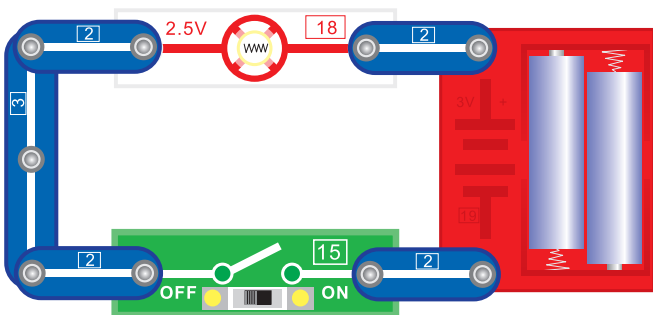


Parts List

Number	Description	Item	Number	Description	Item	Number	Description	Item
1	One-Snap Connector		17	LED(Light Emitting Diode)		29	Power Amplification IC	
2	Two-Snap Connector		18	2.5V Lamp		30	100 Resistor	
3	Three Snap Connector		19	Battery Unit		44	470 F Capacity	
4	Four-Snap Connector		20	Speaker			Blades	
5	Five-Snap Connector		21	Music IC (Integrated Circuit)			Magnet	
6	Six-Snap Connector							
10	Vibrating stitch							
11	Buzzer		22	Alarm IC (Integrated Circuit)		<div style="border: 2px solid black; padding: 5px; text-align: center;"> <p>WARNING for 17</p> <p>LED (Light Emitting Diode)</p> <p>CLASS 1 LASER PRODUCT</p> <p><small>ACCORDING TO DIN EN 60825 – 1:2008-05</small></p> </div>		
12	Touch plate		23	Sound Effects IC (Integrated Circuit)				
13	Reed Relay (Reed Switch)		24	DC Motor				
14	Press Switch		25	Medium Wave IC				
15	Slide Switch							
16	Photosensor (CdS)							



1. Lamp

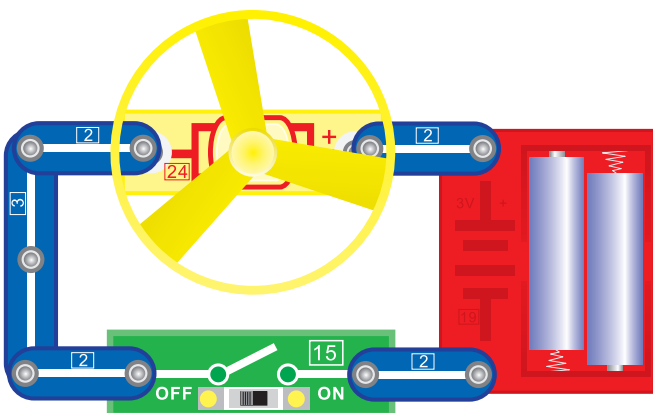
Close the slide switch **15** and the lamp **18** will light up . Switch off the slide switch **15** and the lamp **18** will go out.

2. Magnet-controlled lamp

Replace the slide switch **15** with dry reed switch **13** , the lamp can be controlled with magnet . When the magnet bring near the dry reed switch, the lamp **18** will light up. Take the magnet away from the dry reed switch and the lamp **18** will go out.

Principle of dry reed switch :

Put two pieces of iron into a sealed glass pipe , the iron is very closely , but don't touch each other . When the magnet put near to iron , the iron is magnetized and attracted each other , so the two pieces of iron is touched and current can go through . When the magnet is taken away , the iron will be separated.

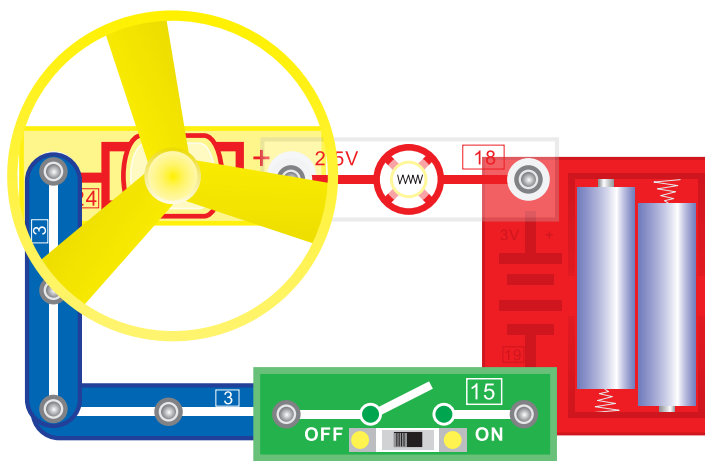


3. Electric Motor

Assemble as illustrated . Make certain the slide switch **15** is OFF . Turn on the slide switch **15** . The DC motor **24** starts.

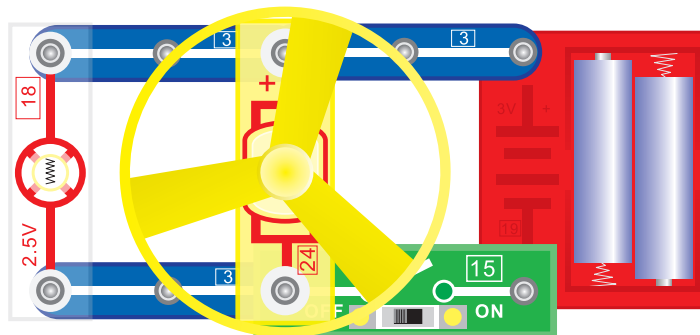
4. Magnetically Activated Motor

Replace the slide switch **15** with dry reed relay **13** . Place the magnet near the dry reed relay **13** . The motor **24** turns on . Remove the magnet and the motor turns off.



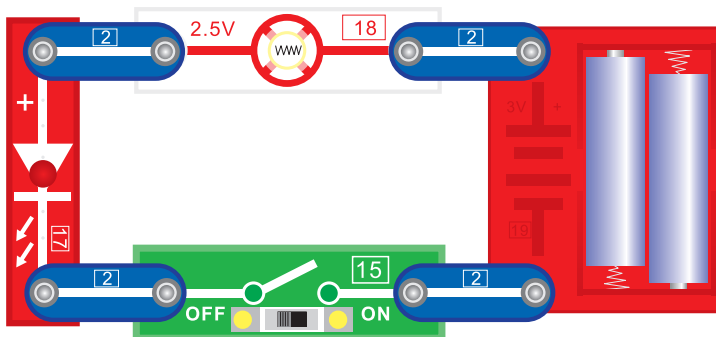
5. Lamp and motor connected in series

Don't place yellow fan on motor, close the slide switch **15** , the lamp lights and the motor **24** starts rotating (sometimes , need to rotate the pivot with hand) ; Open the slide switch **15** , the motor **24** stops and the lamp **18** goes out.



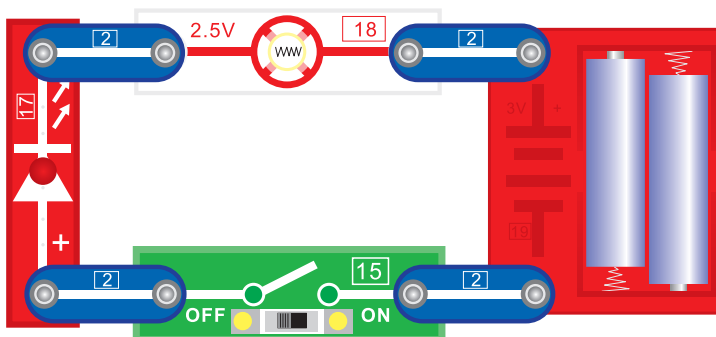
6. Lamp and Motor in parallel

Assemble as illustrated . Turn on the slide switch **15** , the fan rotates and the lamp lights. Open the slide switch **15** , the fan stops and the lamp goes out .



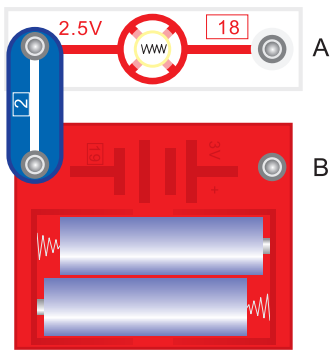
7. LED (light emitting diode)

Close the slide switch **15** , the LED **17** lights but not the lamp **18** , because LED **17** needs only small current for itself to light up and the lamp **18** needs higher current to light up , but now there is only small current in this series-connection circuit.



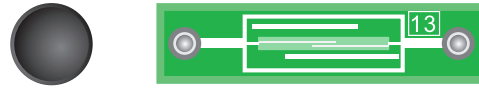
8. Unidirectional conductivity of LED

Close the slide switch **15** , both the LED **17** and the lamp **18** do not light , because LED **17** is unidirectional in conductivity , it only allows current to flow from positive pole to negative pole , but not reversed.



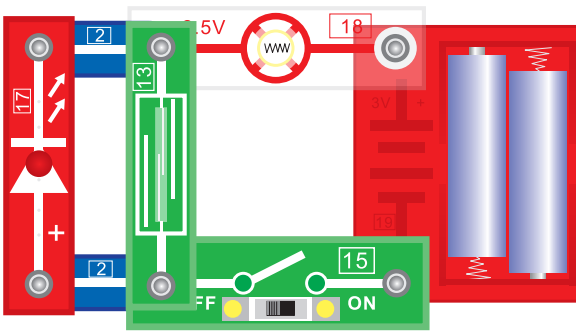
9. Conductor tester

With this conductor tester you may identify which daily living articles are conductors which are not. To do this, you need only to bridge the article to be tested between terminals A B. If the lamp lights, the article is a conductor, such as a knife or aluminum pot etc. If the lamp does not light, the article is non conductor, such as plastic or wood etc.



10. Alternative lighting up of magnet-controlled lamp and LED

When the slide switch (15) is closed, only the LED (17) lights up. When a magnet is put near the dry reed relay (13), the LED (17) goes out and the lamp (18) lights up.



11. Alternative working of magnet-controlled fan and LED

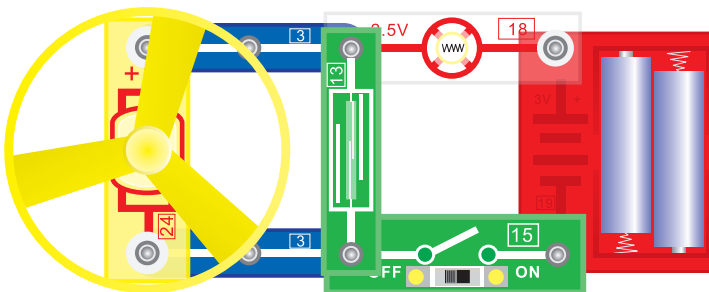
Replace the lamp (18) with motor (24) and control the circuit with magnet, the LED (17) and the fan will work alternately.

12. Alternative lighting up of hand-controlled lamp and LED

Replace the dry reed switch (13) with press switch (14), closes the slide switch (15), only the LED (17) lights up, when press the press switch (14) with hand, the LED out and the lamp (18) lights up.

13. Alternative working of hand-controlled fan and LED

Replace the lamp (18) with motor (24), and replace the dry reed switch (13) with press switch (14), control the circuit with press switch (14), the LED (17) and the fan will work alternately.

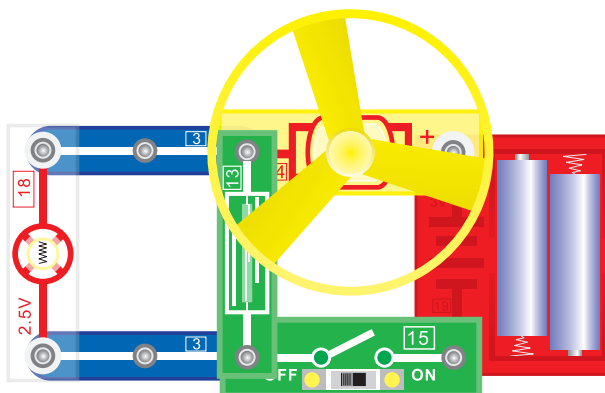


14. Magnet-controlled variable brightness lamp

Closes the press switch (14), control the dry reed switch (13) with magnet, brightness of the lamp (18) will be variable.

15. Hand-controlled variable brightness lamp

Replace the dry reed switch (13) with press switch (14), press the press Switch (14) with hand, brightness of the lamp (18) will be variable.

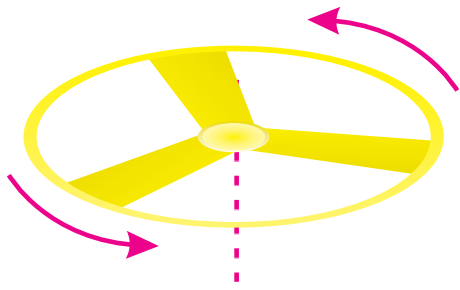


16. Magnet-controlled variable speed fan

Close the slide switch (15), control the dry reed relay (13) with magnet, the speed of fan will be variable.

17. Hand-controlled variable speed fan

Replace the dry reed switch (13) with press switch (14), press the press switch (14) with hand, rotate speed of the motor (24) will be variable.



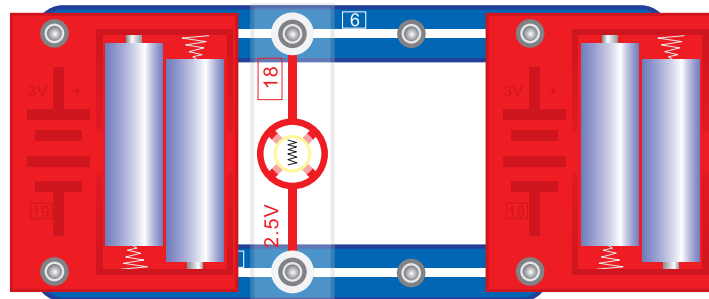
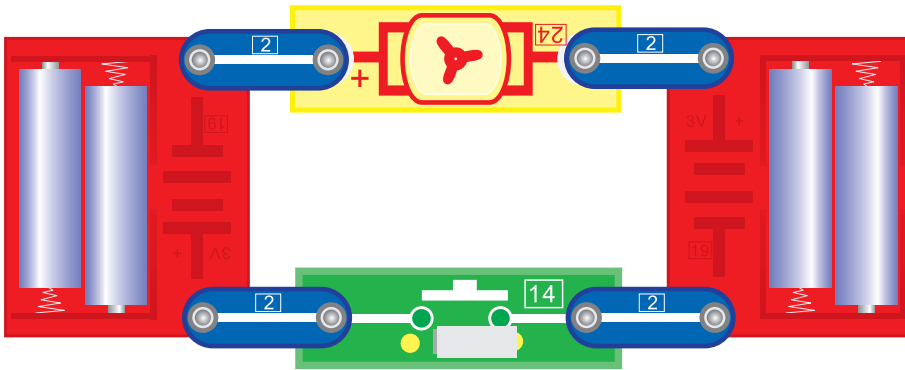
18 Flying dish

Install blades first . Press the press switch [14] , please do not hold the press switch [14] too long . When the motor rotates at relatively high speed , abruptly release the press switch [14] , the saucer will automatically fly up in the air .

(Caution :Flying at people is prohibited.)

19 Direct and reverse running of motor

Reverse the connection of positive and negative poles of the motor [24] , install the blades . Press the press switch [14] , you will find that the motor [24] rotates in reverse direction , the saucer can not fly up and become a powerful fun.



20. Series connection of batteries in the same direction

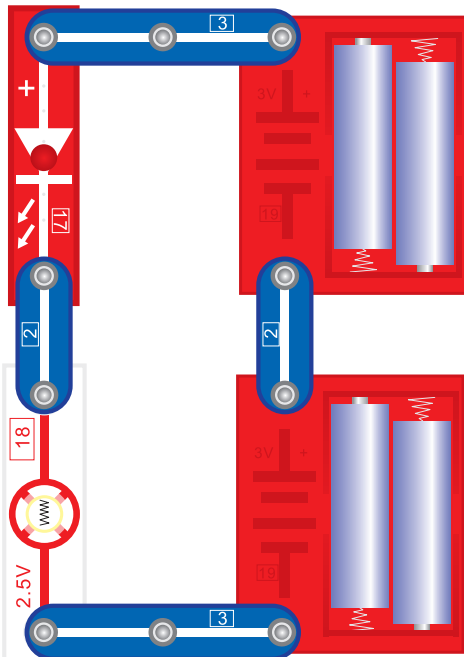
The diagram in the left indicates a series connection in the same direction . In this case , the voltage of the two 3-volt battery sets will add together to become 6 volts.

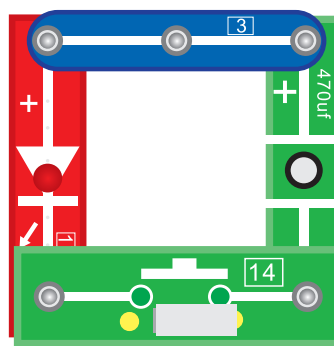
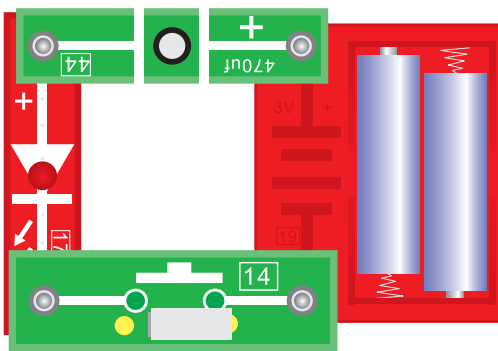
21. Series connection of batteries in the reverse direction

You can try a series connection in the reverse direction . In this case , the voltage of the two 3-volt battery sets will subtract to zero .

22. Parallel connection of batteries

The diagram at the top of the page shows the parallel connection of batteries. In this case , total voltage does not change but the batteries can be used for longer time .





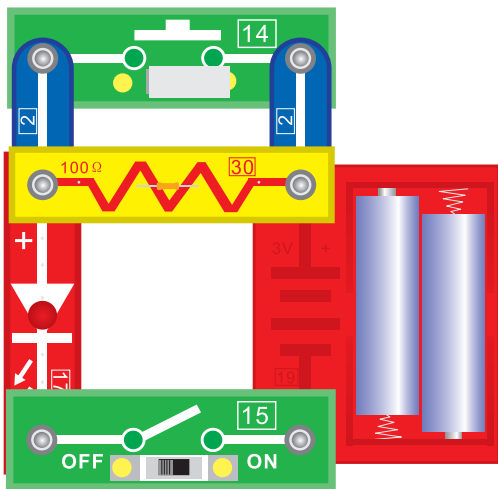
23. Charging of capacity

The diagram in the left-top indicates that if you press the press switch **14**, the LED **17** will flash only once, this is to charge the capacity **44**.

24. Discharging of capacity

Connect a circuit as the diagram in the left-top shows in advance, first charge the capacity **44**, then change the circuit as the diagram at the top of the page as quickly as you can. Press the press switch **14**, the LED **17** can also flash for once, this certifies that the capacity **44** is really charged.

Remark: The positive pole of the capacitor (**44**) must be connected to the positive pole of the battery. **ATTENTION!** The wrong polarising of an electrolyte capacitor can cause a source of danger, which might result in an explosion of the capacitor, or in the escape of unhealthy materials.



25. Function of capacity

The capacity is just like a bucket with a hole at the bottom, it can store electric charge temporarily, just like a bucket with a hole can store water temporarily, but water and electric charge can't remain for long time.

26. Function of resistor

In the left-down diagram, close the slide switch **15**, the LED **17** will light up with weak light. If you press the press switch **14**, the brightness of the LED **17** will be enhanced, this indicates that the resistor **30** plays a function to resist the current to flow, the resistor is just like an obstacle in a water pipe which can resist water to flow.

27. Hand-controlled music doorbell

Close the slide switch **15**, the speaker **20** will make the sound of music. When music stops, the doorbell may then be controlled with the press switch **14**.

28. Magnet-controlled music doorbell

Replace the press switch **14** with a dry reed switch **13**, you can control the doorbell with a magnet.

29. Light-controlled music doorbell

Replace the press switch **14** with a photosensor **16**, you may use light to control the music doorbell. When light hits the photosensor, the doorbell sounds. If the photosensor **16** is shaded from light, the music stops.

30. Water-controlled music doorbell

If the press switch **14** is replaced by a touch plate **12**, sound of music will be given out when water drips onto the touch plate **12**.

31. Sound-controlled music doorbell (1)

Connect the buzzer **11** to terminals A B. When music stops, if you clap your hands or speak aloud, the music will resume.

32. Sound-controlled music doorbell (2)

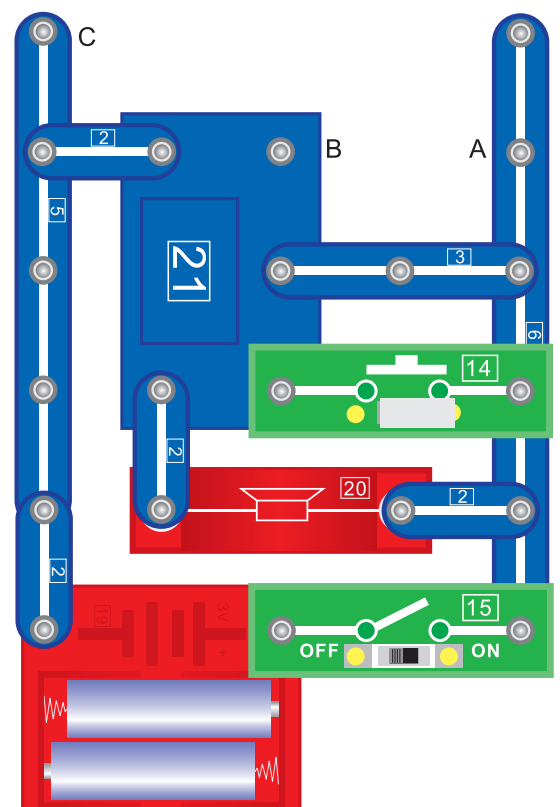
Connect the buzzer **11** to terminals B C. When music stops, if you clap your hands or speak aloud, the music will resume.

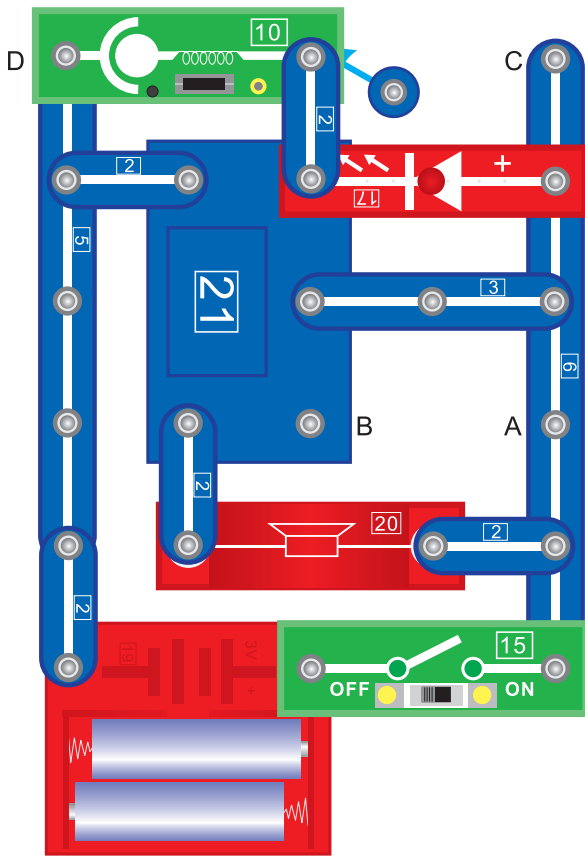
33. Motor-controlled music doorbell (1)

Connect the motor **24** to terminals A B. When music stops, lightly turn the shaft of the motor **24**, the music will resume.

34. Motor-controlled music doorbell (2)

Connect the motor **24** to terminals A B. Operation is as front item.





35. Vibration-controlled music doorbell (1)

Close the slide switch **15**, when music stops, lightly knock the bottom installed plate, the music will resume.

36. Time-delay hand-controlled music doorbell (1)

Replace the vibrating switch **10** with press switch **14**, press only once, the music will resume.

37. Vibration-controlled music doorbell (2)

Replace the LED **17** with vibrating switch **10**, lightly knock the bottom installed plate, the music will resume.

38. Time-delay hand-controlled music doorbell (2)

Replace the LED **17** with press switch **14**, only to press the press switch **14**, the music will resume.

39. Time-delay hand-controlled music doorbell (3)

Remove the vibrating switch **10**, reserve the LED **17**. Connect the press switch **14** to terminals A B, only to press the press switch **14**, the music will resume.

40. Hand-controlled LED

Close the slide switch **15**, when the LED **17** goes out, you can control the LED **17** with press switch **14**.

41. Magnet-controlled LED

Replace the press switch **14** with dry reed switch **13**, you can control the LED **17** with a magnet.

42. Light-controlled LED

Replace the press switch **14** with photosensor **16** you can control the LED **17** with light.

43. Water-controlled LED

Replace the press switch **14** with touch plate **12**, if water drips onto the touch plate, LED **17** lights.

44. Time-delay sound-controlled LED(1)

Connect the buzzer **11** to terminals A B, when the LED **17** goes out, clap your hands, the LED **17** will light up again.

45. Time-delay sound-controlled LED(2)

Connect the buzzer **11** to terminals B C, other operations as front item.

46. Time-delay sound-controlled LED(3)

Connect the speaker **20** to terminals A B, when LED **17** goes out, clap hands aloud to speaker **20**, LED **17** will light up for a period of time.

47. Time-delay sound-controlled LED(4)

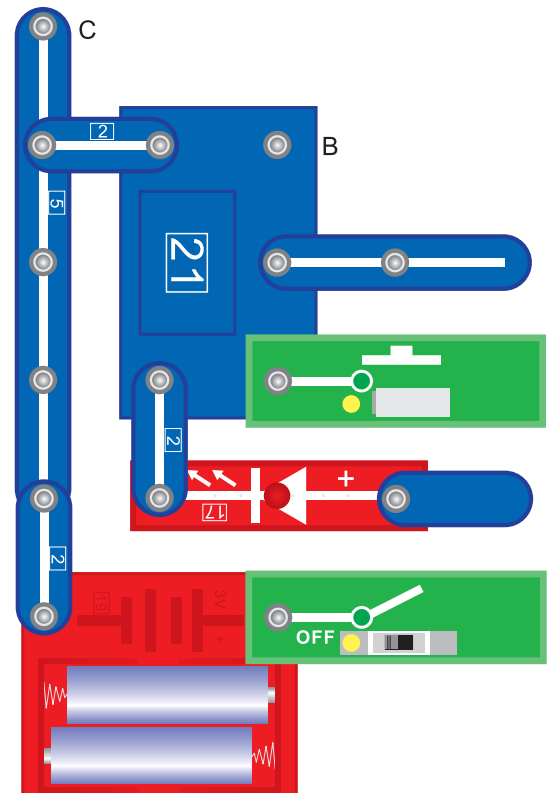
Connect the speaker **20** to terminals B C, other operations as front item.

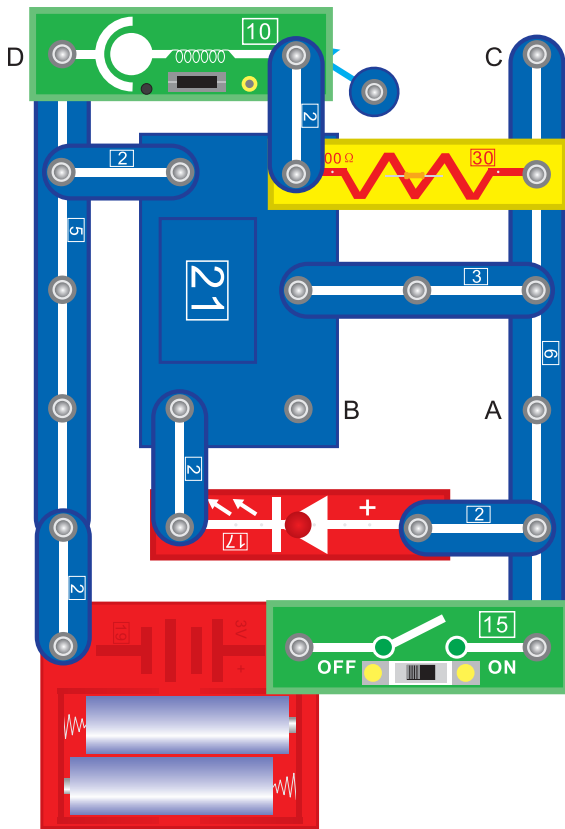
48. Time-delay motor-controlled LED (1)

Connect the motor **24** to terminals A B. When LED **17** Goes out, turn the motor **24** shaft lightly, the LED **17** will light up again and go out after period of time.

49. Time-delay motor-controlled LED (2)

Connect the motor to terminals B C, other operations as front item.





50. Time-delay vibration-controlled LED (1).

Close the slide switch 15 , when the LED 17 goes out , knock the bottom installed plate lightly , the LED 17 will light up again and go out after period of time .

51. Time-delay hand-controlled LED (1)

Replace the vibrating switch 10 with press switch 14 , press the press switch 14 , the LED 17 will light up for a period of time.

52. Time-delay vibration-controlled LED (2)

Replace the resistor 30 with vibrating switch 10 , knock the bottom installed plate lightly , the LED 17 will light up for a period time .

53. Time-delay hand-controlled LED (2)

Replace the resistor 30 with press switch 14 , press the press switch 14 , the LED 17 will light up for a period of time.

54. Time-delay hand-controlled LED (3)

Remove the vibrating switch 10 , reserve the resistor 30 , connect the press switch 14 to terminals A B , press the press switch 14 , the LED will light up for a period of time .

55. Hand-controlled flashing lamp

Close the slide switch 15 , when the lamp 18 goes out , you can control the lamp 18 to flash with press switch 14 .

56. Magnet-controlled flashing lamp

Replace the press switch 14 with dry reed switch 13 , you can control the lamp to flash with magnet.

57. Light-controlled flashing lamp

Replace the press switch 14 with photosensor 16 , you can control the lamp 18 to flash with light.

58. Water-controlled flashing lamp

Replace the press switch 14 with touch plate 12 , if water drips onto touch plate 12 , the lamp 18 will flash .

59. Time-delay sound-controlled flashing lamp (1)

Connect the buzzer 11 to terminals A B ,when the lamp 18 goes out ,clap your hands , the lamp 18 will flash again and goes out after a period of time .

60. Time-delay sound-controlled flashing lamp (2)

Connect the buzzer 11 to terminals B C , Other operation as front item .

61. Time-delay sound-controlled flashing lamp (3)

Connect the speaker 20 to terminals A B ,when the lamp 18 goes out ,clap your hands aloud, the lamp 18 will flash again and goes out for a period of time .

62. Time-delay sound-controlled flashing lamp (4)

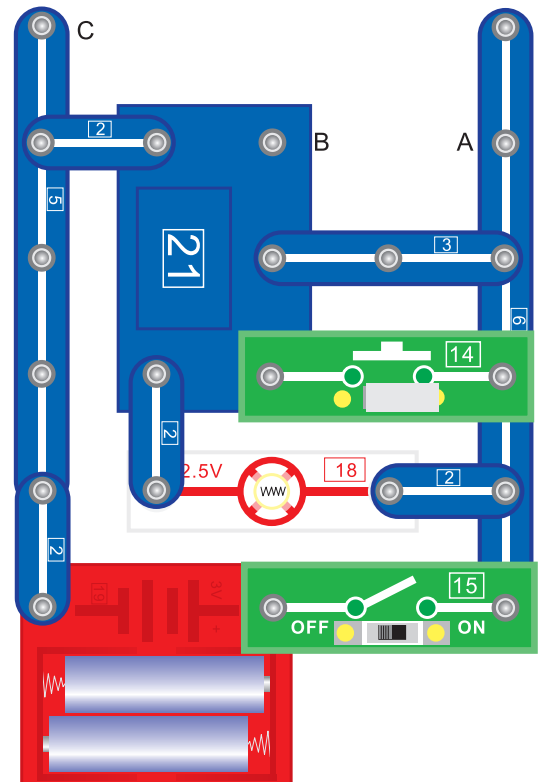
Connect the speaker 20 to terminals B C .Other operations as front item .

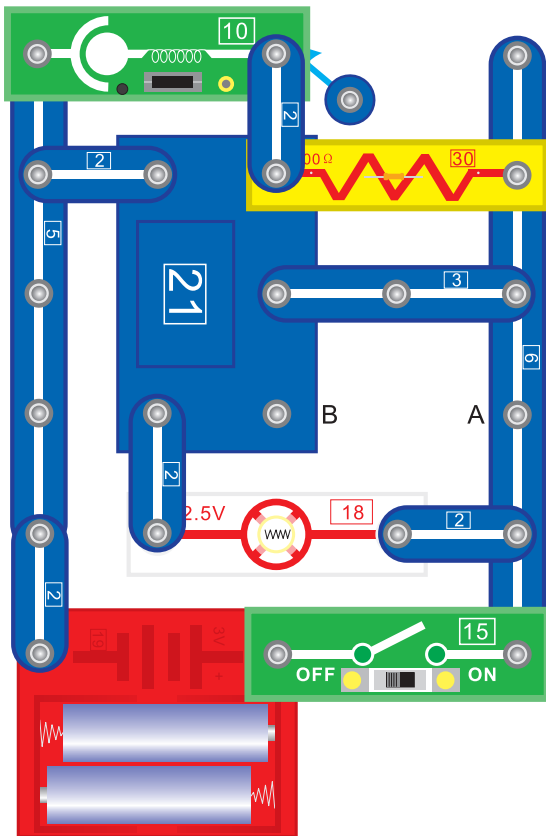
63. Time-delay motor-controlled flashing lamp (1)

Connect the motor 24 to terminals A B ,when the lamp 18 goes out ,turn the motor 24 shaft lightly ,the lamp 18 will flash again and goes out for a period of time.

64. Time-delay motor-controlled flashing lamp (2)

Connect the motor 24 to terminals B C .Other operations as front item.





65. Time-delay vibration-controlled flashing lamp (1)

Close the slide switch **15**, when the lamp **18** goes out, knock the bottom installed plate lightly, the lamp **18** will flash again and goes out for a period of time.

66. Time-delay hand-controlled flashing lamp(1)

Replace the vibrating switch **10** with press switch **14**, press the press switch **14**, the lamp **18** will flash again and goes out for a period of time.

67. Time-delay vibration-controlled flashing lamp (2)

Replace the resistor **30** with vibrating switch **10**, knock the bottom installed plate lightly, the lamp **18** will flash again and goes out for a period of time.

68. Time-delay hand-controlled flashing lamp(2)

Replace the resistor **30** with press switch **14**, press the press switch **14**, the lamp **18** will flash again and goes out for a period of time.

69. Time-delay hand-controlled flashing lamp(3)

Remove the vibrating switch **10**, reserve the resistor **30**, connect the press switch **14** to terminals A B, press the press switch **14**, the lamp **18** will flash again and goes out for a period of time.

70. Hand-controlled song singing motor

Close the slide switch **15**, when the music stops, the motor **24** will make the music by the control of press switch **14**.

71. Magnet-controlled song singing motor

Replace the press switch **14** with dry reed switch **13**, the motor **24** will make the music by the control of magnet.

72. Light-controlled song singing electric motor

Replace the press switch **14** with photosensor **16**, the motor **24** will make the music by the control of light.

73. Water-controlled song singing motor

Replace the press switch **14** with touch plate **12**, if water drips onto touch plate **12**, the motor **24** will make the music.

74. Time-delay sound-controlled song singing motor (1)

Connect the buzzer **11** to terminals A B, when the music stops, clap hands aloud, the motor **24** will give out music.

75. Time-delay sound-controlled song singing motor (2)

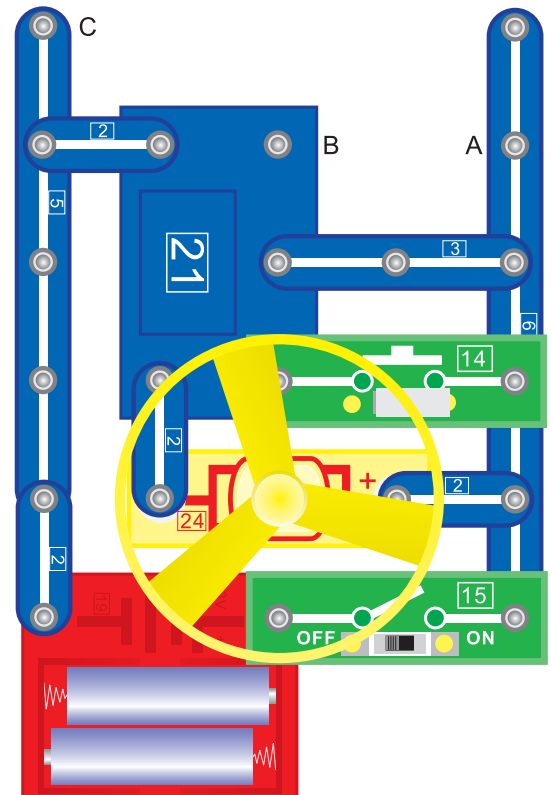
Connect the buzzer **11** to terminals B C. Other operations as front item.

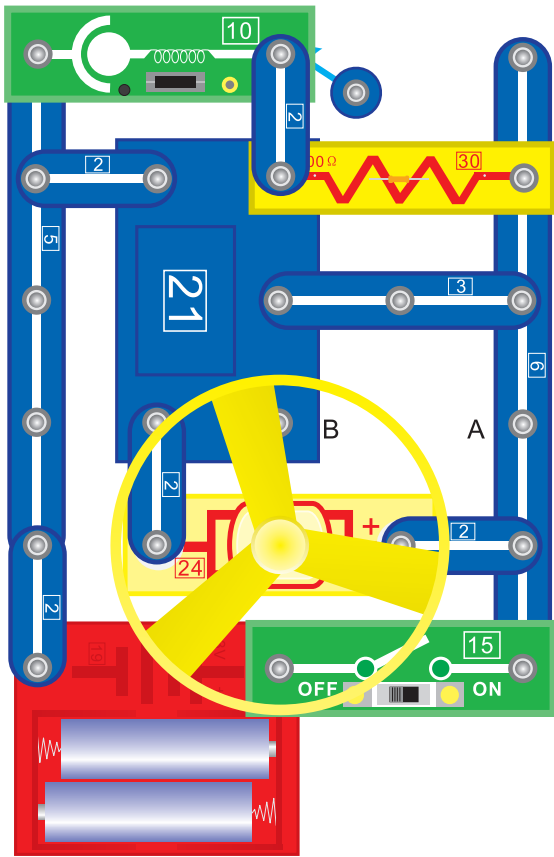
76. Time-delay sound-controlled song singing motor (3)

Connect the speaker **20** to terminals A B, when the music stops, clap hands aloud, the motor **24** will make the music.

77. Time-delay sound-controlled song singing motor (4)

Connect the speaker **20** to terminals B C. Other operations as front item.





78. Time-delay vibration-controlled song singing motor (1)

Close the slide switch 15 , when the music stops , knock the bottom installed plate lightly , the motor 24 will make the music.

79. Time-delay hand-controlled song singing motor (1)

Replace the vibrating switch 10 with press switch 14 , press the press switch 14 , the motor 24 will make the music.

80. Time-delay vibration-controlled song singing motor (2)

Replace the resistor 30 with vibrating switch 10 knock the bottom installed plate lightly, the motor 24 will make the music.

81. Time-delay hand-controlled song singing motor (2)

Replace the resistor 30 with press switch 14 , press the press switch 14 , the motor 24 will make the music.

82. Time-delay hand-controlled song singing motor (3)

Remove the vibrating switch 10 , reserve the resistor 30 . Connect the press switch 14 to terminals A B, press the press switch 14 ,the motor 24 will make the music.

83. Hand-controlled music of buzzer

Close the slide switch 15 , when the music stops , you may control the music of beep with press switch 14 .

84. Magnet-controlled music of buzzer

Replace the press switch 14 with dry reed switch 13 , you may control the music of beep with a magnet.

85. Light-controlled music of buzzer

Replace the press switch 14 with photosensor 16 , you may control the music of beep with light.

86. Water-controlled music of buzzer

Replace the press switch 14 with touch plate 12 , if water drips onto the touch plate 12 , the buzzer 11 will make the music.

87. Sound-controlled music of buzzer(1)

Connect speaker 20 to terminals AB , when music stops , clap hands aloud , the buzzer 11 will make the music .

88. Sound-controlled music of buzzer(2)

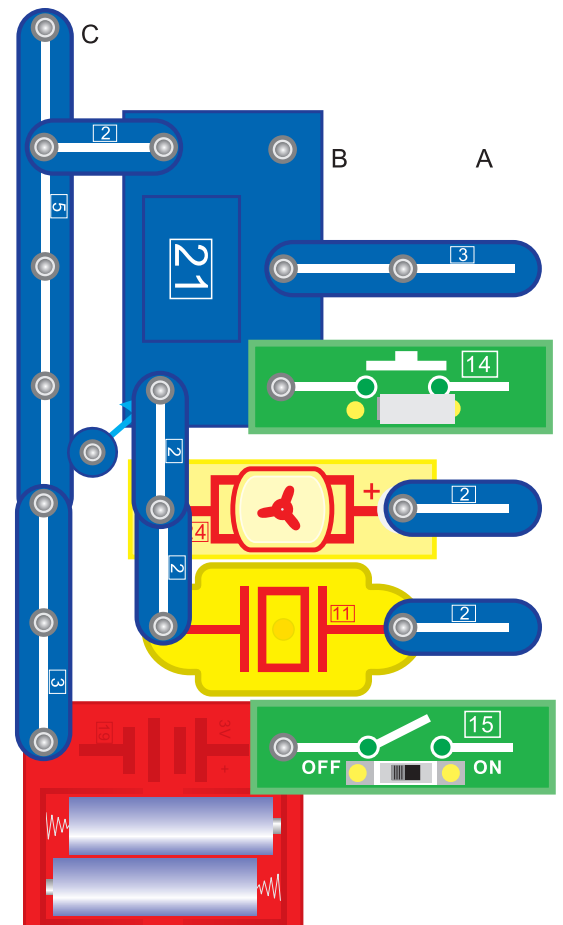
Connect speaker 20 to terminals BC . Other operations as front item .

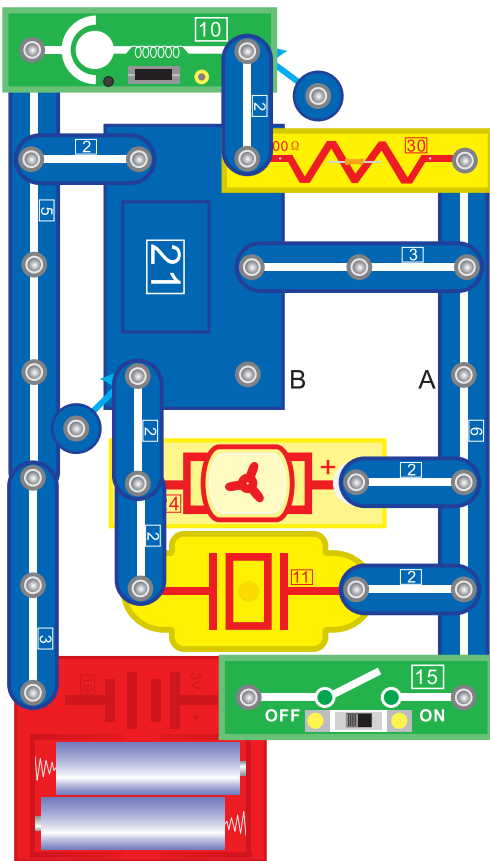
89. Motor-controlled music of buzzer(1)

Replace the motor 24 with lamp 18 firstly , then connect the motor 24 to terminals A B , when the music stops , turn the motor 24 shaft lightly , the buzzer 11 will make the music.

90. Motor-controlled music of buzzer(2)

Connect the motor 24 to terminals BC . Other operations as front item.





91. Time-delay vibration-controlled music of buzzer

Close the slide switch **15** , when the music stops , knock the bottom installed plate , the buzzer **11** will make the music.

92. Time-delay hand-controlled music of buzzer(1)

Replace the vibrating switch **10** with press switch **14** , press the press switch , the buzzer **11** will make the music.

93. Time-delay vibration-controlled music of buzzer(2)

Replace the resistor **30** with vibrating switch **10** , knock the bottom installed plate , the buzzer **11** will make the music .

94. Time-delay hand-controlled music of buzzer(2)

Replace the resistor **30** with press switch **14** , press the press switch **14** , the buzzer **11** will give out music.

95. Time-delay hand-controlled music of buzzer(3)

Remove the vibrating switch **11** , reserve the Resistor **30** .Connect the press switch **14** to terminals A B , press the press switch **14** , the buzzer **11** will make the music.

96. Hand-controlled acoustic-optic doorbell

97. Magnet-controlled acoustic-optic doorbell

98. Light-controlled acoustic-optic doorbell

99. Water-controlled acoustic-optic doorbell

100. Sound-controlled acoustic-optic doorbell(1).

101. Sound-controlled acoustic-optic doorbell(2).

102. motor-controlled acoustic-optic doorbell(1)

103. motor-controlled acoustic-optic doorbell(2)

Operations of above circuits is as same as item 27 to 34 .

