

# Light Tower

## Assembly Instructions



**Artec Co., Ltd.**

Address: 3-2-21 Kitakamei-cho, Yao-shi, Osaka  
581-0066 Japan

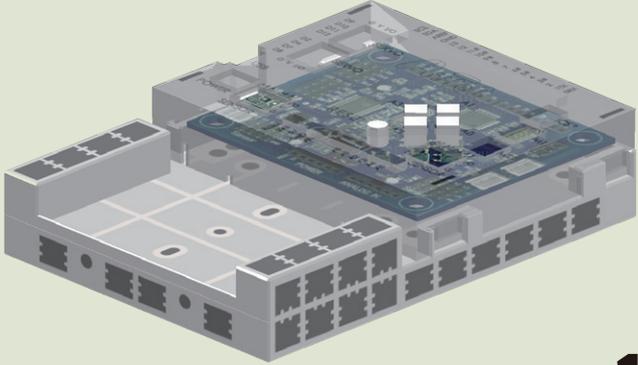
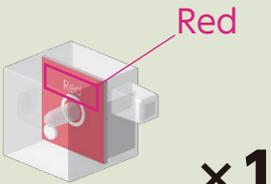
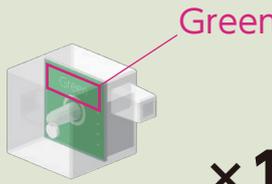
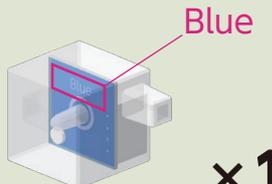
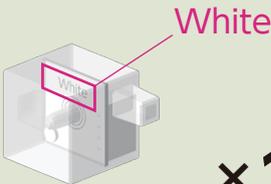
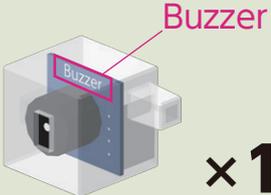
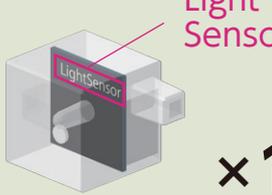
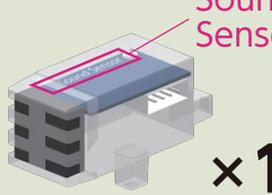
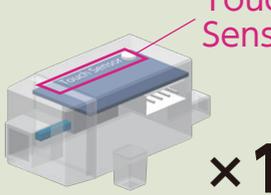
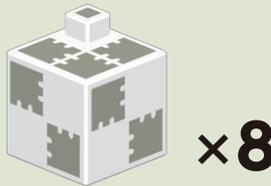
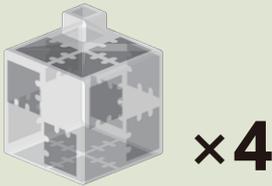
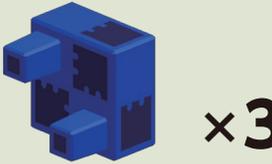
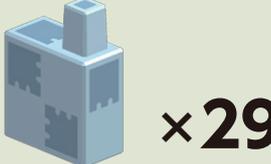
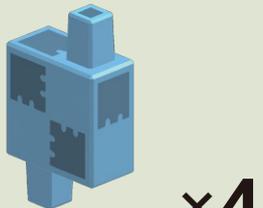
E-mail: [export@artec-kk.co.jp](mailto:export@artec-kk.co.jp)

Website: [www.artec-kk.co.jp/en](http://www.artec-kk.co.jp/en)

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# Light Tower

## Contents

<p>Studuino Unit</p>  <p style="text-align: right;"><b>×1</b></p>		<p>Battery Box</p>  <p style="text-align: right;"><b>×1</b></p>	
<p>LED (red)</p>  <p style="text-align: right;"><b>×1</b></p>	<p>LED (green)</p>  <p style="text-align: right;"><b>×1</b></p>	<p>LED (blue)</p>  <p style="text-align: right;"><b>×1</b></p>	<p>LED (white)</p>  <p style="text-align: right;"><b>×1</b></p>
<p>Buzzer</p>  <p style="text-align: right;"><b>×1</b></p>	<p>Light sensor</p>  <p style="text-align: right;"><b>×1</b></p>	<p>Sound sensor</p>  <p style="text-align: right;"><b>×1</b></p>	<p>Touch sensor</p>  <p style="text-align: right;"><b>×1</b></p>
<p>Basic Cube (white)</p>  <p style="text-align: right;"><b>×8</b></p>	<p>Basic Cube (clear)</p>  <p style="text-align: right;"><b>×4</b></p>	<p>Half B (blue)</p>  <p style="text-align: right;"><b>×3</b></p>	<p>Half C (light aqua)</p>  <p style="text-align: right;"><b>×29</b></p>
<p>Half D (light blue)</p>  <p style="text-align: right;"><b>×4</b></p>	<p>USB Cable</p>  <p style="text-align: right;"><b>×1</b></p>		<p>Sensor Connecting Cable (three-wire 15 cm)</p>  <p style="text-align: right;"><b>×8</b></p>

# Biped Walking Robot

## Assembly Instruction Labels

×1

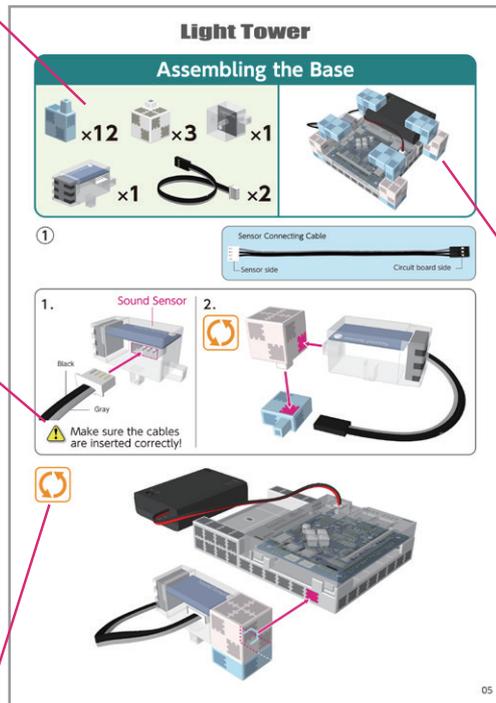
Shows the parts needed for assembly. Indicates the number of parts needed for assembly.



Indicates tips or warning when building a specific item.



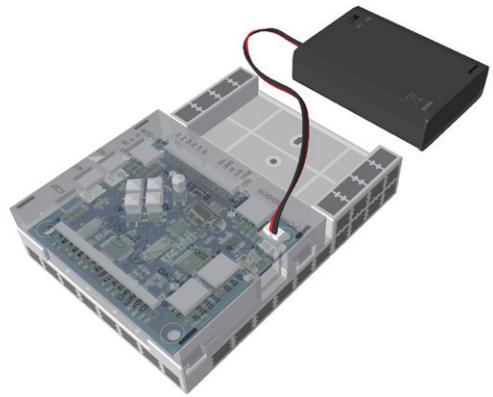
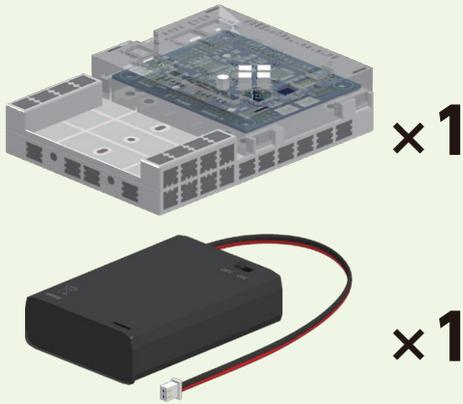
Indicates when the direction of a component must be changed for assembly.



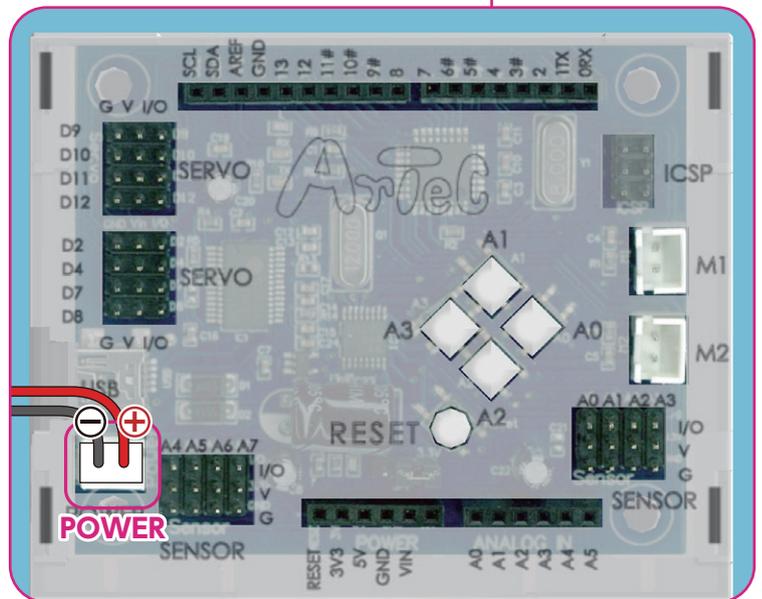
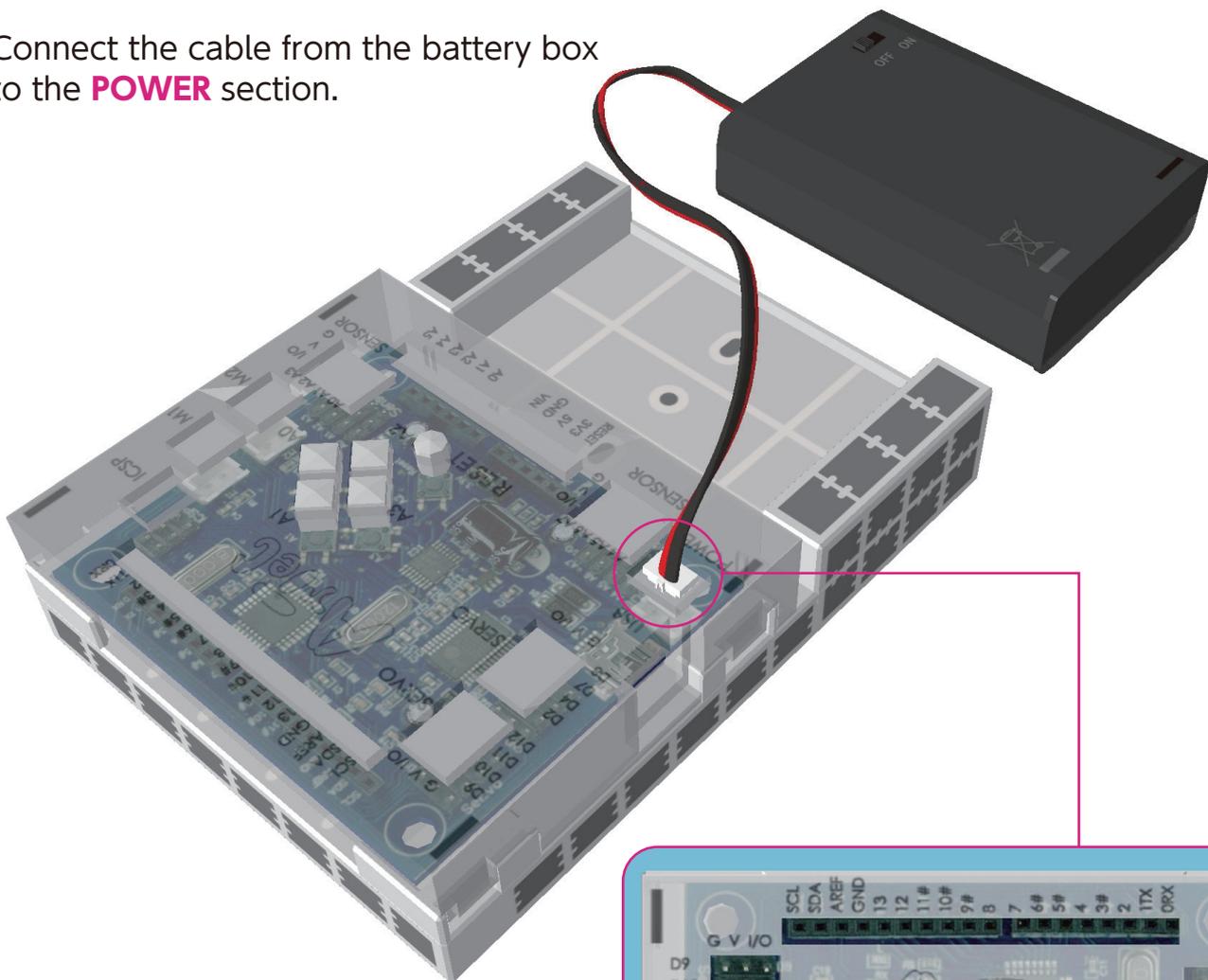
Shows an image of the completely assembled item.

# Light Tower

## Adding the Battery Box

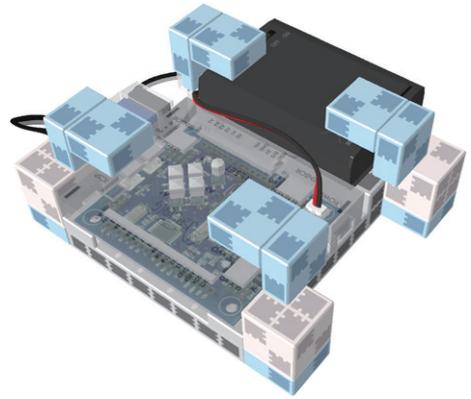
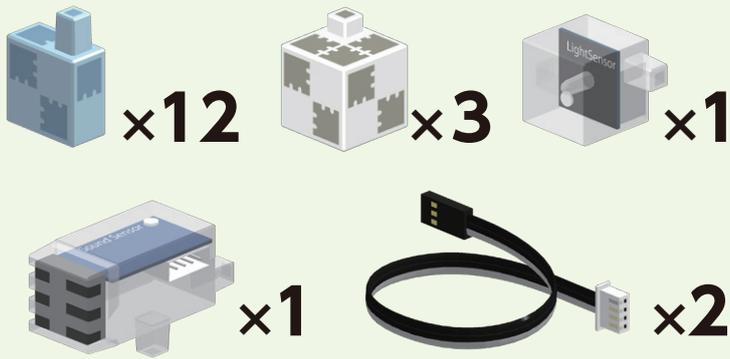


Connect the cable from the battery box to the **POWER** section.



# Light Tower

## Assembling the Base



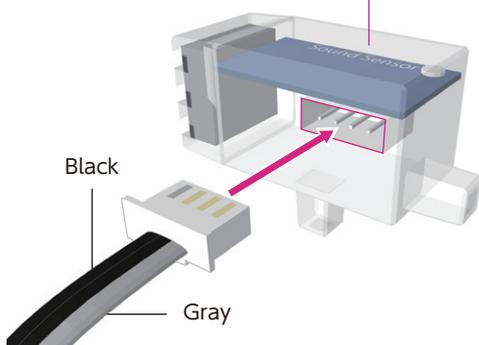
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Sensor Connecting Cable



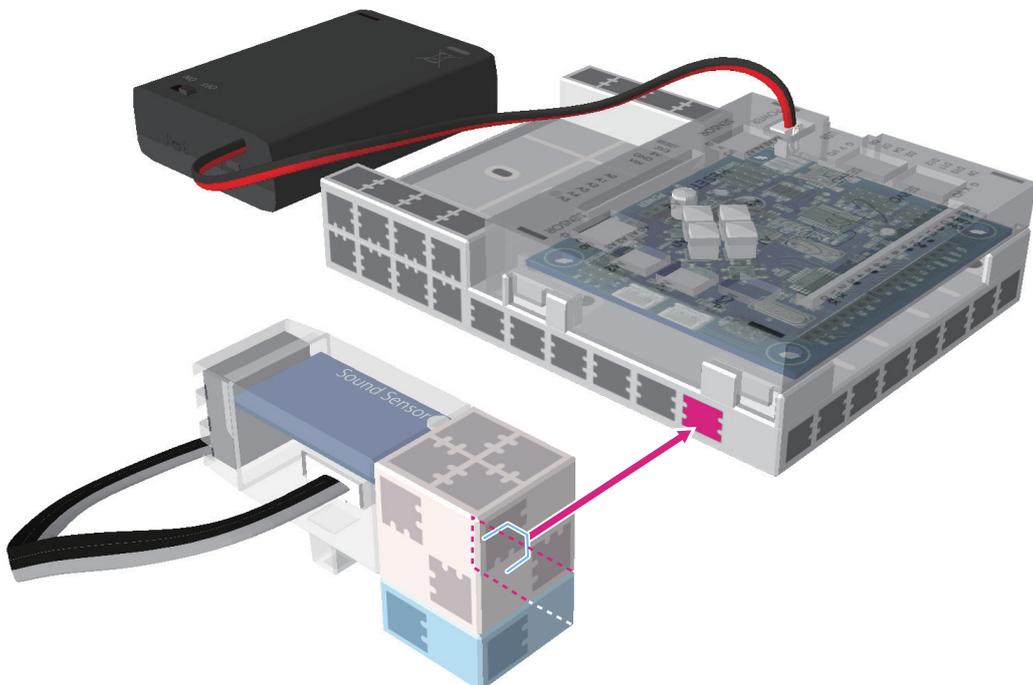
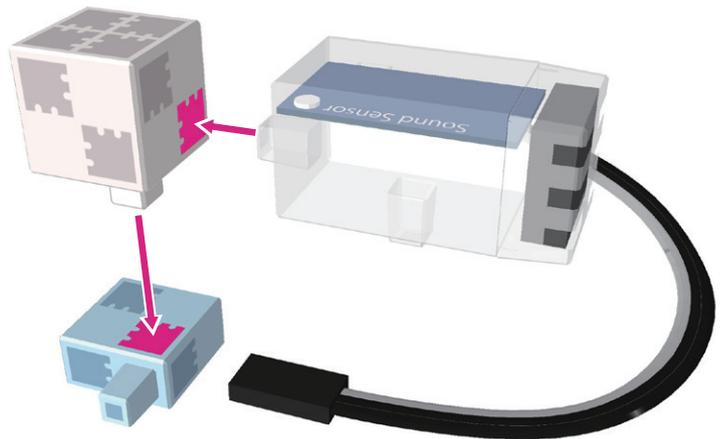
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Sound Sensor



⚠ Make sure the cables are inserted correctly!

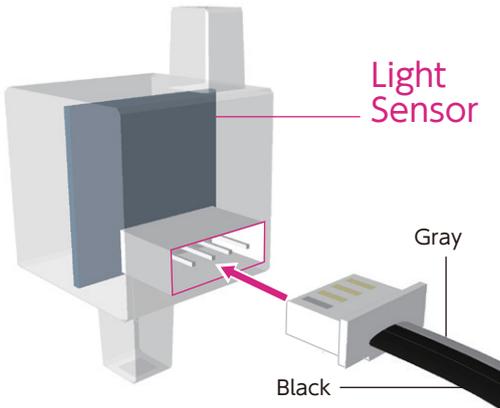
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# Light Tower

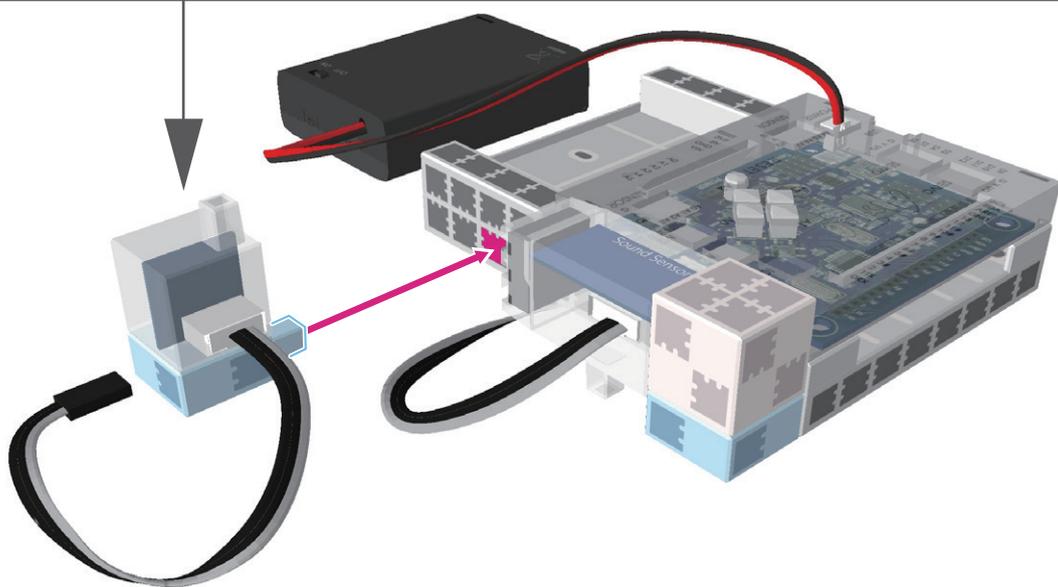
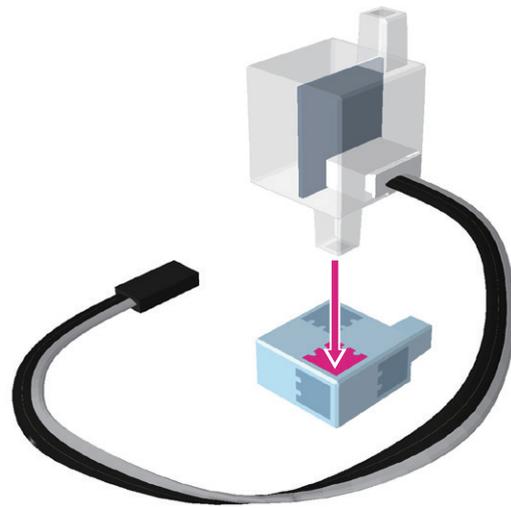
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1.

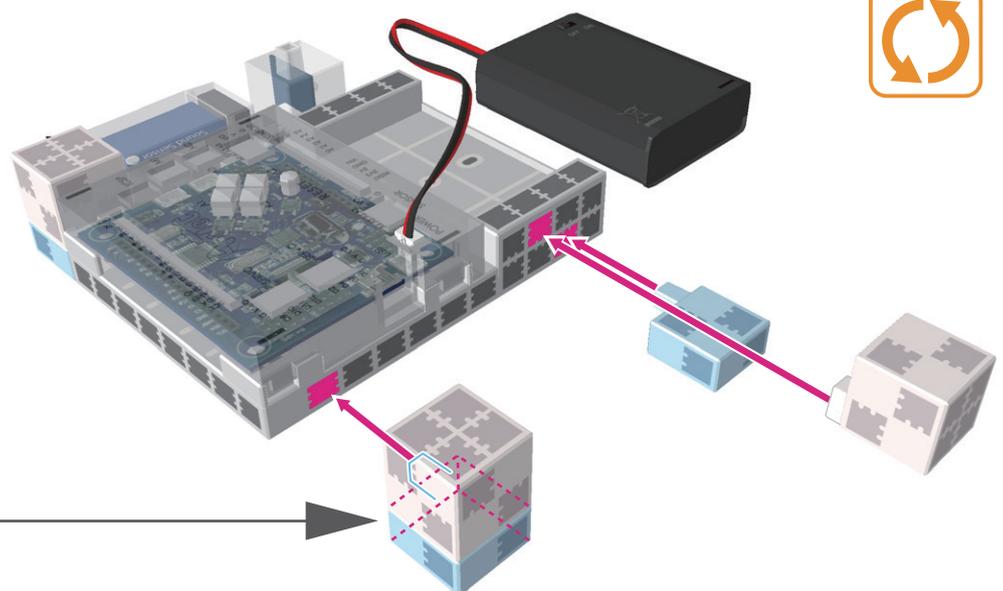
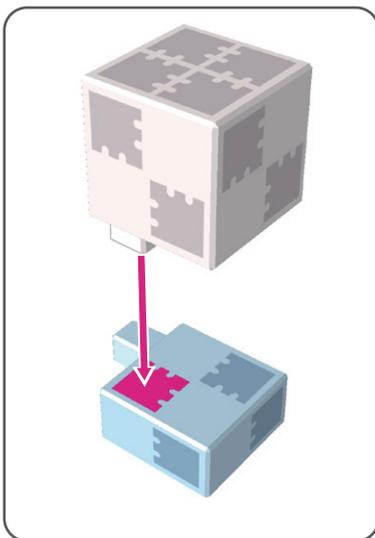


Make sure the cables are inserted correctly!

2.

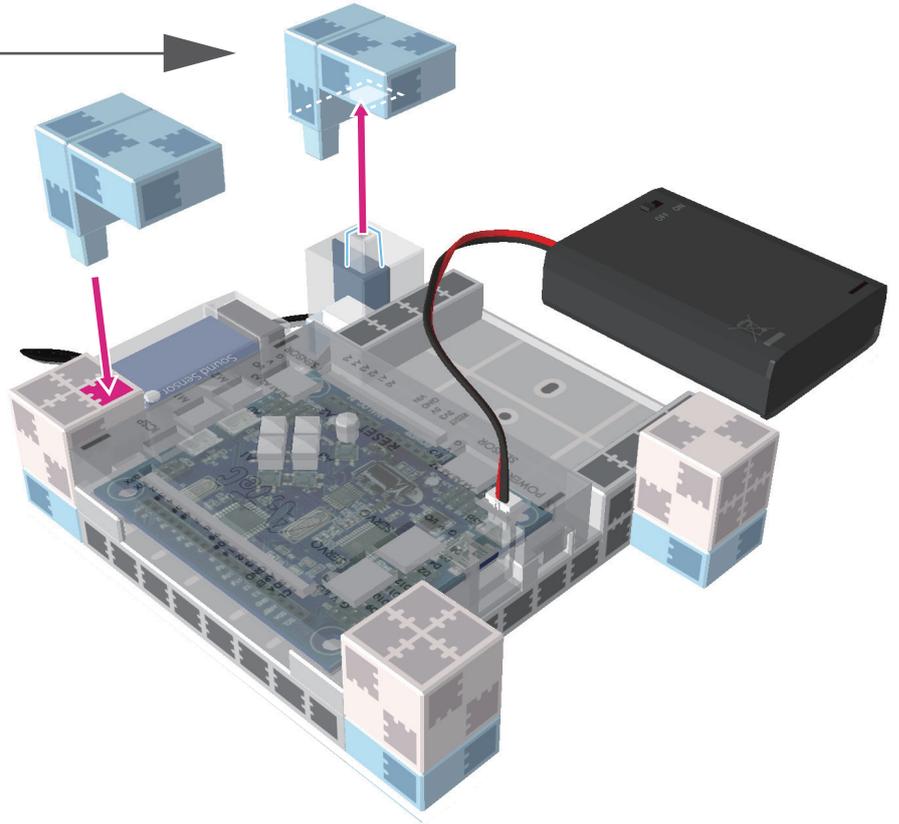
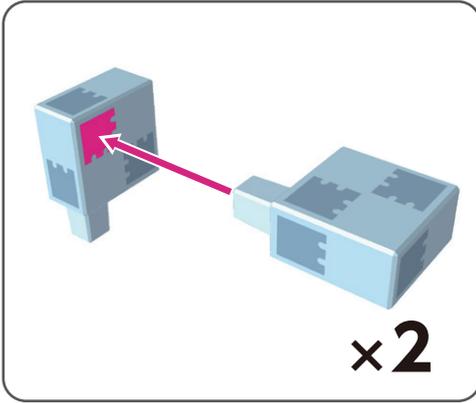


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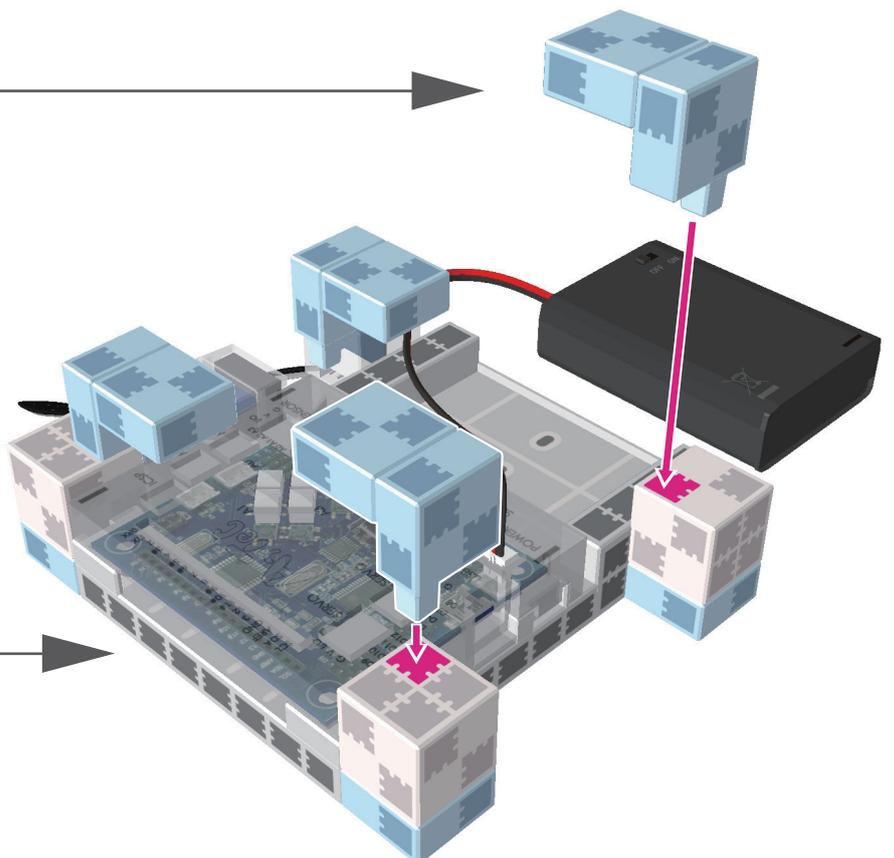
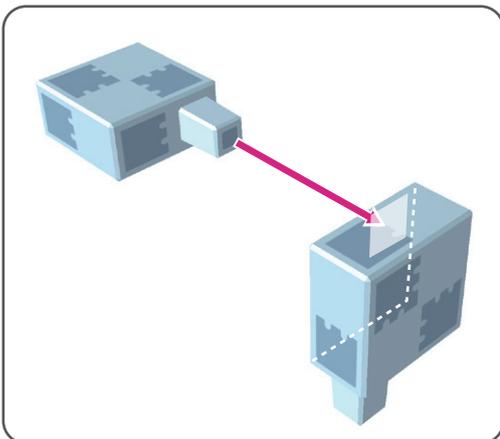
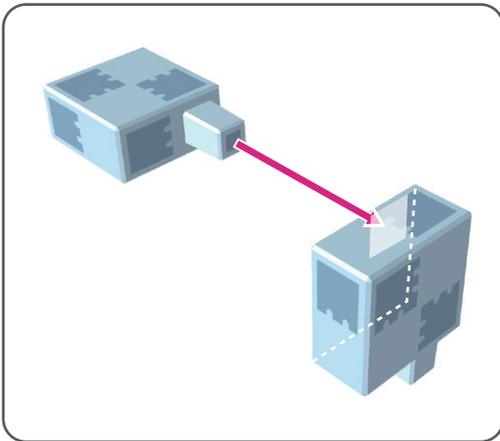


# Light Tower

4

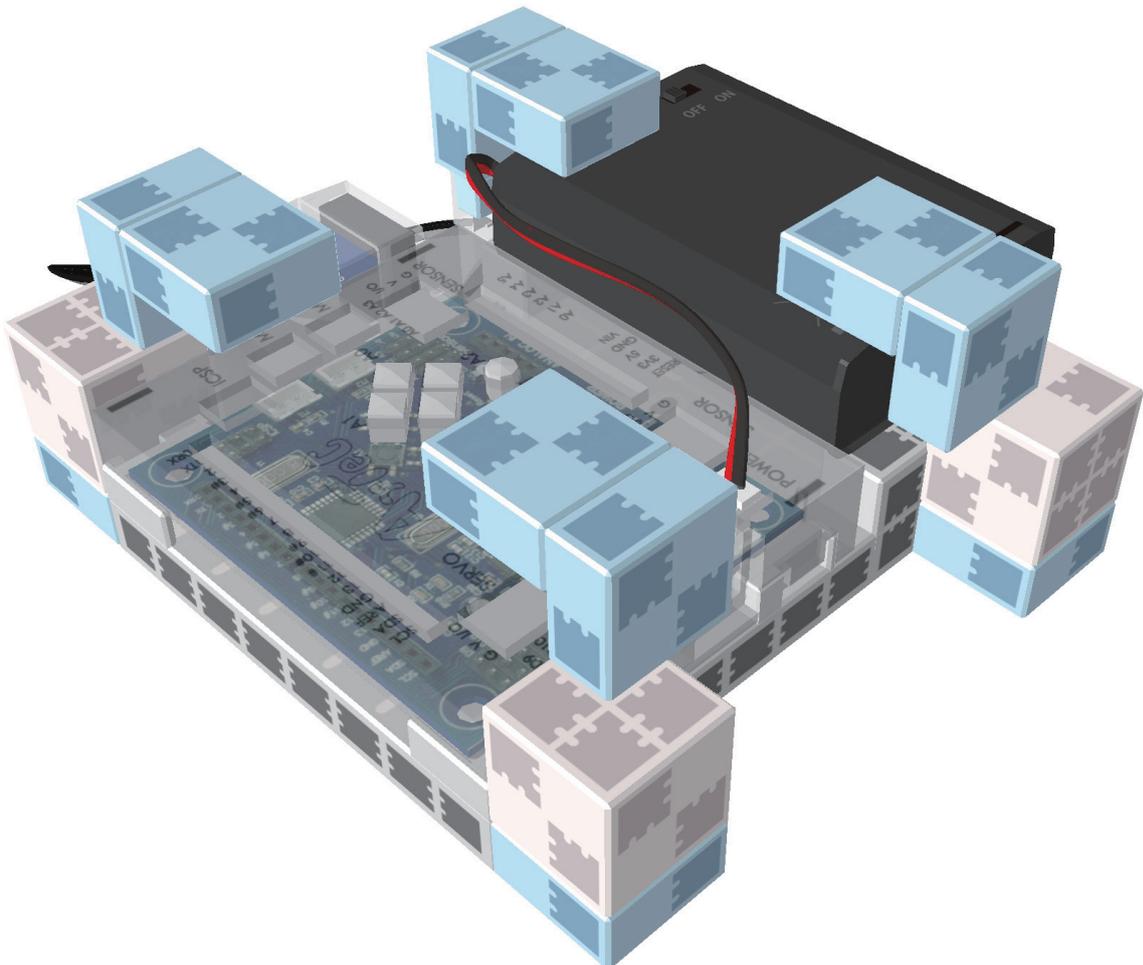
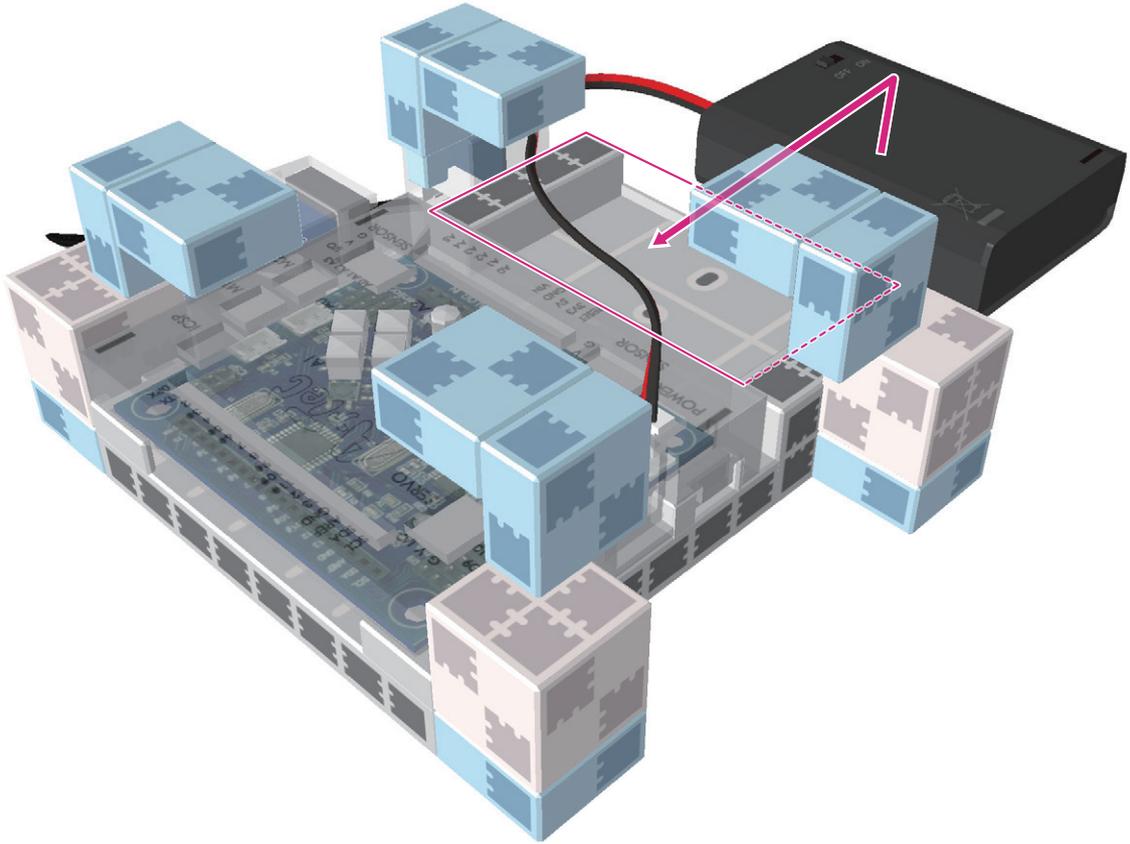


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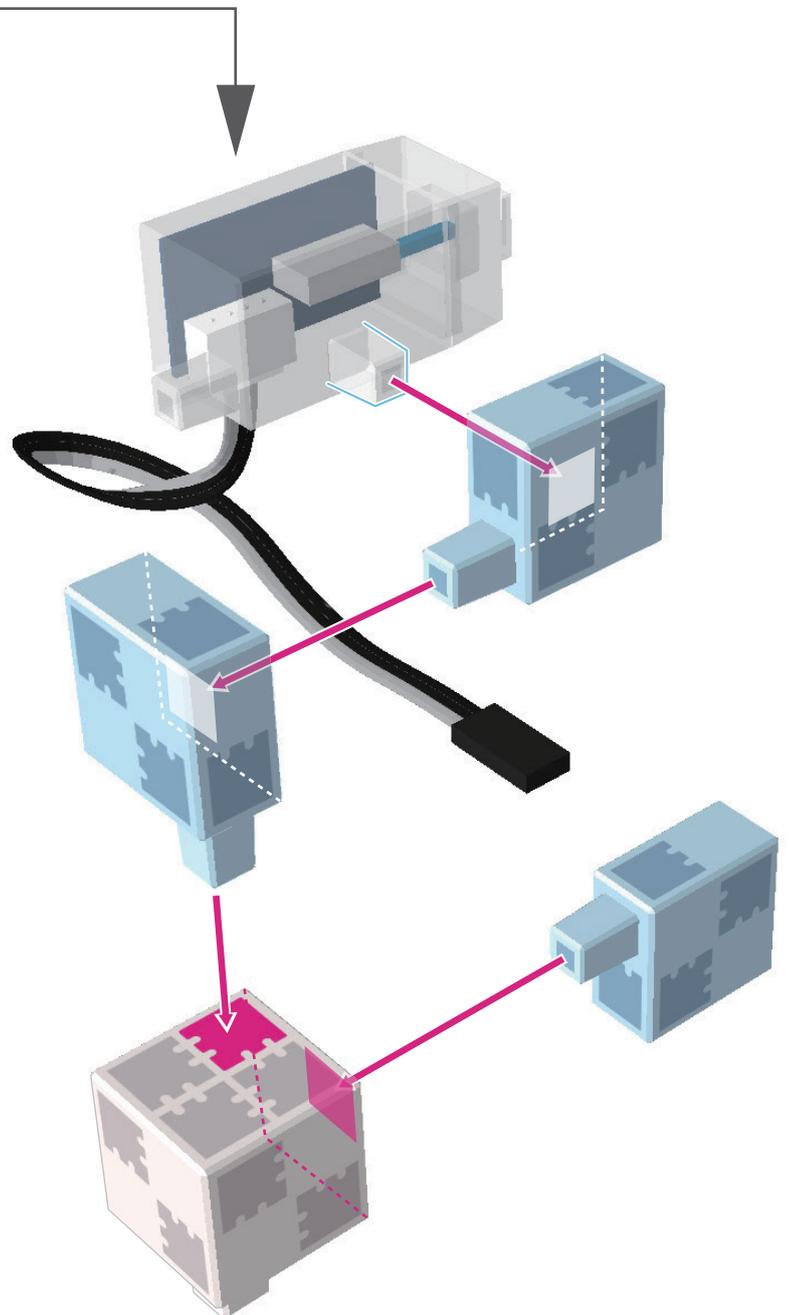
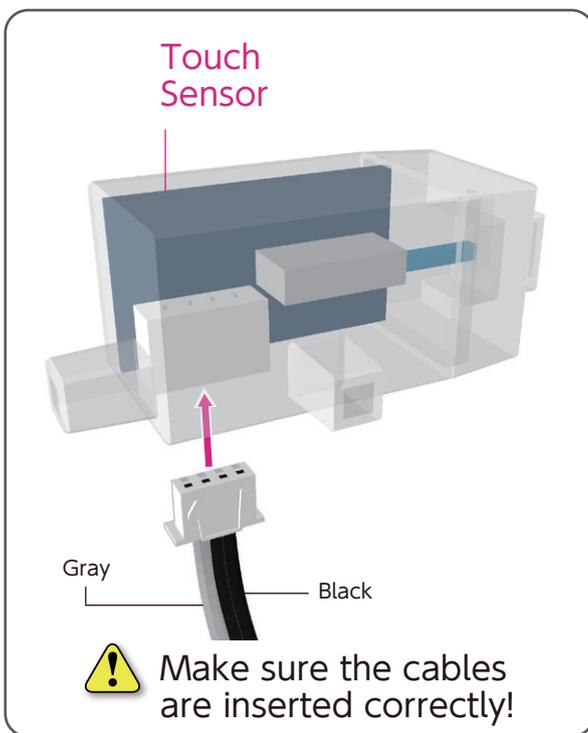
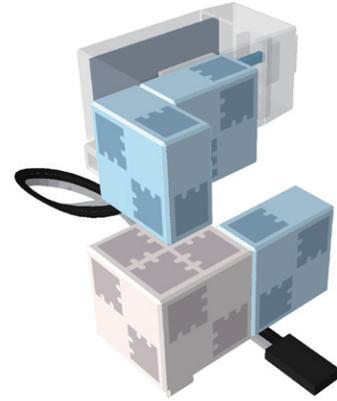
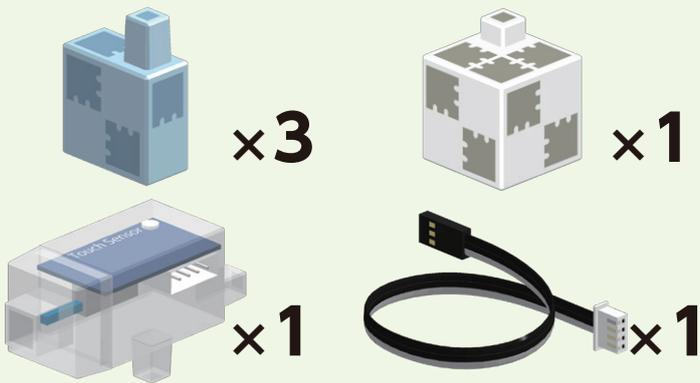
# Light Tower

6



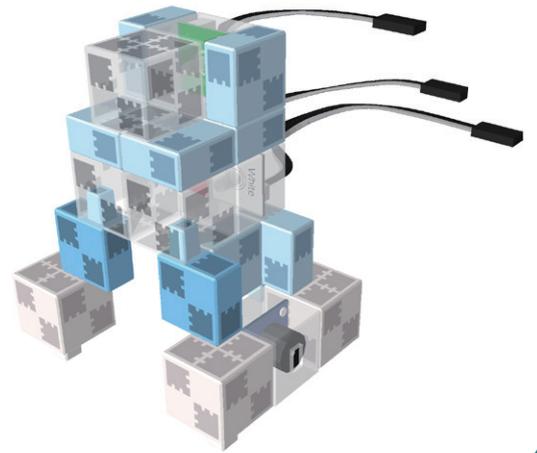
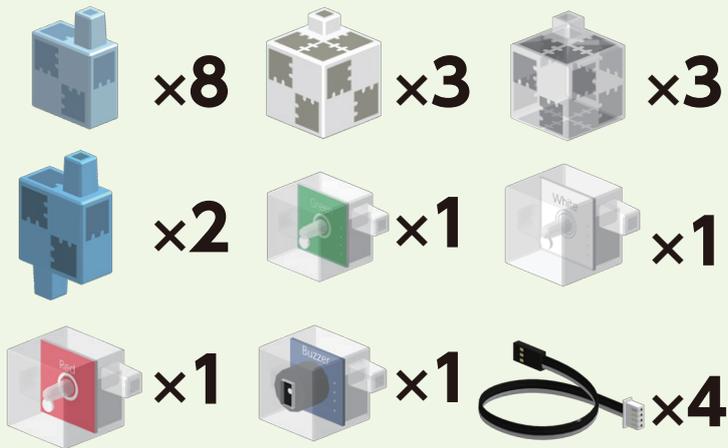
# Light Tower

## Assembling the Touch Sensor

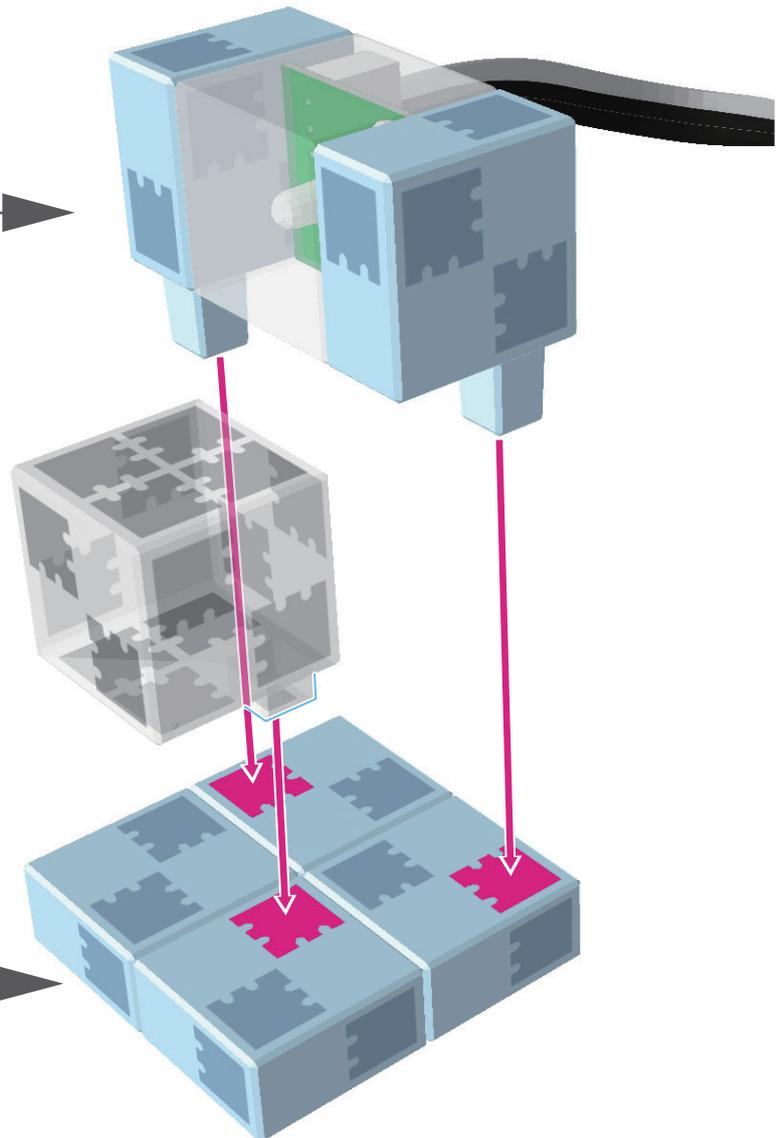
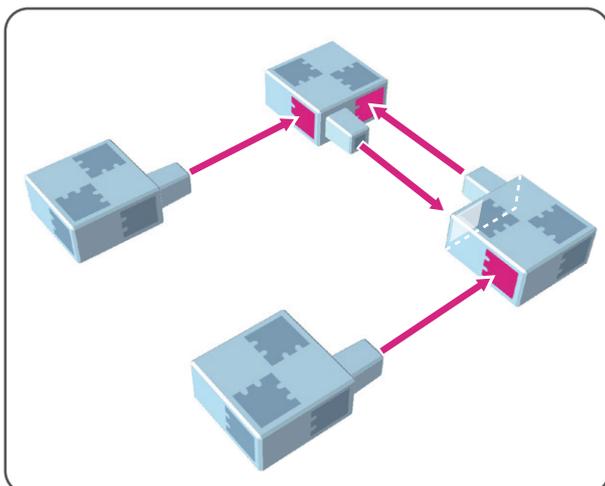
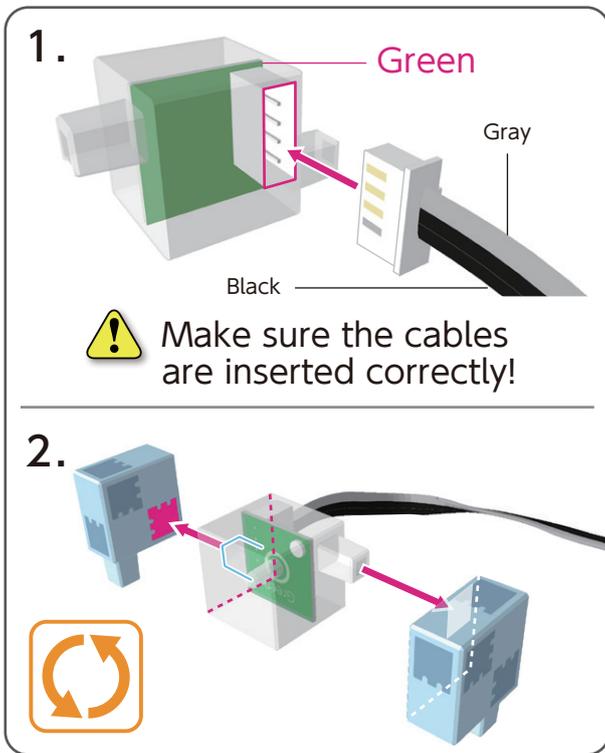


# Light Tower

## Assembling the Center

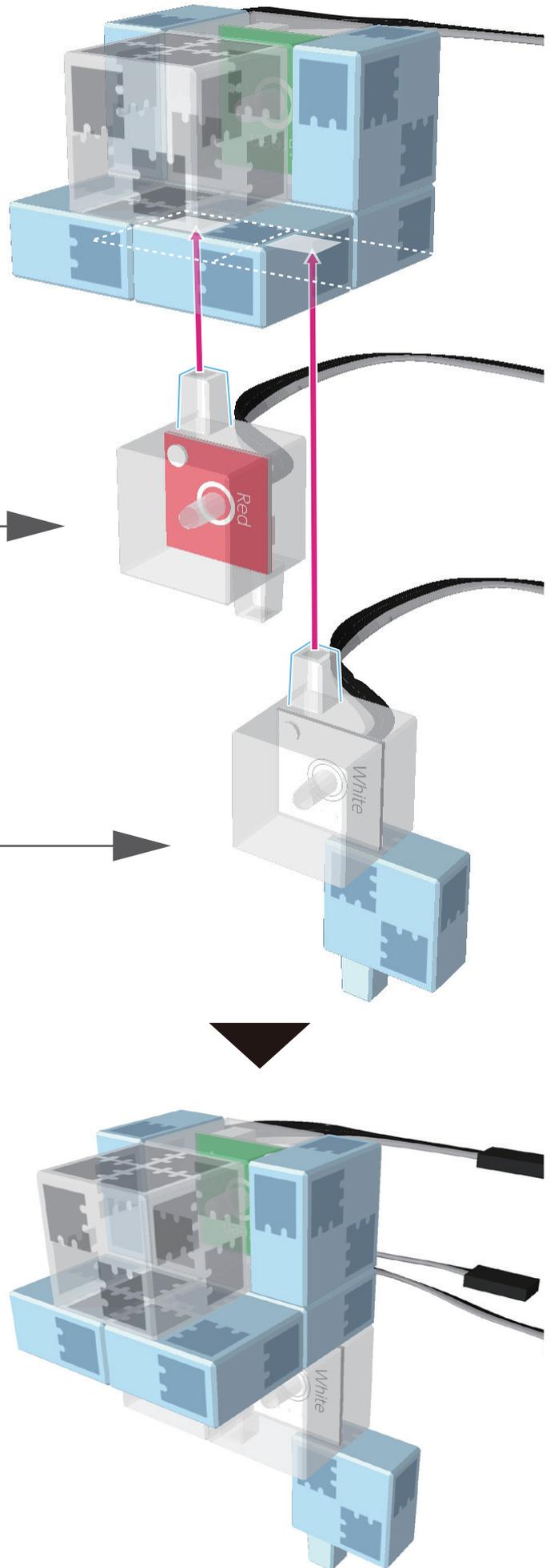
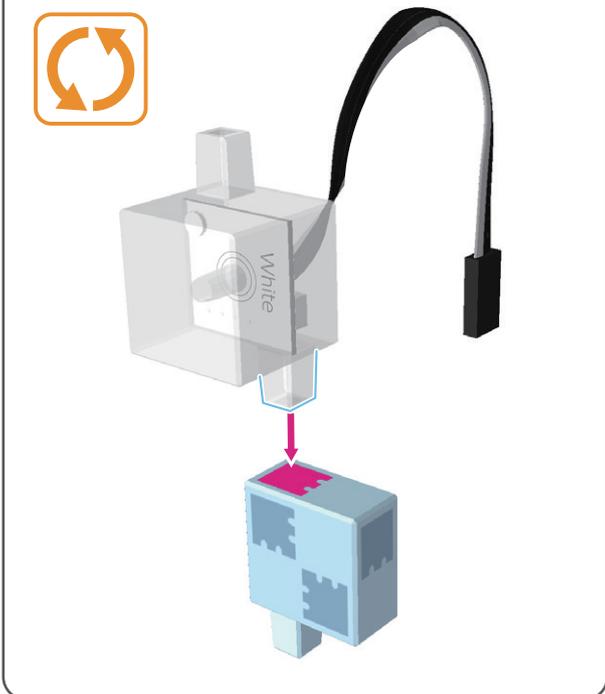
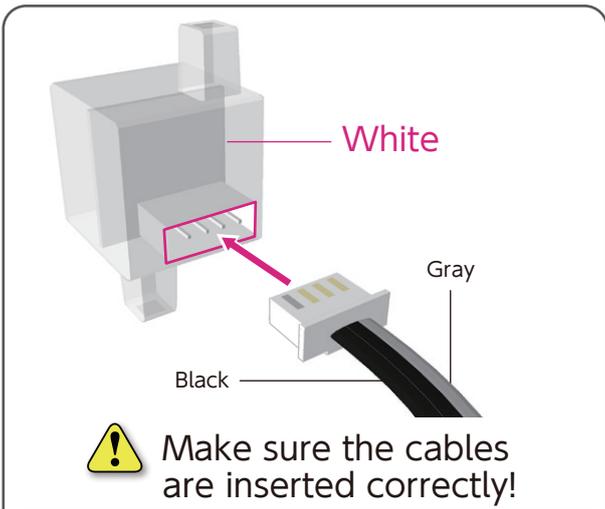
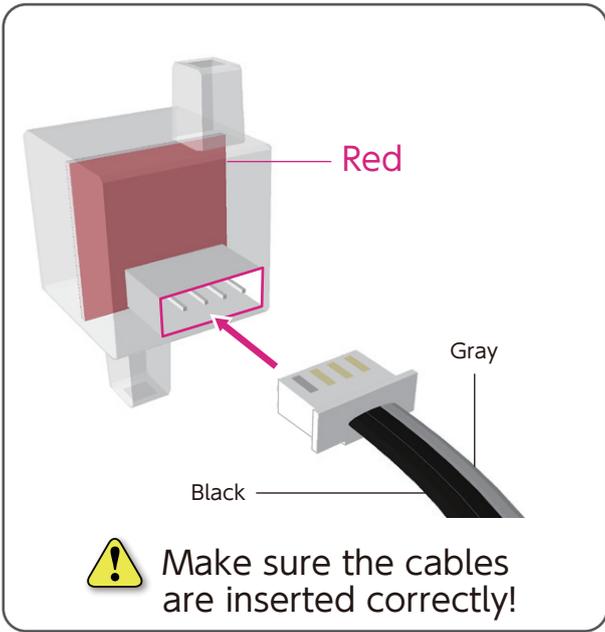


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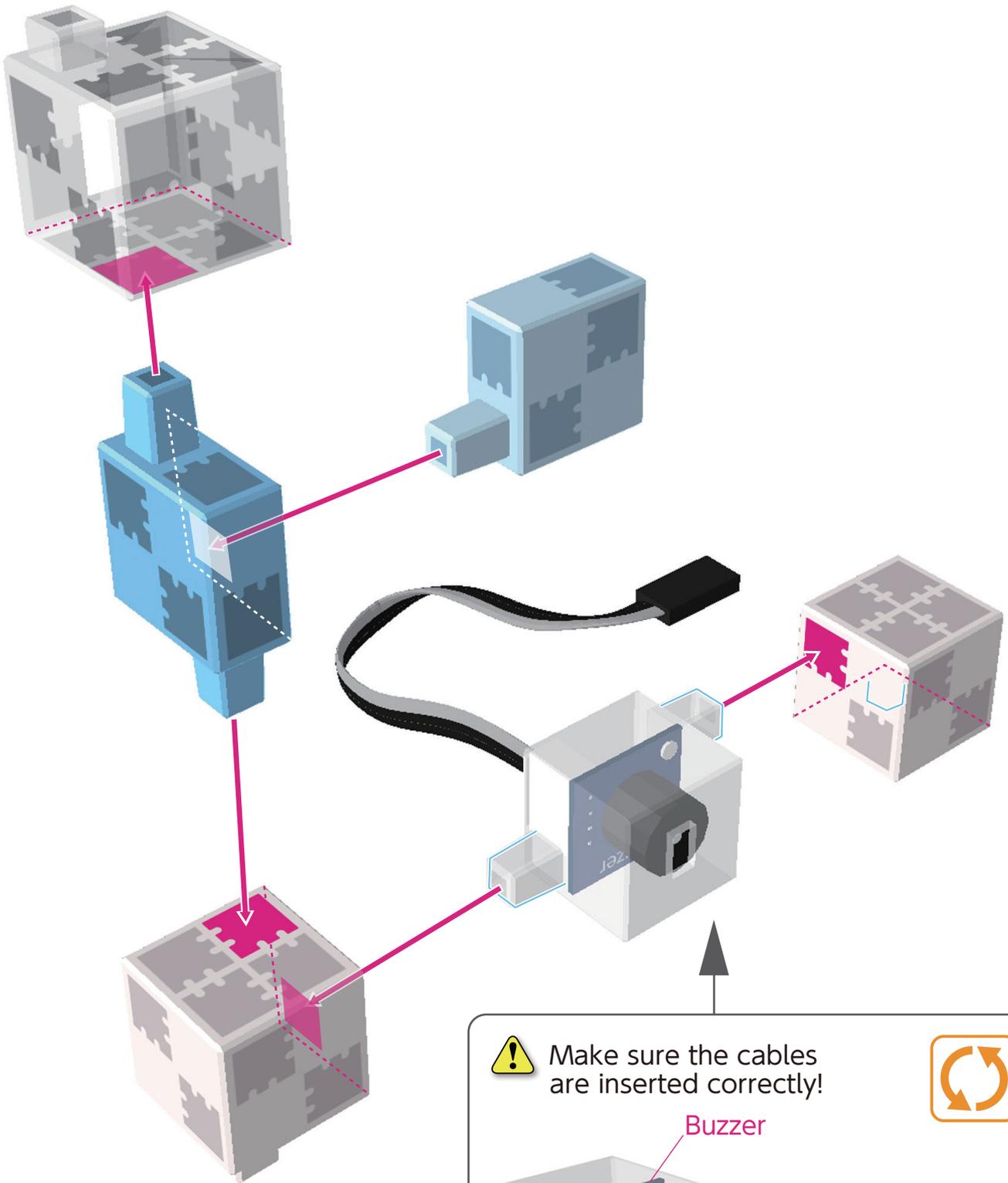
# Light Tower

2



# Light Tower

3



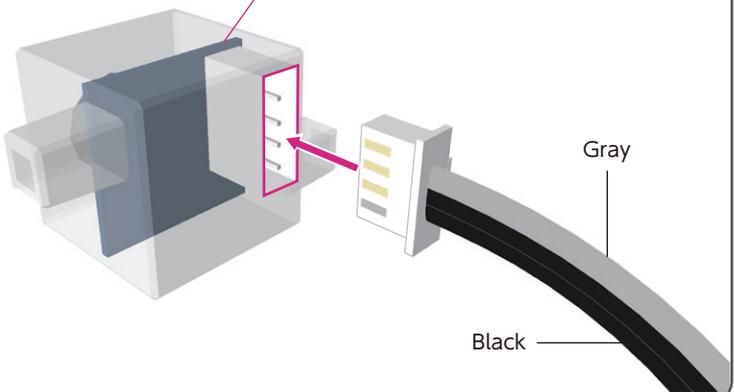
 Make sure the cables are inserted correctly!



Buzzer

Gray

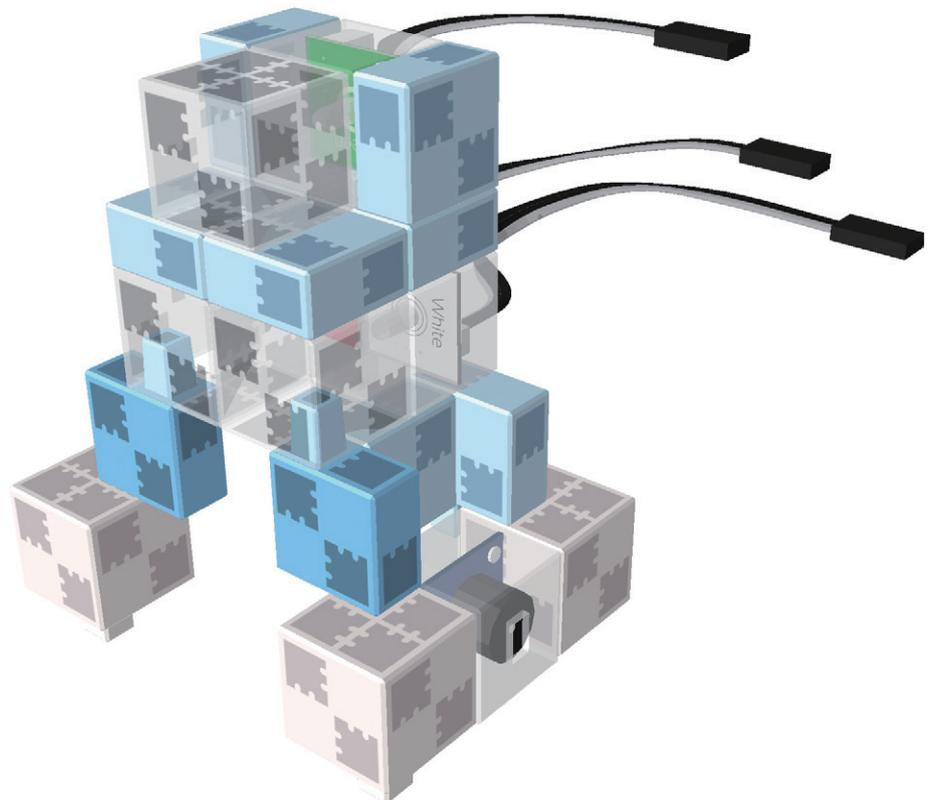
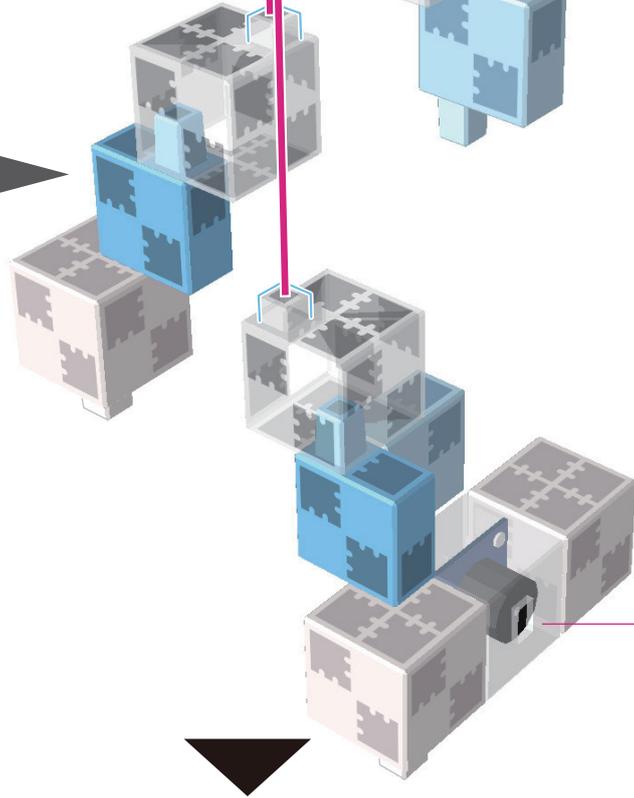
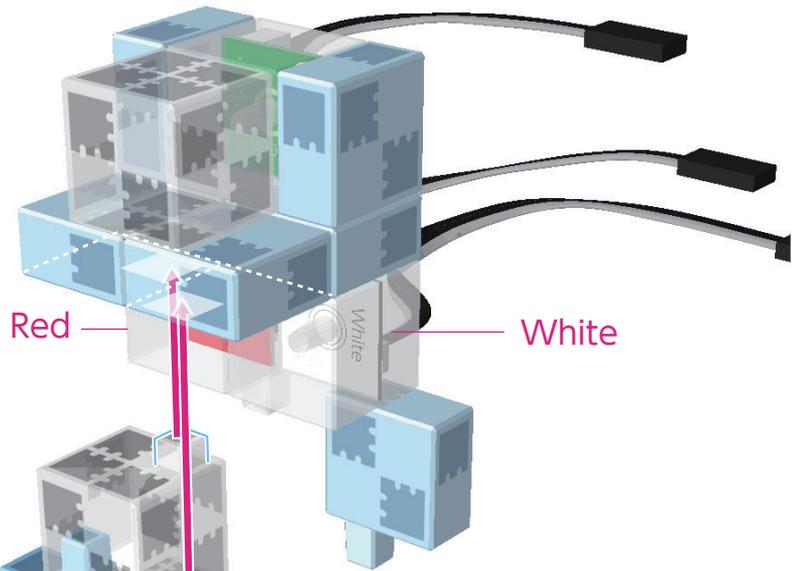
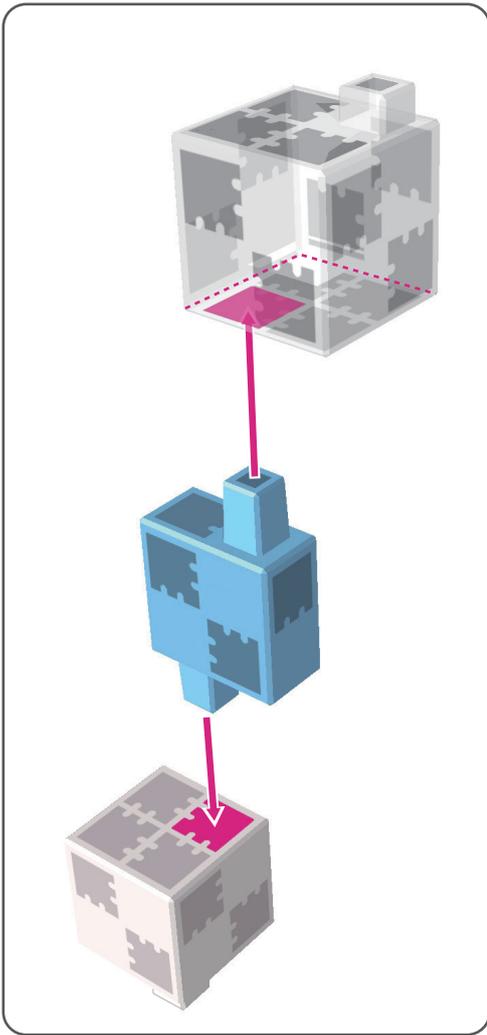
Black



This inset diagram provides a detailed view of the buzzer connection. It shows a cable with a gray shield and a black core being inserted into a buzzer component. The cable is labeled 'Gray' and 'Black'. The buzzer component is labeled 'Buzzer'. A red arrow points from the cable to the buzzer.

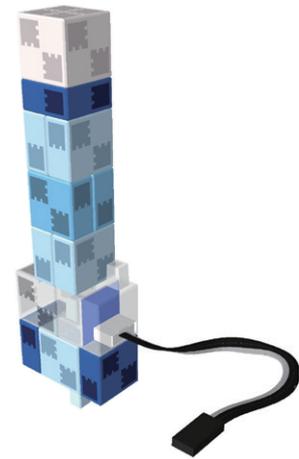
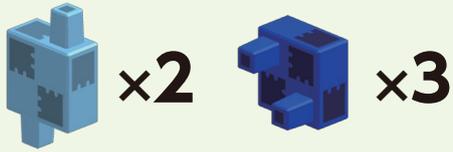
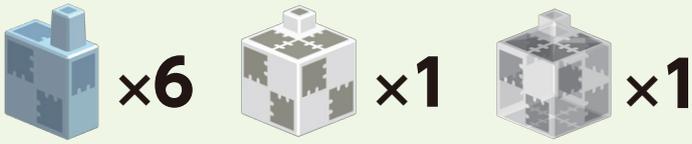
# Light Tower

4

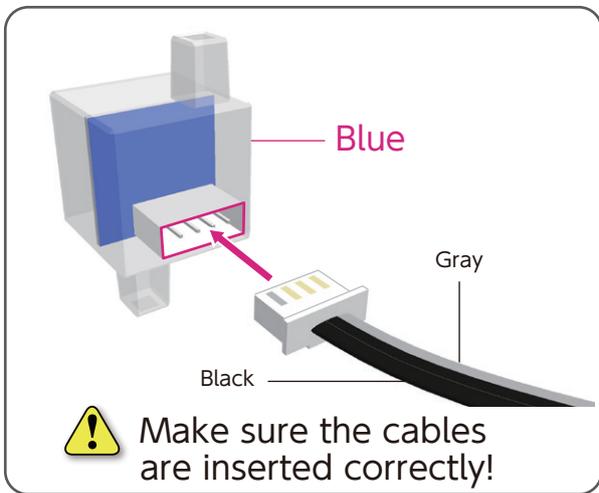


# Light Tower

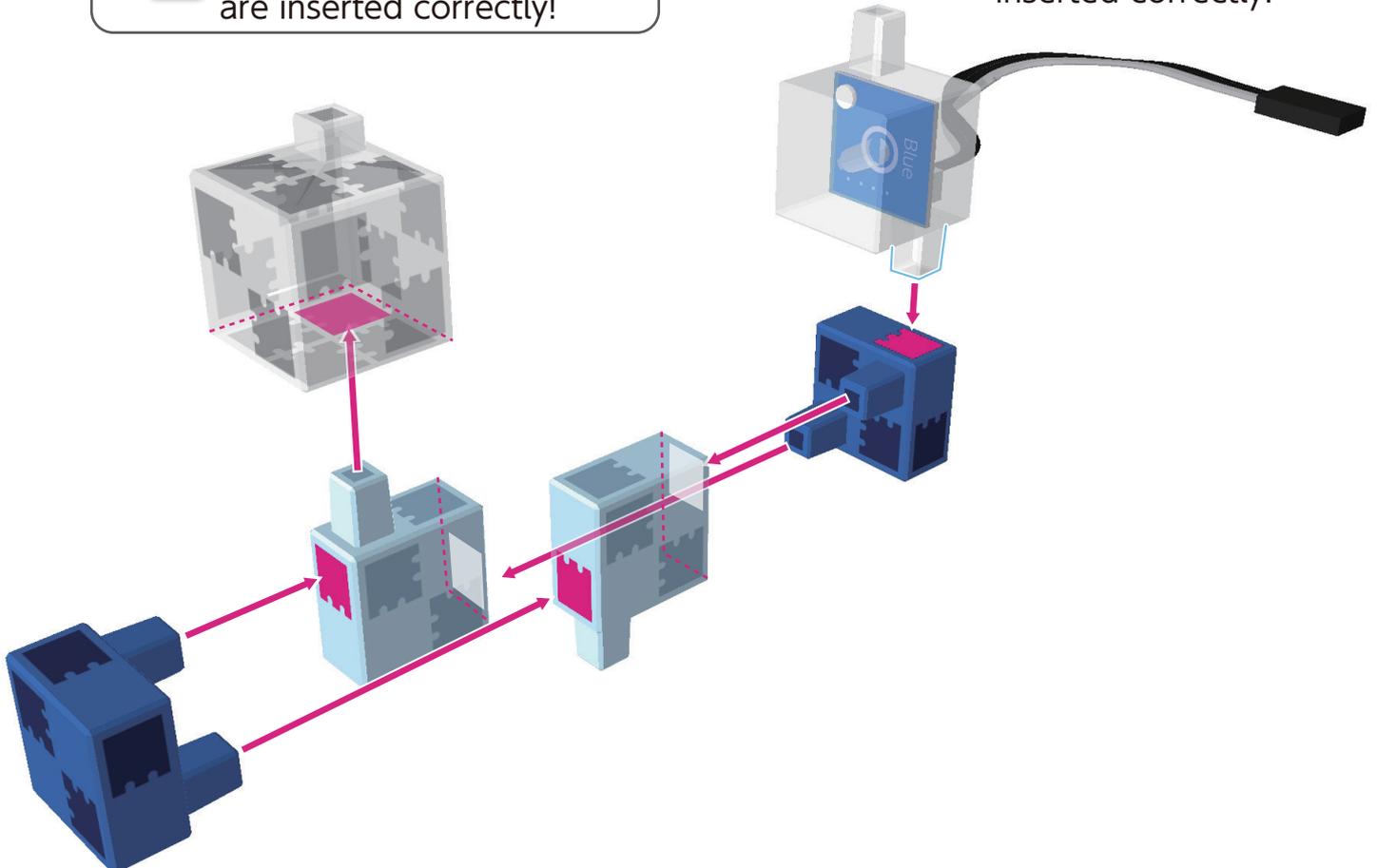
## Assembling the Top



①

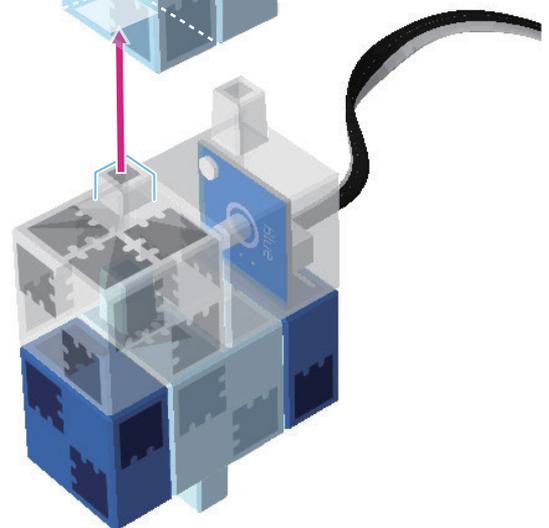
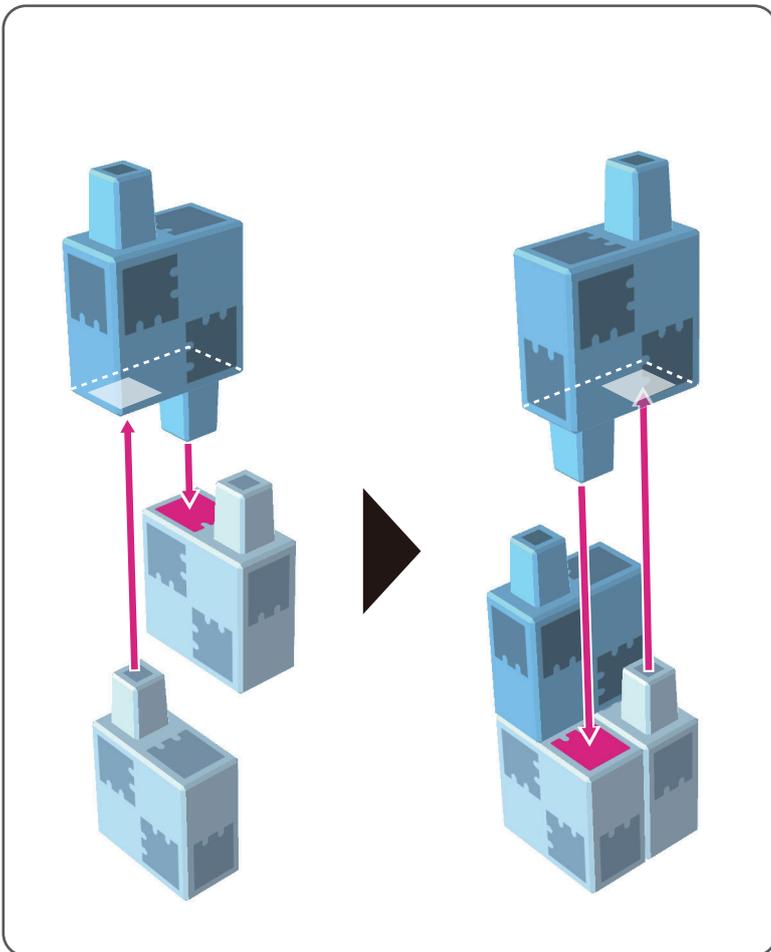
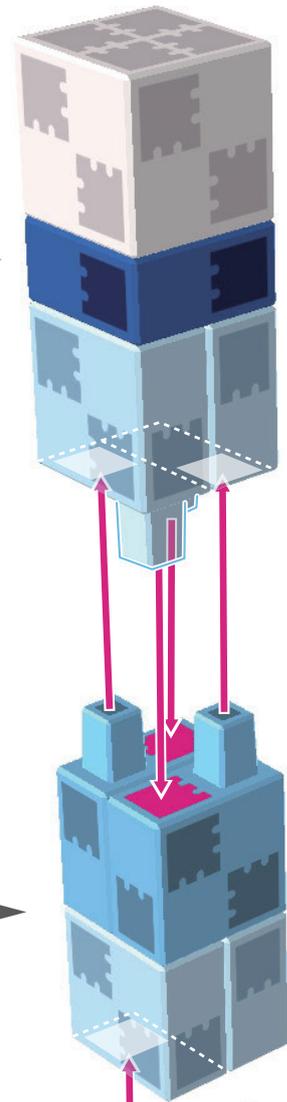
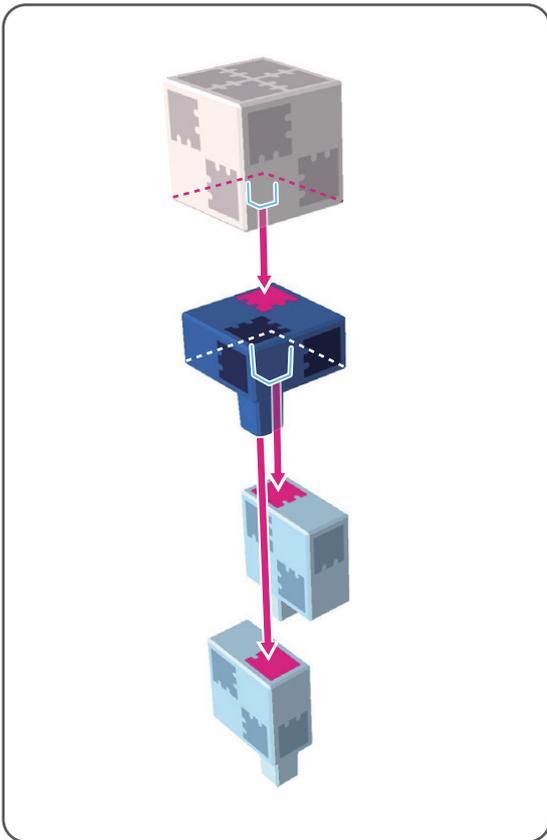


⚠ Make sure the LED is inserted correctly!



# Light Tower

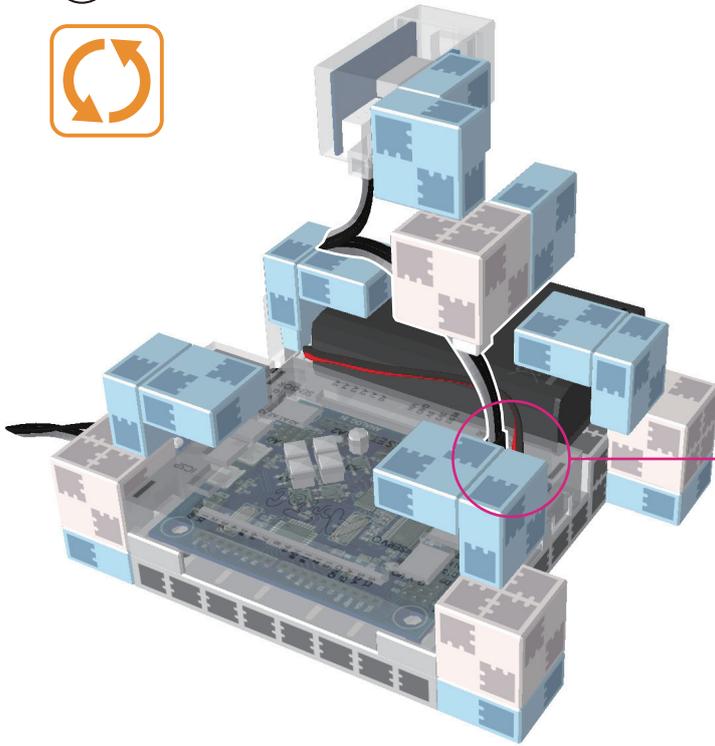
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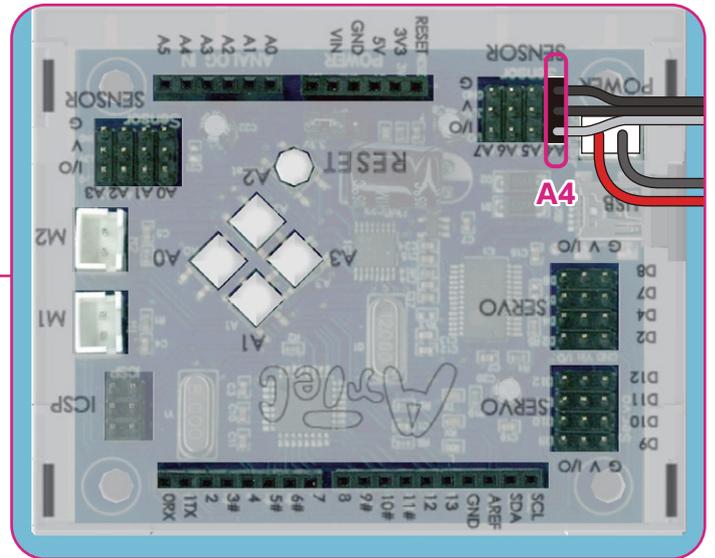
# Light Tower

## Putting the Parts Together

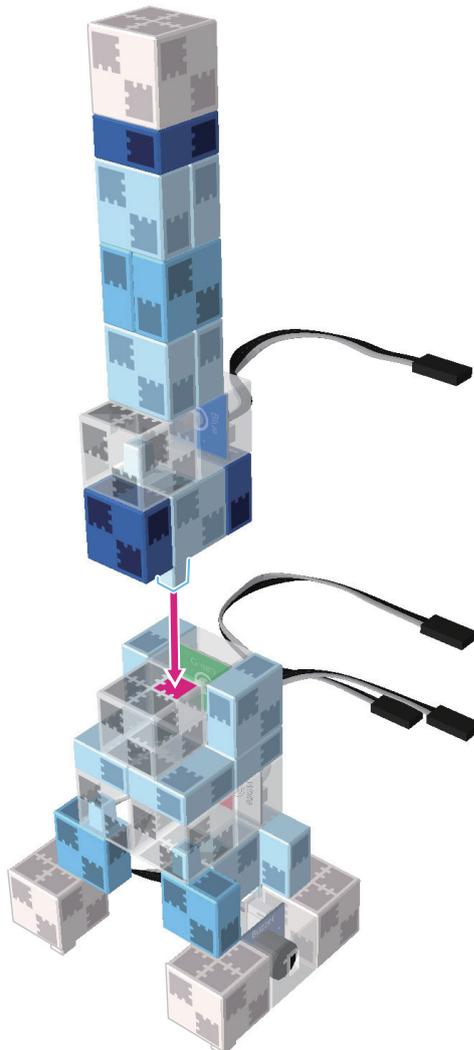
- 1 Connect the cable from the touch sensor to **A4**.



Make sure the cables are inserted correctly!

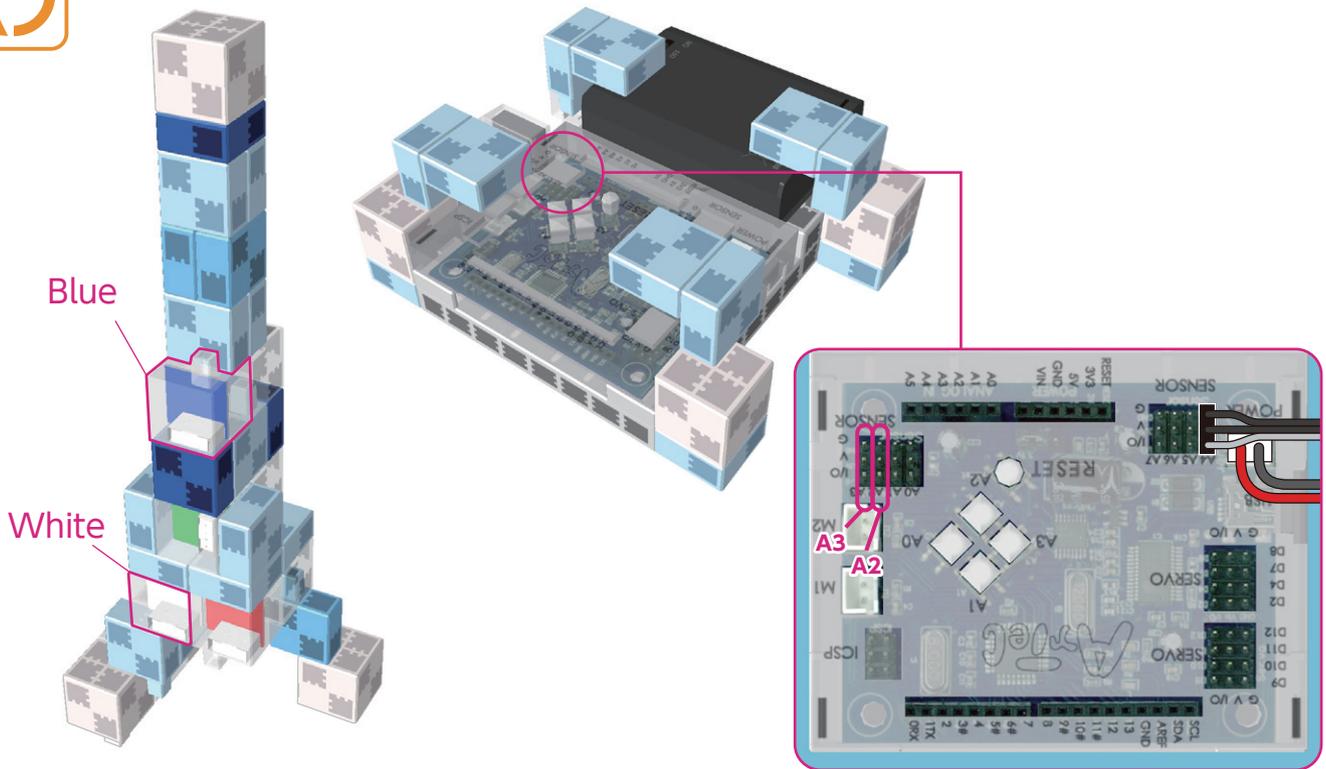


- 2



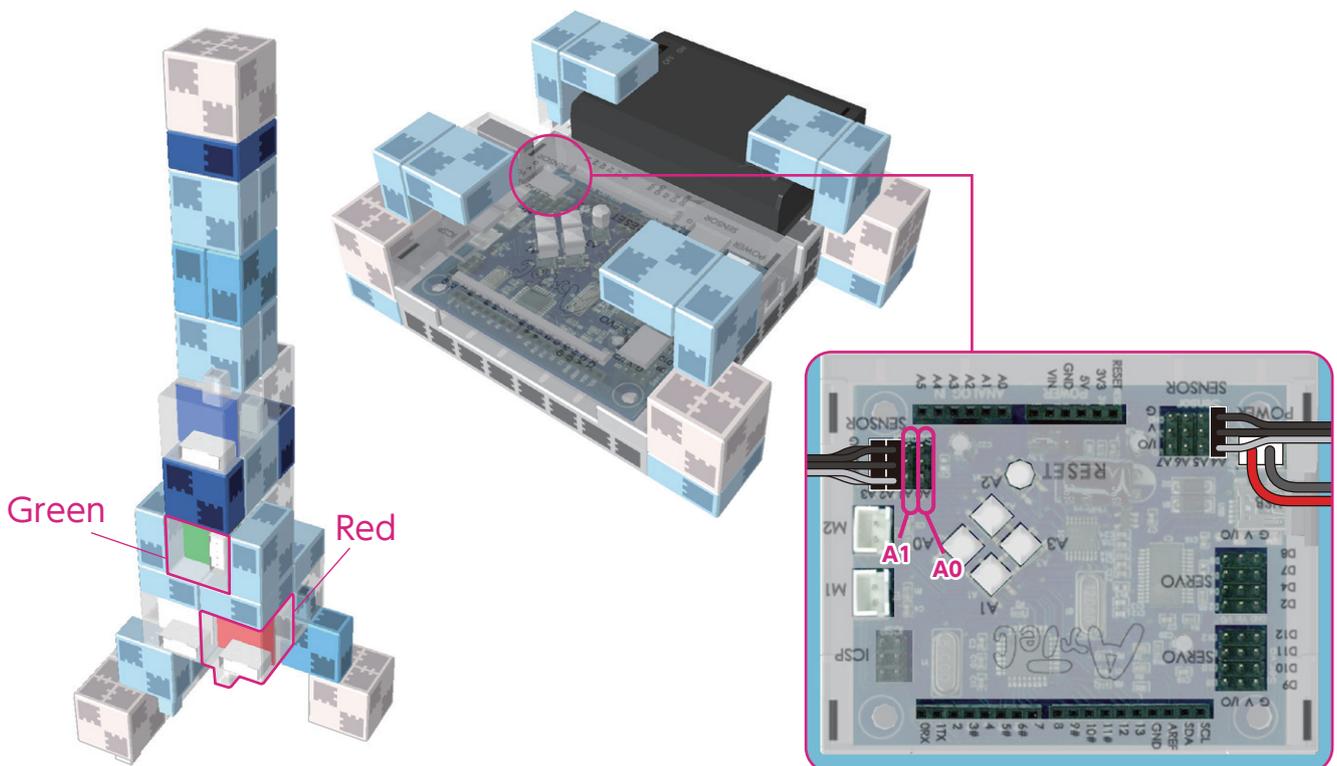
# Light Tower

- ③ Connect the cable from the blue LED to **A2** and the cable from the white LED to **A3**.



⚠ Make sure the cables are inserted correctly!

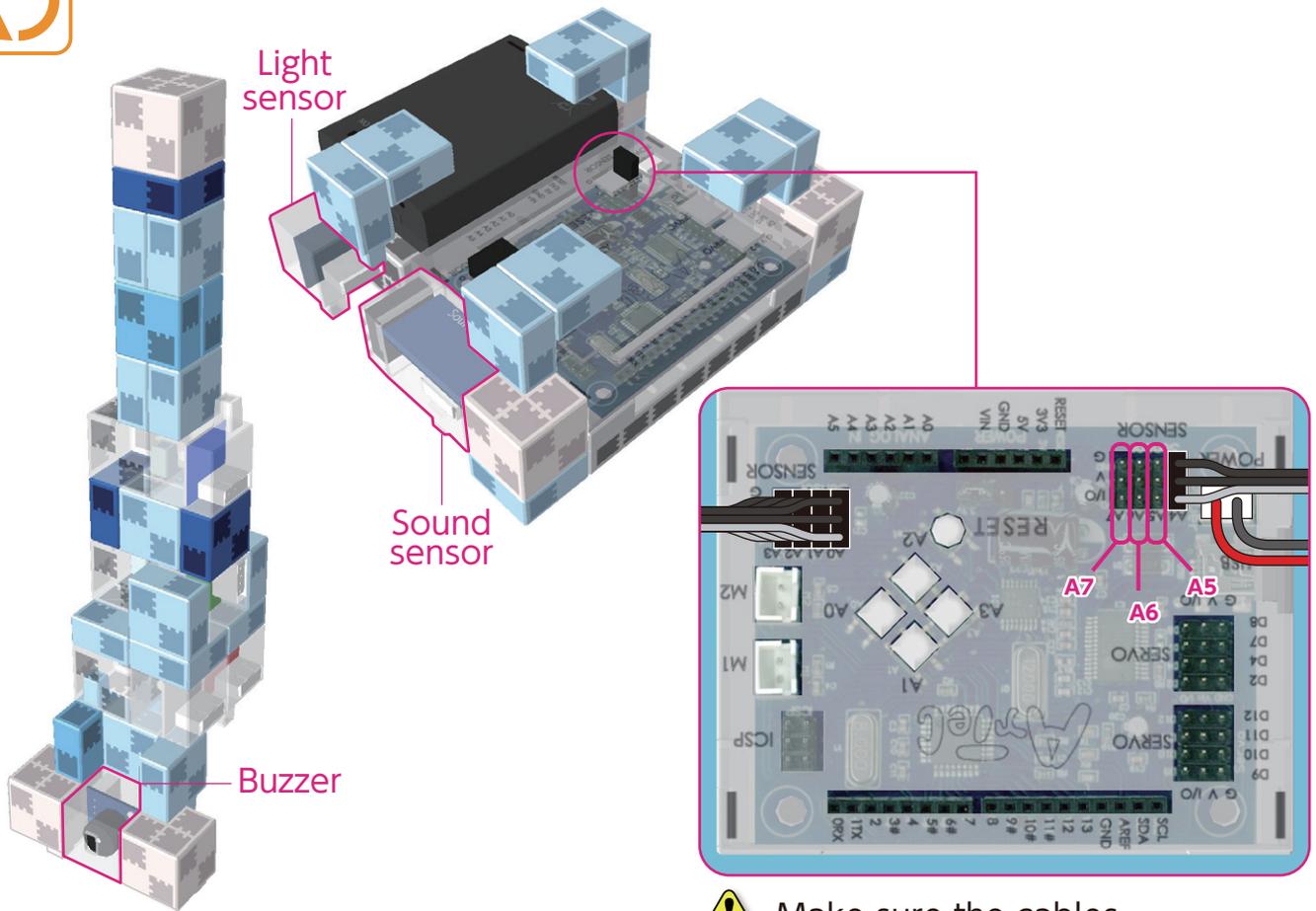
- ④ Connect the cable from the green LED to **A1** and the cable from the red LED to **A0**.



⚠ Make sure the cables are inserted correctly!

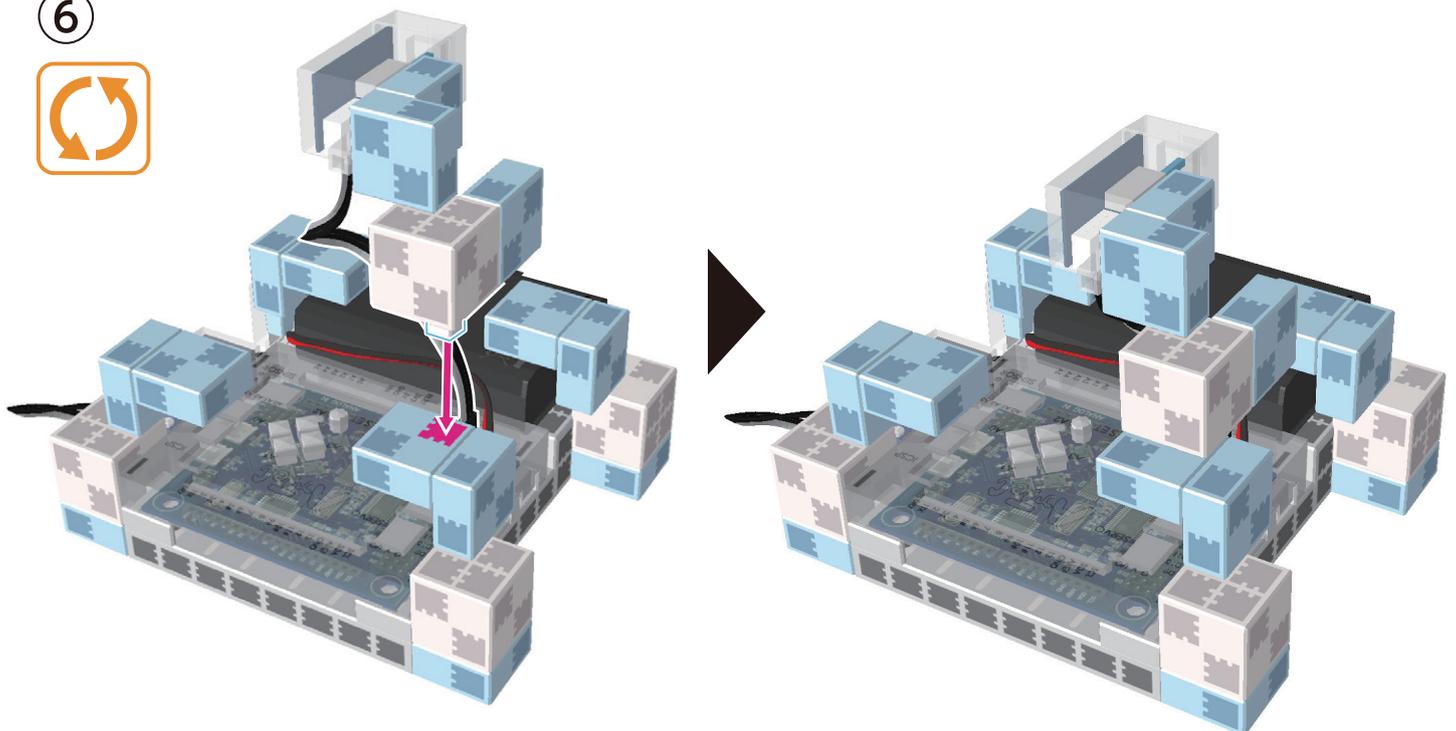
# Light Tower

- ⑤ Connect the cable from the buzzer to **A5**, the cable from the light sensor to **A6**, and the cable from the sound sensor to **A7**.



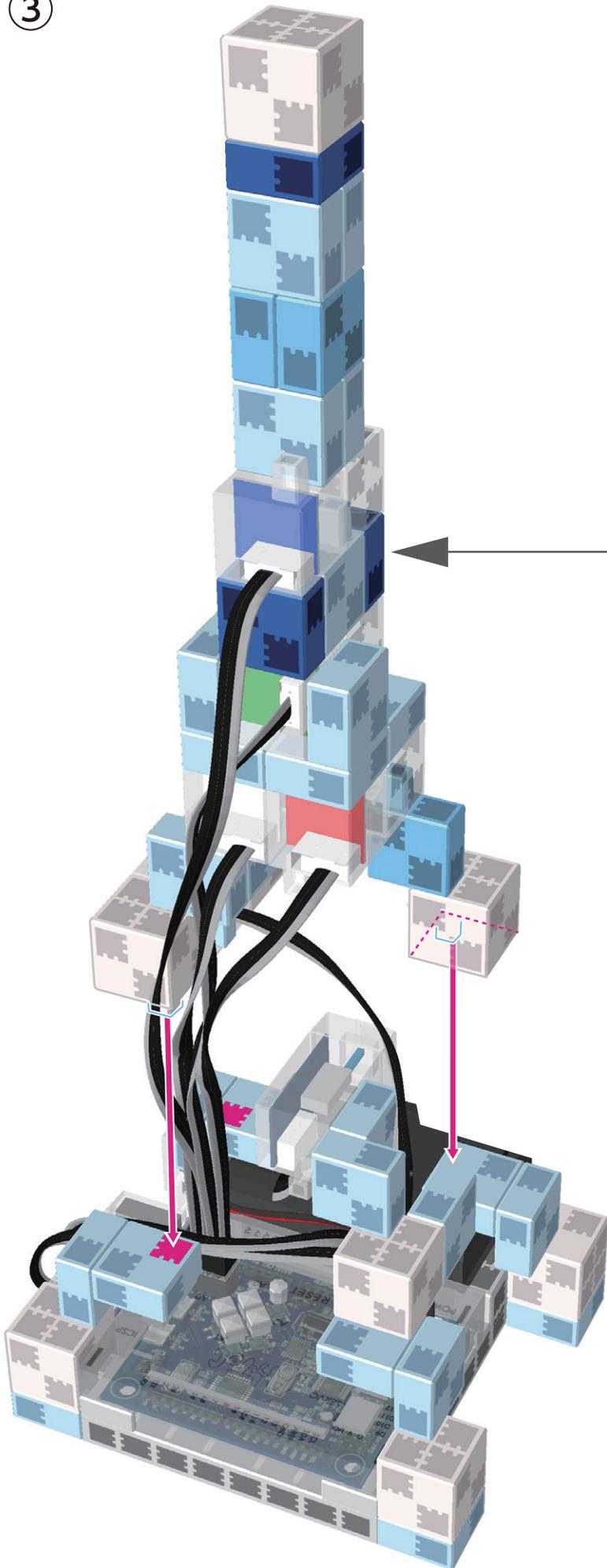
⚠ Make sure the cables are inserted correctly!

⑥

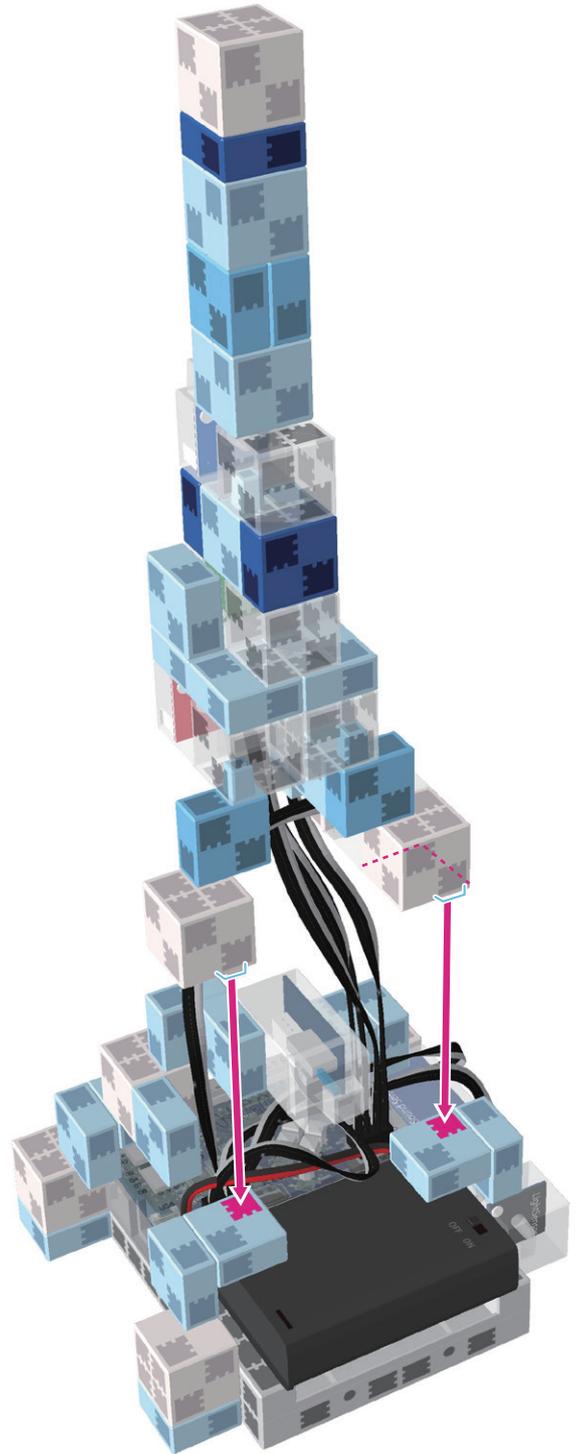


# Light Tower

3



Reverse

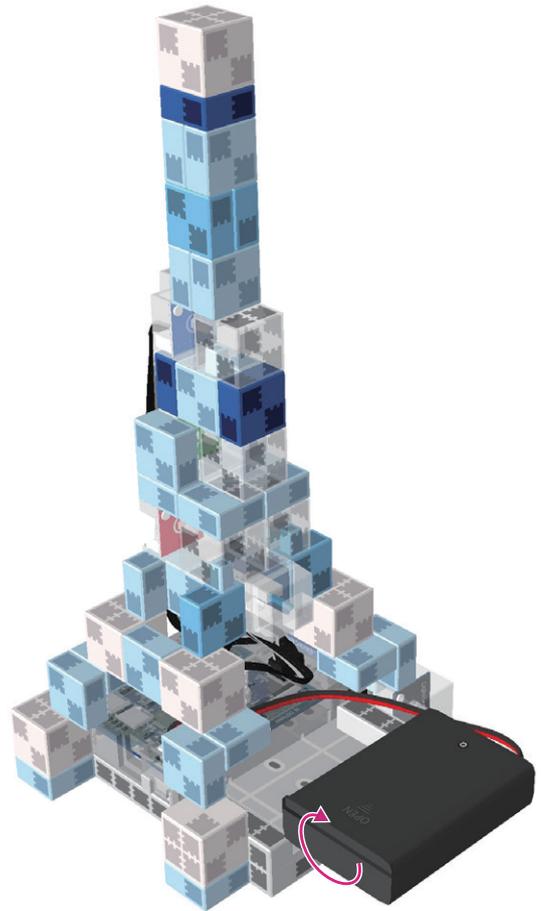


## Replacing the Batteries

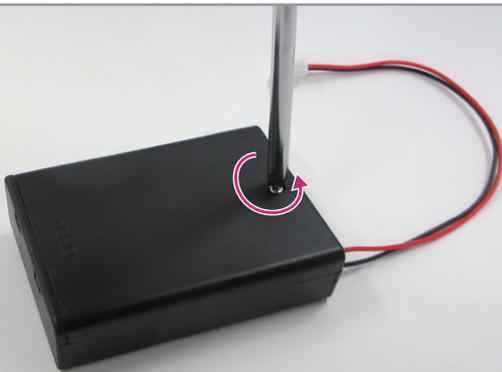
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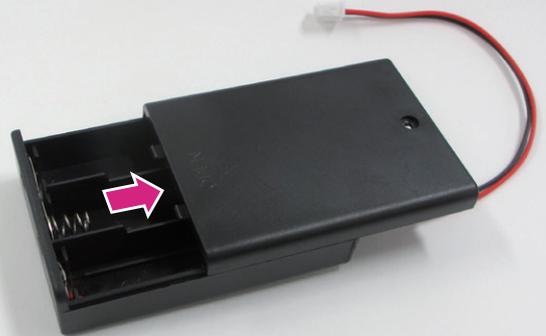
②



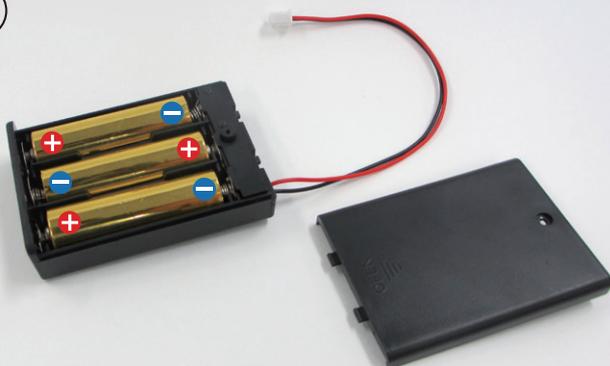
③



④



⑤



Use a screwdriver  
(Phillips #1) to open.

 Insert batteries in the  
correct polarity.

Put the lid of the battery  
box back in place.

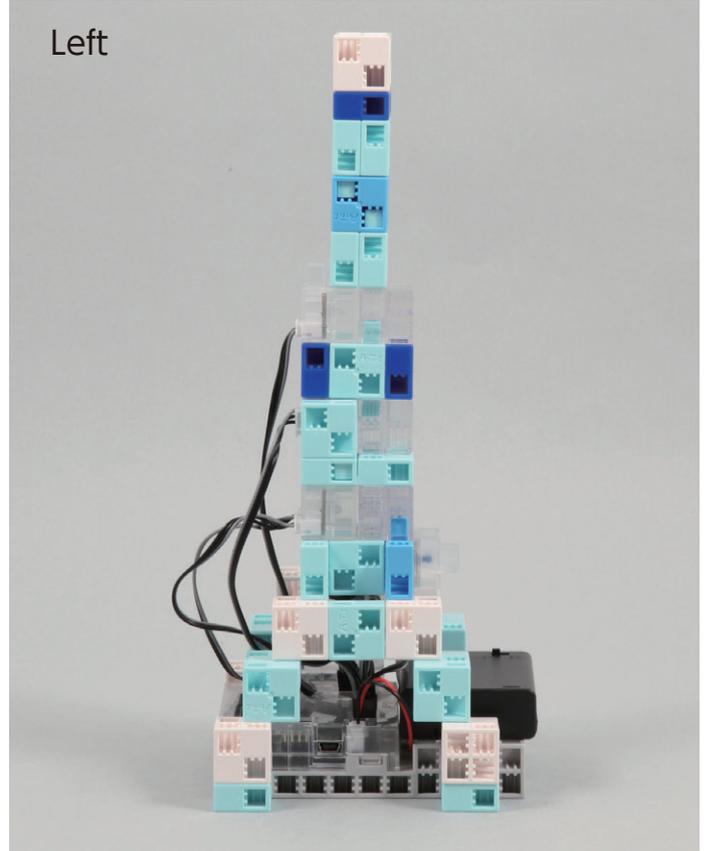
## Completed Light Tower

- Before operating your robot, check the Assembly Instructions again to confirm your robot has been assembled correctly.

Front



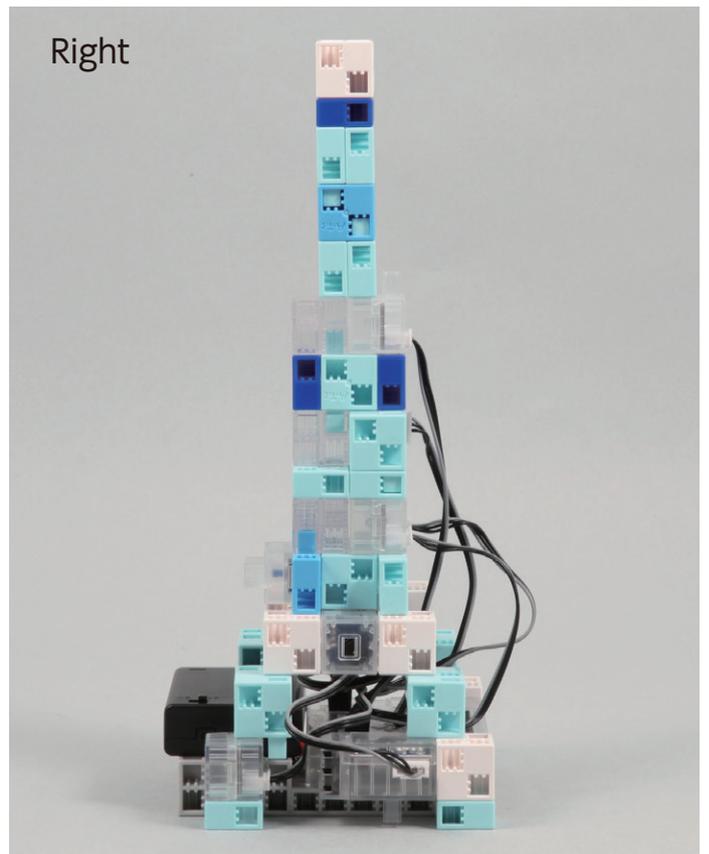
Left



Back



Right



# Light Tower

## Operating Your Light Tower

Install the software from the URL below to setup the **Studuino Programming Environment**.

★ Proceed to Step 1 when software installation is complete.

<http://www.artec-kk.co.jp/studuino/>

- ① Connect the USB cable to the PC and the Studuino unit.  
Refer to **1.3. About Studuino** in the **Studuino Programming Environment Manual** for more details.
- ② Download the program file **LightTower.ipd** from the URL below in the **ArtecRobo** section.

<http://www.artec-kk.co.jp/artecrobo/>

- ③ Open the downloaded file.

- ④ Transfer the program to the Studuino unit by clicking the Transfer button .

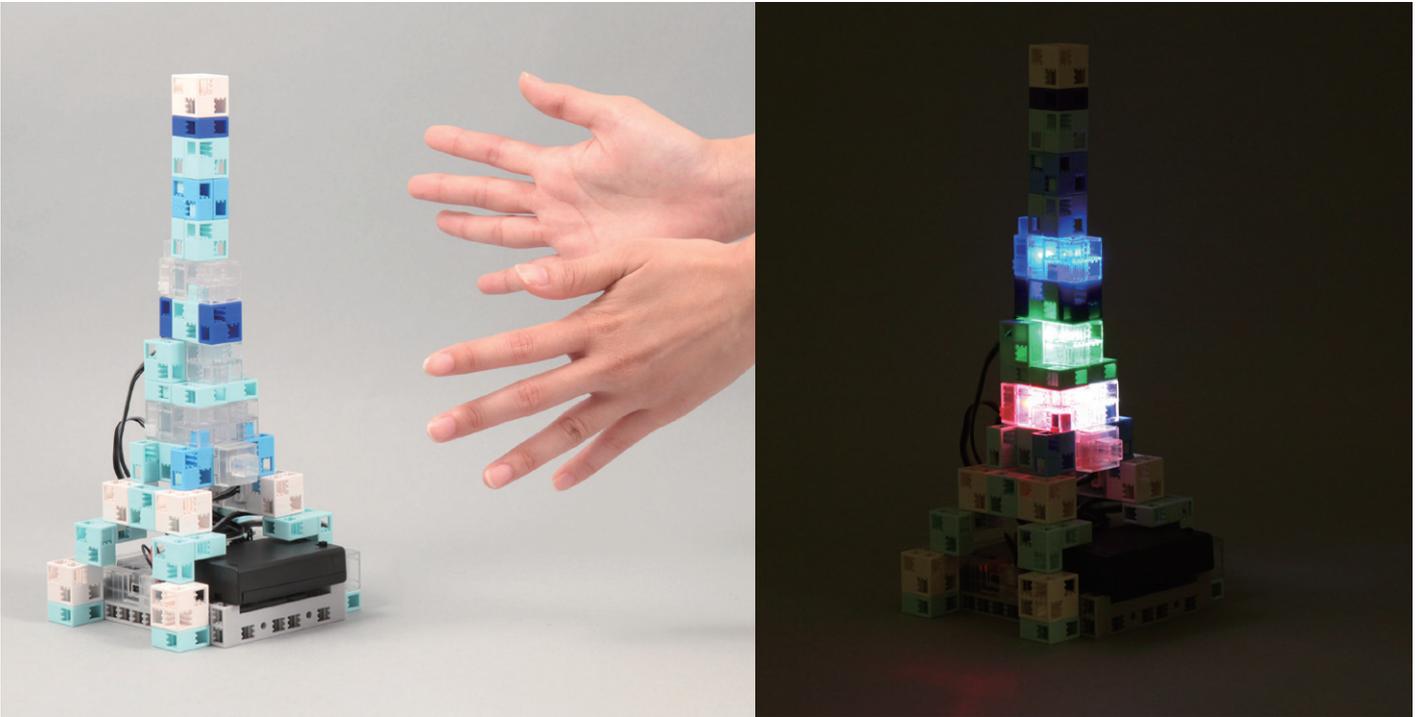


- ⑤ Remove the USB cable from the Studuino unit.

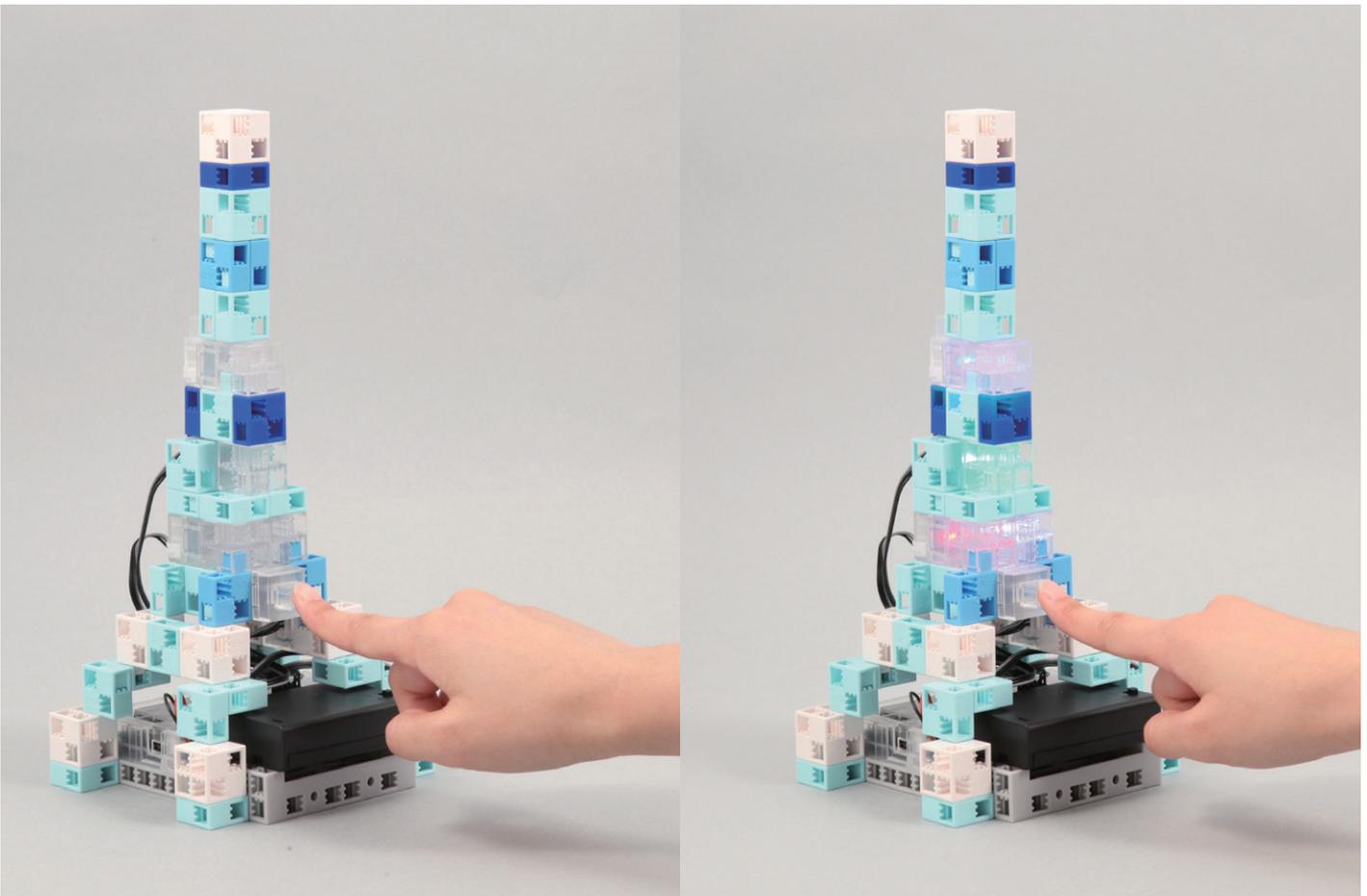
# Light Tower

## Operating Your Light Tower

- ① The LEDs will shine for five seconds in response to sound. They will also shine if your room becomes dark.



- ② Making contact with the touch sensor will make the LEDs shine and the buzzer will play a sound.



# Light Tower

## Sensor Calibration

Some sensors may not function properly after you run the program for the first time. If the sensors are malfunctioning, calibrate the sensor settings.



Click the Submenu 1 tab to calibrate the sensors and you will see a box to adjust the range settings.

Drag the mouse left or right to adjust the range settings.

Refer to the **Sensor Condition Icon** sections in **4.4. The Attribute Field** of the **Studuino Programming Environment Manual** for more details.