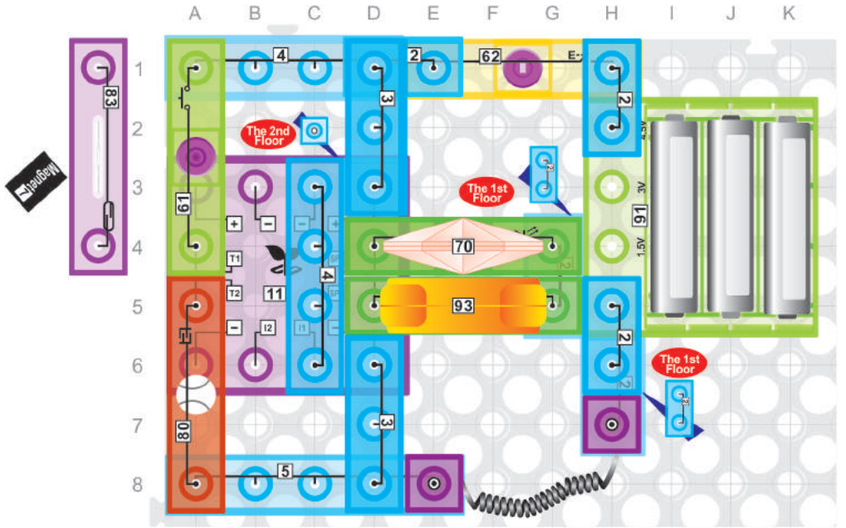
Press the switch 62 , sounds of space battle will be heard from the speaker 93 , with the flashing blue lights on the LED 70 .Press the press switch 61 for several times, the sounds will be changed.

76.Touching Control Sounds of Space Battle, in Low Pitch

Press the switch 62 ,sounds of space battle will be heard from the speaker 93 ,with the flashing blue lights on the LED 70 .Now touch the touching plate 80 for several times, the sounds will be changed.

77.Magnetic Control Sounds of Space Battle, in Low Pitch

Replace the press switch 61 with the reed switch 83 ,press the switch 62 ,you will hear sounds of space battle in low pitch. Move the magnet 7 towards the reed switch 83 for several times, the sounds will be changed, with the flashing blue light on the LED 70 at the same time.



78.Music in Low Pitch

Build the circuit, press the switch 62 ,you will hear some music in low pitch from the speaker 93 ,with the flashing blue light on the LED 70 at the same time.

79.Switch Control, Music in Low Pitch

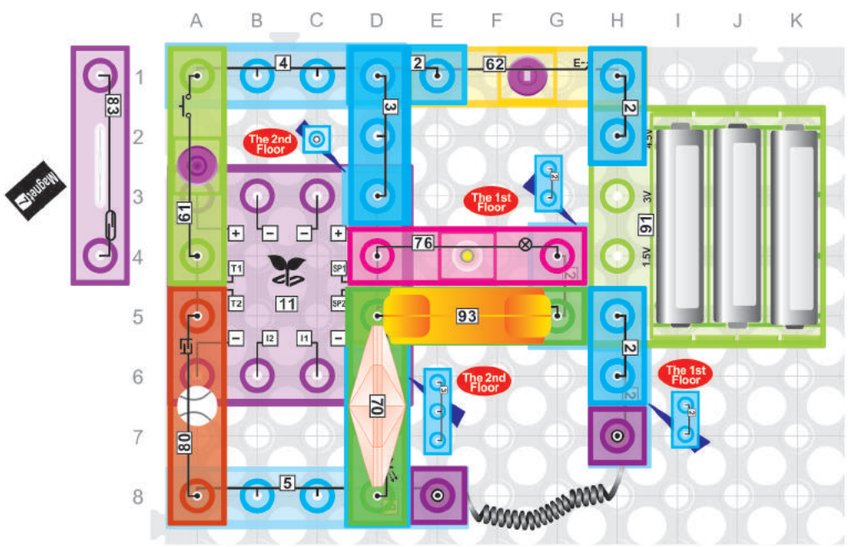
Press the switch 62 ,you will hear some music in low pitch from the speaker 93 ,with the flashing red light on the LED 70 .Now keep pressing the press switch 61 ,you will hear music in low pitch again, also with the flashing blue light on the LED 70 .

80.Magnetic Control, Music in Low Pitch

Replace the press switch 61 with the reed switch 83 ,then press the switch 62 ,you will hear some music in low pitch from the speaker 93 ,meanwhile, with the blue light warning from the LED 70 .Move the magnet 7 towards the reed switch 83 ,the music will be restarted. Move away, the music will be off.Put the magnet 7 on the reed switch 83 don't move it, the music will be restarted.

81.Touching Control Music in Low Pitch

Press the switch 62 ,you will hear the music in low pitch from the speaker 93 . Then touch the touching plate 80 the music will be restarted, with the flashing blue light on the LED 70 .



82.Siren with Sound & Light in Middle Pitch

Build the circuit, press the switch 62 ,you will hear the siren in the middle pitch from the speaker 93 ,also the lamp 76 and the flashing light are on the LED 70 .

83.Touching Control Sounds of Gun in Middle Pitch & Light

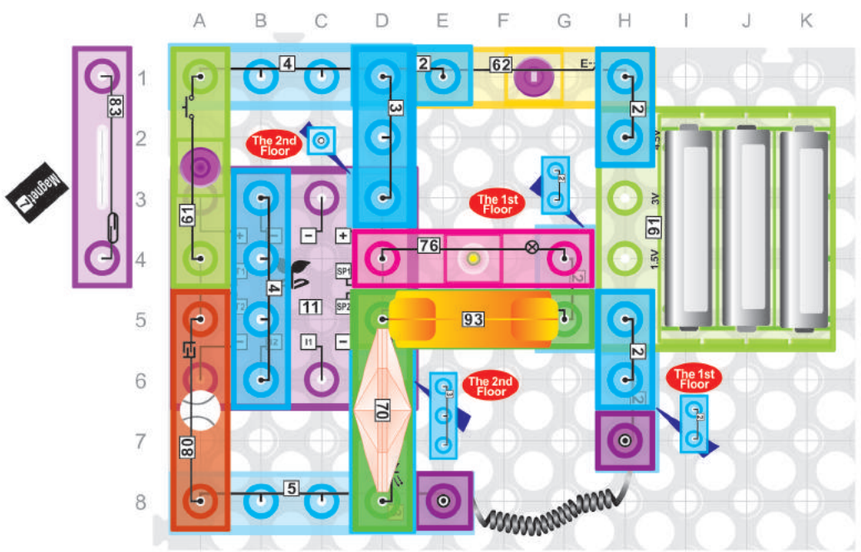
Press the switch 62 ,you will hear the siren in the middle pitch from the speaker 93 . Then keep touching the touching plate 80 ,you will hear the sounds of gun in the middle pitch. Then press tightly the touching plate 80 , now you can hear the sounds of machine gun, the lamp 76 and the flashing LED 70 are on at the same time.

84.Switch Control Siren of Fire Emergency in Middle Pitch & Light

Press the switch 62 , siren from the speaker 93 will be heard. Then press the press switch 61 ,now you can hear the siren of fire emergency in the middle pitch,also the lamp 76 and the flashing lights of the LED 70 are on.

85.Magnetic Control Siren of Fire Emergency in Middle Pitch & Light

Replace the press switch 61 with the reed switch 83 ,press the switch 62 ,you will hear some siren from the speaker 93 .Move the magnet 7 towards the reed switch 83 ,you will hear siren of fire emergency in middle pitch now, the lamp 76 and the flashing light of the LED 70 are on too.



86.Sounds of Space Battle Middle Pitch & Light

Build the circuit, press the switch 62 ,you will hear the sounds of space battle in middle pitch, the lamp 76 and the flashing light on the LED 70 are on too.

87.Switch Control Sounds of Space Battle in Middle Pitch & Light

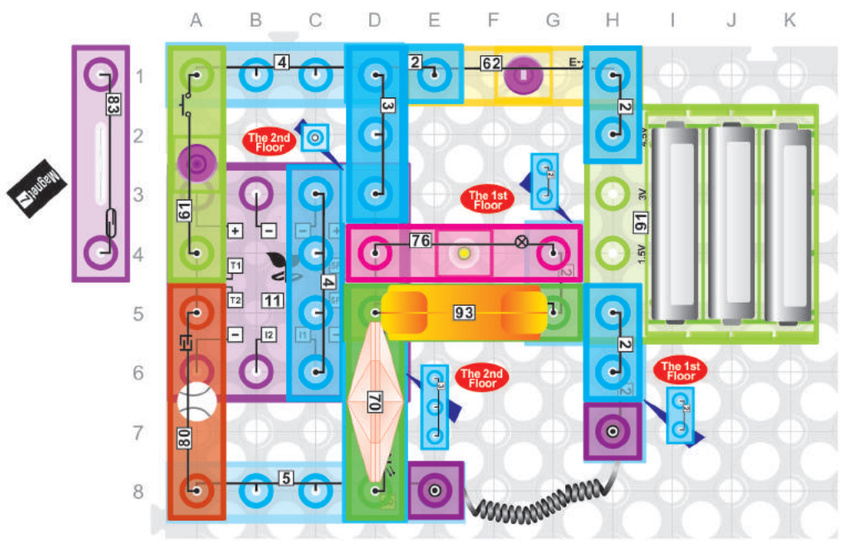
Press the switch 62 ,you will hear the sounds of space battle from the speaker 93 , the lamp 76 and the flashing LED 70 are on too. Press the press switch 61 for several times, the sounds will be changed.

88.Touching Control Sounds of Space Battle in Middle Pitch & Light

The switch 62 controls the sounds of the space battle, the lamp 76 and the LED 70 .Press the switch, they are all on. Touch the touching plate 80 , the sounds will be changed.

89.Magnetic Control Sounds of Space Battle in Middle Pitch & Light

Replace the press switch 61 with the reed switch 83 ,press the switch 62 ,you will hear sounds of space battle from the speaker 93 .Move the magnet 7 towards the reed switch 83 for several times, the sounds will be changed, also the lamp 76 and the flashing light of the LED 70 will be on.



90.Music in Middle Pitch & Light

Build the circuit, press the switch 62 ,you will hear some music in middle pitch, also the lamp 76 and the flashing LED 70 are on.

91.Switch Control Music in Middle Pitch & Light

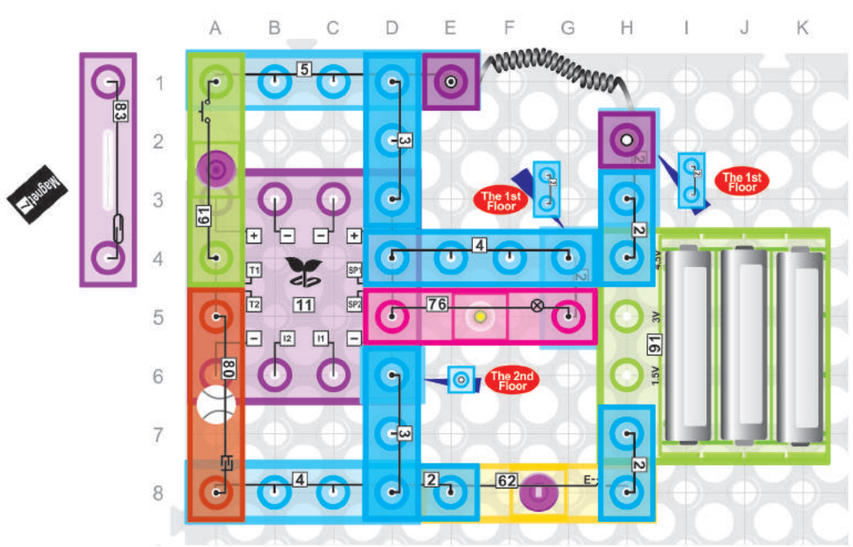
Press the switch 62 ,you will hear some music in middle pitch from the speaker 93 , with the lamp 76 and the flashing LED 70 are on.Press the press switch 61 ,the music will be stopped. Press tightly again, do not release, music in middle pitch will be restarted. Release the press switch 61 , then is off.

92.Magnetic Control Music in Middle Pitch & Light

Replace the press switch 61 with the reed switch 83 ,press the switch 62 ,you will hear some music in middle pitch from the speaker 93 ,with the lamp 76 and the flashing light on the LED 70 are on.Instead of moving the magnet 7 towards the reed switch 83 ,put the magnet 7 on the reed switch 83 ,do not move, then music will be restarted.

93.Touching Control Music in Middle Pitch & Light

Press the switch 62 ,you will hear some music in middle pitch from the speaker 93 .Then touch the touching plate 80 music will be restarted, also the lamp 76 and the flashing LED 70 are on.



94.Steady Flash of the Lamp

Build the circuit, press the switch 62 ,the lamp 76 will flash steady.

95.Switch Control Flashing Lamp

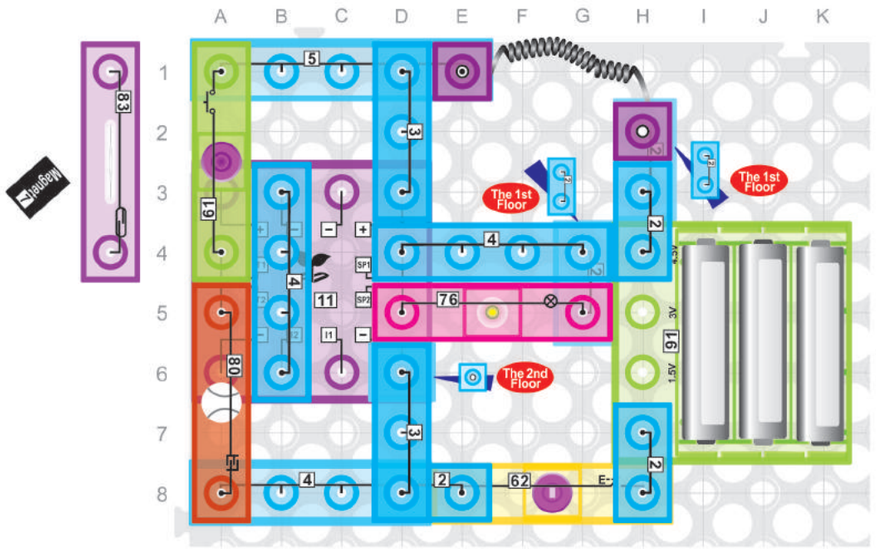
Press the switch 62 ,the lamp 76 will flash steady. Press the press switch 61 ,the lamp 76 will be the brightest and flash quickly.

96.Touching Control Lamp

Press the switch 62 ,the lamp 76 will flash steady. Press or release the touching plate 80 ,the lamp 76 will be on and off. Press tightly on the touching plate 80 ,do not release, the lamp 76 will flash quickly.

97.Magnetic Control Flashing Lamp (Variation of Speed)

Replace the press switch 61 with the reed switch 83 press the switch 62 ,put the magnet 7 on the reed switch 83 ,the lamp 76 will be on, and flash quickly.



98.Switch Control Flashing Lamp (Variation of Speed)

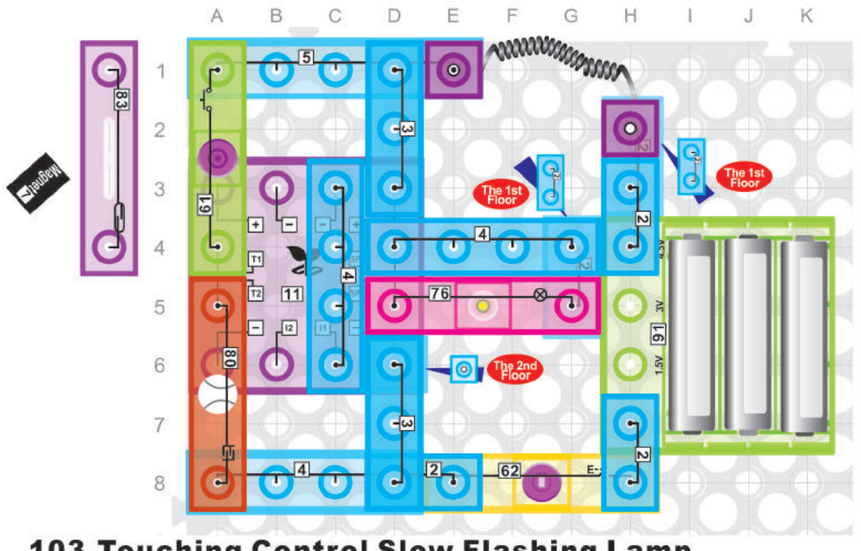
Build the circuit, press the switch 62 ,the lamp 76 will flash slowly. Then press the press switch 61 the flashing speed of the lamp 76 will be changed.

99.Touching Control Flashing Lamp (Variation of Speed)

Press the switch 62 ,the lamp 76 ,will flash slowly, touch the touching plate 80 for several times, the flashing speed of the lamp 76 will be changed.

100.Magnetic Control Flashing Lamp (Variation of Speed)

Replace the press switch 61 with the reed switch 83 ,press the switch 62 ,the lamp 76 will flash slowly. Then move the magnet 7 towards the reed switch 83 for several times, the flashing speed of the lamp 76 will be changed.



101.Slow Flashing Lamp

Build the circuit, press the switch 62 ,the lamp 76 will flash slowly.

102.Switch Control Slow Flashing Lamp

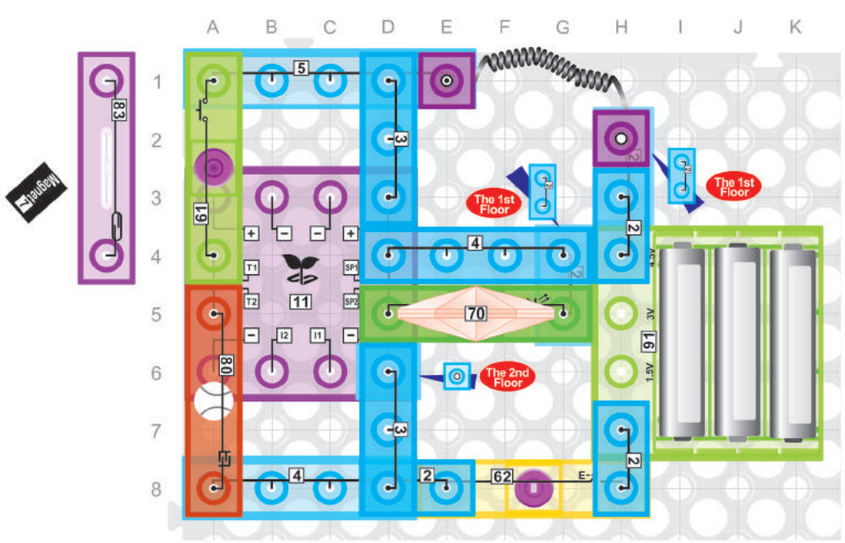
Press the switch 62 ,the lamp 76 will flash slowly. Press the press switch 61 the lamp 76 will be off. Now press the press switch 61 the lamp 76 will flash slowly again.

103.Touching Control Slow Flashing Lamp

Press the switch 62 ,the lamp 76 will flash slowly. Press the touching plate 80 until the lamp 76 are off. Now press the touching plate 80 ,the lamp 76 will flash slowly again.

104.Magnetic Control Slow Flashing Lamp

Replace the press switch 61 with the reed switch 83 ,press the switch 62 , the lamp 76 will flash slowly. Move the magnet 7 towards the reed switch 83 the lamp 76 will be off. Now put the magnet 7 on the reed switch 83 do not move it, the lamp 76 will flash slowly, when you move the magnet 7 away, the lamp 76 will be off.



105.Steady Flashing LED

Build the circuit, press the switch 62 ,he LED 70 will flash steady.

106.Switch Control Flashing LED (Variation of Speed)

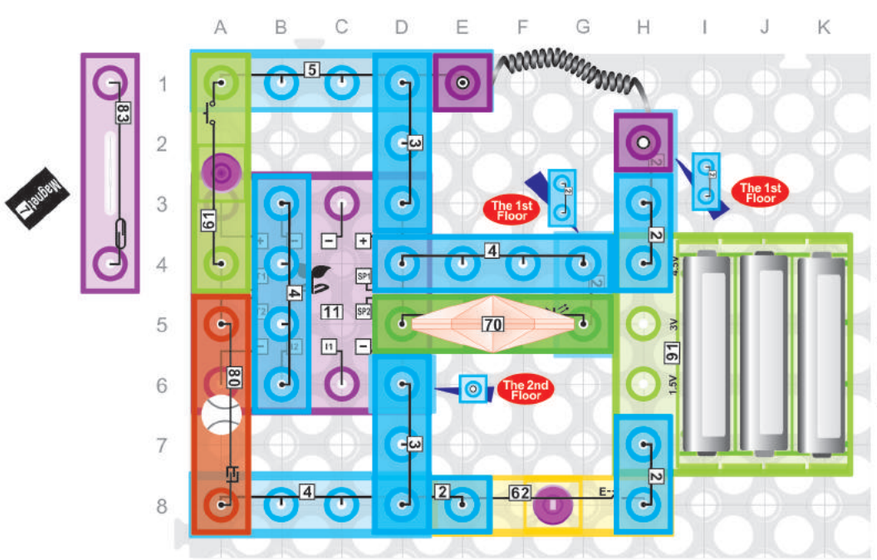
Press the switch 62 ,LED 70 will flash steady in the brightest. Press the press switch 61 ,the LED 70 will flash quickly in the brightest.

107.Touching Control Flashing LED (Variation of Speed)

Press the switch 62 ,LED 70 will flash steady in the brightest. Press the touching plate 80 ,LED 70 will be on and off quickly. However, when you press tightly the touching plate 80 ,do not release it, the LED 70 will flash quickly. Release the touching plate, LED 70 will be on and off in.

108.Magnetic Control Flashing LED (Variation of Speed& Lightness)

Replace the press switch 61 with the reed switch 83 ,press the switch 62 ,the LED 70 will flash slowly in the brightest. Put the magnet 7 on the reed switch 83 LED 70 will flash quickly in glimmer.



109.Switch Control Flashing LED (Variation of Speed& Lightness)

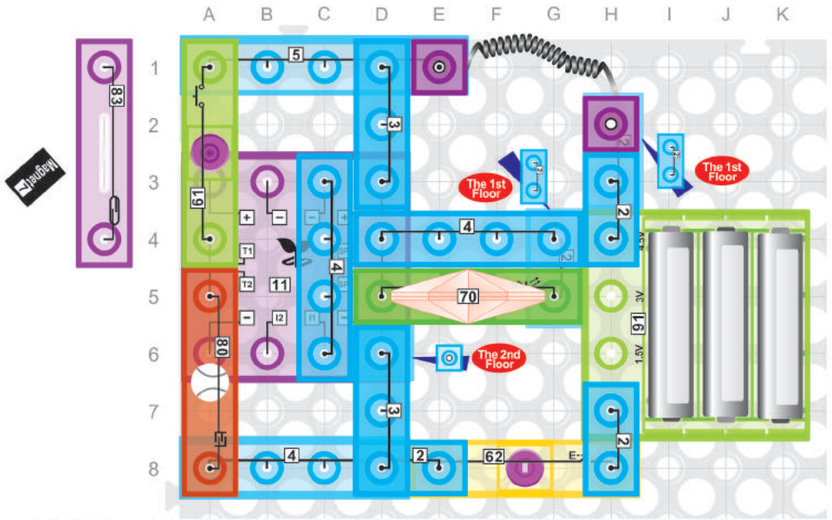
Build the circuit, press the switch 62 ,LED 70 will flash slowly. Press the press switch 61 ,the flashing speed and lightness of the LED 70 will be changed.

110.Touching Control Flashing LED (Variation of Speed& Lightness)

Press the switch 62 ,the LED 70 will flash slowly. Press the touching plate 80 ,the flashing speed and lightness of the LED 70 will be changed.

111.Magnetic Control Flashing LED (Variation of Speed& Lightness)

Replace the press switch 61 with the reed switch 83 ,press the switch 62 ,LED 70 will flash slowly. Move the magnet 7 towards the reed switch 83 for several times, the flashing speed and the lightness of the lamp 70 will be changed.



112.Slow Flashing LED

Build the circuit, press the switch 62 ,the LED 70 will flash slowly.

113.Switch Control Slow Flashing LED

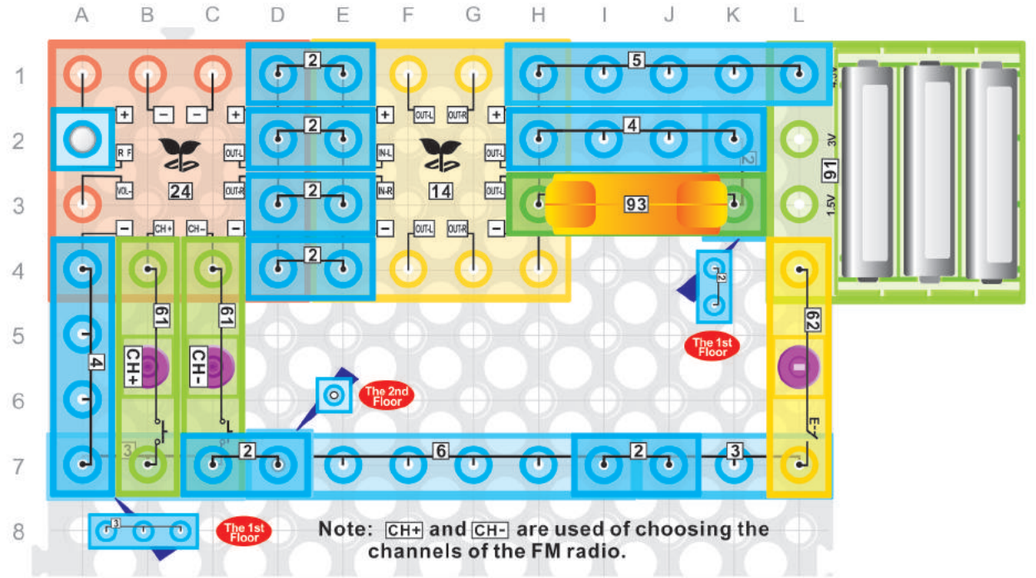
Press the switch 62 ,LED 70 will flash slowly. Press the press switch 61 ,the LED 70 will be off. But if you press the press switch 61 for a little while,the LED 70 will flash slowly again.

114.Touching Control Slow Flashing LED

Press the switch 62 ,LED 70 will flash slowly. Press the touching plate 80 until the LED 70 is off, now you can see the LED 70 will flash slowly again.

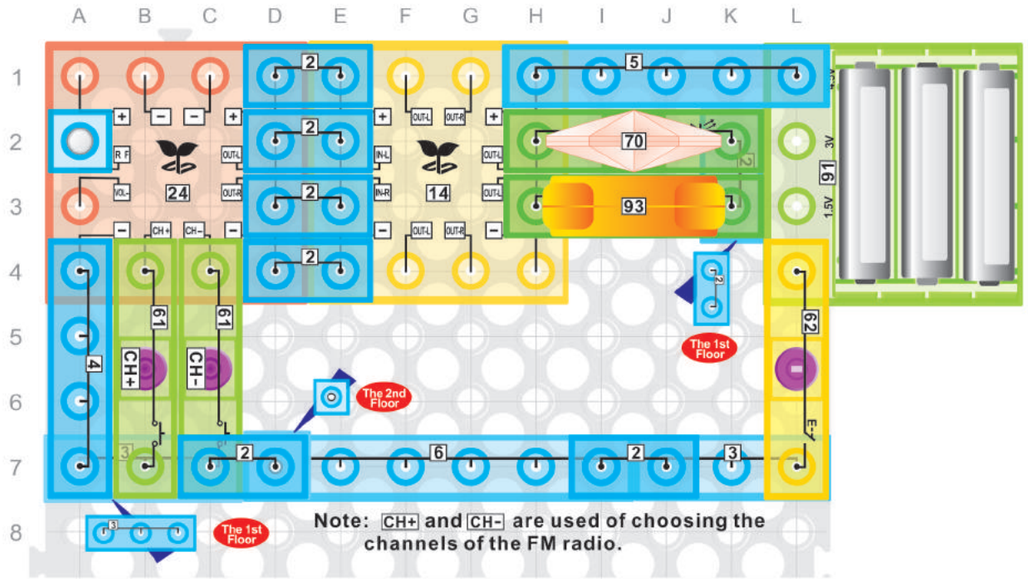
115.Magnetic Control Slow Flashing LED

Replace the press switch 61 with the reed switch 83 ,then press the switch 62 ,the LED 70 will flash slowly.Move the magnet 7 towards the reed switch 83 the LED 70 will flash slowly too. When you move away the magnet 7 , the LED 70 will be off. Put the magnet 7 on the reed switch 83 ,do not move away, the LED 70 will flash slowly again.



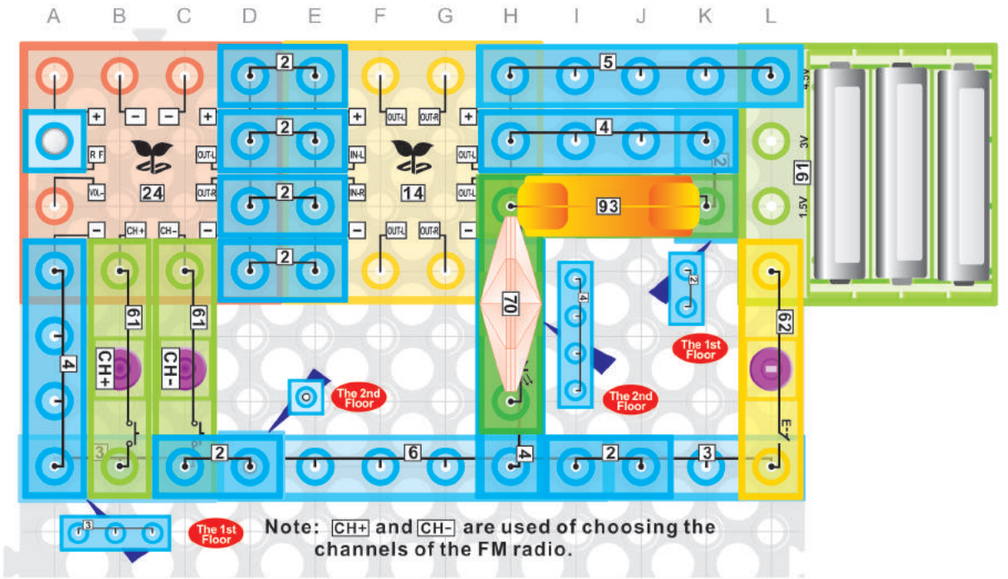
116.FM Radio

Build the circuit, press the switch 62 ,you will hear some frequency-modulated sounds from the speaker 93 .Erect the antennas 10 and press the press switch 61 ,now you can choose the channels as you want. CH+ and CH- are used of choosing the channels of the FM radio.



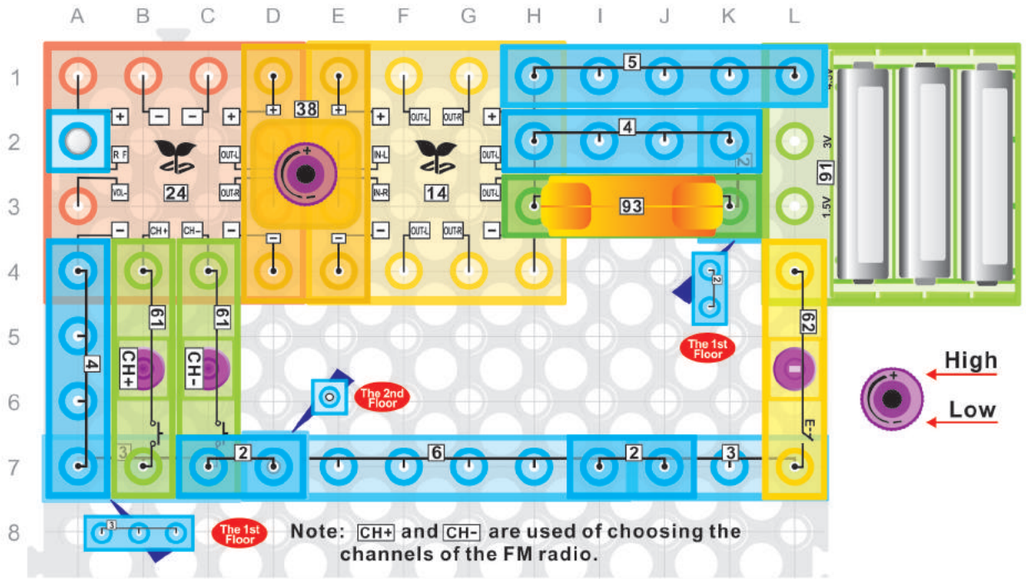
117.FM Radio in Low Pitch

Build the circuit, press the switch 62 ,you will hear some frequency-modulated sounds from the speaker 93 .Erect the antennas 10 ,the LED 70 will be light up, then press the press switch 61 , choose the channels as you want. CH+ and CH- are used of choosing the channels of the FM radio.



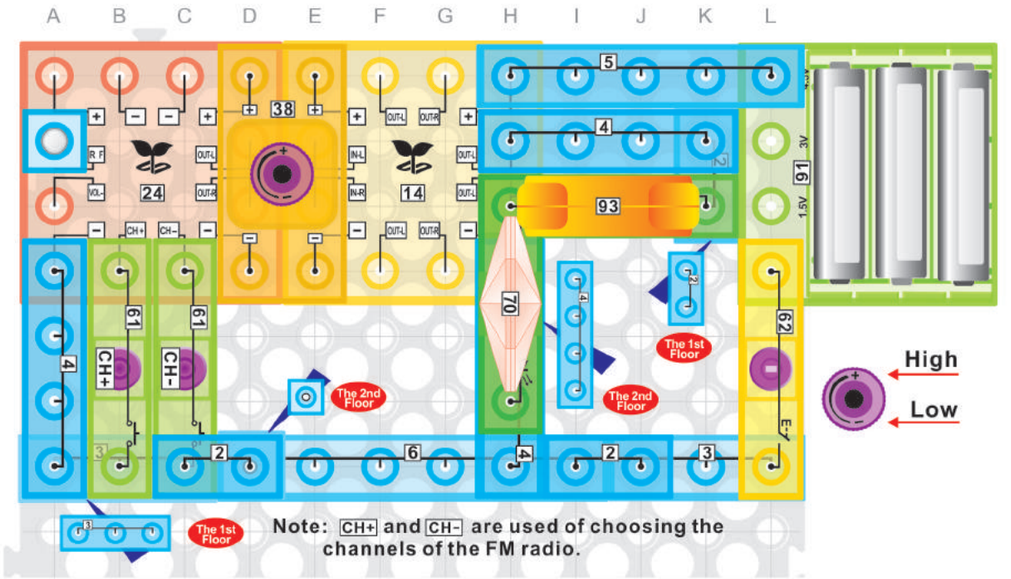
118.FM Radio with Level Meter

Build the circuit, press the switch 62 ,you will hear some frequency-modulated sounds from the speaker 93 .Erect the antennas 10 ,then press the press switch 61 ,choose the channels as you want. CH+ and CH- are used of choosing the channels of the FM radio, also you can see the lightness of the LED will vary with the volume of the radio.



119.Adjustable Volume of the FM Radio

Build the circuit, press the switch 62 ,you will hear some frequency-modulated sounds from the speaker 93 .Erect the antennas 10 ,then press the press switch 61 ,you can control the volume by rotating the button 38 .CH+ and CH- are used of choosing the channels of the FM radio



120.Adjustable Volume of the FM Radio with Level Meter

Build the circuit, press the switch 62 ,you will hear some frequency-modulatedsounds from the speaker 93 .Erect the antennas 10 ,then press the press switch 61 ,rotate the volume button 38 ,you can adjust the volume of the radio, and thelightness of the LED 70 will vary with the volume. CH+ and CH- are used ofchoosing the channels of the FM radio