

# Light My Bricks : Assembly Square LED Lighting Kit



Here is the instructions document for the Lego Assembly Square LED lighting kit. Please read and follow the steps carefully to ensure this lighting kit is installed properly. The different LEGO sections need to be arranged exactly as shown in example images.

If you run into any issues, please refer to the [troubleshooting guide](#).

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## Package contents:

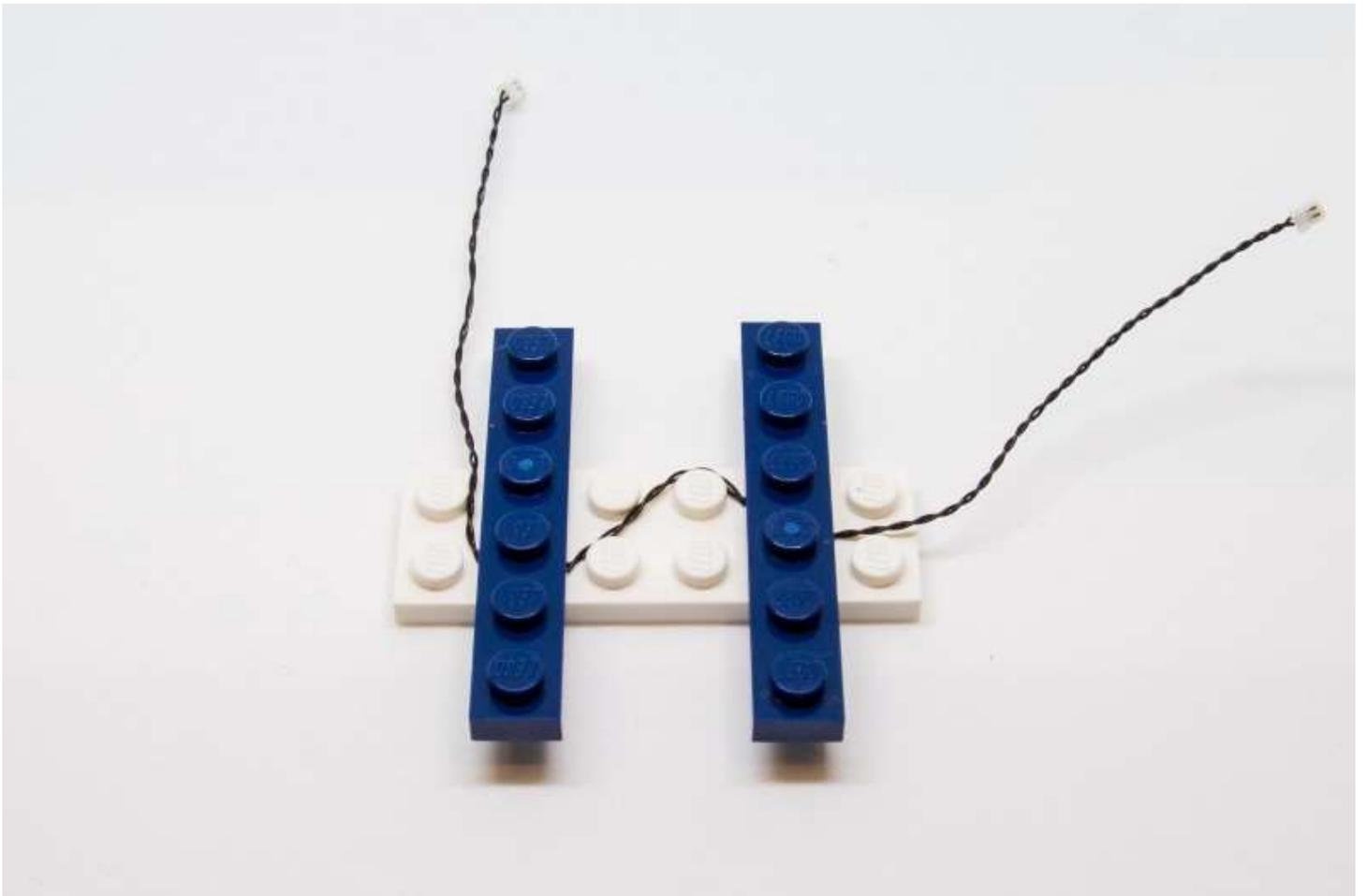
- 2x **LEGO Lamp Posts with Bit Light installed**
  - 7x **White Bit Lights 15cm**
  - 1x **White Bit Light 30 cm**
  - 1x **Blue Bit Light 30 cm**
  - 8x **White Strip Lights**
  - 1x **5cm Connecting Cable**
  - 6x **15cm Connecting Cables**
  - 4x **30cm Connecting Cables**
  - 8x **Adhesive Squares**
  - 1x **8-port Expansion Board**
  - 2x **6-port Expansion Board**
  - 1x **Multi-Effects Board (3 effects)**
  - 1x **Battery Pack** (requires 3x AA Batteries)
  - 8x **LEGO Plates 1×6** (for mounting strip lights)
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## Important things to note:

### Laying cables in between and underneath bricks

Cables can fit in between and underneath LEGO® bricks, plates, and tiles providing they are laid correctly between the LEGO® studs. Do NOT forcefully join LEGO® together around cables; instead ensure they are laying comfortably in between each stud.

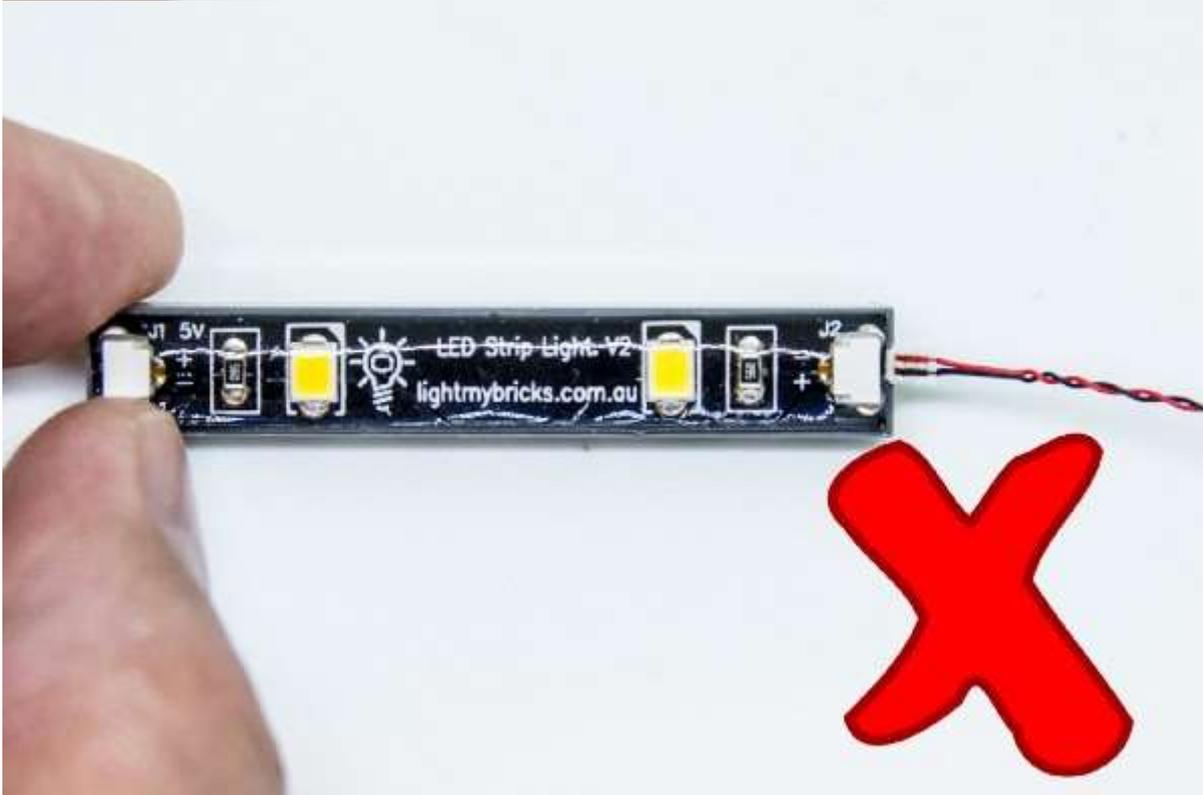
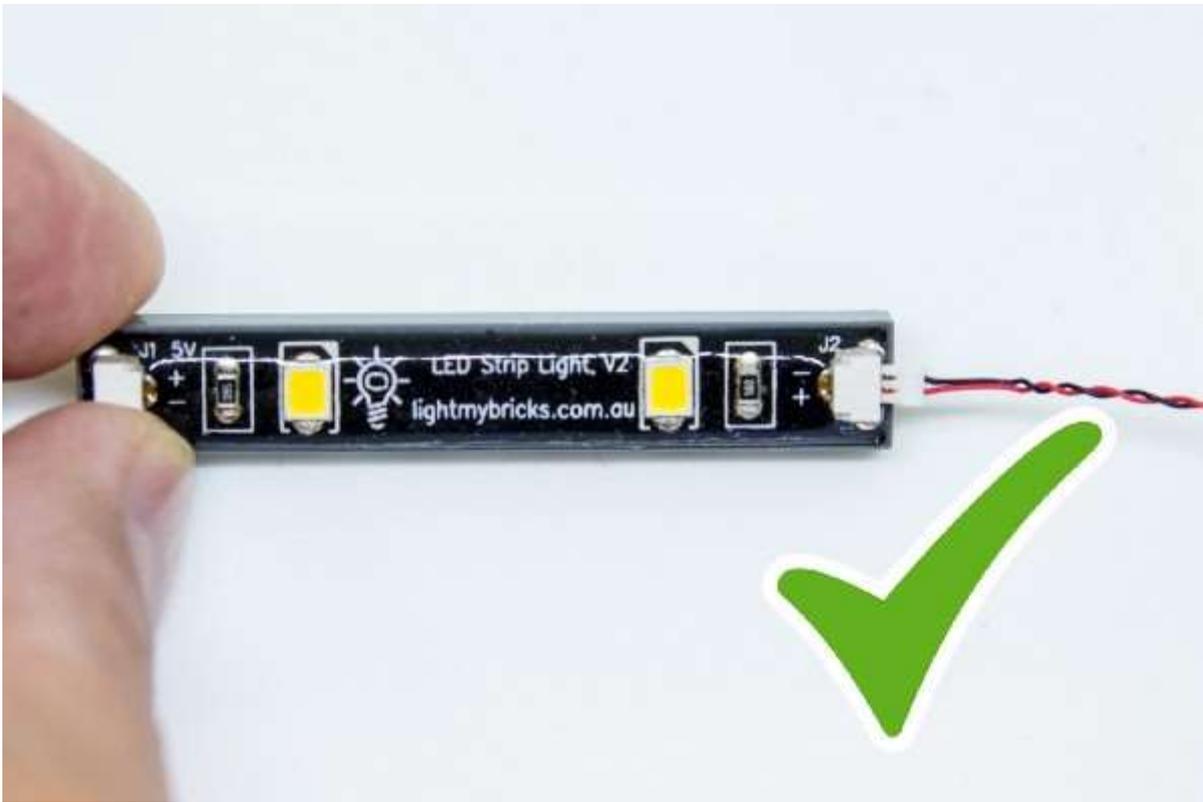




*CAUTION: Forcing LEGO® to connect over a cable can result in damaging the cable and light.*

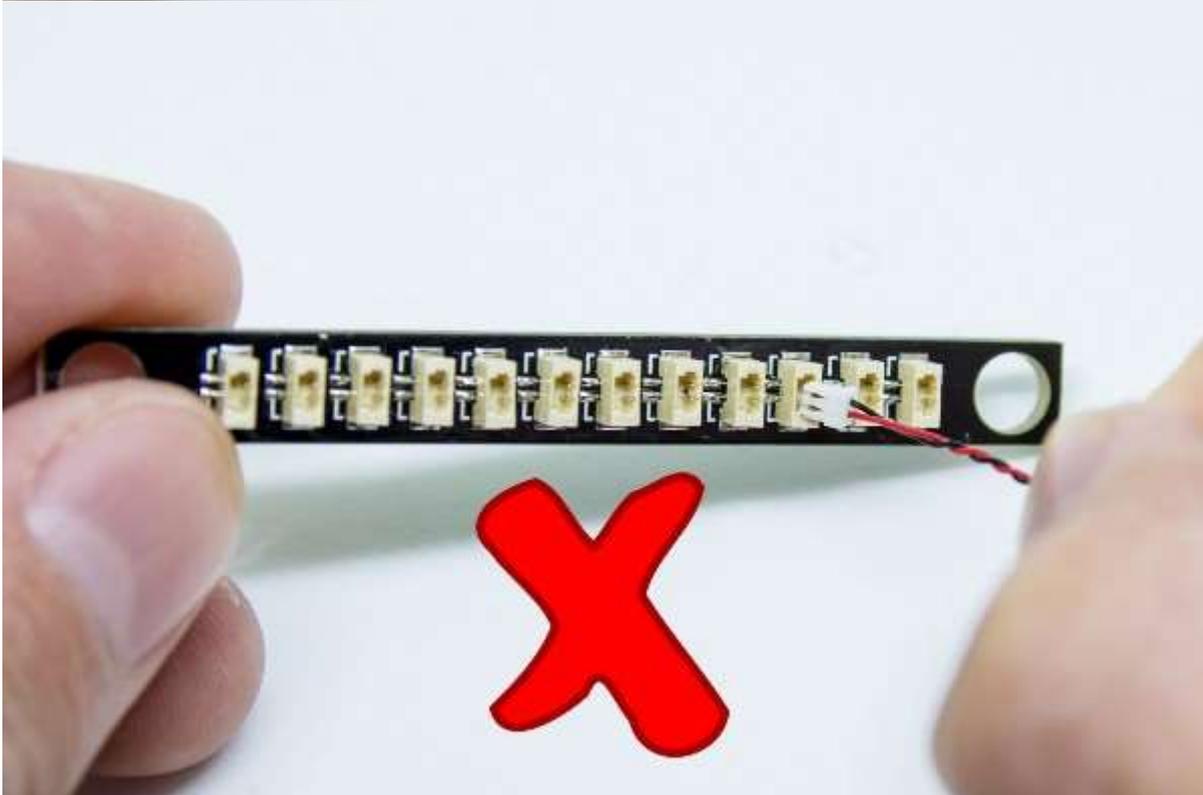
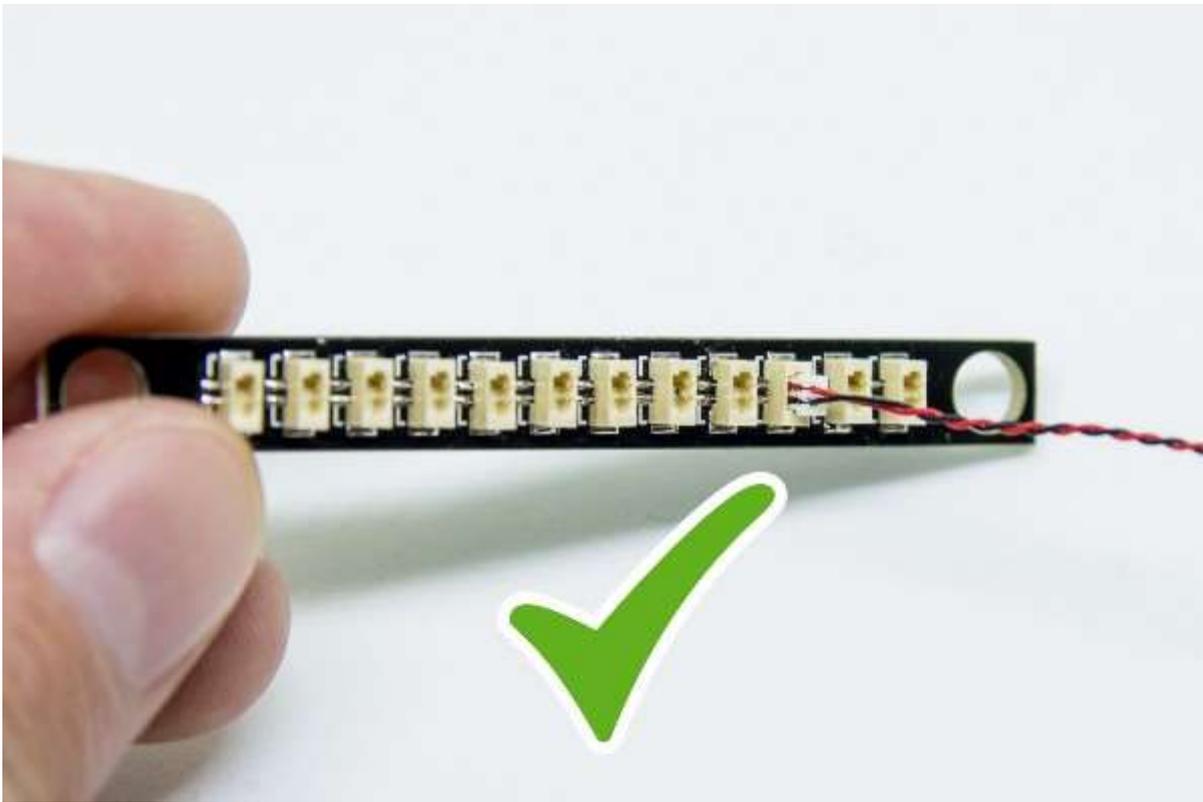
### **Connecting cable connectors to Strip Lights**

Take extra care when inserting connectors to ports on the Strip Lights. Connectors can be inserted only one way. With the Strip Light facing up, ensure the side of the connector with the wires exposed is facing down. If a plug won't fit easily into a port connector, don't force it. Doing so will damage the plug and the connector.



### Connecting cable connectors to Expansion Boards

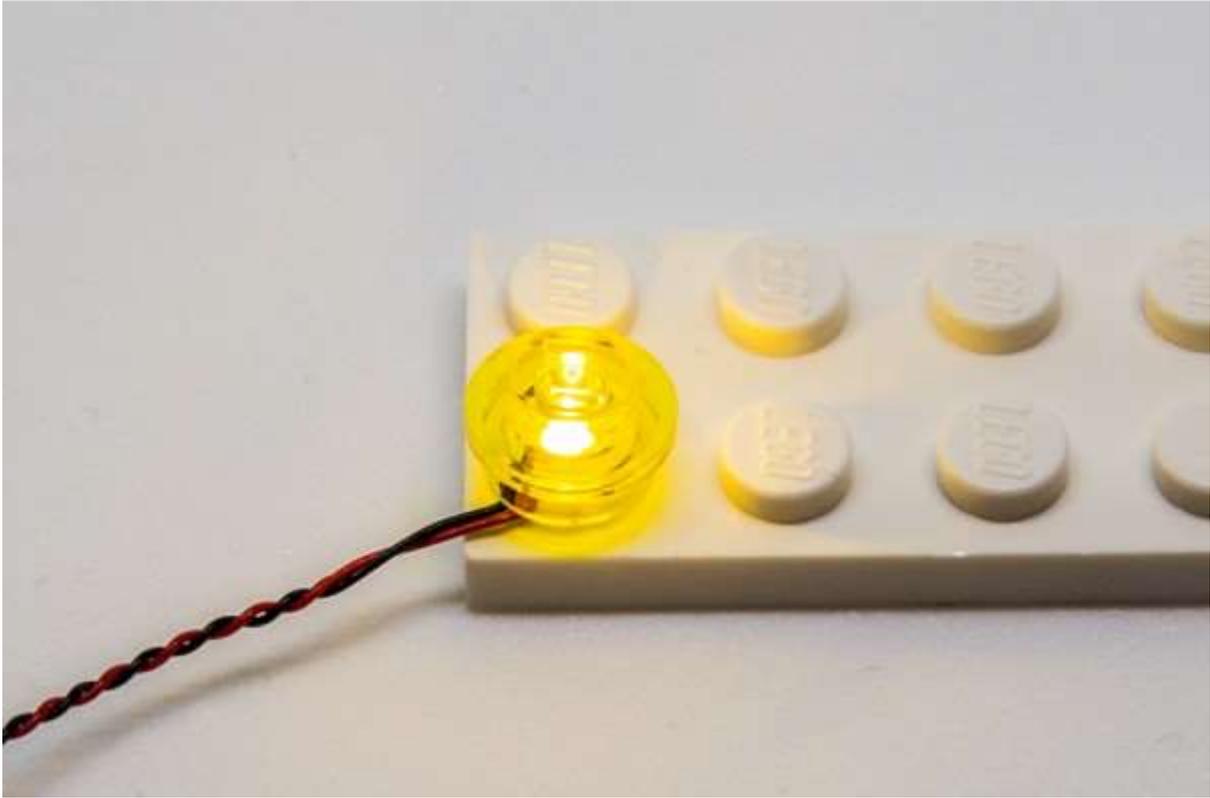
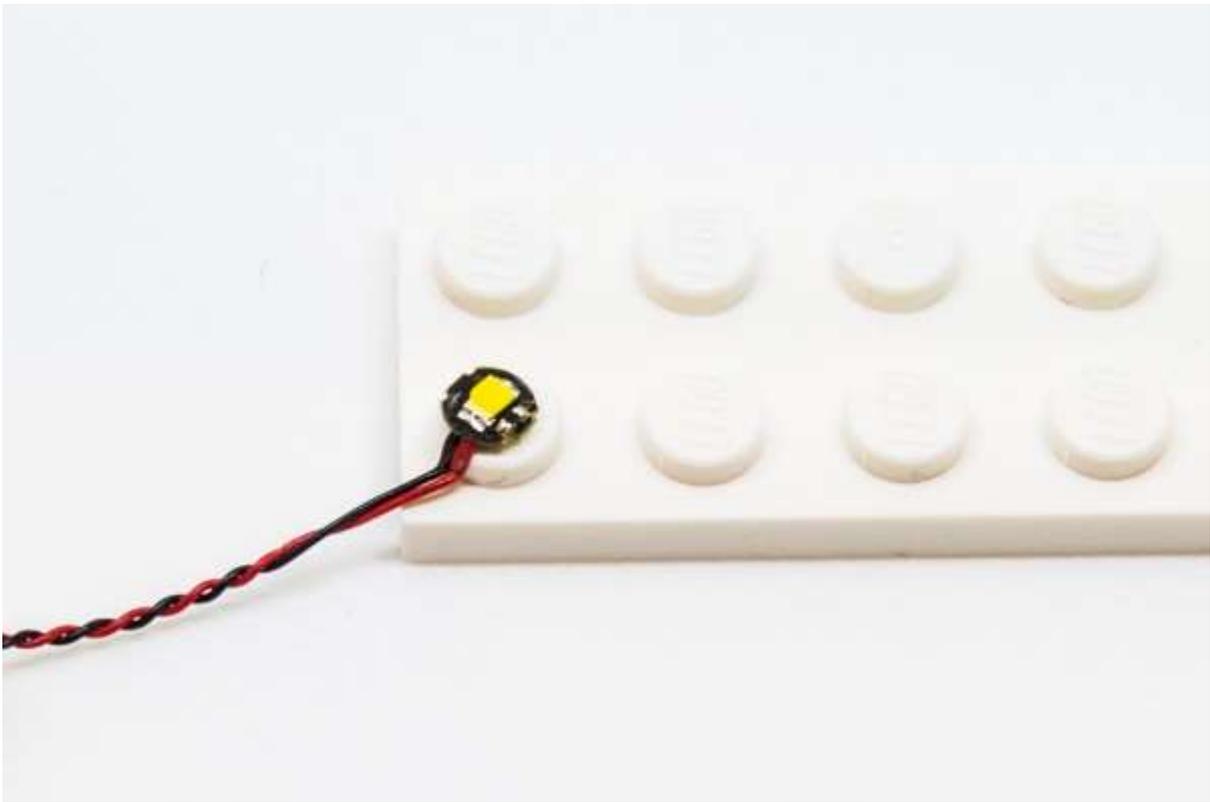
Take extra care when inserting connectors to ports of Expansion Boards. Connectors can be inserted only one way. With the expansion board facing up, look for the soldered “=” symbol on the left side of the port. The connector side with the wires exposed should be facing toward the soldered “=” symbol as you insert into the port. If a plug won’t fit easily into a port connector, do not force it.

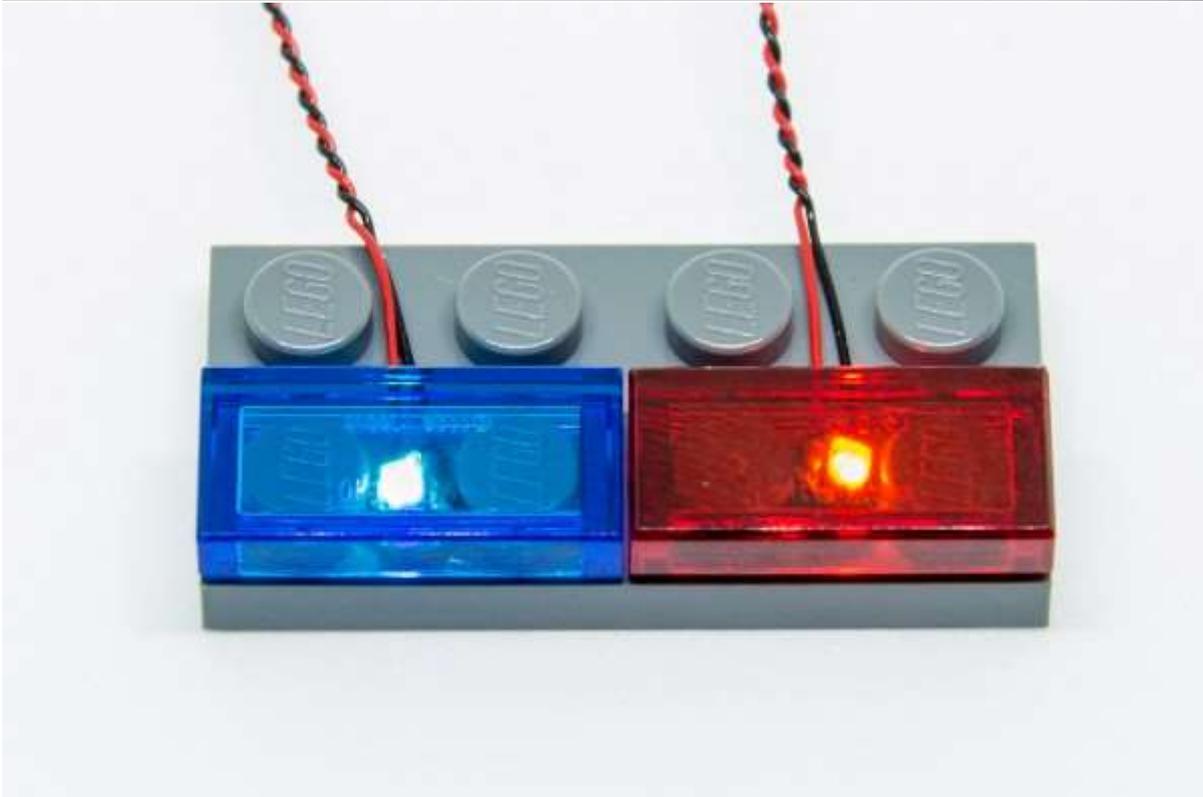
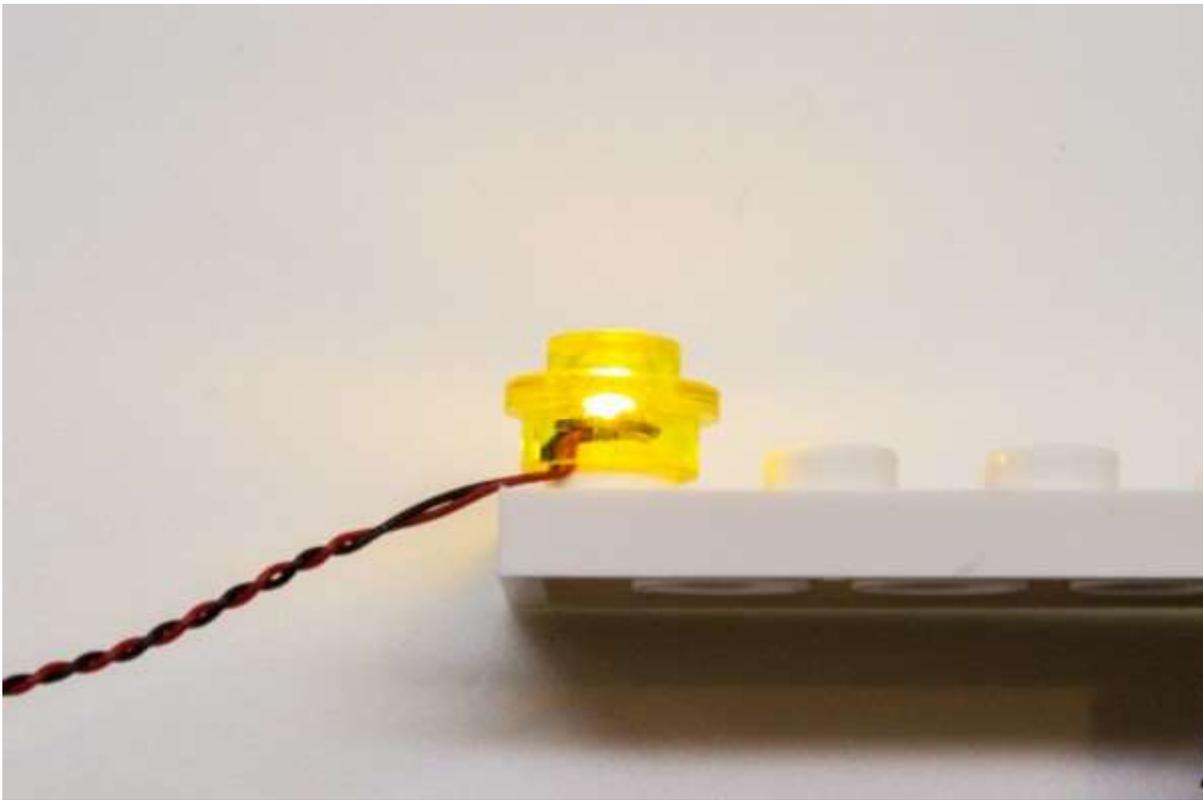


*WARNING: Incorrectly inserting the connector can result in bent pins inside the port or possible overheating of the expansion board when connected.*

### **Installing Bit Lights under LEGO® bricks and plates.**

When installing Bit Lights under LEGO® pieces, ensure they are placed the correct way up (Yellow LED component exposed). You can either place them directly on top of LEGO® studs or in between.





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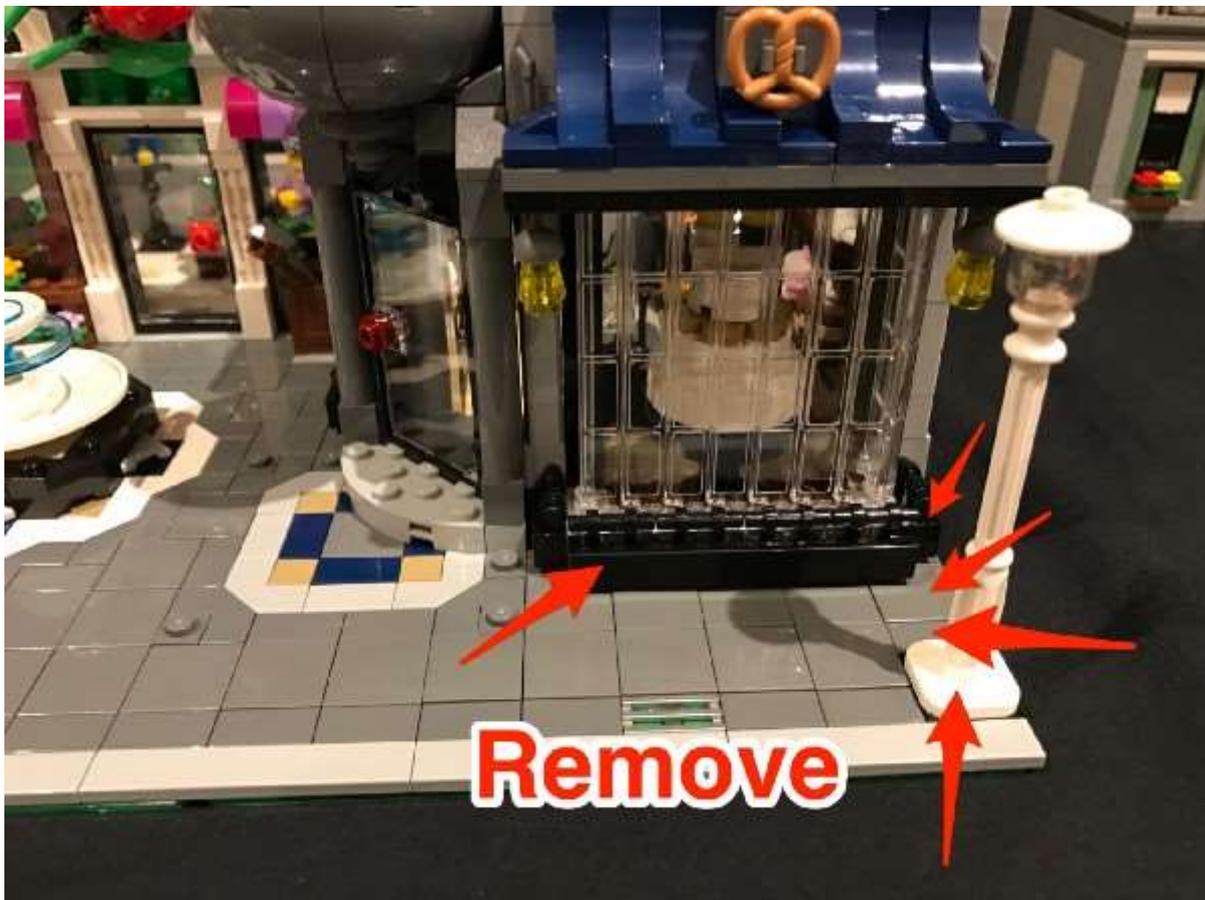
**OK, Let's Begin!**

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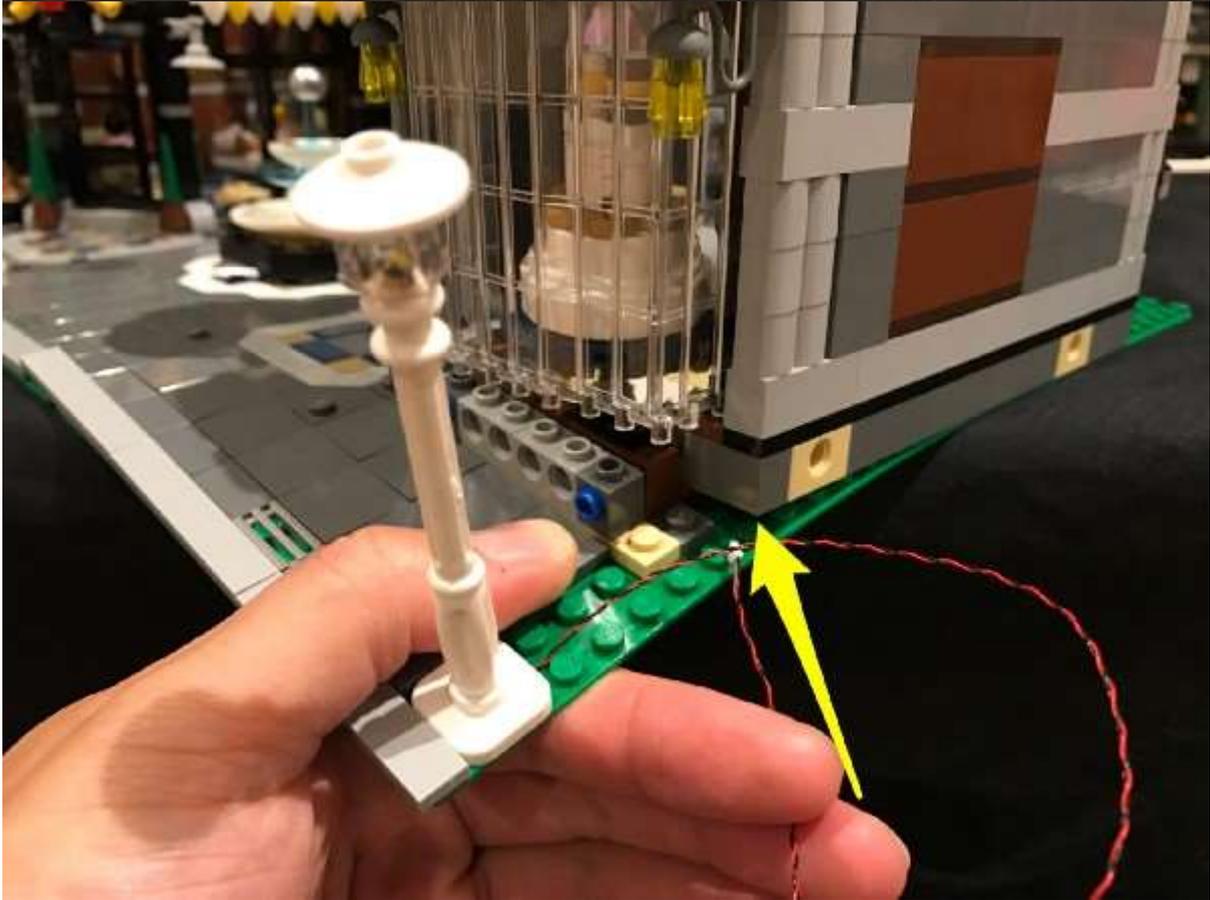
### **Instructions for installing this kit**

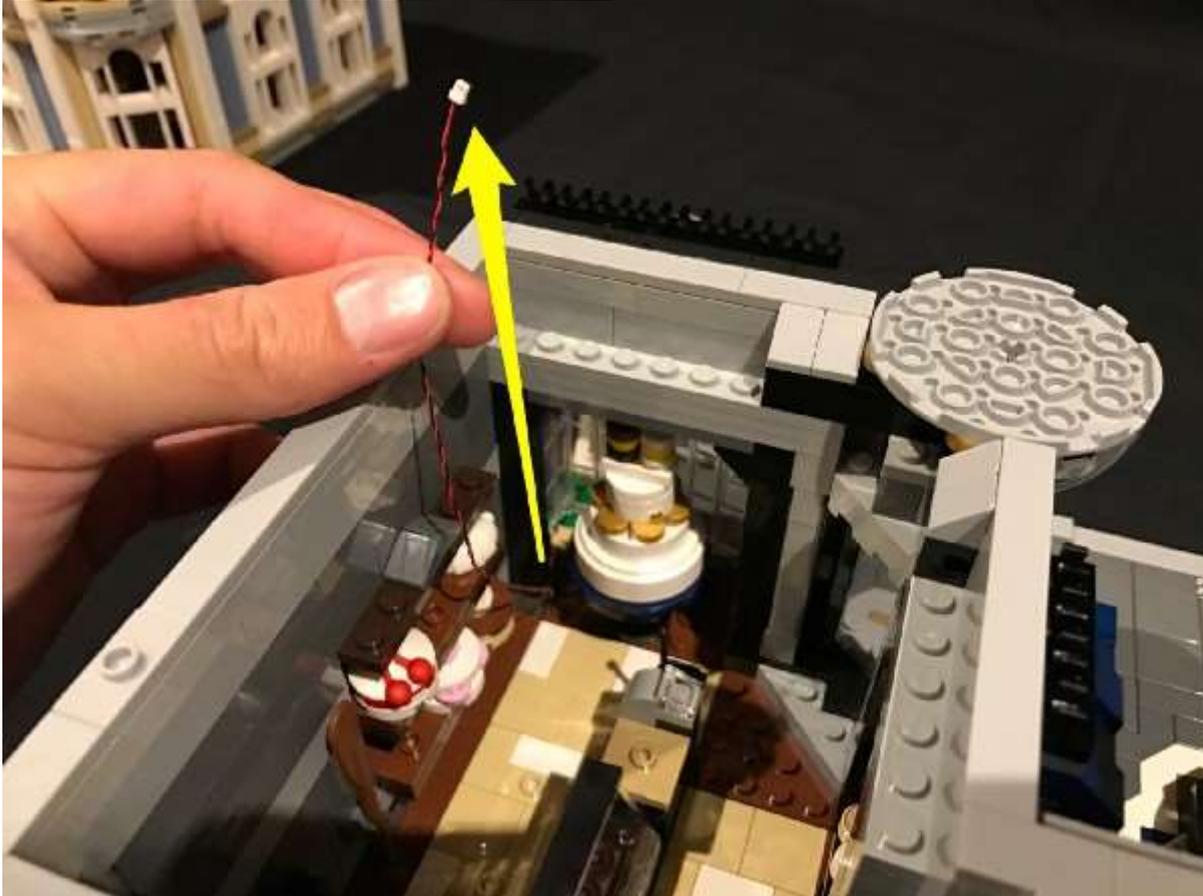
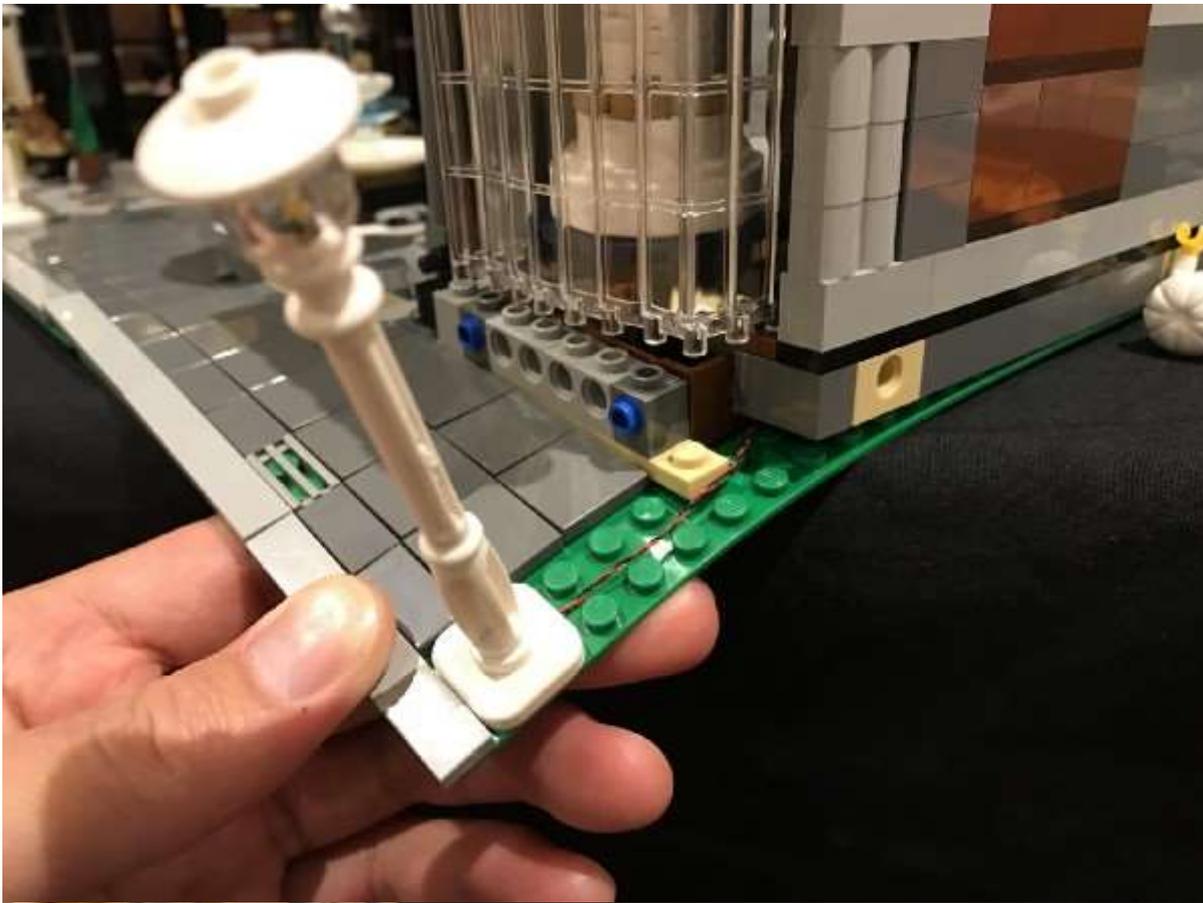
1.) This light kit is installed from the floor up. Remove the second and third levels of the Assembly Square. We will start with installation of the 2 lamp posts. Remove the lamp post on the right and then disconnect the following LEGO tile pieces.





2.) Replace the stock lamp post with the Light My Bricks lamp post with bit light installed. Gently push down the corner of the base plate so that the base plate comes apart from the wall and then thread the connector side of the cable underneath the wall. Pull the cable up from the inside of the building and then ensure the lamp post cable is neatly laid in between the studs of the base plate.





Reconnect the base plate to the front wall and then reconnect the LEGO tile pieces over the top of the cable.



3.) We will install the lamp post on the left side using a similar method. Remove the stock lamp post and then disconnect the following LEGO tiles and surrounding pieces.



Replace the stock lamp post with the other Light My Bricks **lamp post with bit light installed** and then gently push down the corner of the base plate to allow us to thread the connector side of the cable in between the door and window of the cafe.





Pull the cable up from the inside of the cafe and then reconnect back the corner of the base plate. Ensure the lamp post cable is laid neatly in between the studs of the base plate before reconnecting the LEGO tiles and pieces we removed earlier.

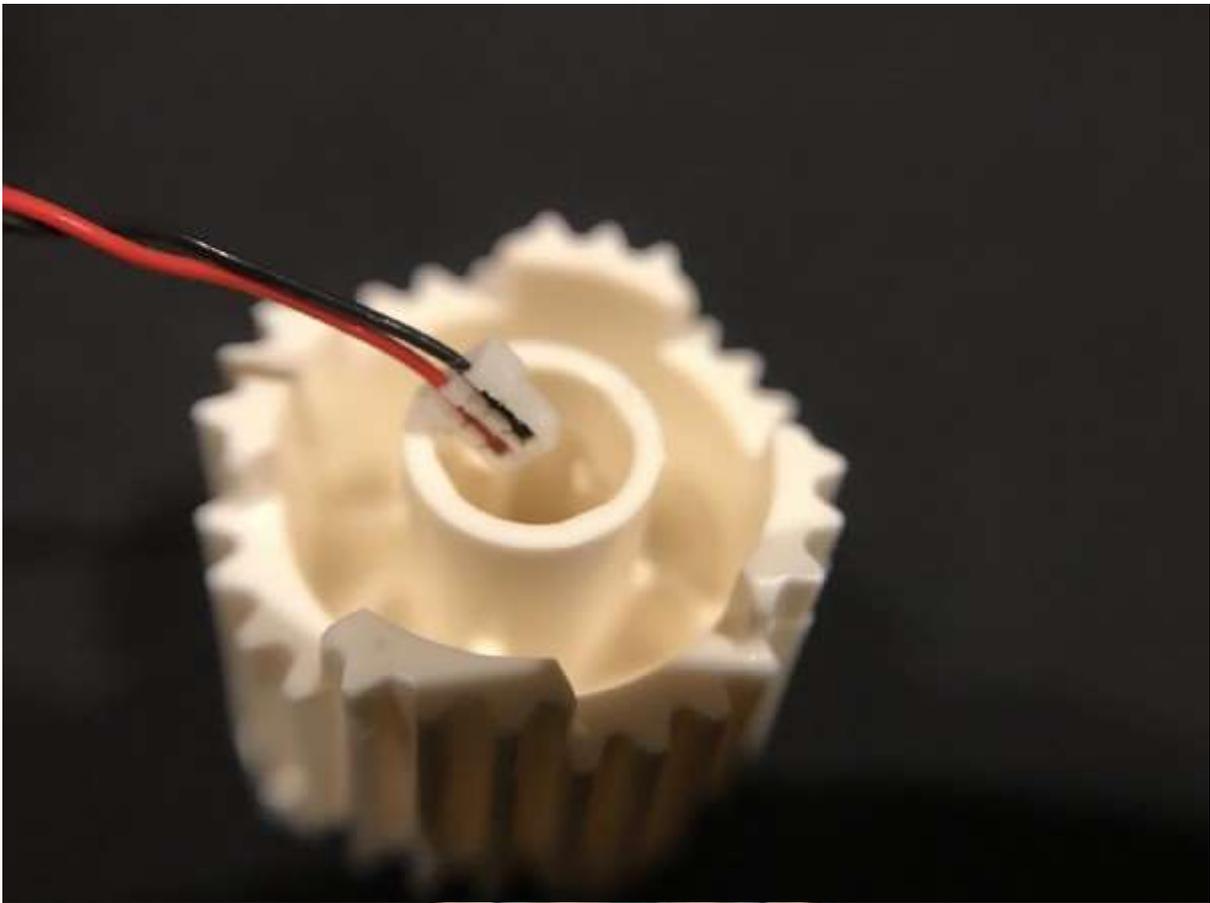


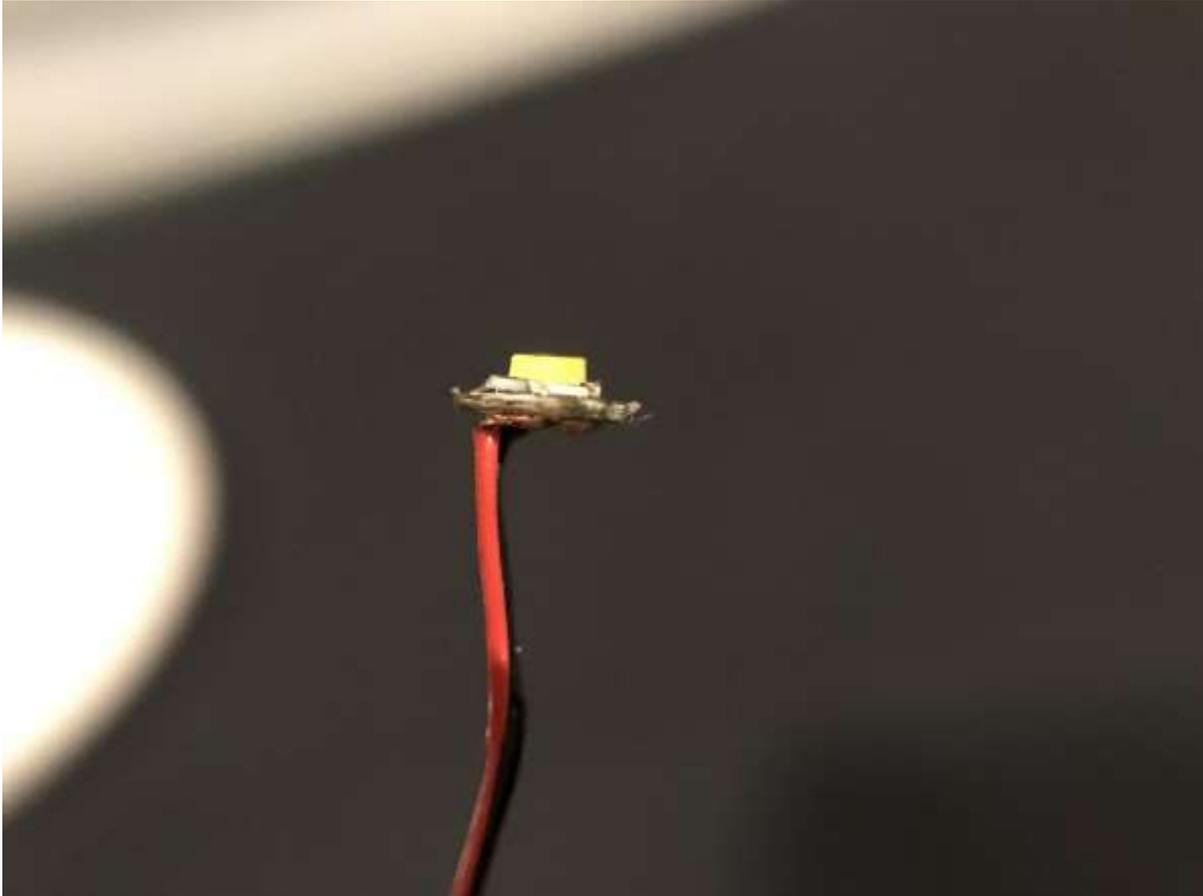
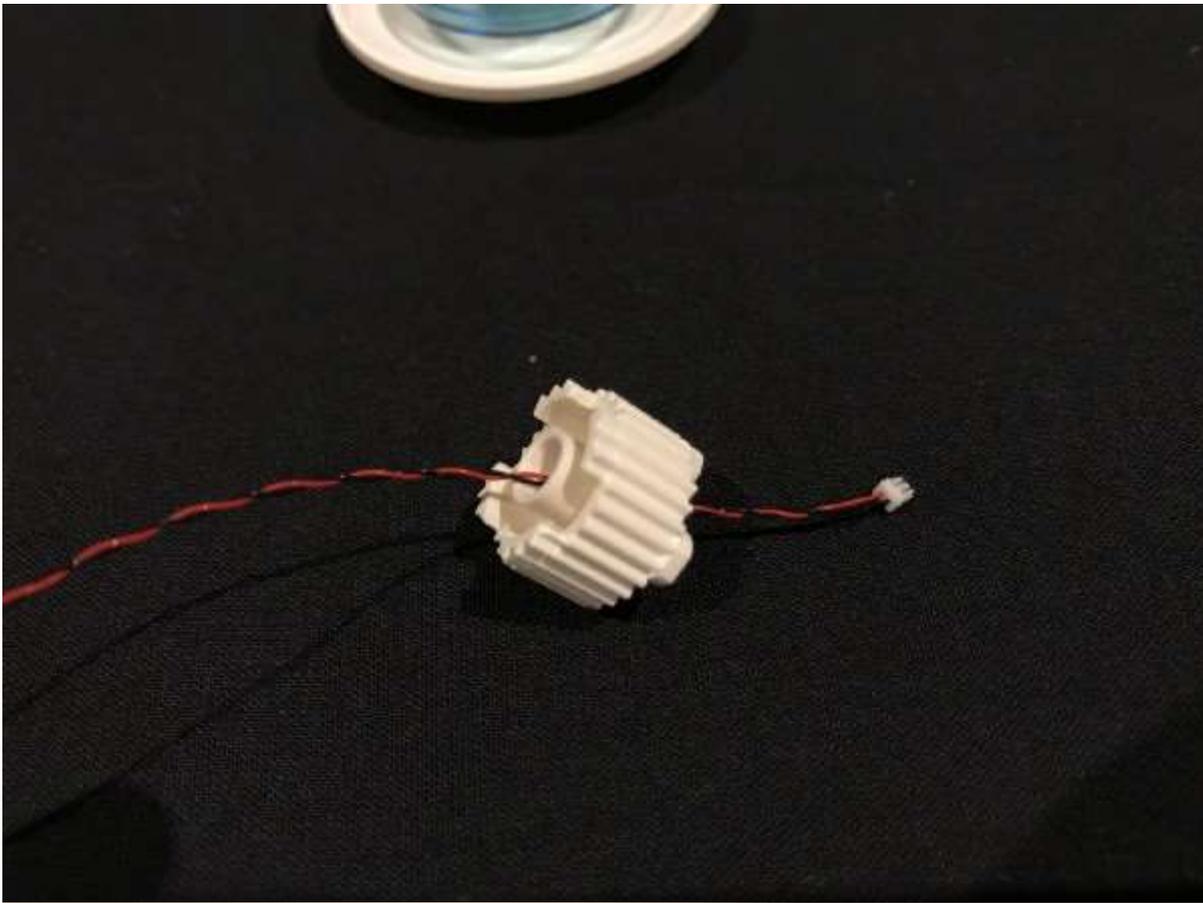


4.) We will now move onto installing a blue bit light to the fountain. Disconnect the main section of the fountain and then disassemble the pieces as per below.

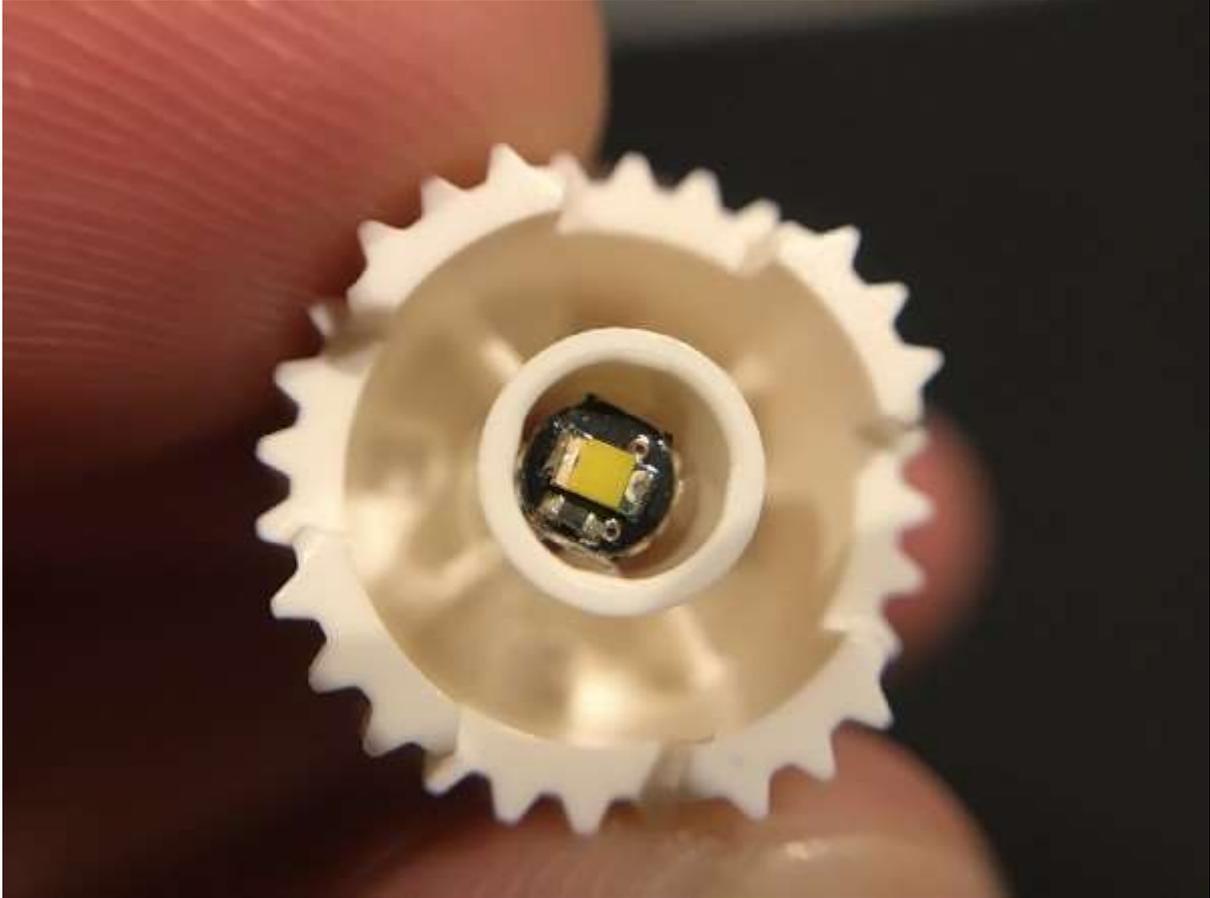
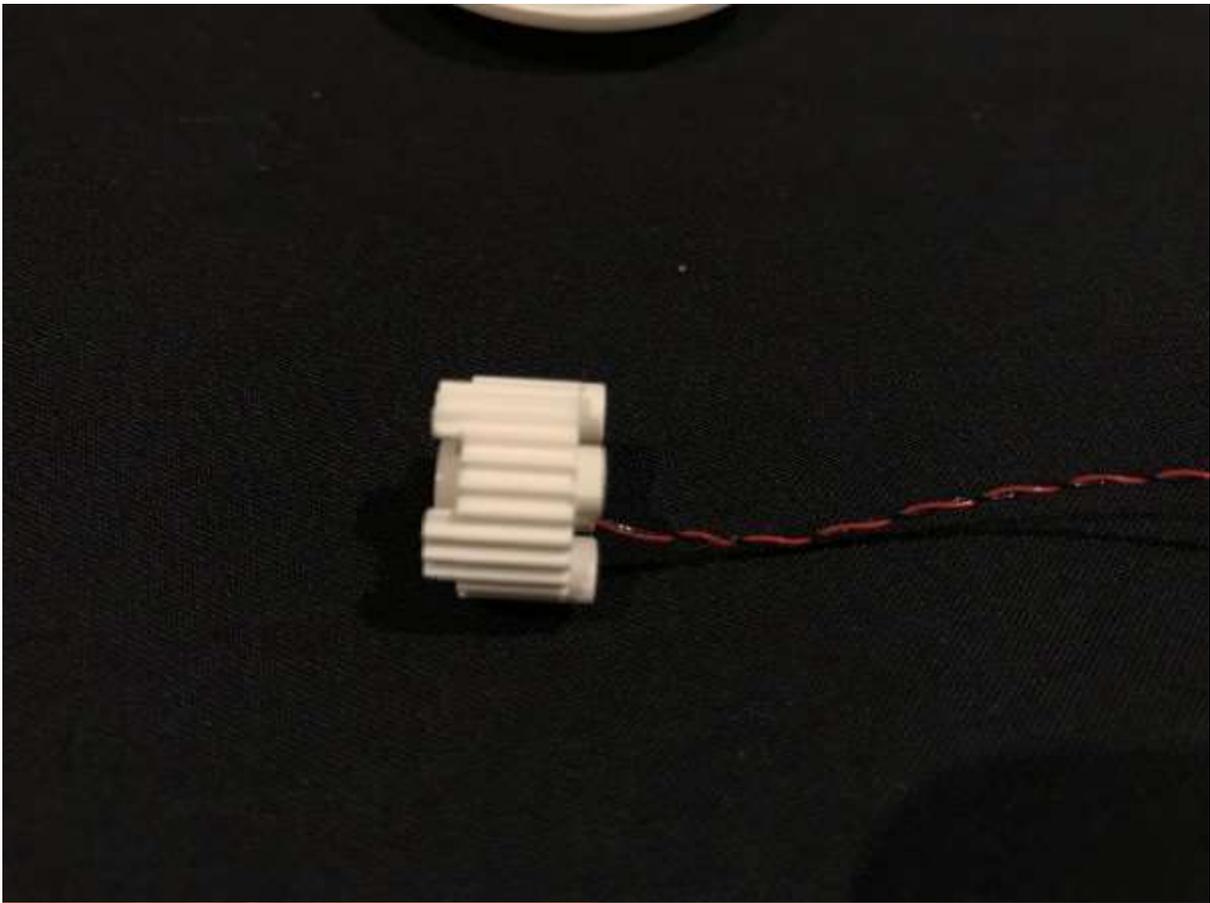


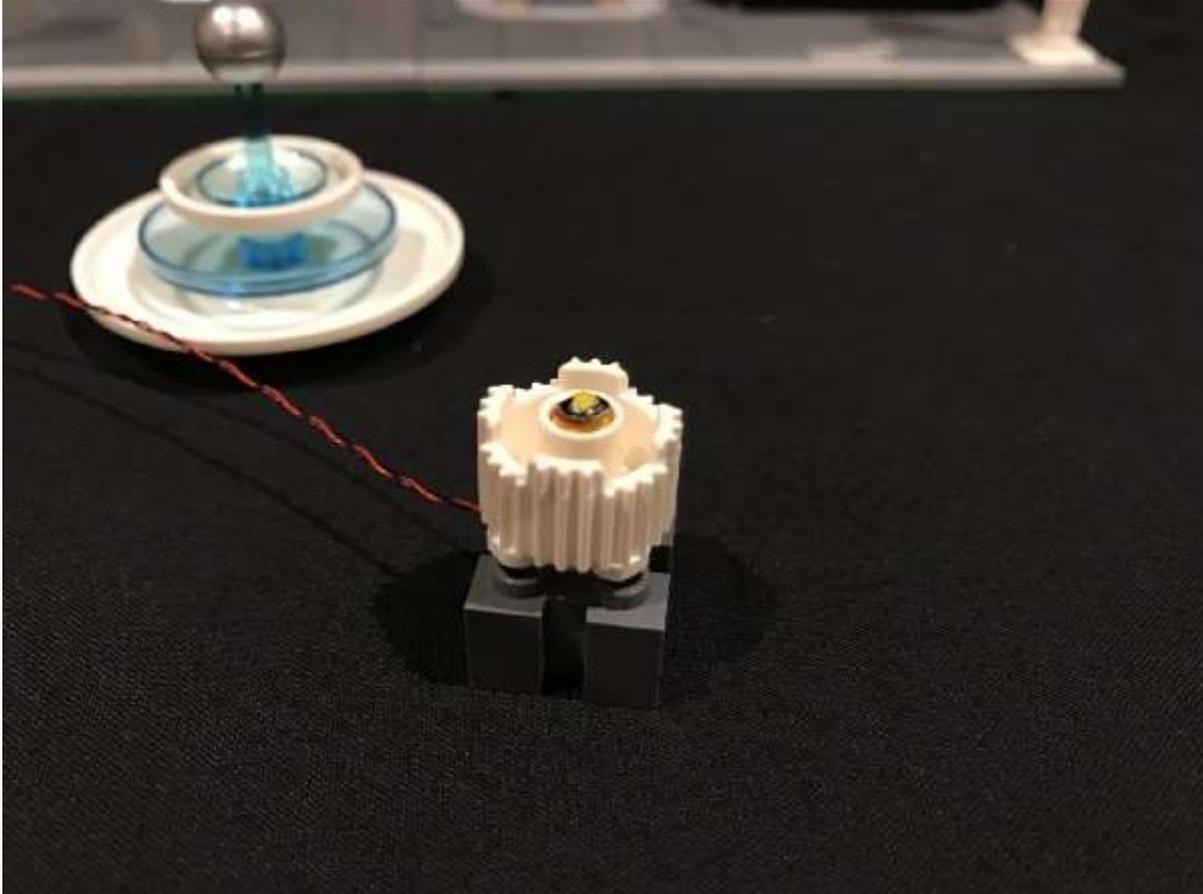
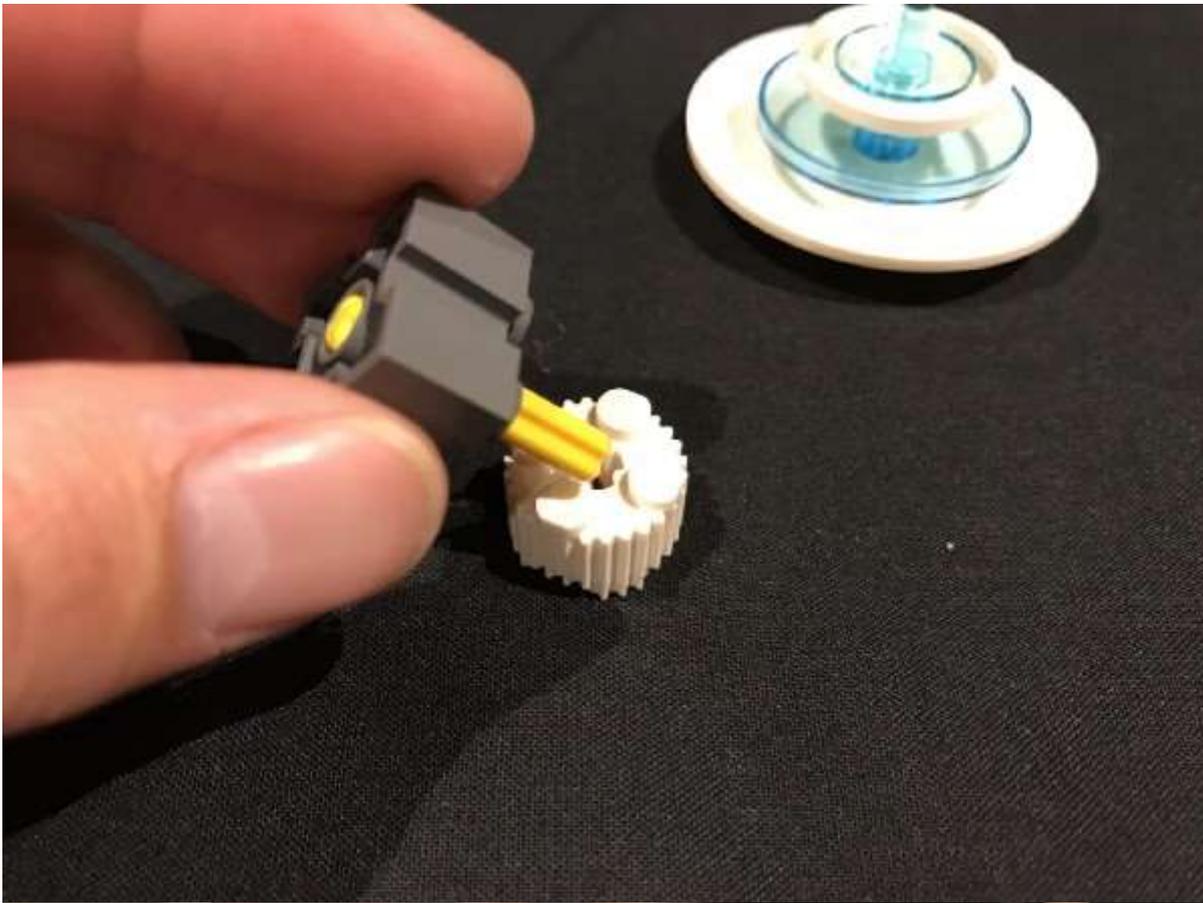
Take the **Blue Bit Light** and then thread the connector side of the cable through the bottom of the white round LEGO piece. Locate the top of the cable where the LED component is and then bend the cable down on a 90 degree angle.



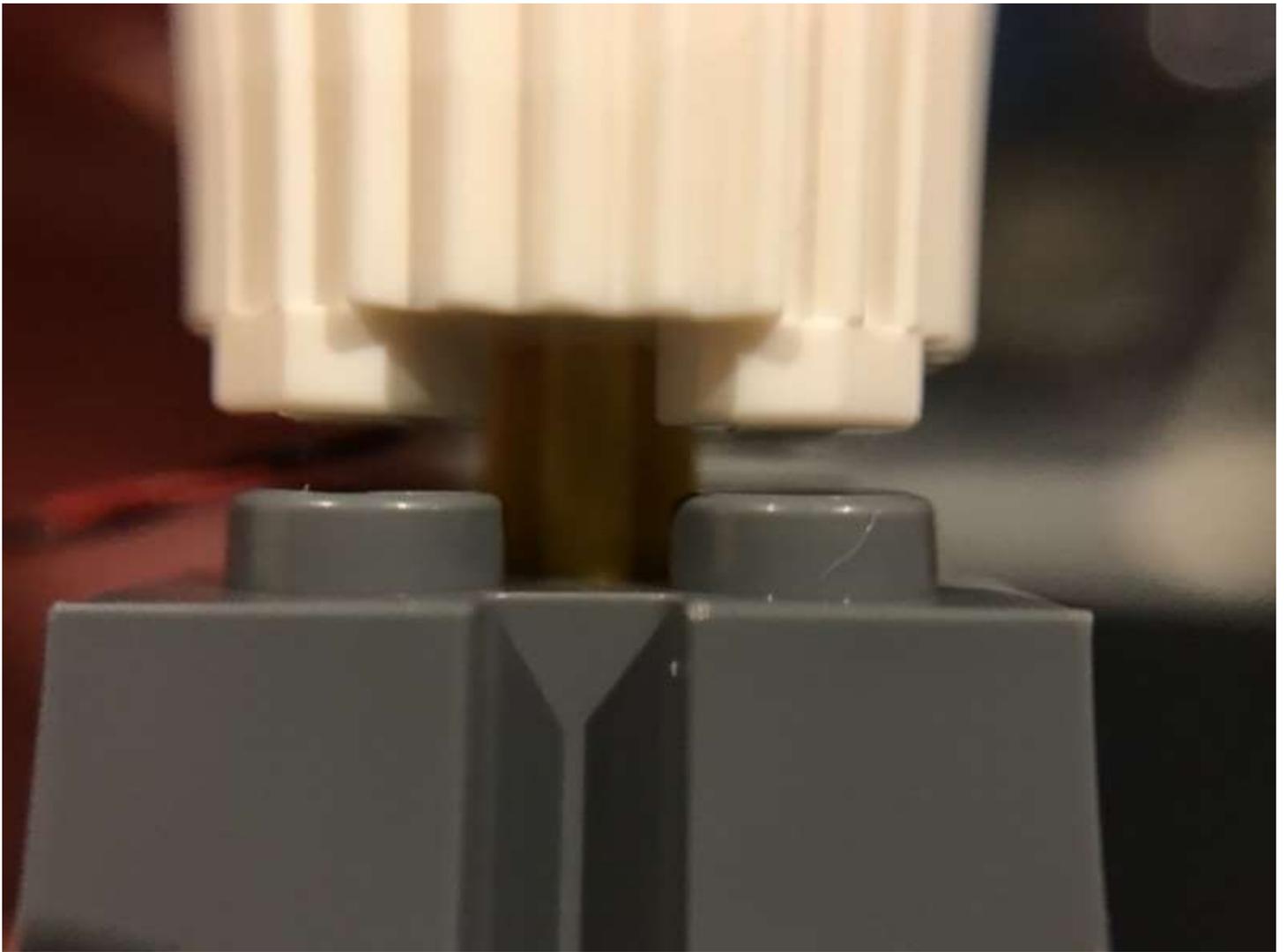


Pull the cable all the way through from the other side so that the LED component is right up against the inside of the white round LEGO piece then reconnect the dark grey brick with yellow technic pin through the top of the white round piece. Your base of the fountain section with blue bit light installed should look similar to the below example.

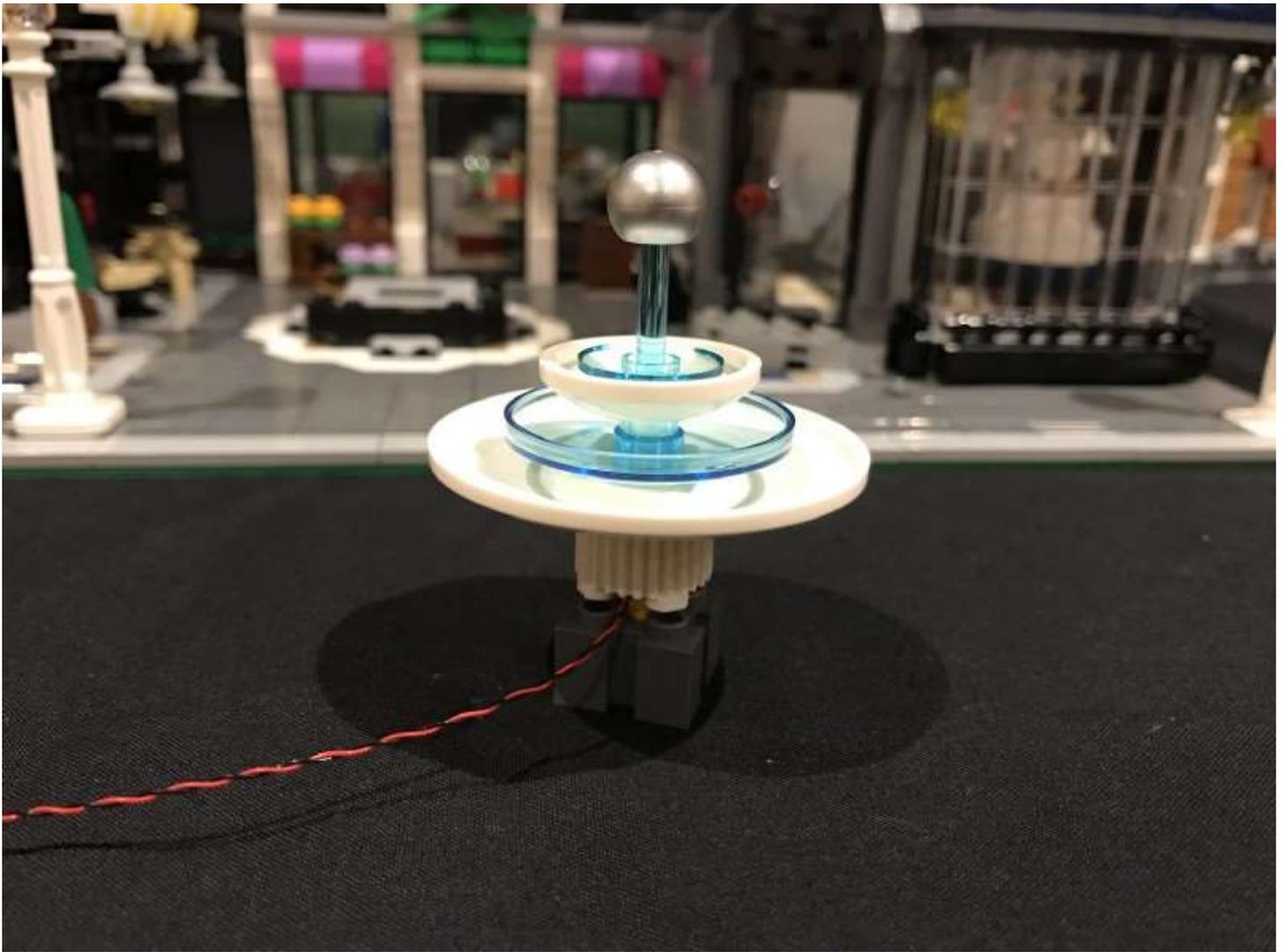




Note: Because of the bit light cable, the 2 sections (white round brick and dark grey brick) will not fully connect and there should be a slight 1-2 mm gap between the two.



We can now reconnect back the top section of the fountain to the base.



5.) Before we can reconnect the fountain with bit light installed to its original location, we must remove the following LEGO tiles and pieces to allow us to lay the cable underneath and up towards the inside of the flower shop.





6.) The next step may be tricky so please take caution when doing so to avoid the whole front wall of the flower shop collapsing. We need to thread the cable from the bit light we installed to the fountain underneath this front wall. To do so, lift the base of the assembly square up and using your finger, push down the base plate (in front of the window) to allow you to remove the LEGO section which make up one of the pillars between the left window and front door.





7.) Reconnect the fountain to its original location and then thread the cable through the open space between the front window and door of the flower shop. Ensure the cable is laid neatly between the studs of the base plate before reconnecting the LEGO section which made up the pillar we removed earlier. You may need to carefully push down the base plate again in order to get this section back in.





Reconnect the tiles and LEGO pieces we removed earlier ensuring the bit light cable from the fountain is neatly laid in between the studs of the base plate. To make it easier, we can remove the top section of the fountain.







Leave the other end of the cables from the two lamp posts and fountain for now. We will connecting them all up later.

8.) We will now move onto installing lights to the lamps around the front of the cafe. Start be removing the following LEGO pieces surrounding the top front of the cafe.

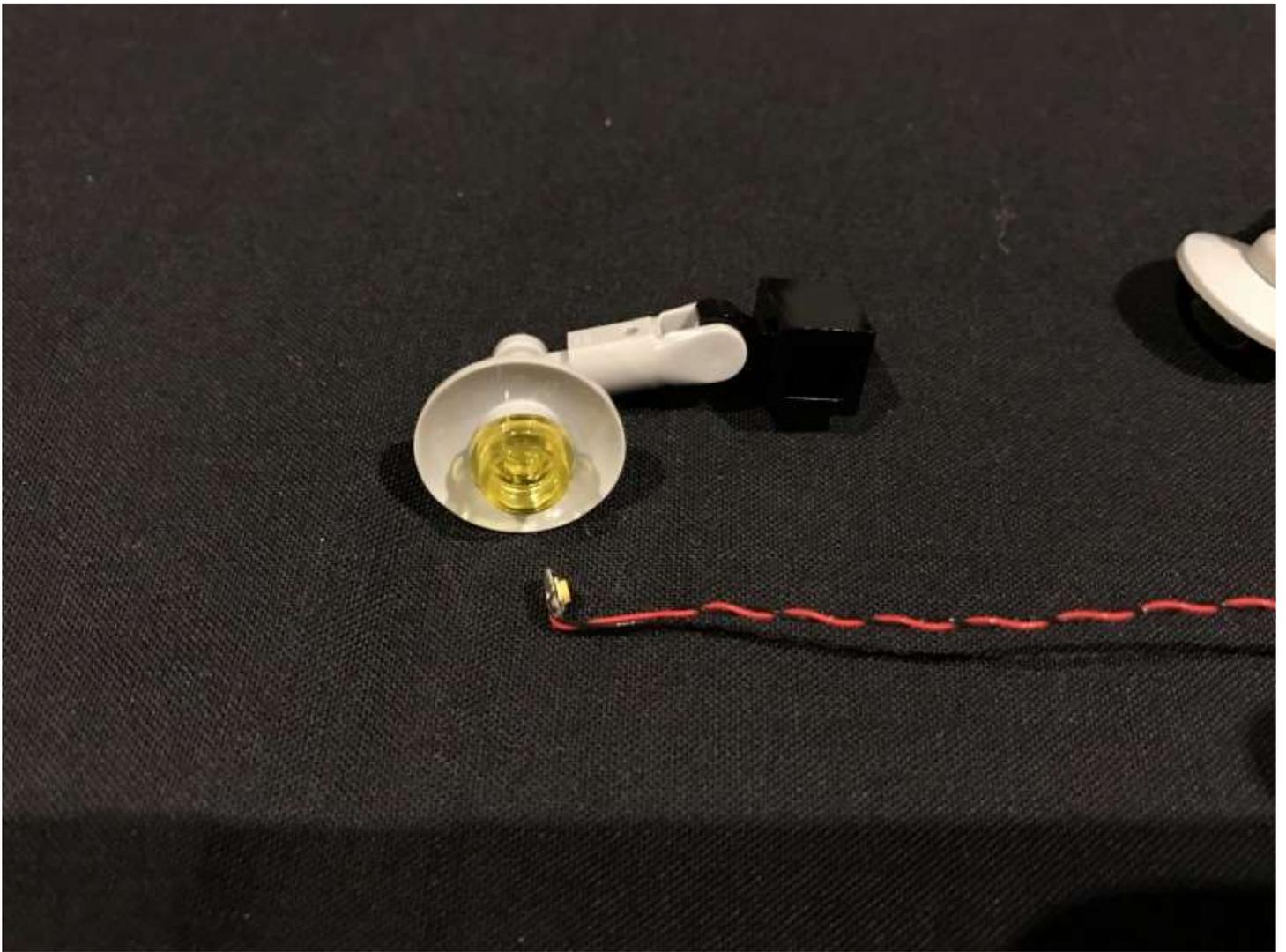




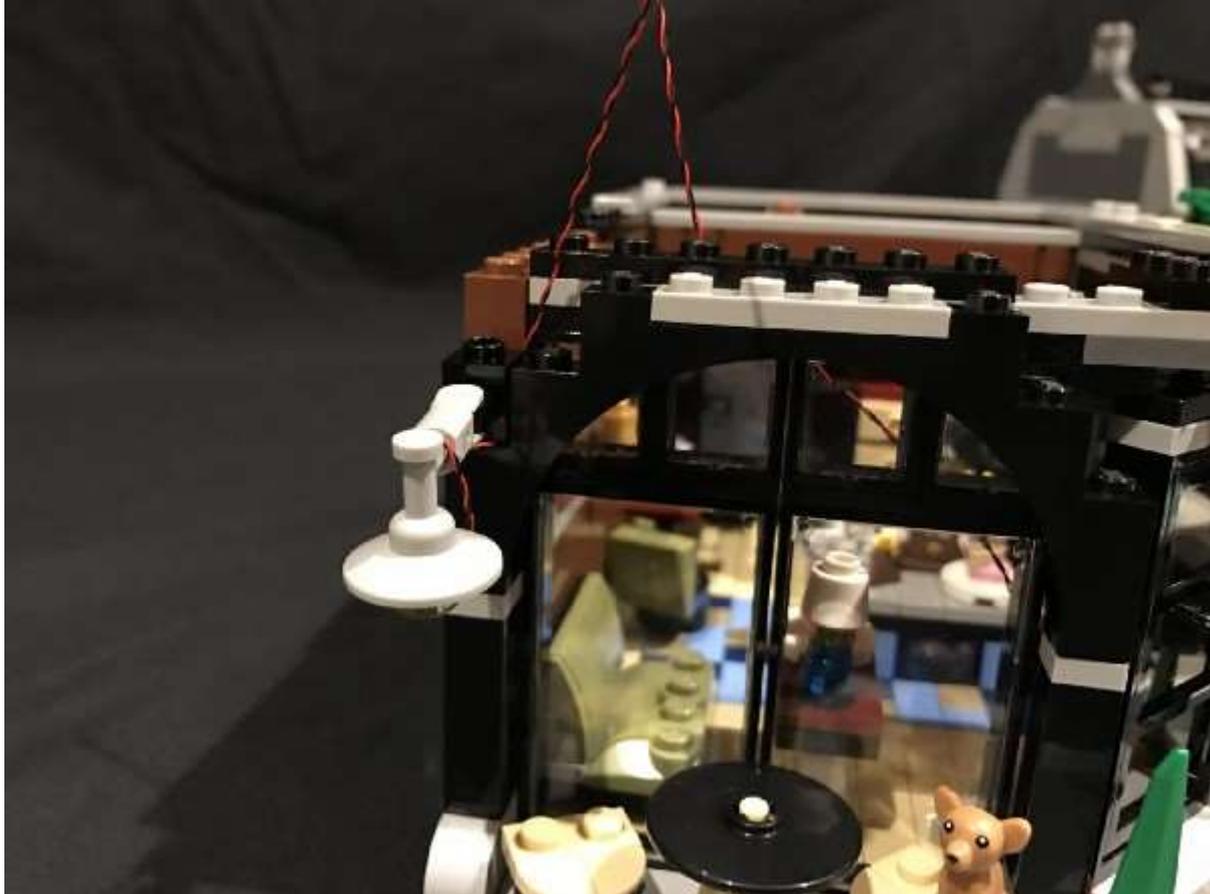
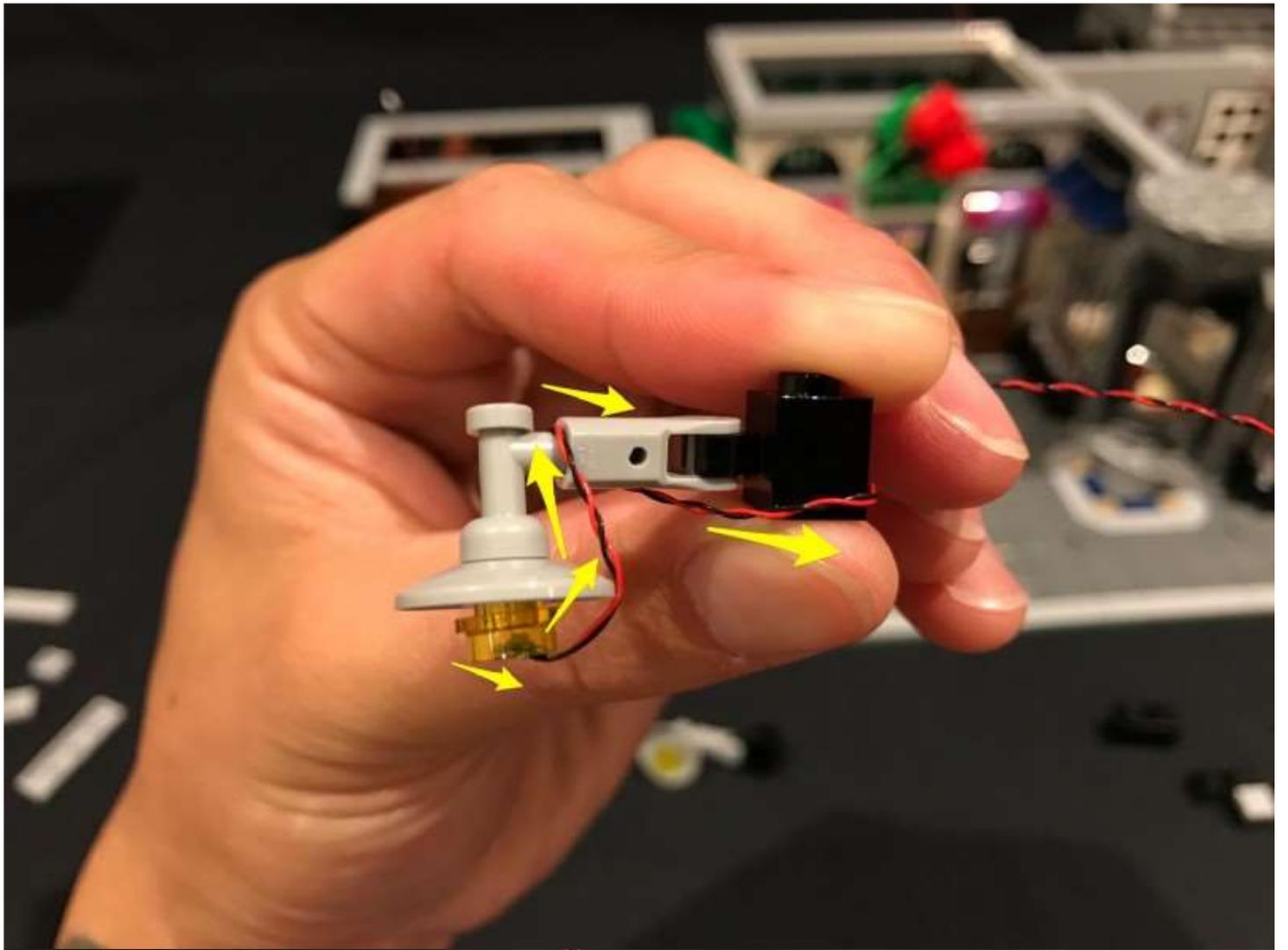
Remove the 2 lamp sections at the front.

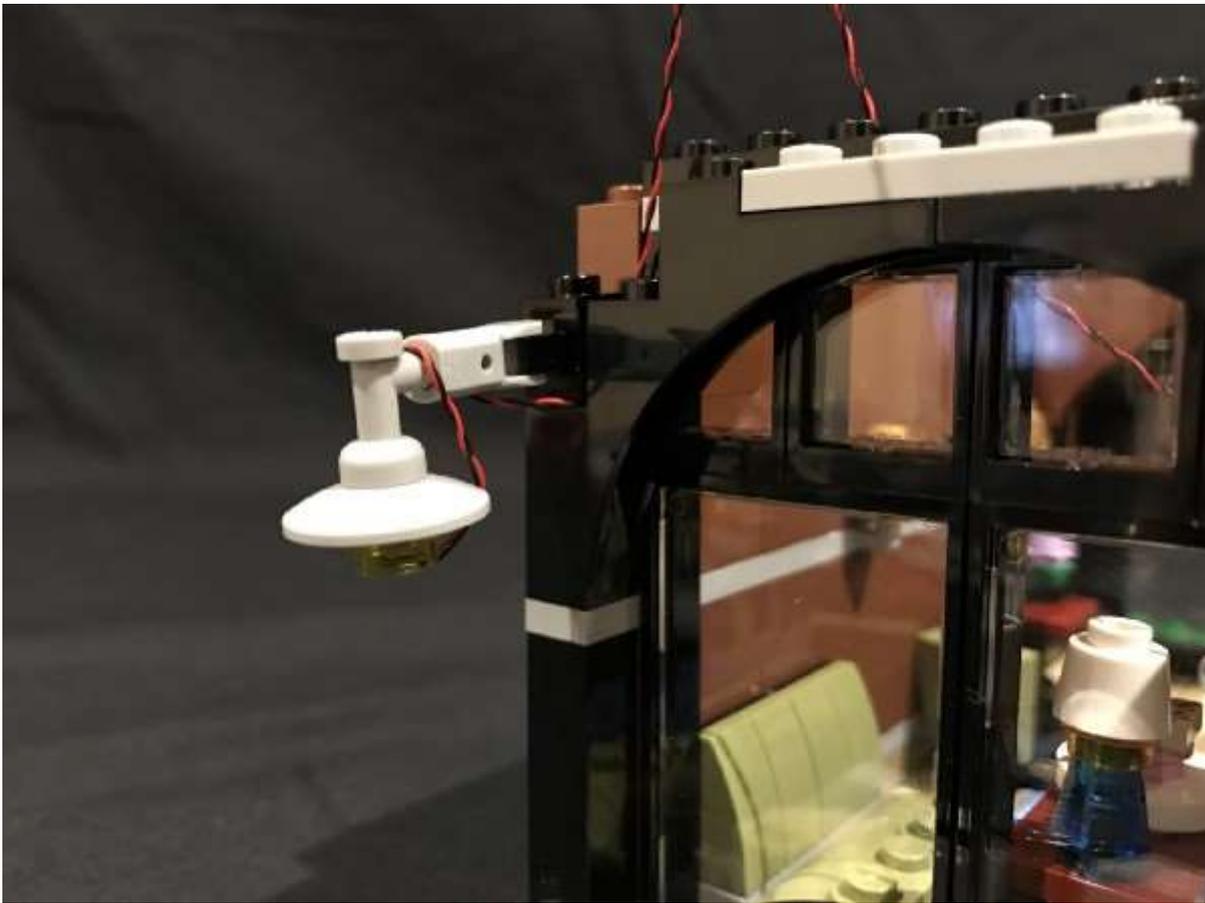


9.) Take a **Bit Light with 15cm cable** and then bend the cable up in 90 degree angle where the LED component is.

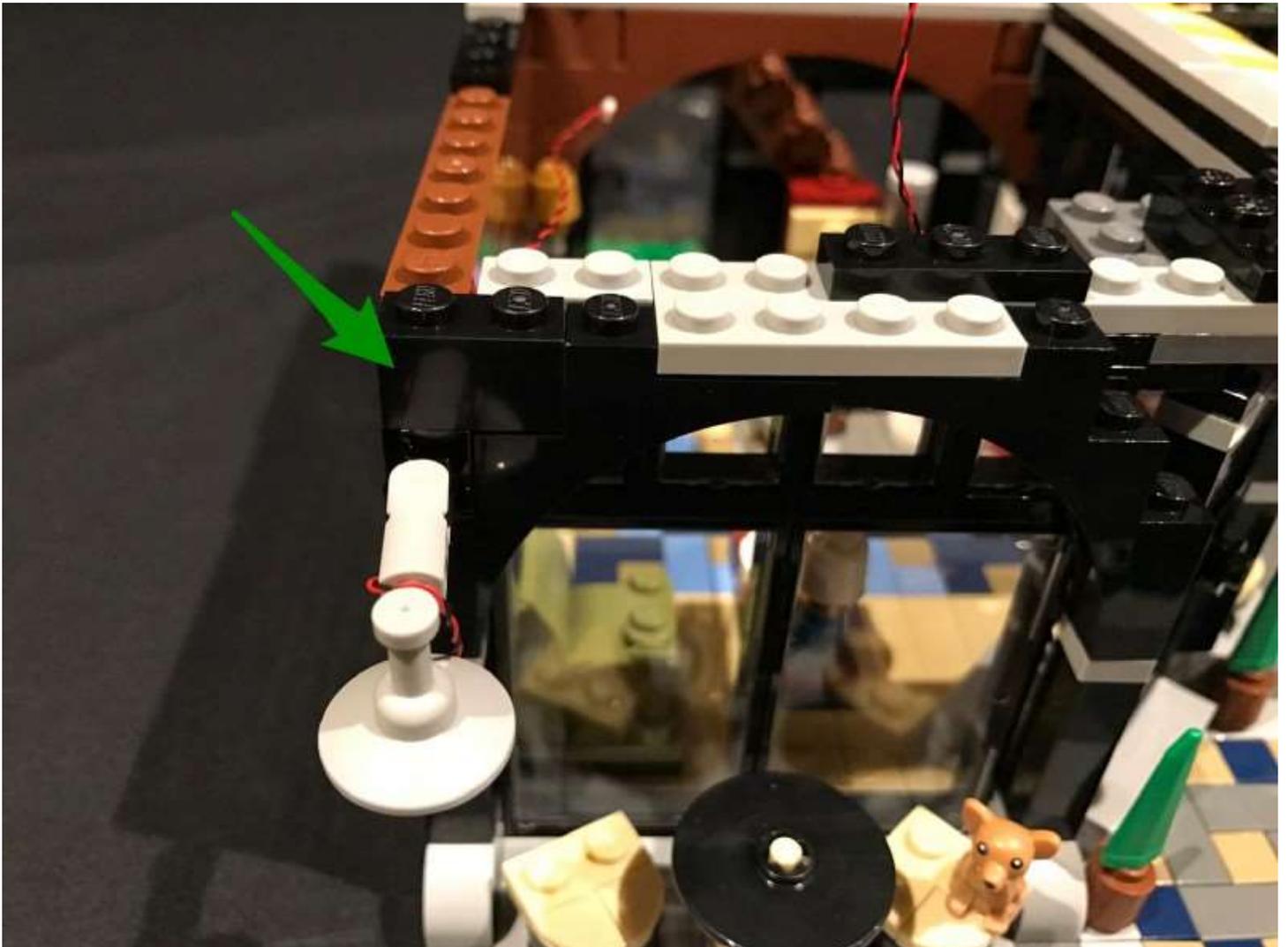


Place the LED component facing upward inside the middle of the trans yellow LEGO piece of one of the lamps. Pull the cable over the top of the lamp and then pull it right toward the black brick. Reconnect this lamp section back to the front wall ensuring the cable is tight and in between the 2 black bricks.





Reconnect the 1×2 black brick over the top to secure it in place.



Repeat the same process to install another Bit Light with 15cm cable to the lamp on the right side of the front of the cafe.



Reconnect surrounding LEGO bricks and pieces we removed earlier.

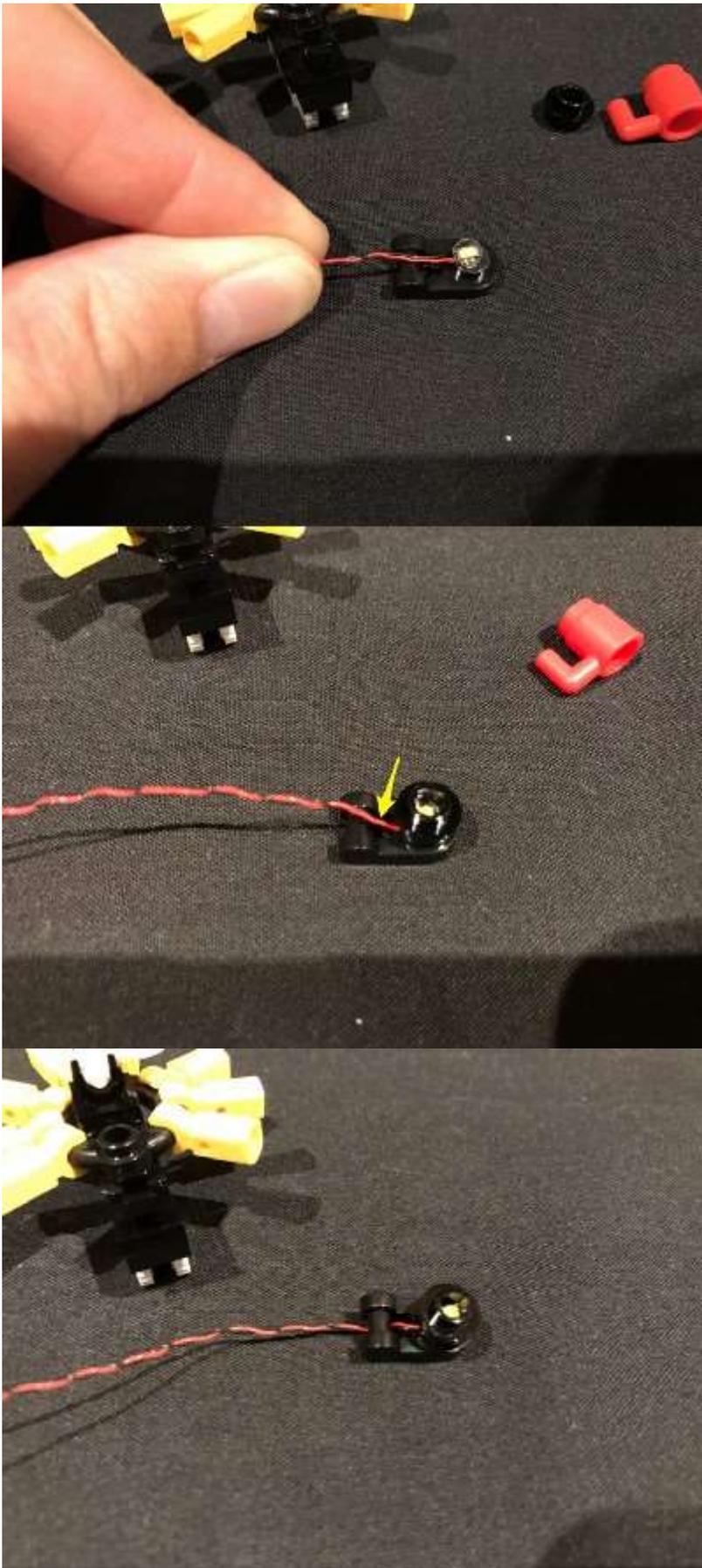


10.) We will now install a light to the red coffee mug at the front of the building. Remove the entire section and then disassemble the following pieces as per below:

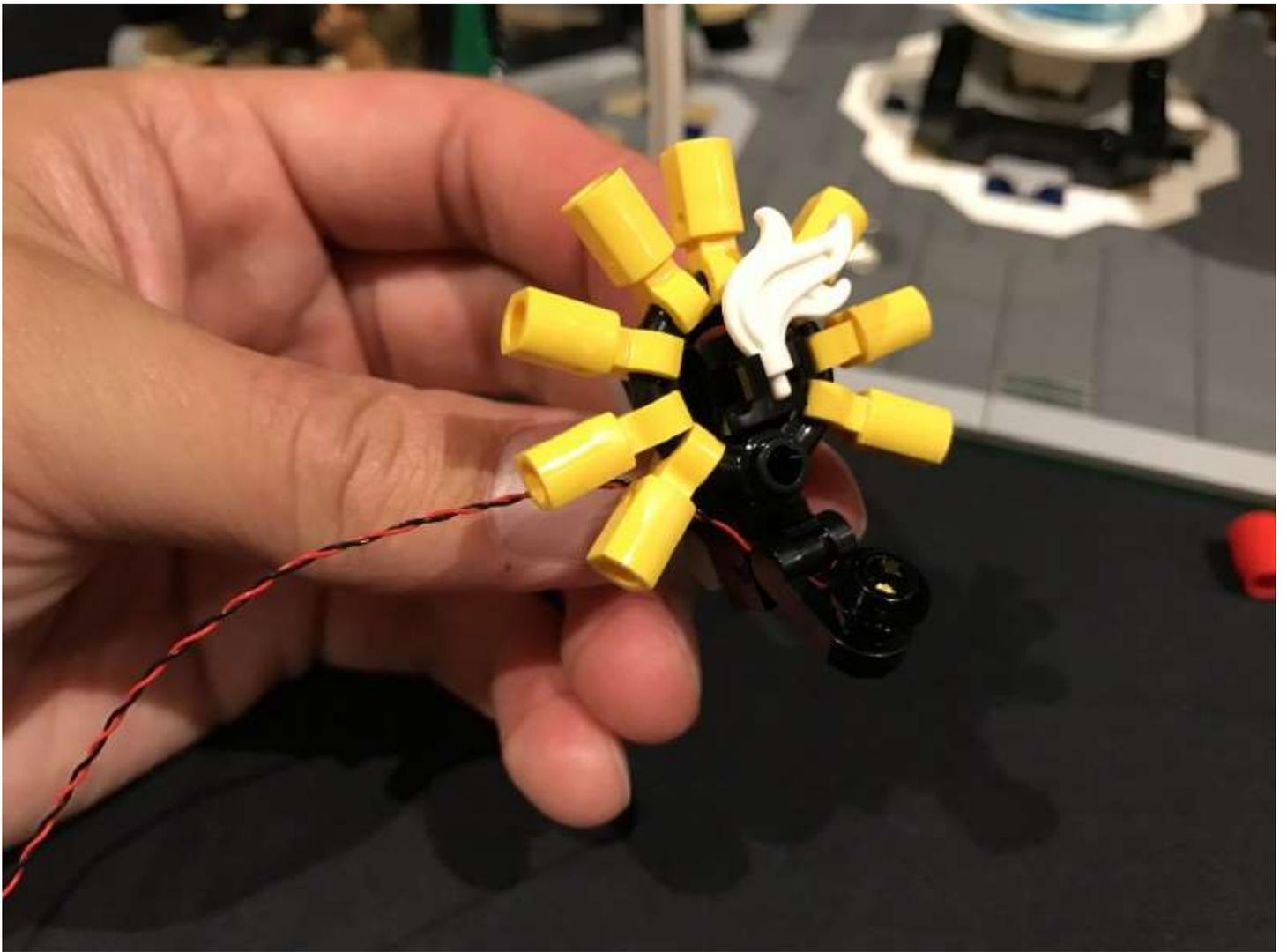




Take a bit light with 15cm cable and place the LED component directly over the stud of the black piece. With the cable facing toward the back, reconnect the round black piece directly over the top to secure the bit light in place then thread the cable down underneath the space of the black LEGO piece



Reconnect this section back to the main section of the sign.



Reconnect the red coffee mug and then reconnect this section back to the building ensuring the cable is laid behind.



Reconnect LEGO tiles we removed earlier ensuring the cable from the red mug is laid in between studs underneath tiles.



11.) We will now install lights to the remaining lamps on the right side of the cafe. Start by removing the surrounding LEGO tiles and pieces.





Remove the 2 lamp sections and install another 2x Bit Lights with 15cm cable to them using the same method we used earlier to install the front lamps.



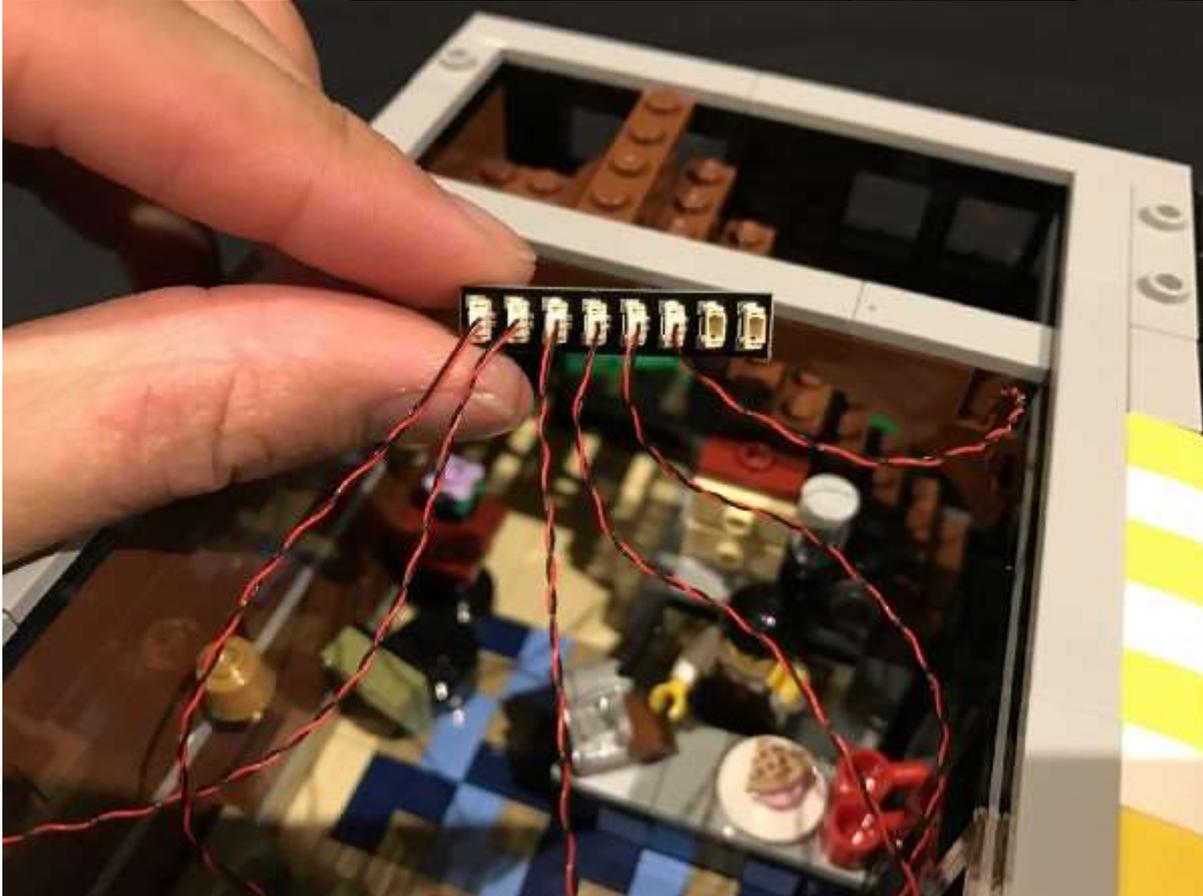
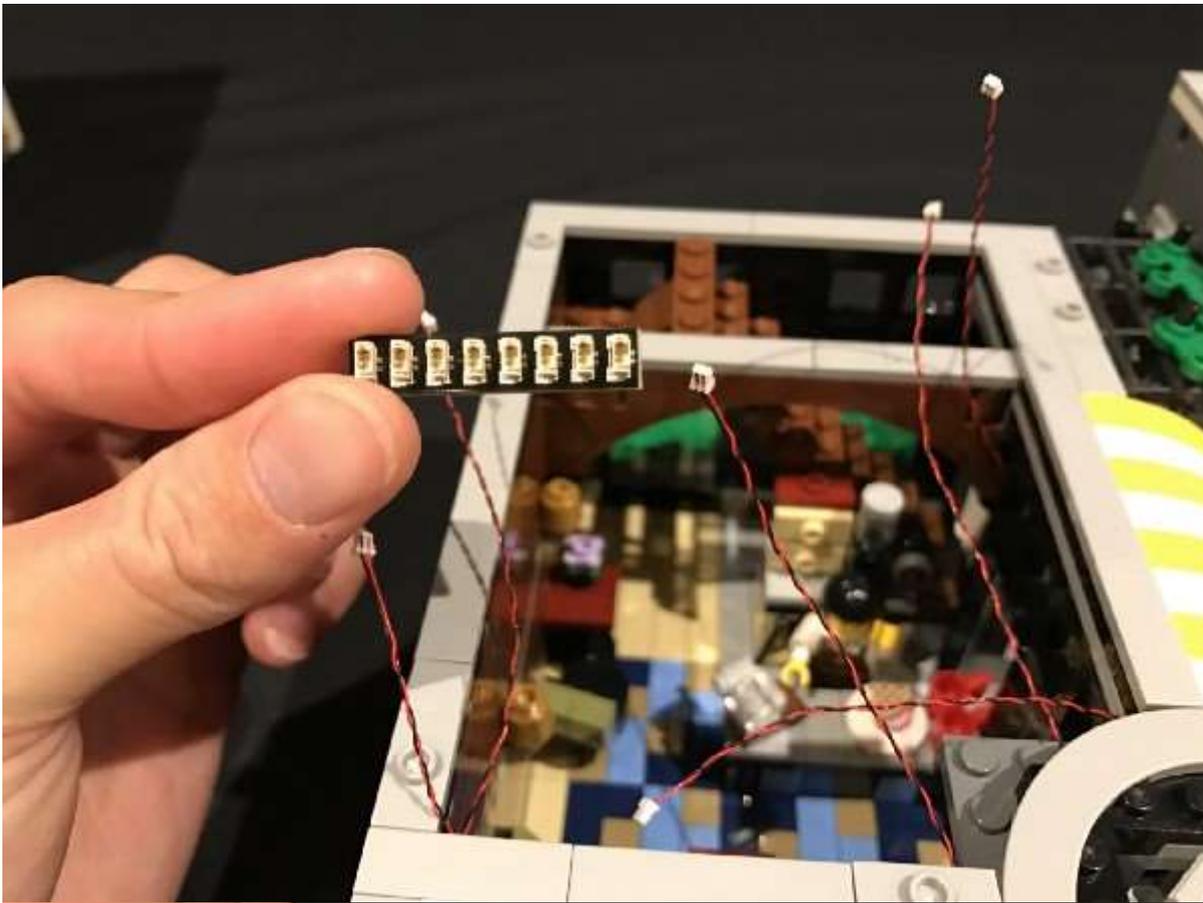


Reconnect the 2 lamps with bit lights installed back to the wall and then reconnect the surrounding LEGO tiles and pieces.





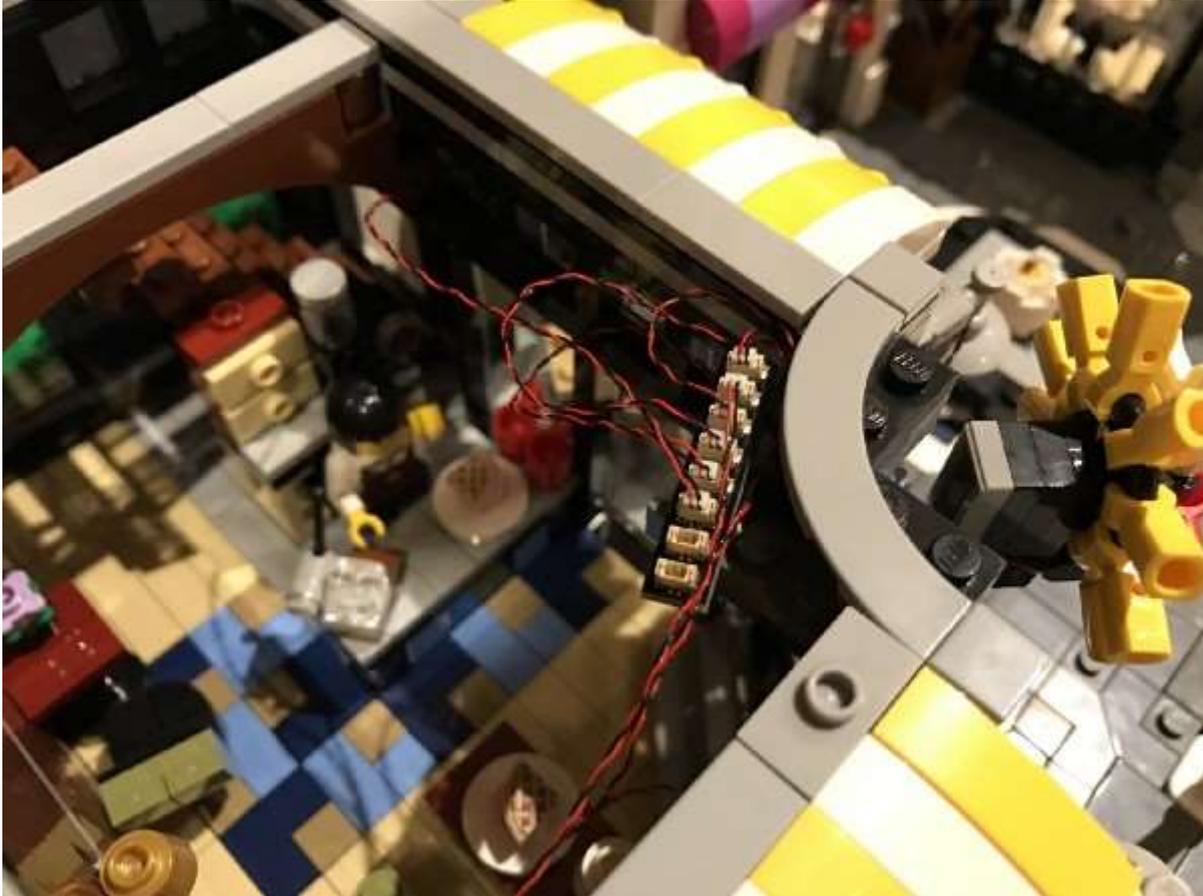
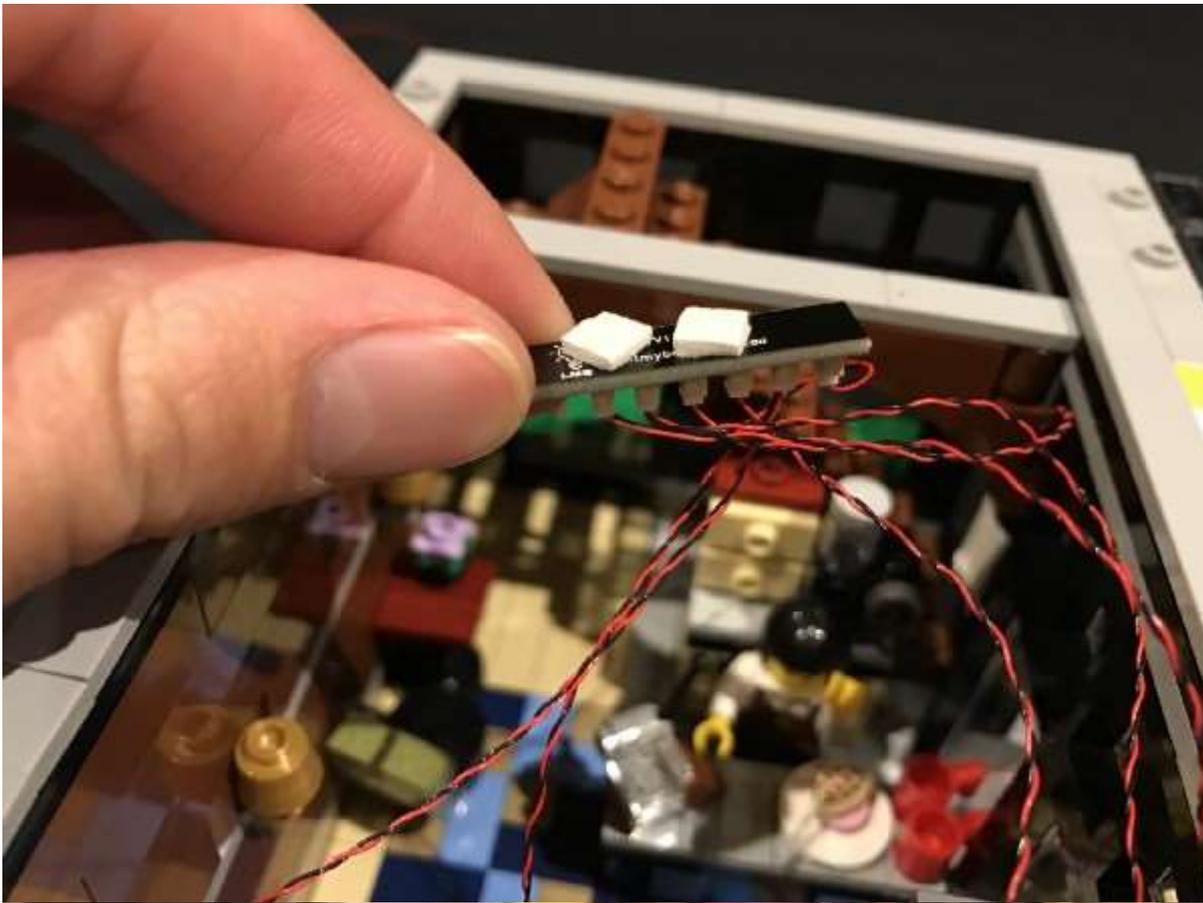
12.) Take the **8-port Expansion Board** and then connect the cables from the 4 lamps, lamp post, and coffee mug lights to the available ports.



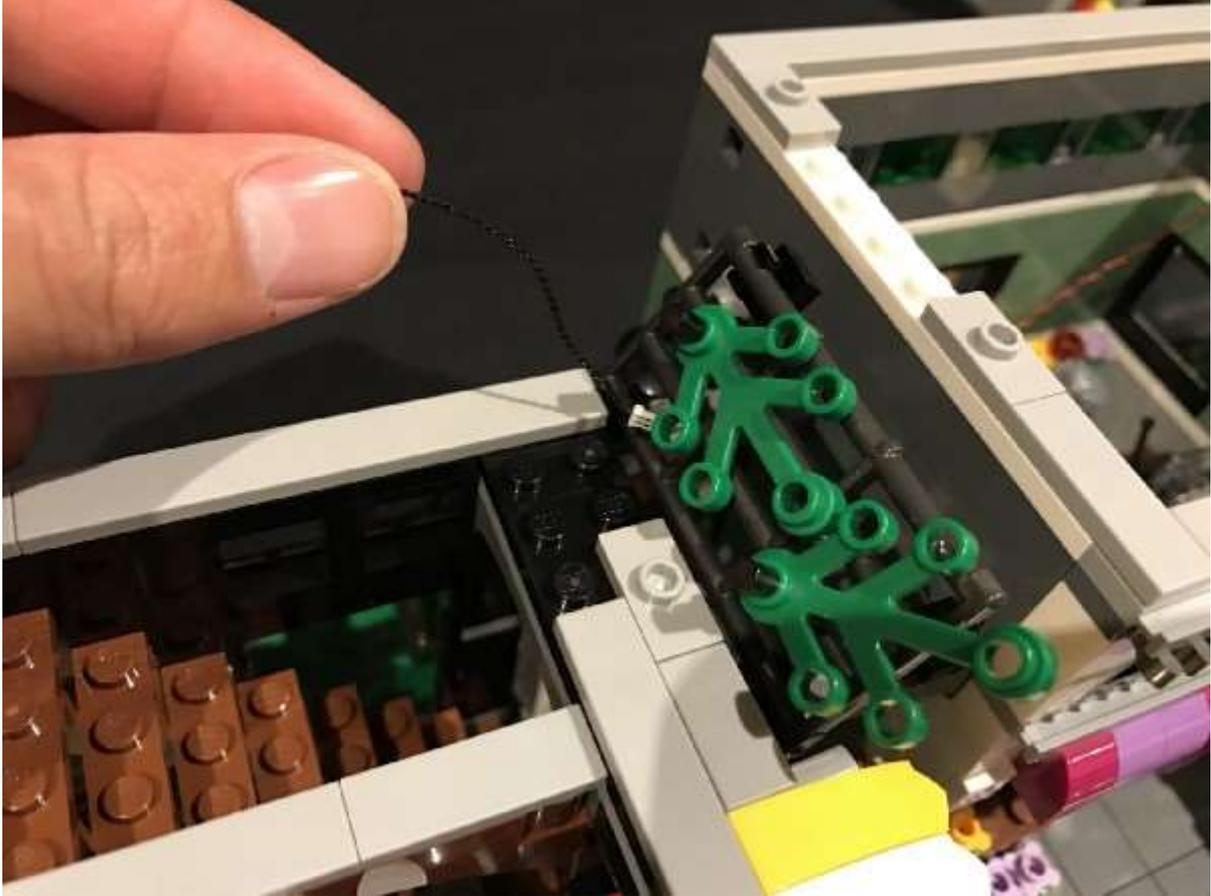
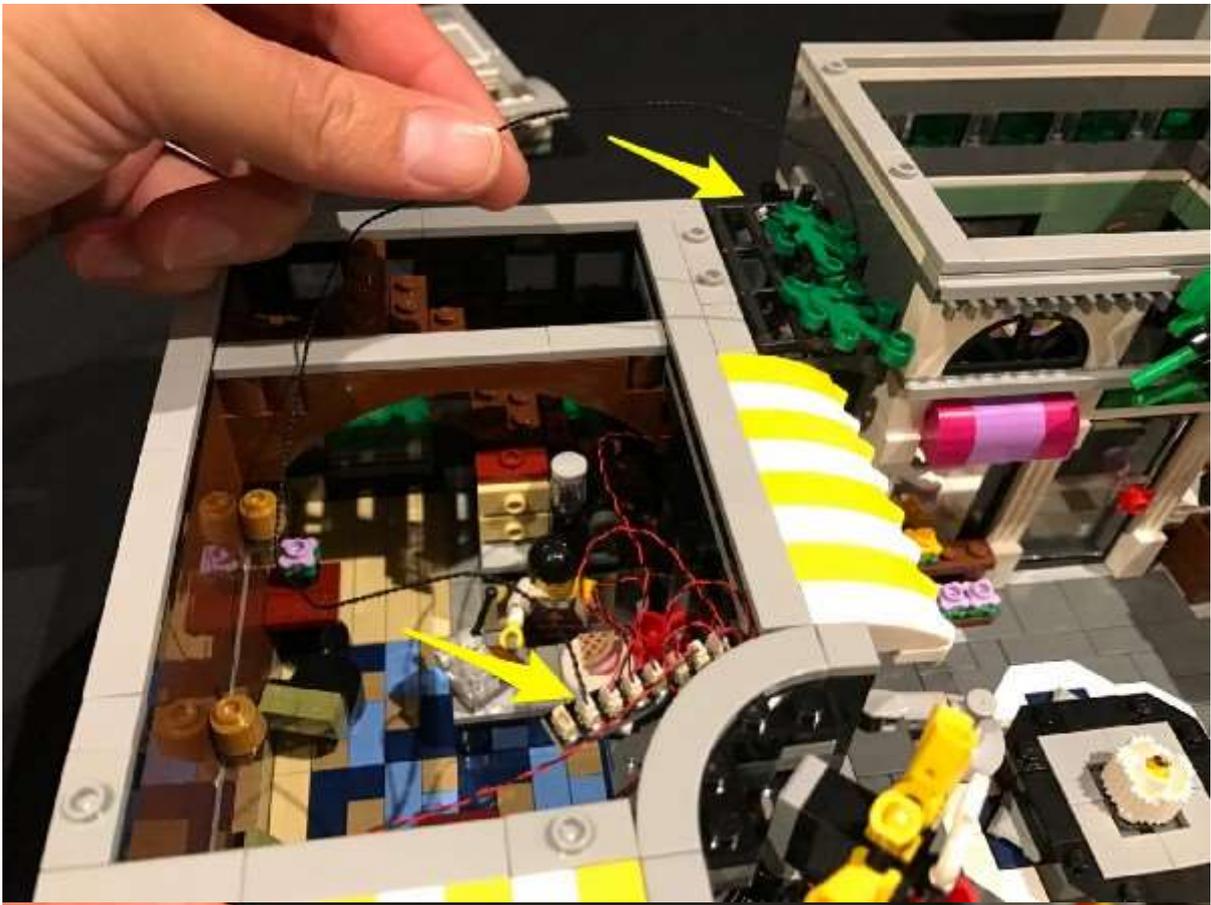
13.) This is a good time to test our current light circuit. To do so, insert 3x AA batteries to the battery pack and then connect the battery pack cable into a spare port of the expansion board. Turn on the battery pack and verify that all the lights connected to the cafe are currently lit.

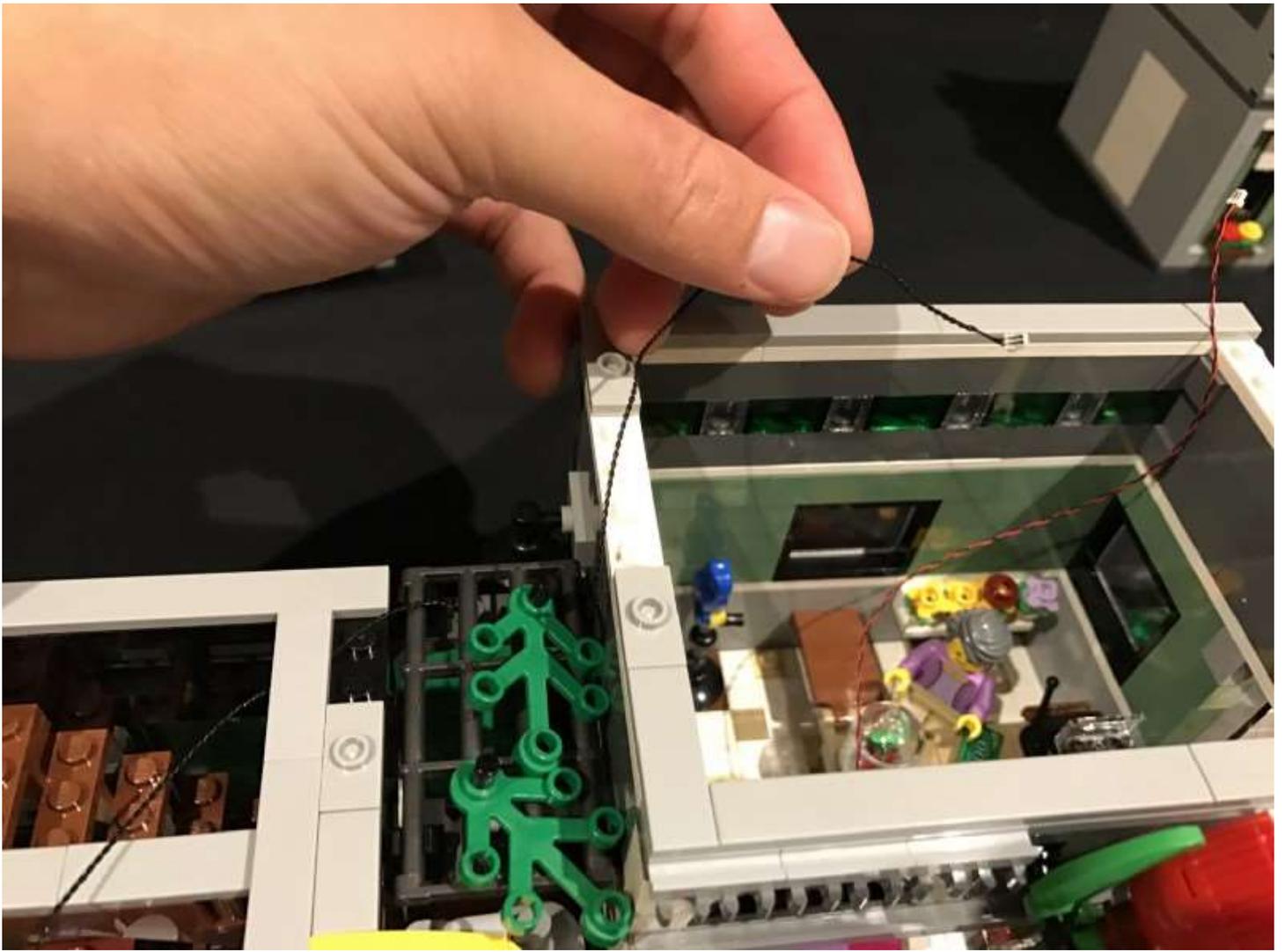


14.) Take 2x **adhesive squares** and stick them onto the back of the expansion board. Mount the expansion board onto the inside of the building in the following location.



15.) Take a **30cm connecting cable** and connect it to one of the spare ports on the expansion board. Take the other end of the cable and thread it through the green vine pieces and then through to the inside of the flower shop.

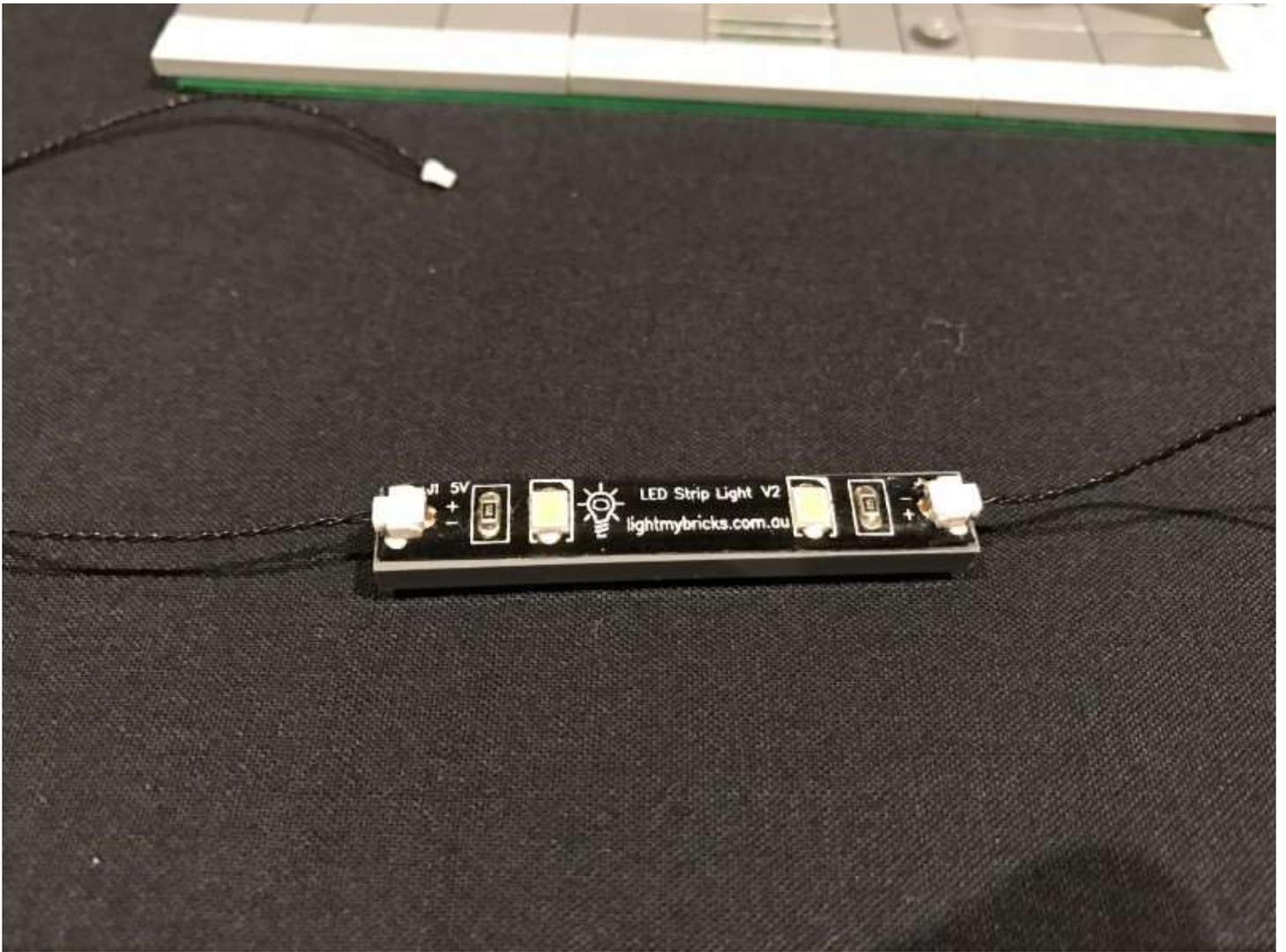




Secure and hide the cable underneath the grey LEGO tiles on the top of each building floor.



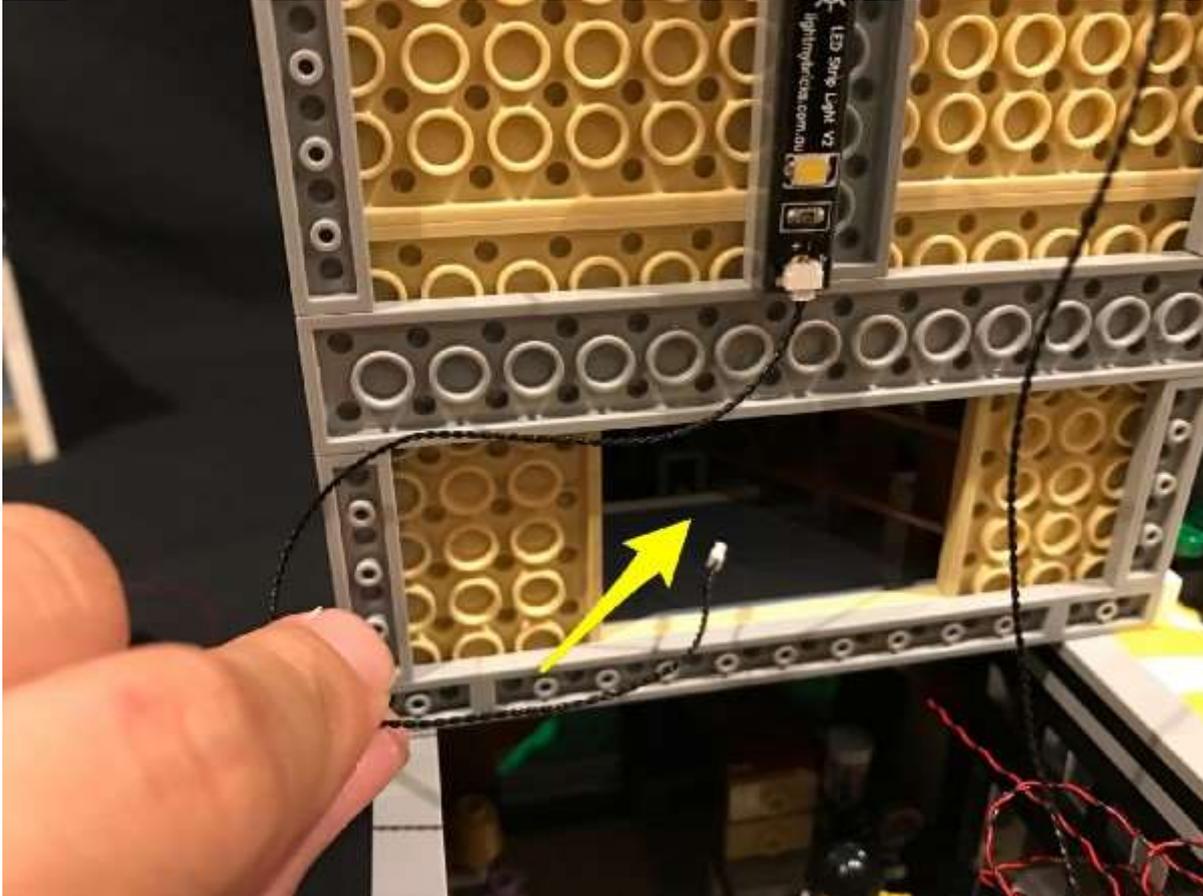
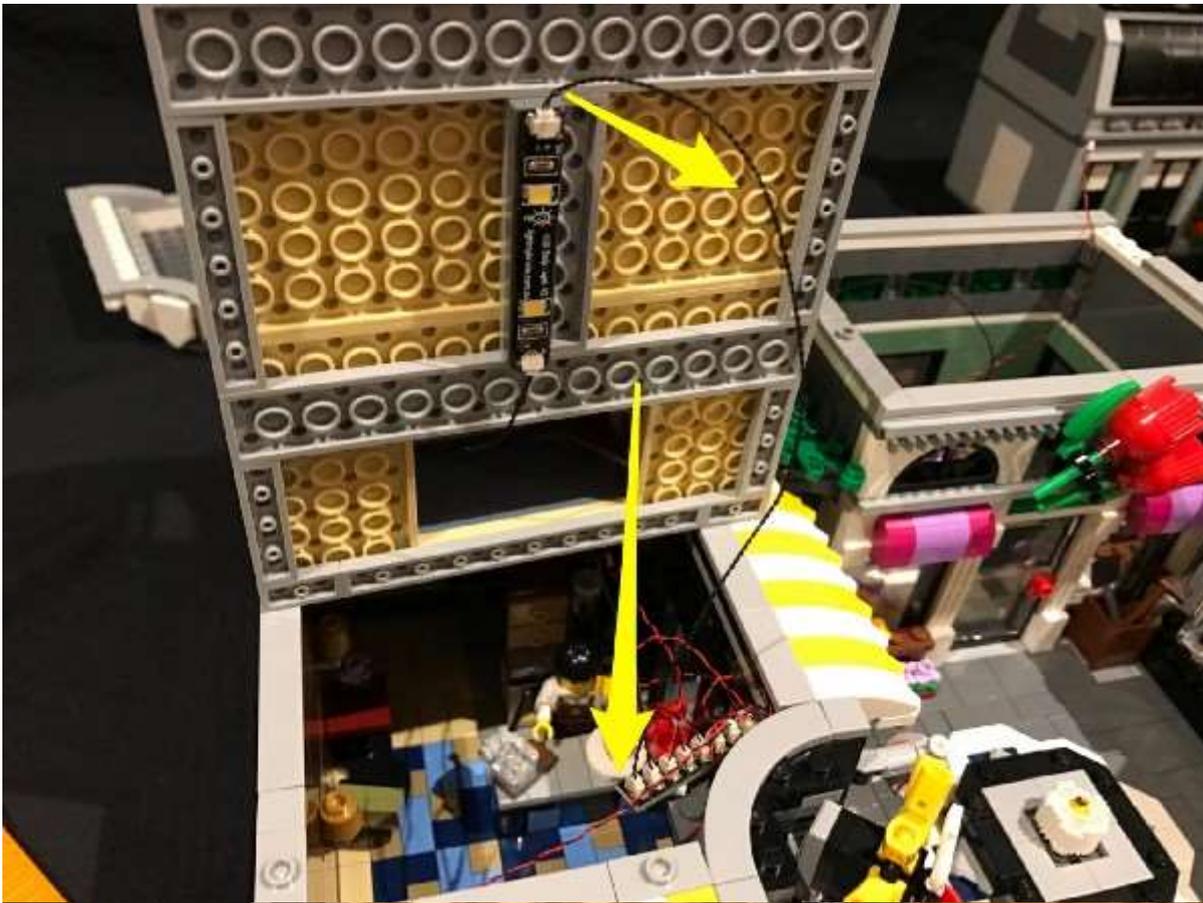
16.) Take a **LED strip light** and connect a **15cm connecting cable** into one of the ports, and another **15cm connecting cable** into the other port. We will be using several LED strip lights so we will identify this one as **striplight#1**.



17.) Take the second floor of this building and turn it to its side so that we can install striplight#1 to the following position.



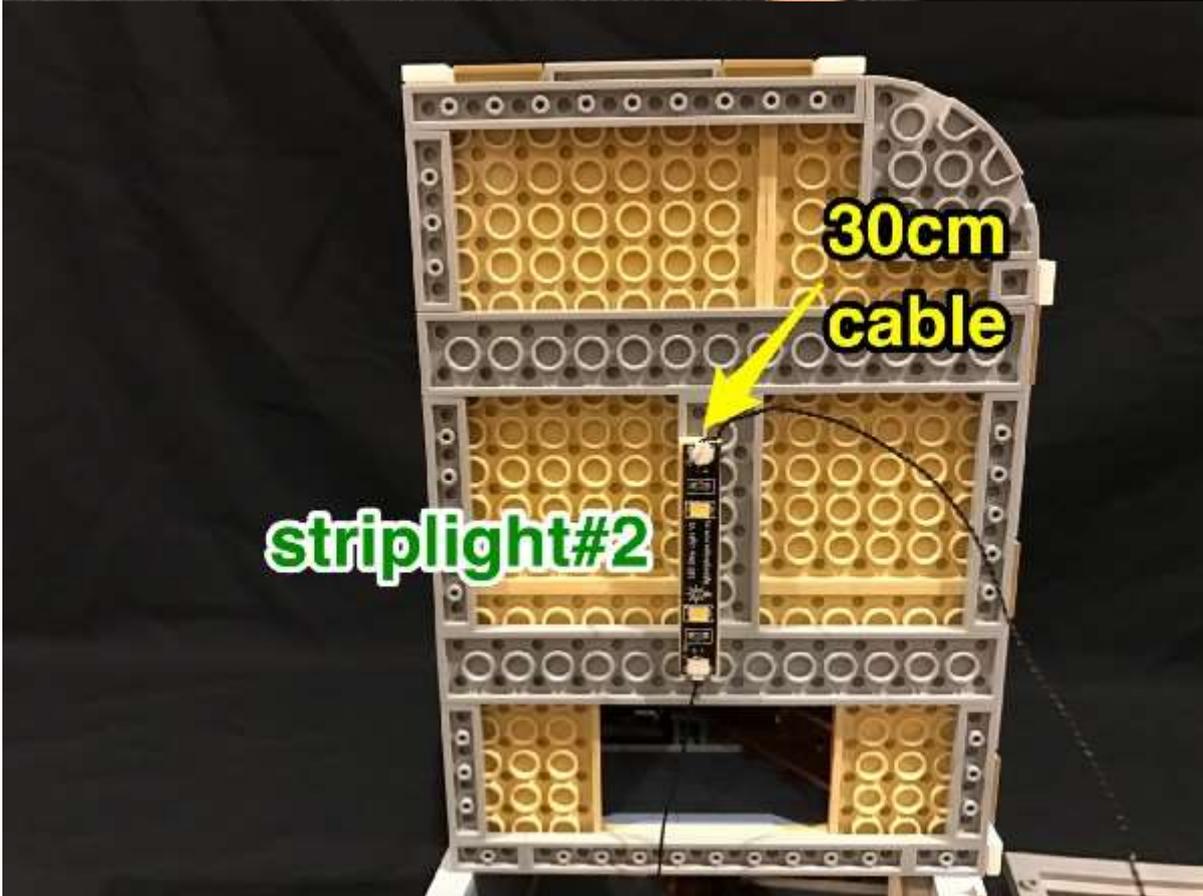
Connect one of the 15cm cables from striplight#1 to the last available port on the expansion board underneath and thread the other connecting cable up the open space which leads to the second level.



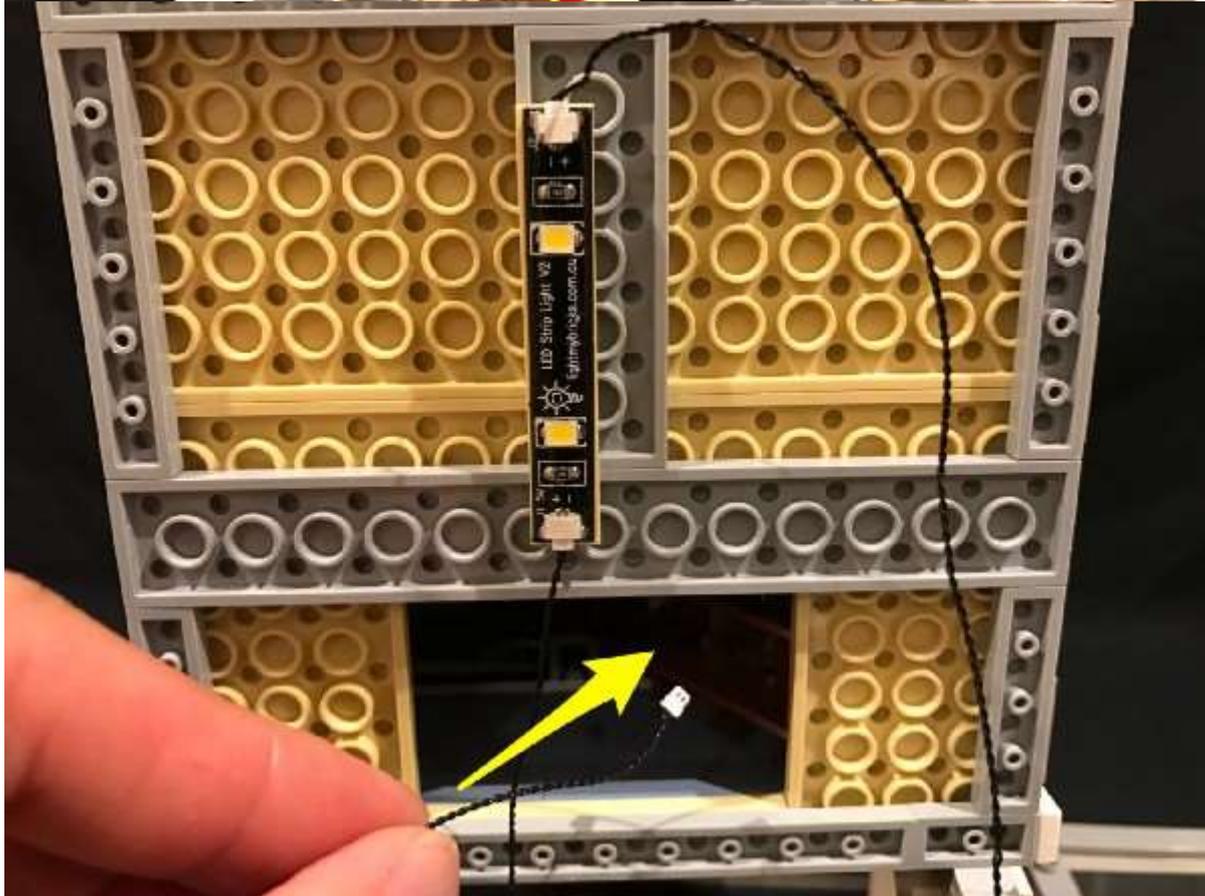
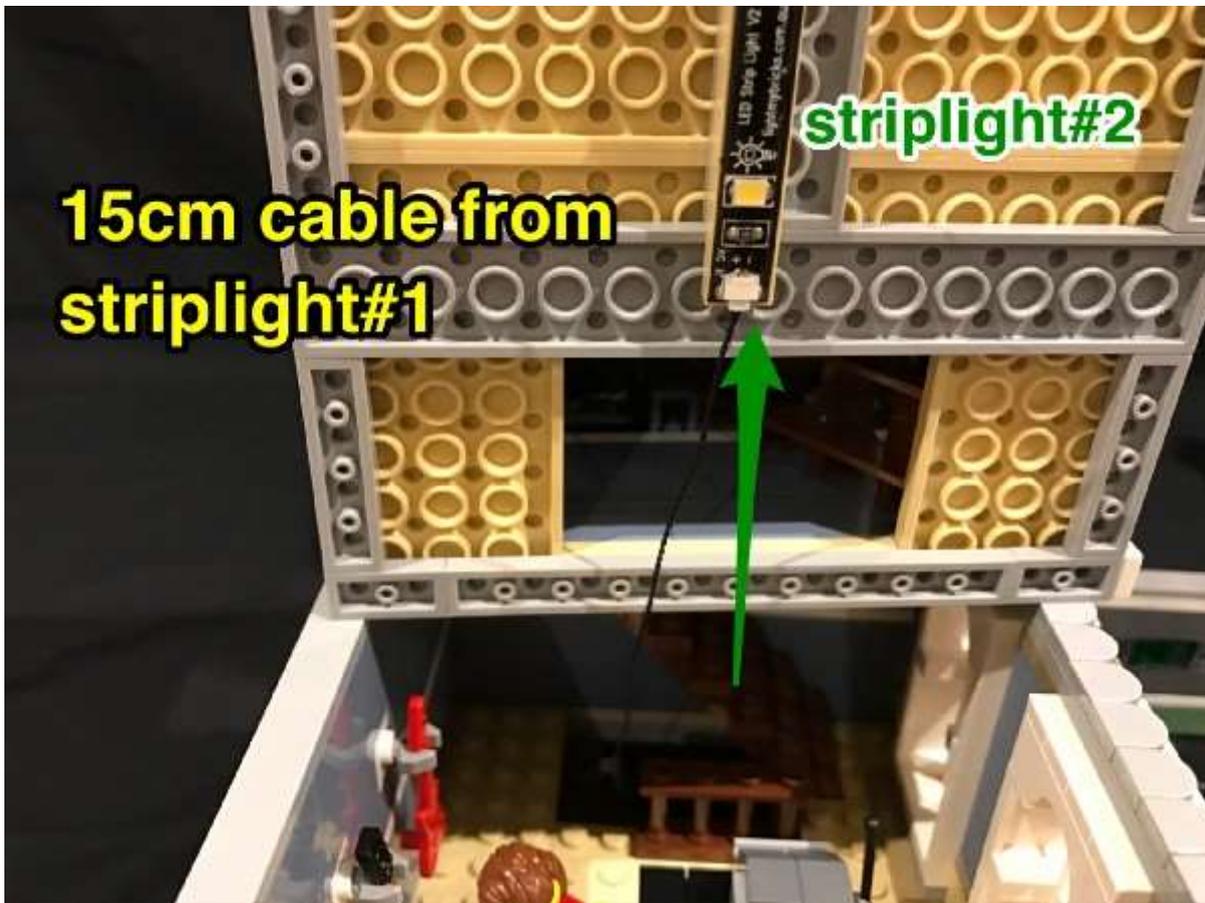
Reconnect the second level on top and then pull the 15cm cable we threaded up from underneath and set aside.



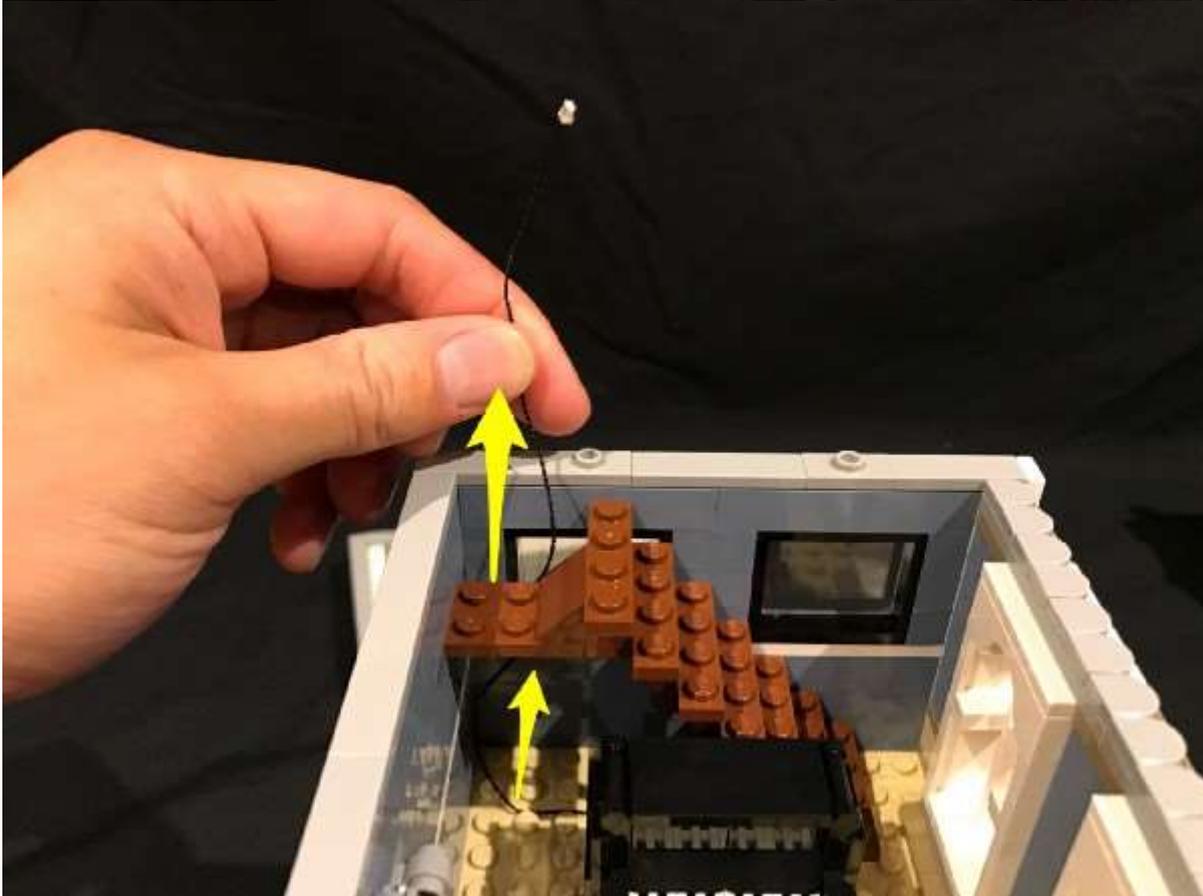
18.) Take another LED strip light (**striplight#2**) and connect a 30cm connecting cable to one port. Place the third floor on top and then turn on its side to allow us to then install striplight#2 to the following position.



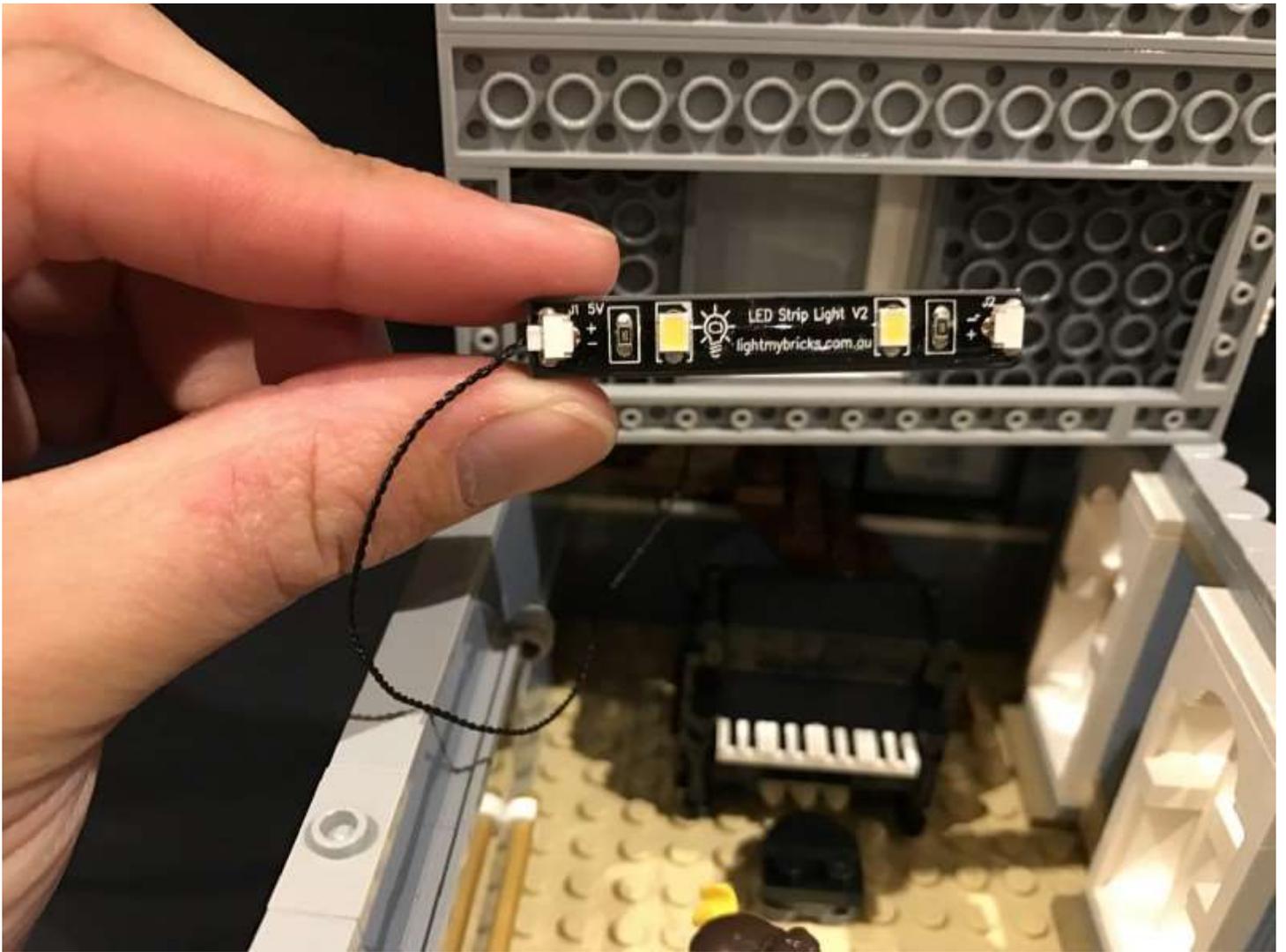
Connect the connecting cable from the level below into the other port on striplight#2 and thread the 30cm cable connected to the other port up the open space which leads to the 3rd level.



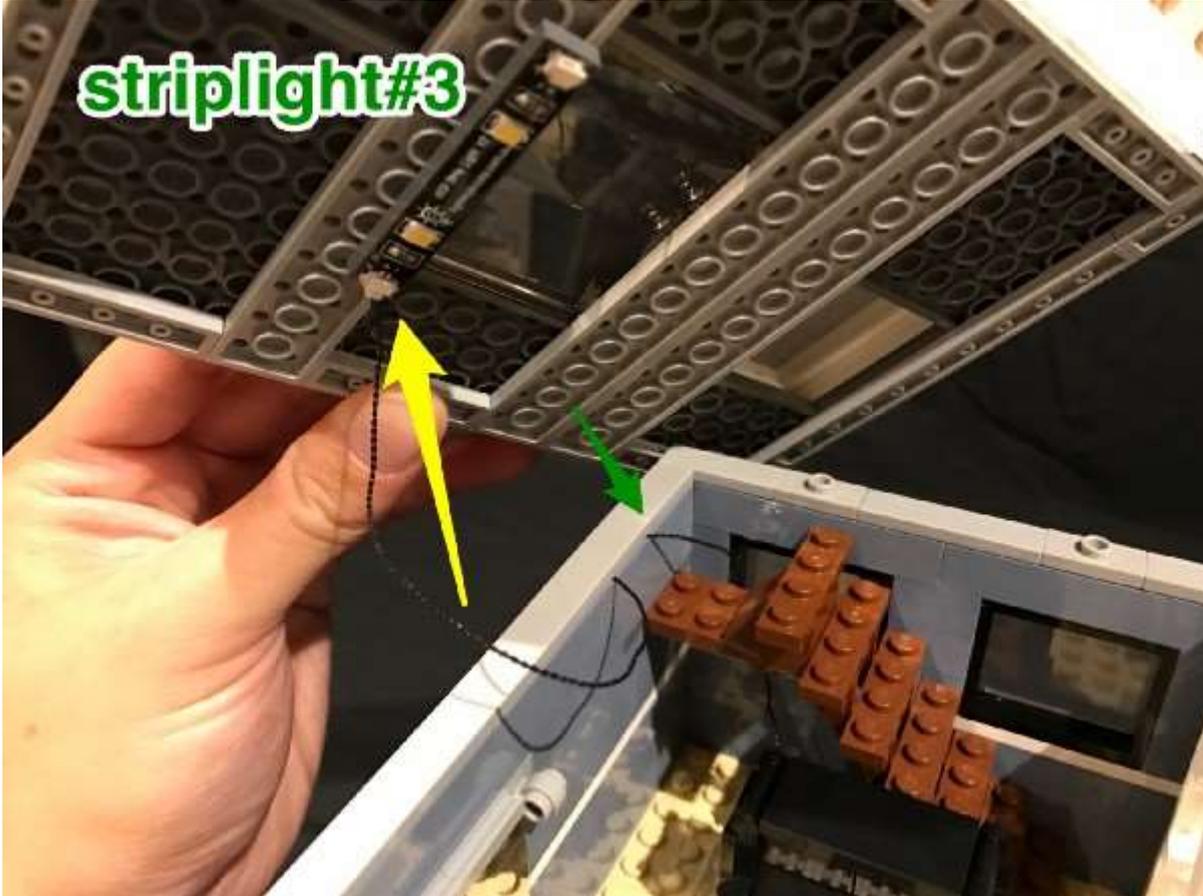
Reconnect the third level on top and then pull the connecting cable up from underneath ensuring it is threaded behind the staircase.



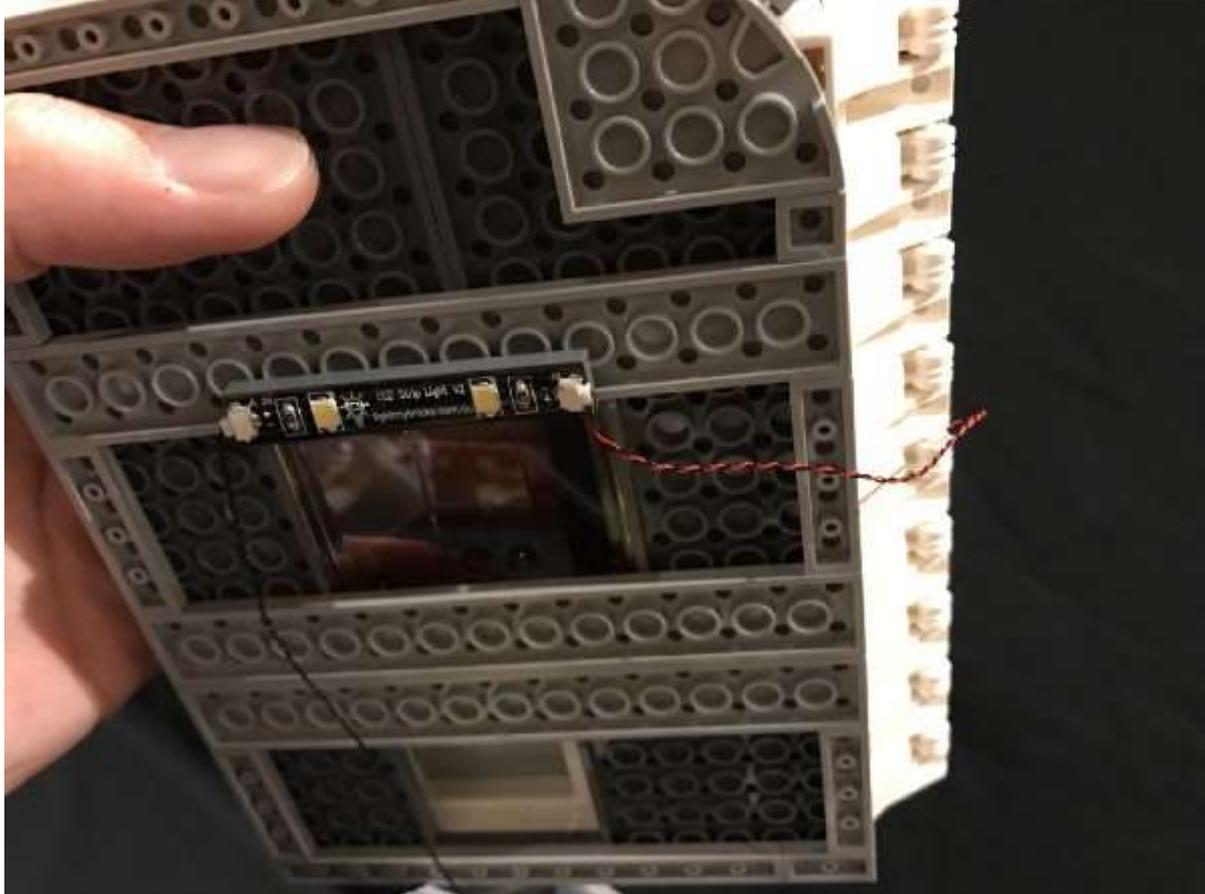
19.) Take another LED strip light (**striplight#3**) and then connect the cable from underneath into the left port.

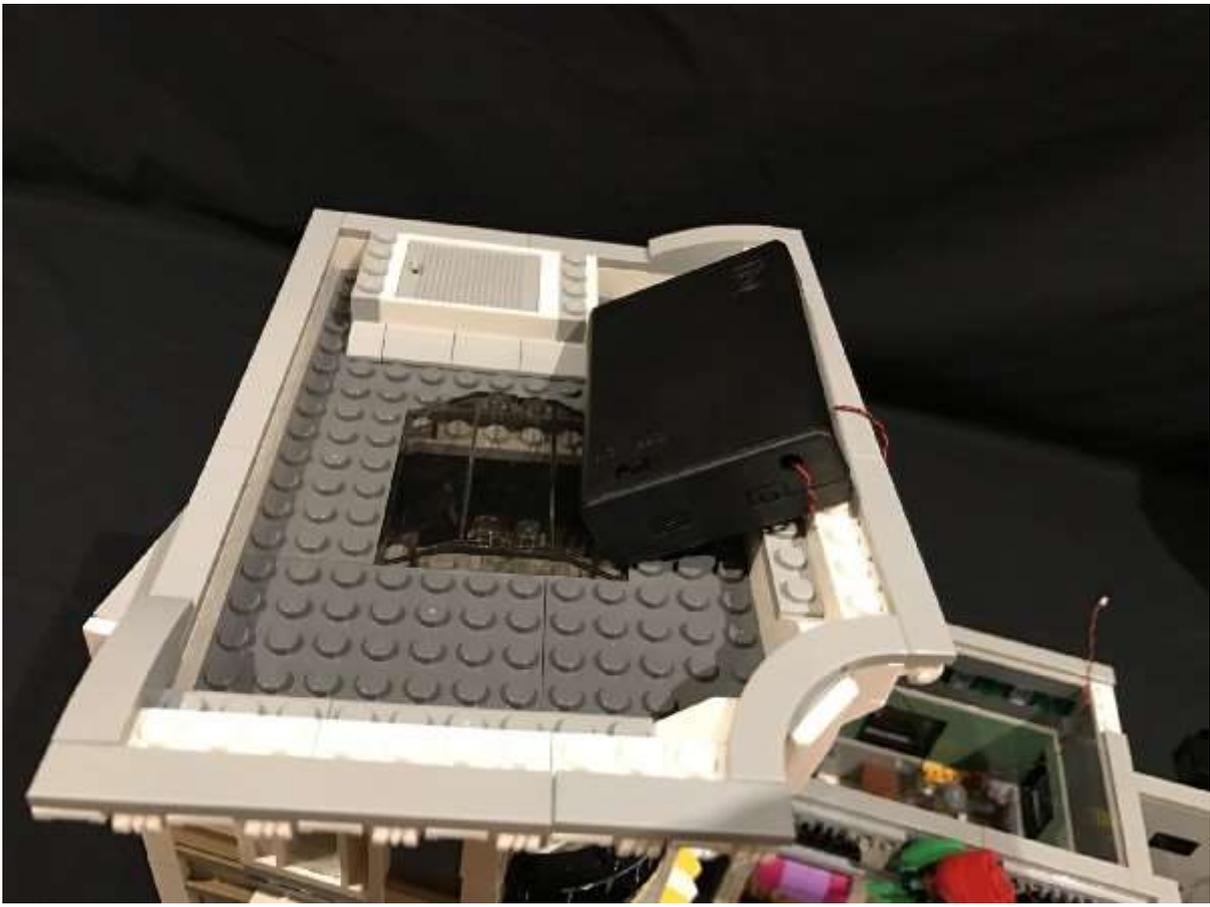


Take the roof of this section of the assembly square and place it on top. Install striplight#3 to the following position and secure the connecting cable in place by laying it underneath one of the grey tiles on top.



Reconnect the roof back in place. This completes the left section of the assembly square and we can now run a quick test to ensure all lights are working ok. Simply connect the battery pack cable to the spare port of striplight#3 and verify all is OK.



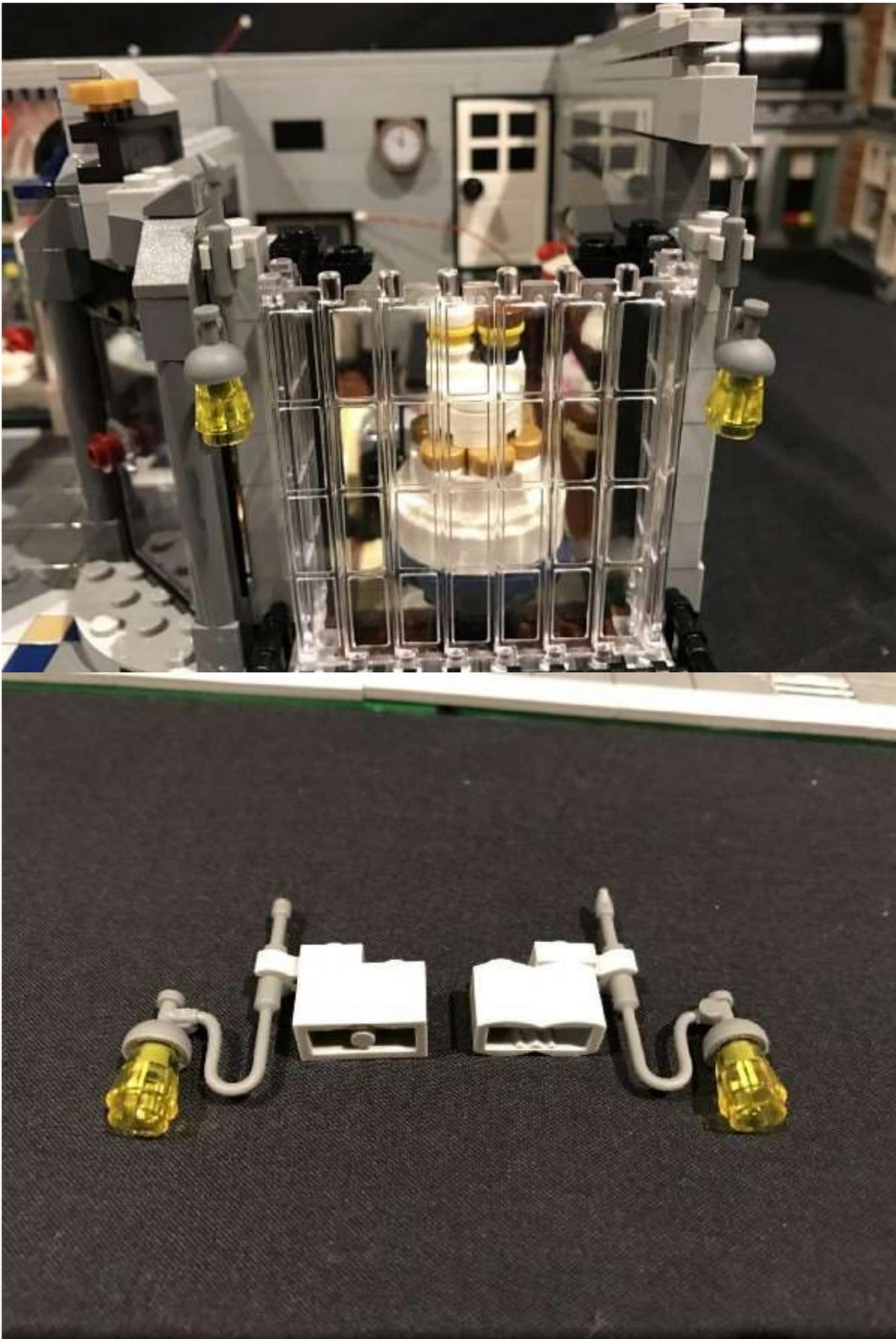




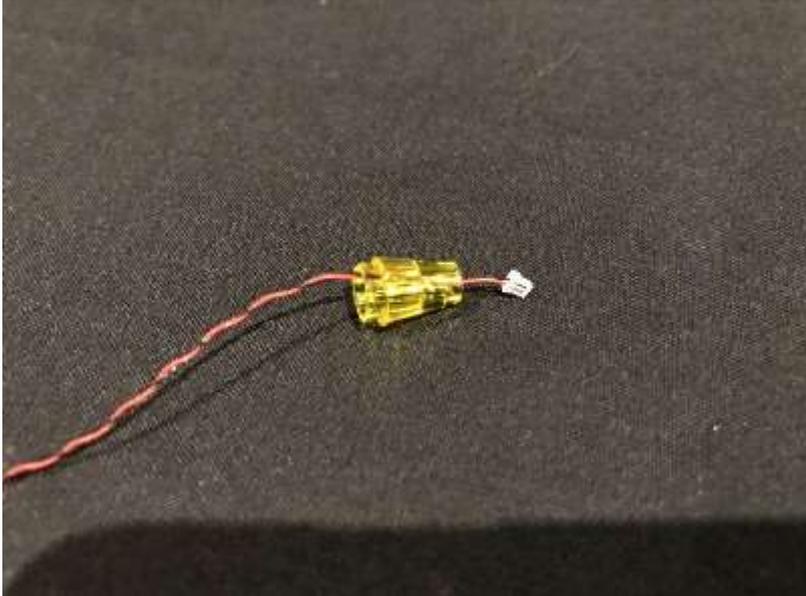
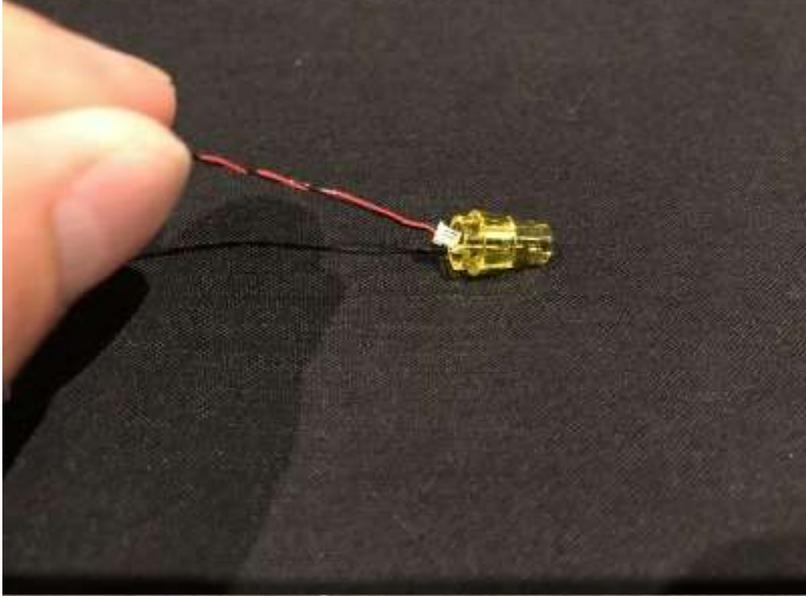
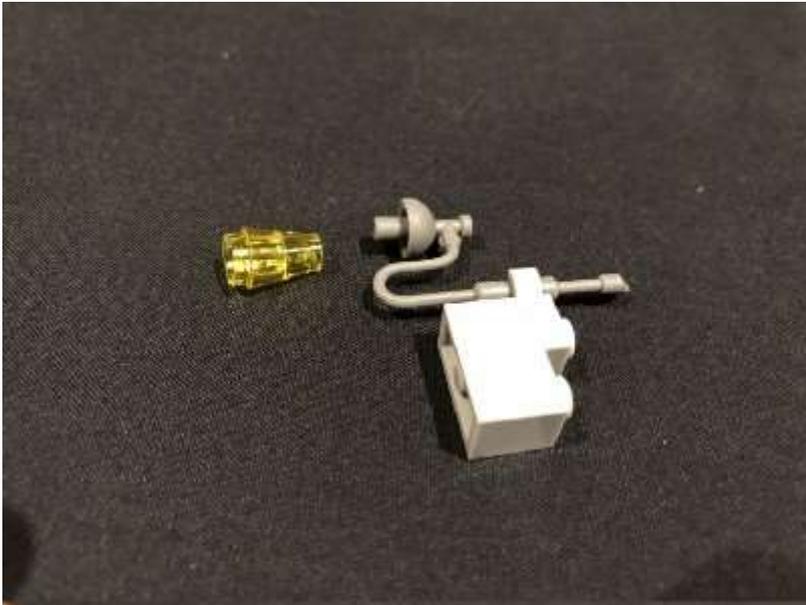
20.) We will move onto installing lights to the right side of the Assembly Square starting with the lamps in front of the patisserie. Remove the following LEGO tiles and pieces to give us access to disconnect the 2 lamps.

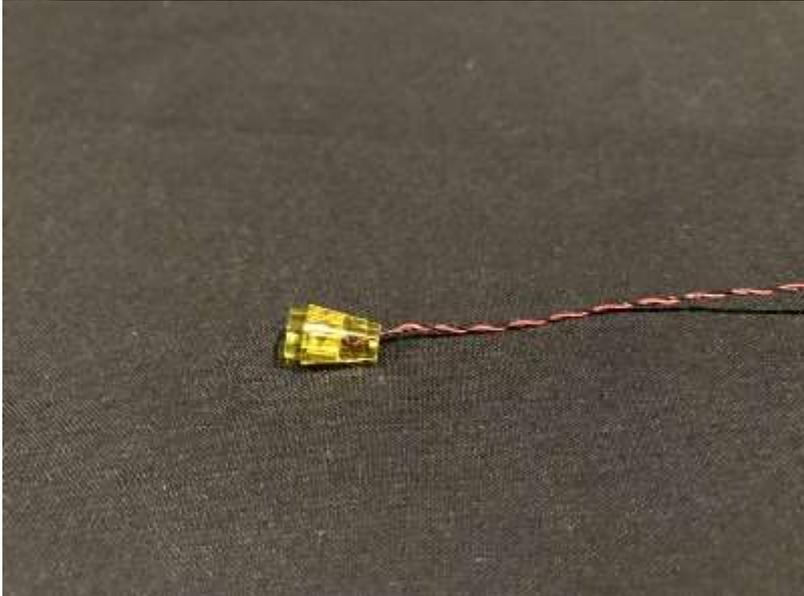
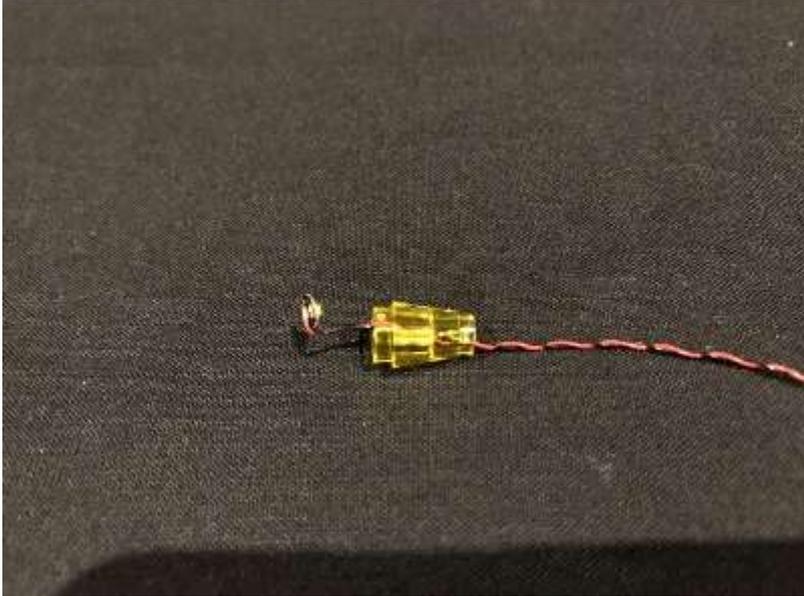
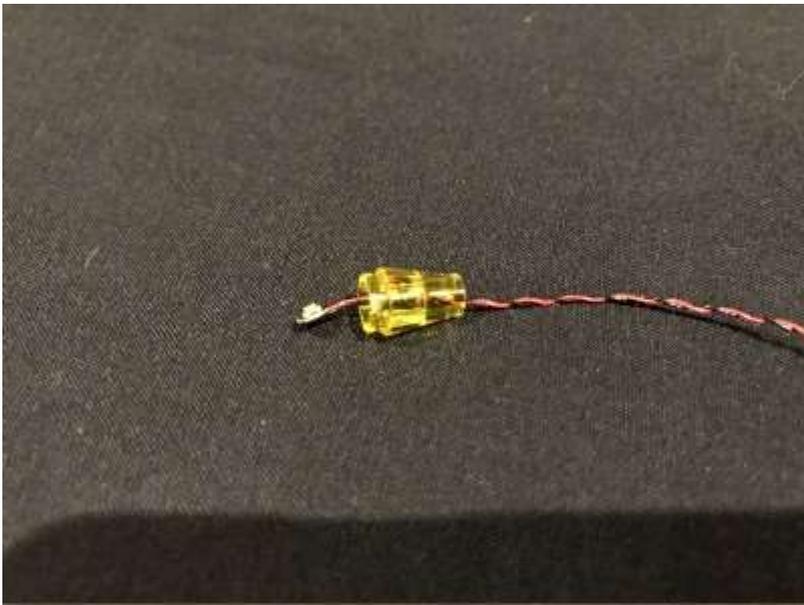




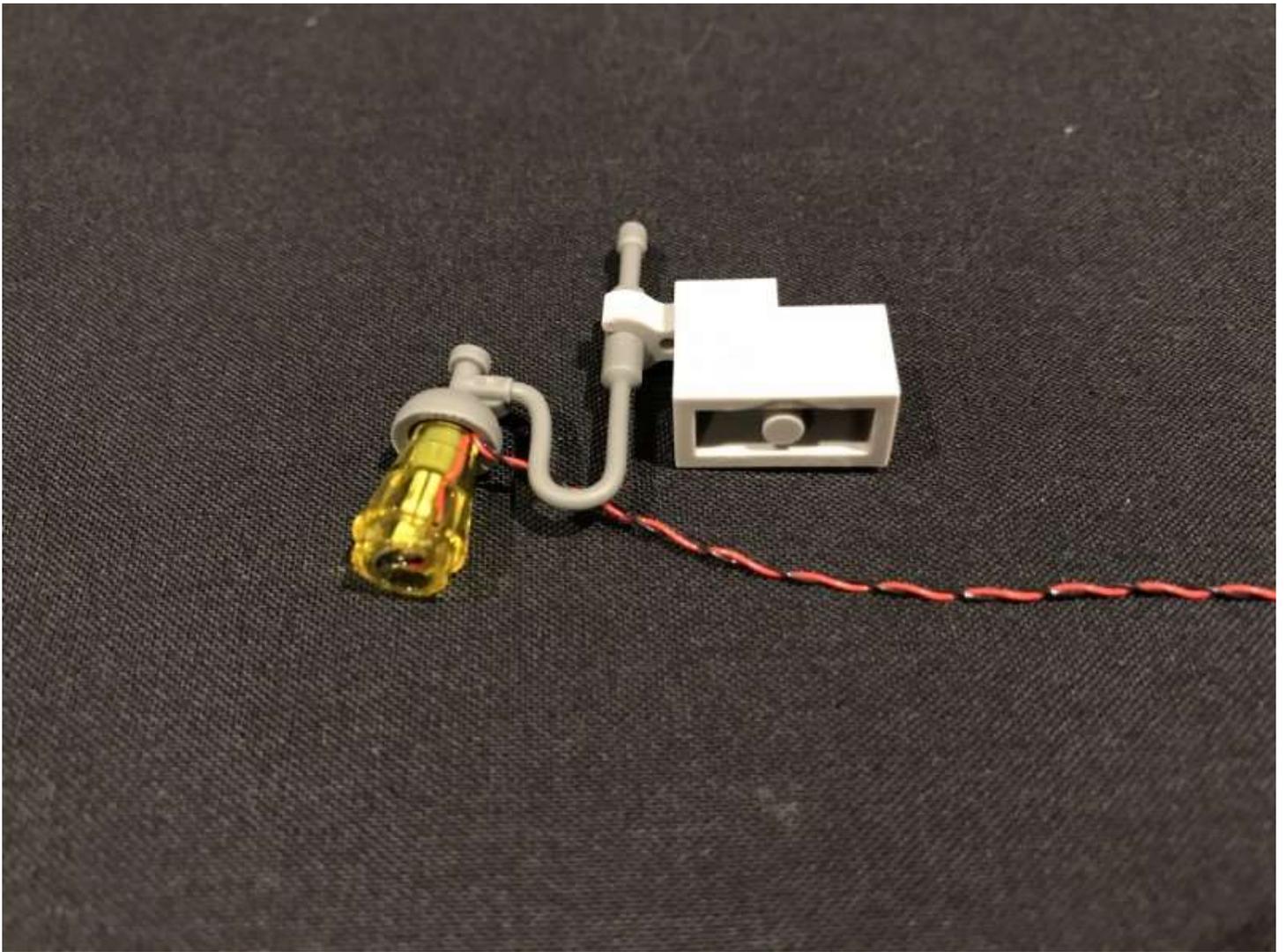


21.) Disconnect the trans yellow piece from each of the lamp sections. Take a **Bit Light with 15cm cable** and thread the connector side through the larger hole of the trans yellow piece. Thread it all the way through but before the LED component reaches the LEGO piece, bend the component part 90 degrees upward so that the LED component is facing up toward the inside, then pull the cable all the way through.





Reconnect the trans yellow piece with bit light installed back to the lamp section ensuring the cable is facing toward the back.



Reconnect the lamp section to the left side of the front window ensuring the cable is laid in between bricks.



Repeat this step to install another **Bit Light with 15cm cable** to the right lamp.

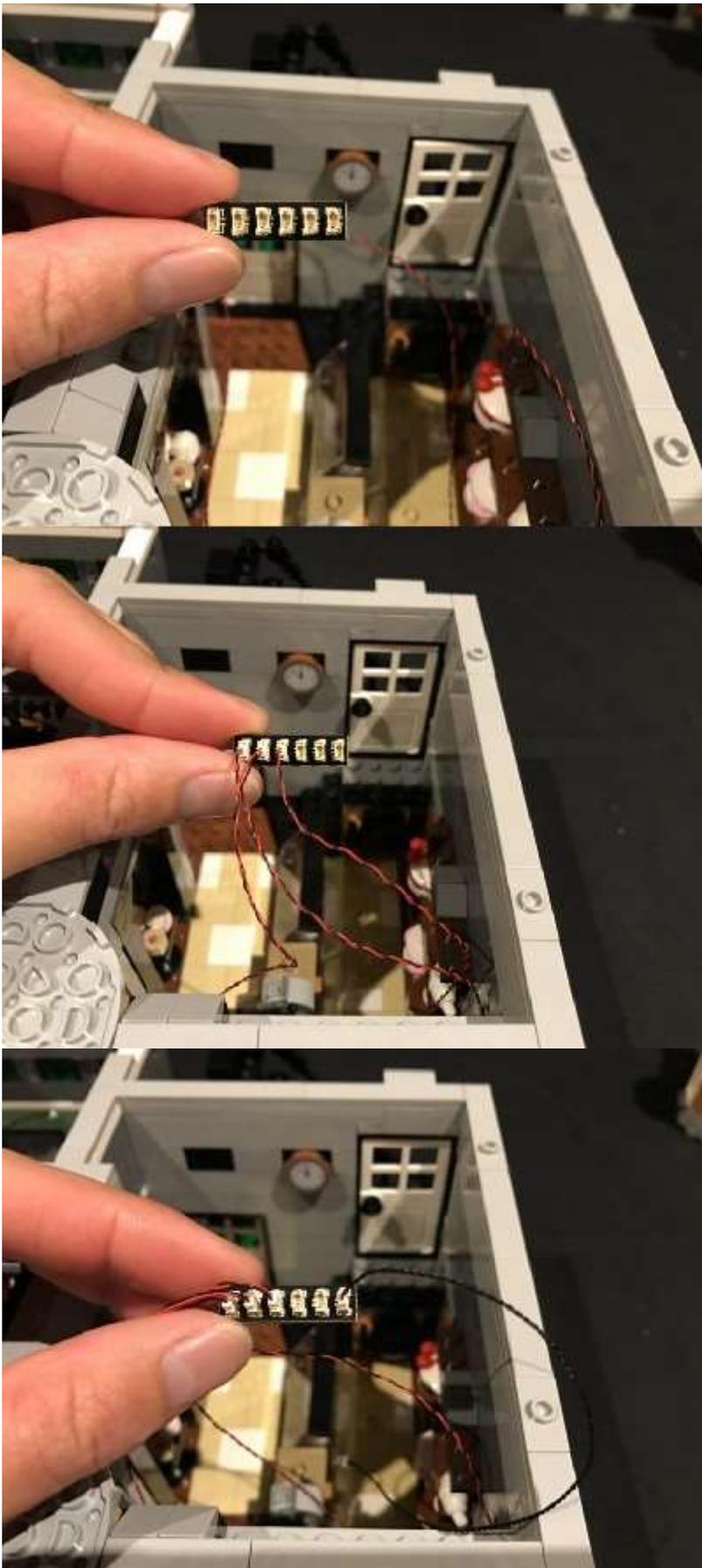


Reconnect the LEGO pieces we removed earlier ensuring the cables for the 2 lights are carefully hidden behind the wall.

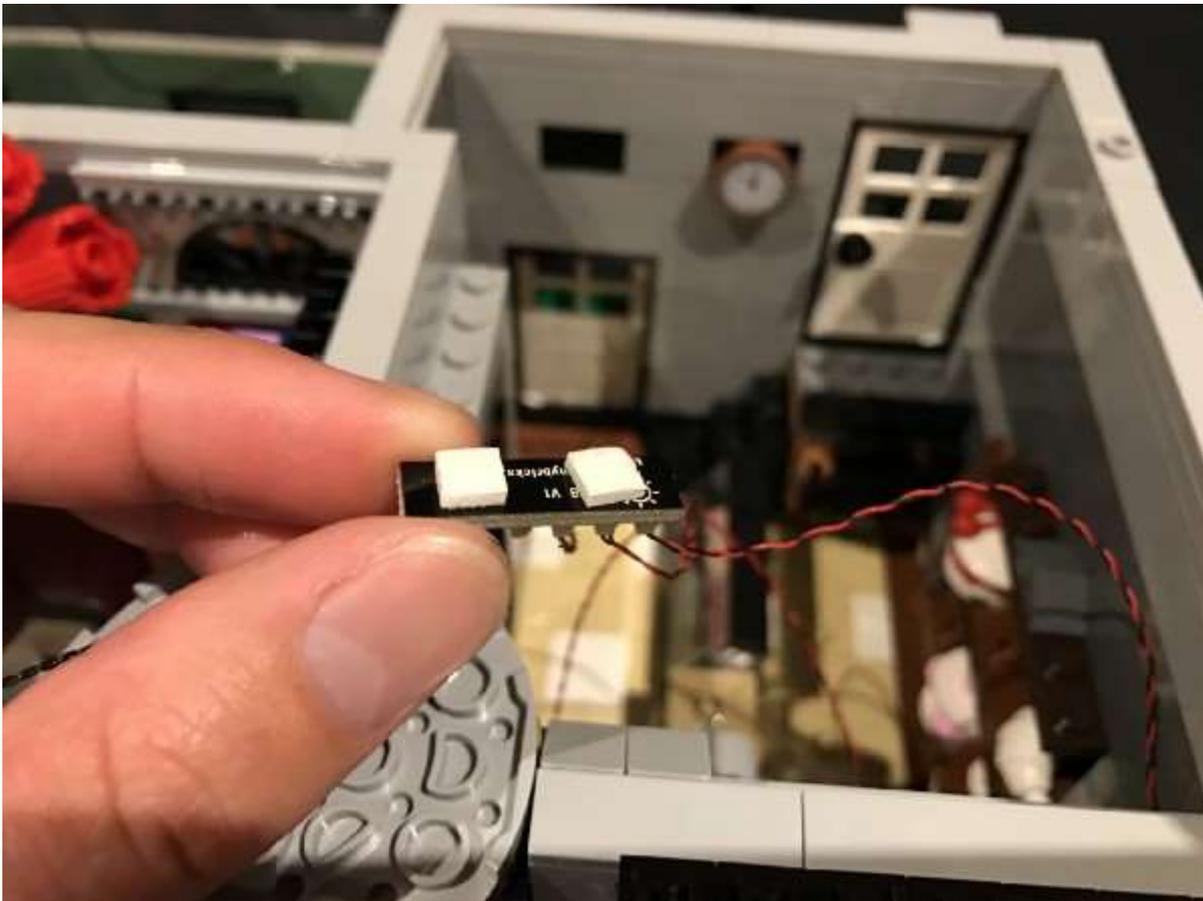




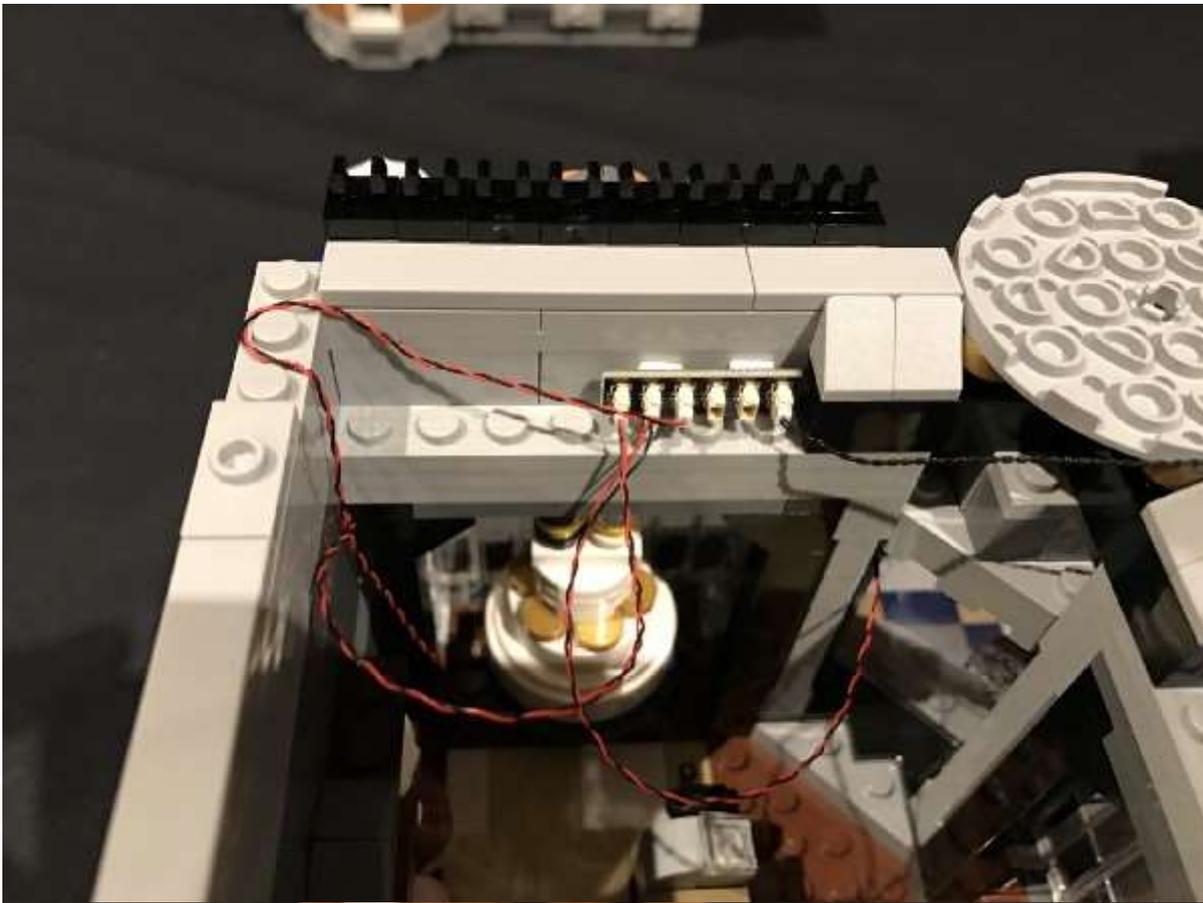
22.) Take a **6-port Expansion Board** and connect cables from the 2 lamps we just installed, the lamp post from this side as well as another **15 cm connecting cable** into the available ports.



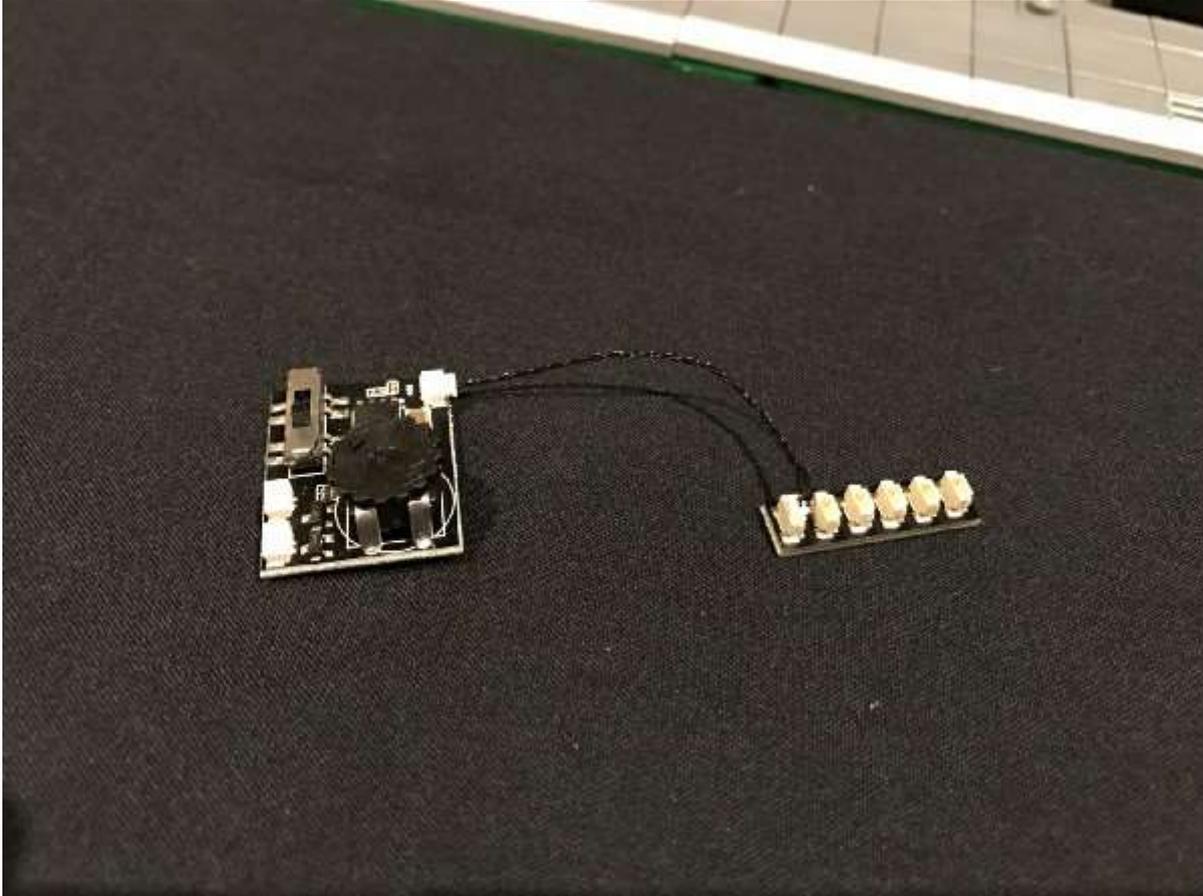
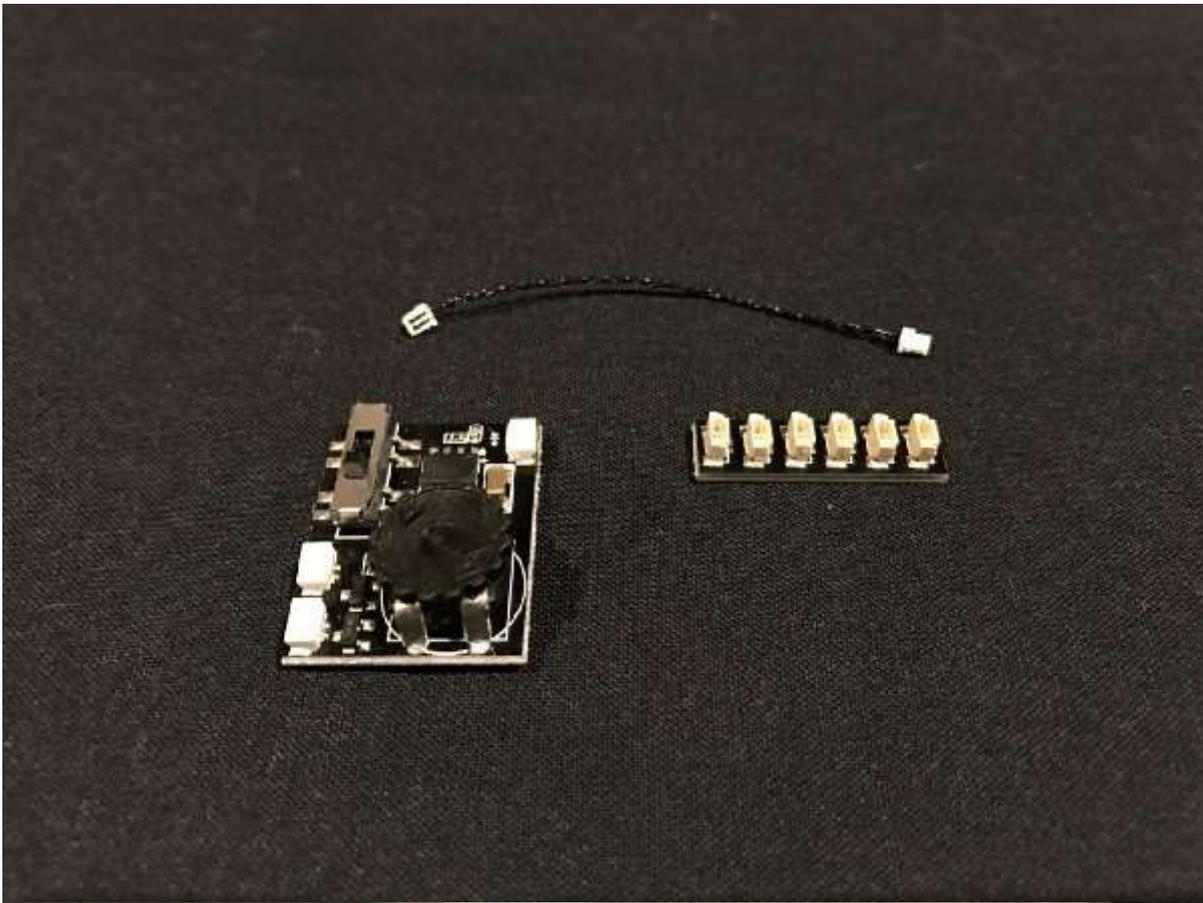
Use another 2 adhesive squares to mount the expansion board to the inside of the patisserie as per below:



Eliminate excess cable from the bit lights by laying them underneath the grey LEGO tiles in between the studs. Try to hide as much cable from being seen from the outside looking in.



23.) Take the **Multi Effects Board** and then connect this to another **6-port Expansion board** using a **5cm connecting cable**. Connect the cable into the port on side of the effects board which only has one port.



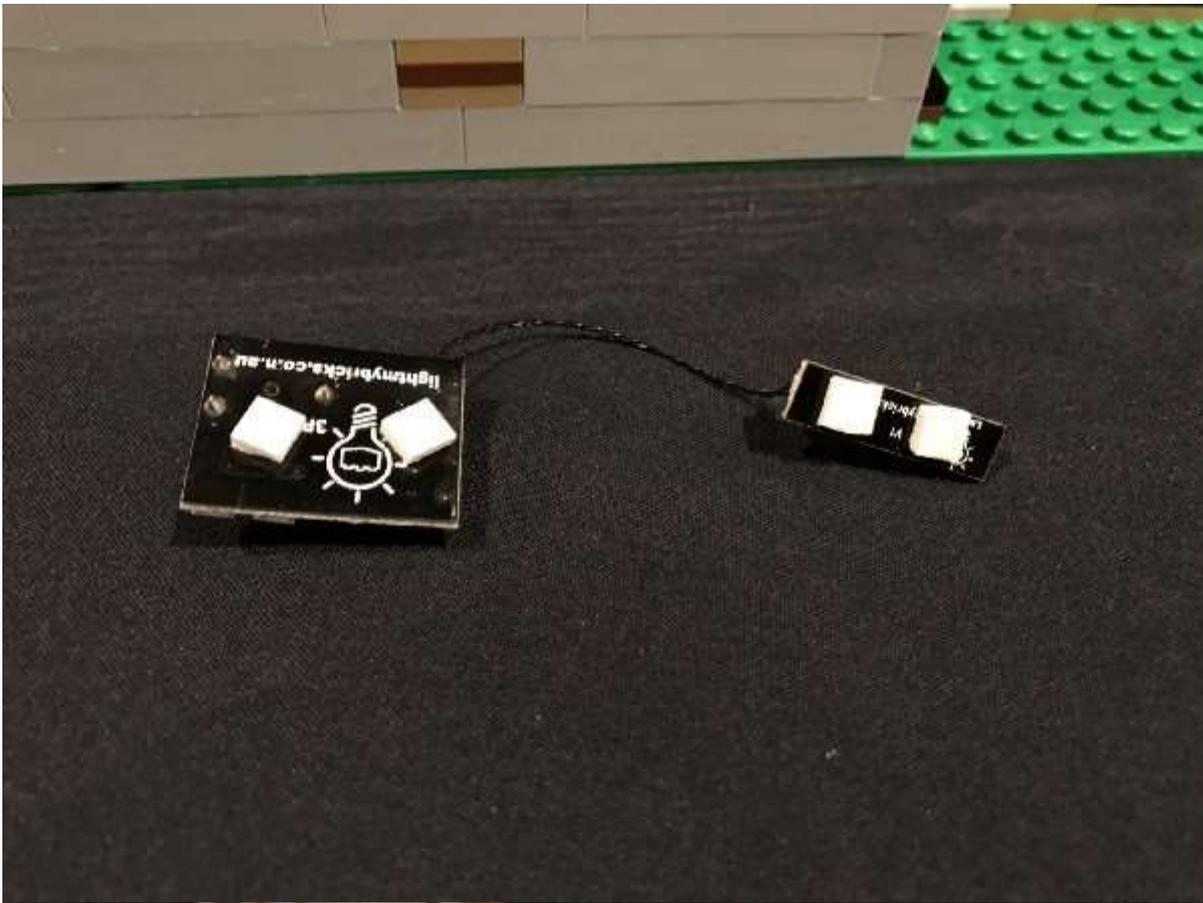
This multi effects board has 3 different effects. For this light kit, we will be using effect# 3 (flicker effect). Set it to the 3rd option by flicking the switch to the far right. We will later use the wheel on the effect board to adjust the speed of the flicker effect as desired.



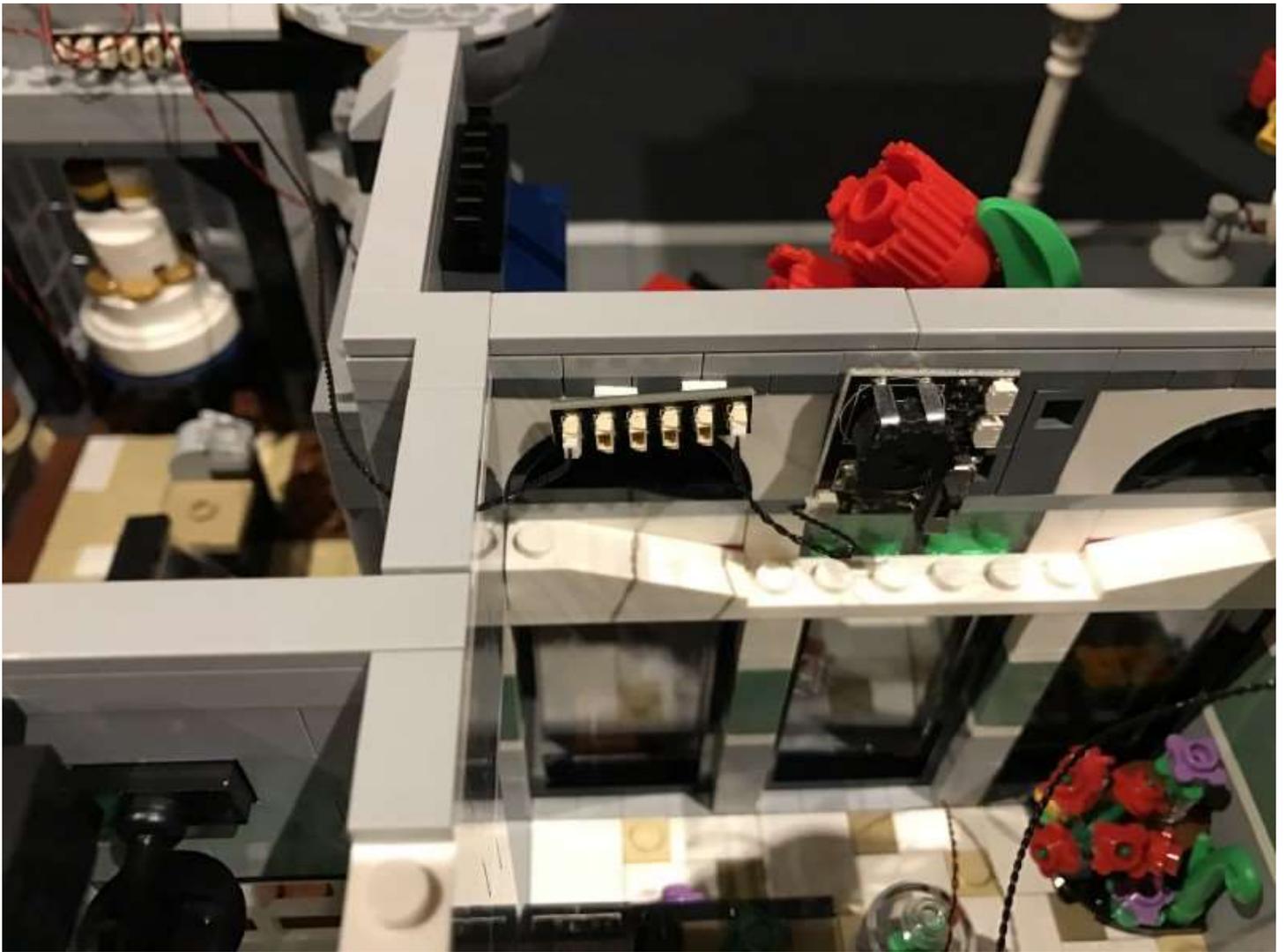
**wheel to adjust  
speed of effect**

**Turn to far right**

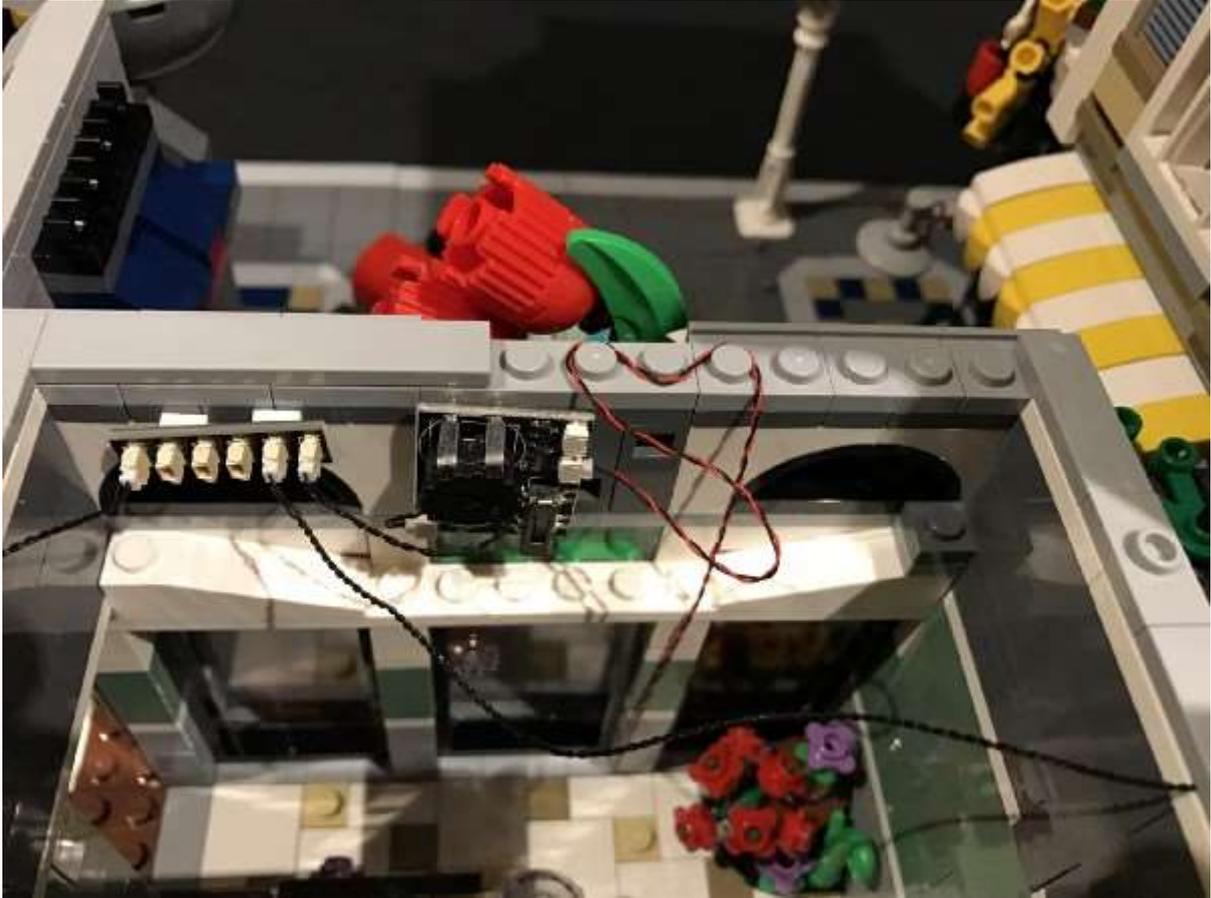
24.) Using another 2 adhesive squares for each, mount the 2 different boards to the inside wall of the flower shop and connect the 15cm cable from expansion board in the patisserie into the first available port of the 6-port expansion board as per below:



Lay the 15cm connecting cable in between studs underneath the grey tile.

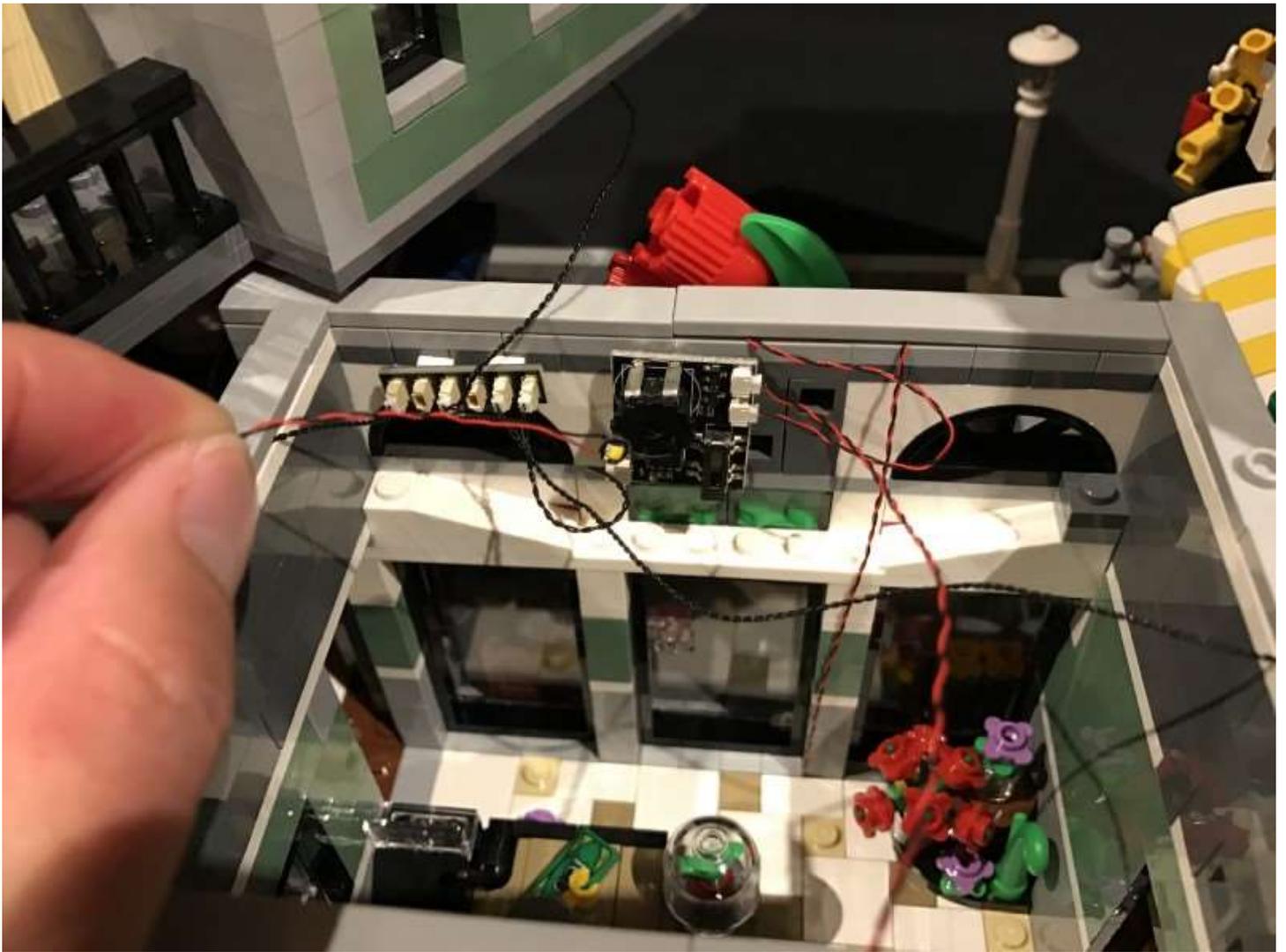


25.) Connect the bit light cable from the fountain into the bottom port of the multi effects board. Pull the bit light cable up and then secure underneath the grey tiles on the top ensuring they are laid correctly in between studs as per below. Do your best to hide as much cable as you can from being seen from the outside looking in.

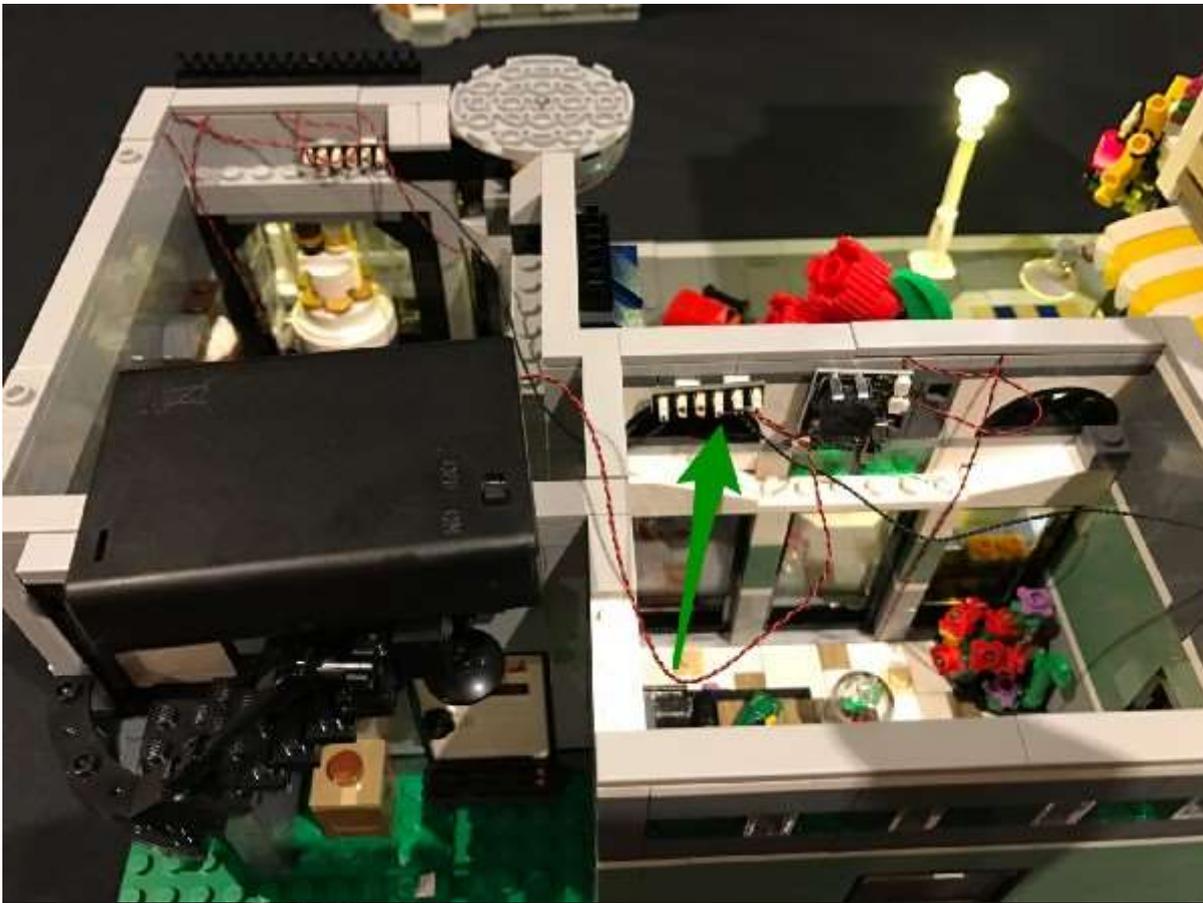




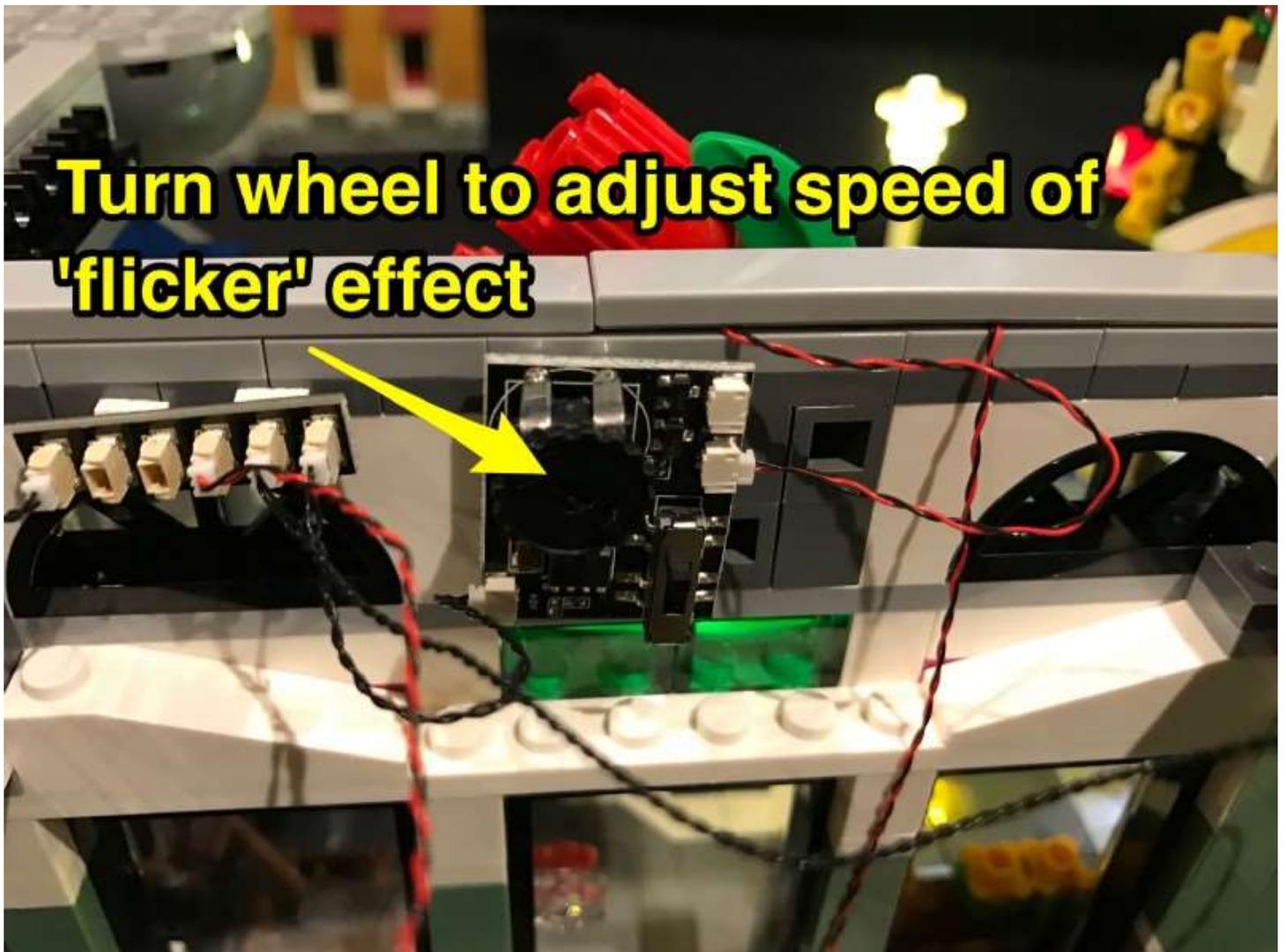
26.) Take a **Warm White Bit Light with 30cm cable** and connect it to the top port of the multi effects board. Set the other end of this cable aside for now as we will later use this for the flame of the bbq on the top floor.



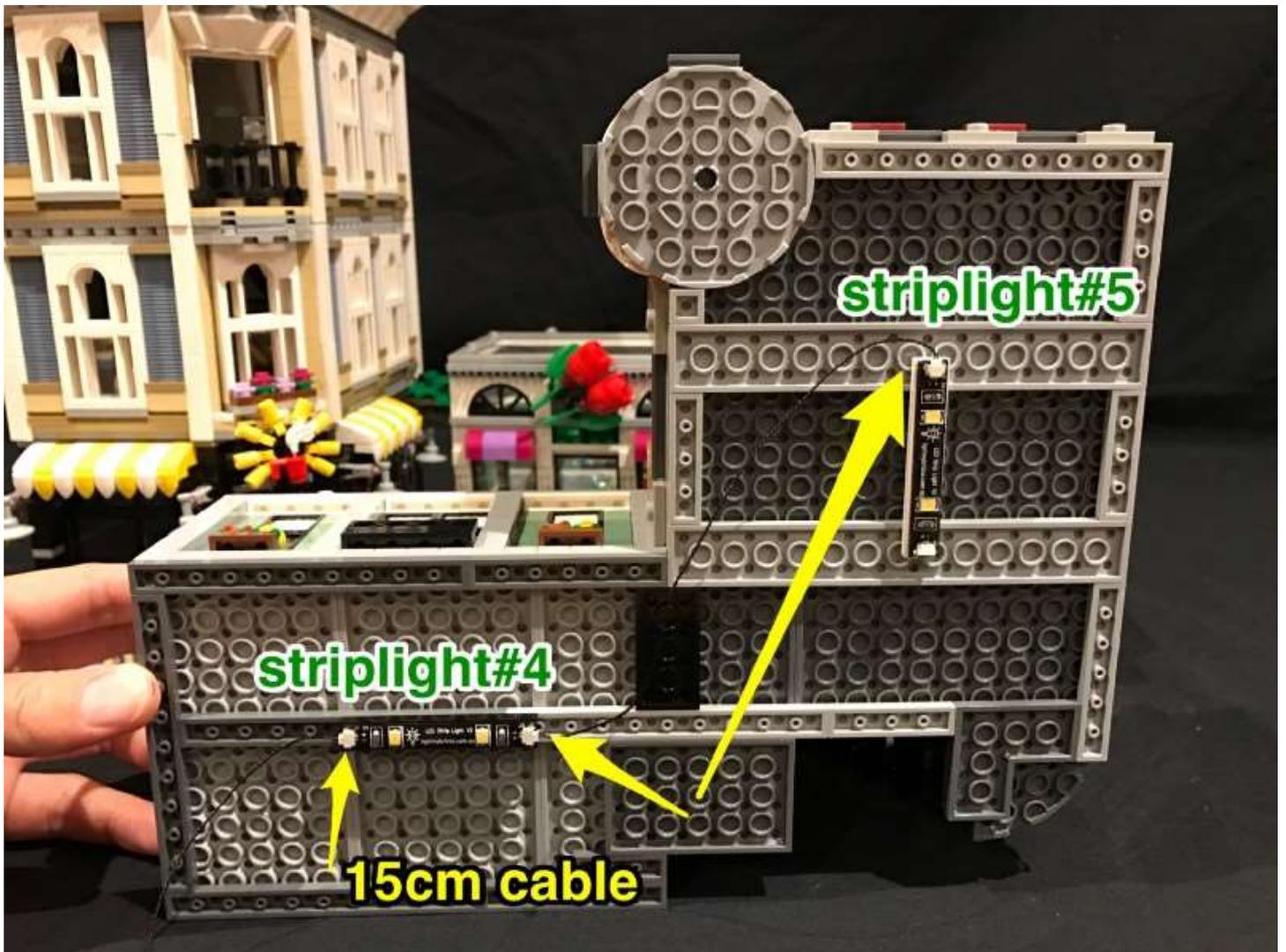
27.) We will now test the lights we have installed so far as well as adjust the speed of the flicker effect for the fountain. Take the battery pack and connect the battery pack cable into any of the spare ports of one of the expansion boards. Turn on to verify all is working ok.



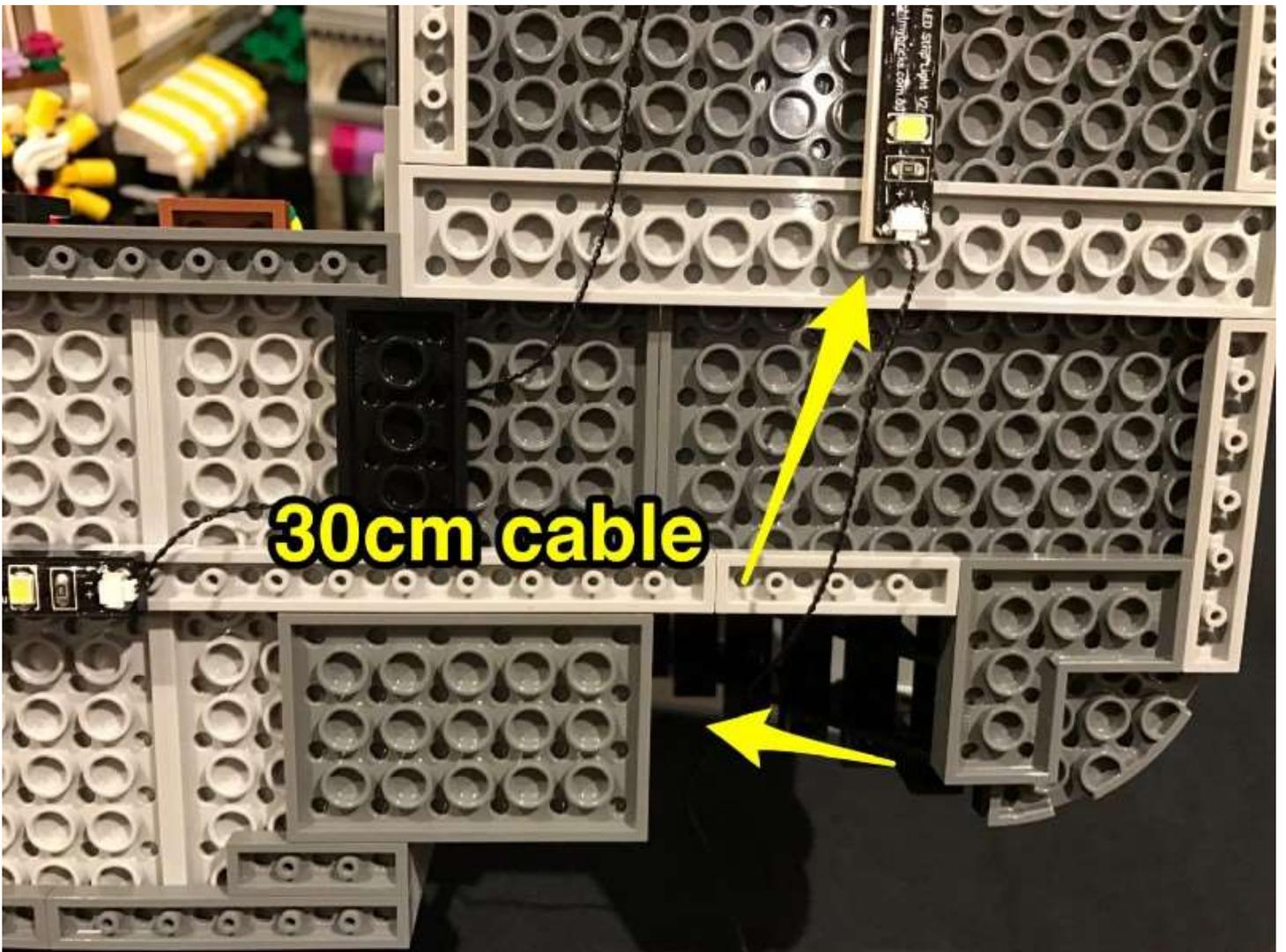
Review the speed of the flicker effect on the fountain and turn the wheel either clockwise (faster) or anti clockwise (slower) until you are happy with the effect it gives for the fountain to have a realistic water-flowing look.



28.) Remove the battery pack and then take the second level of this building and turn it on its side so that we can install 2 more LED Strip Lights (**striplight#4** and **striplight#5**) to the following positions.



Connect a **15cm connecting cable** in between the 2 strip lights, another **15cm connecting cable** to the left port of striplight#4 and a **30cm connecting cable** to the bottom port of striplight#5.



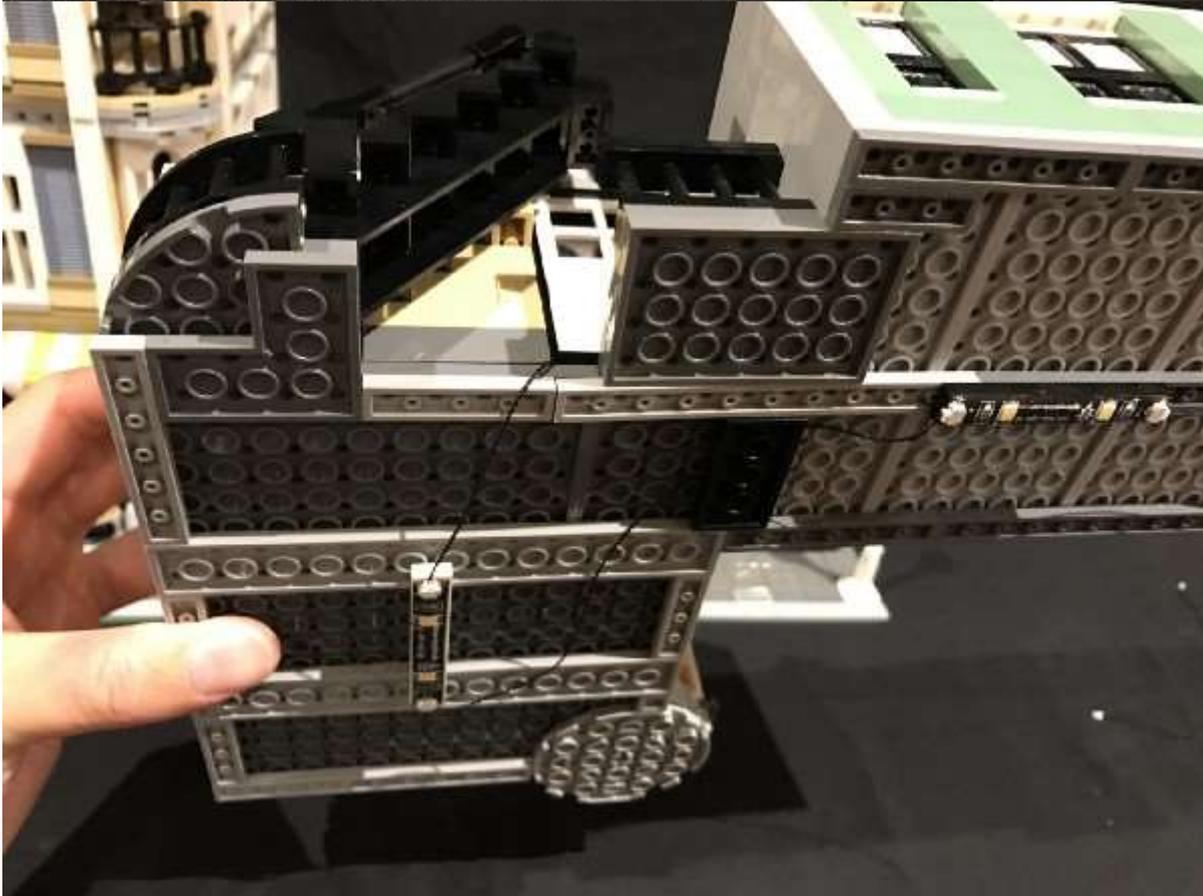
29.) Turn this section over to its correct side up and then remove the following LEGO pieces to allow us to then remove the right door.





Pull the 30cm cable up from underneath and then lay the cable toward the inside of the floor. Place the cable in the corner of the door way before then reconnecting the door back in place securing the cable. Try to ensure there is minimal cable between striplight#5 and the doorway. Reconnect the surrounding LEGO pieces we removed earlier.

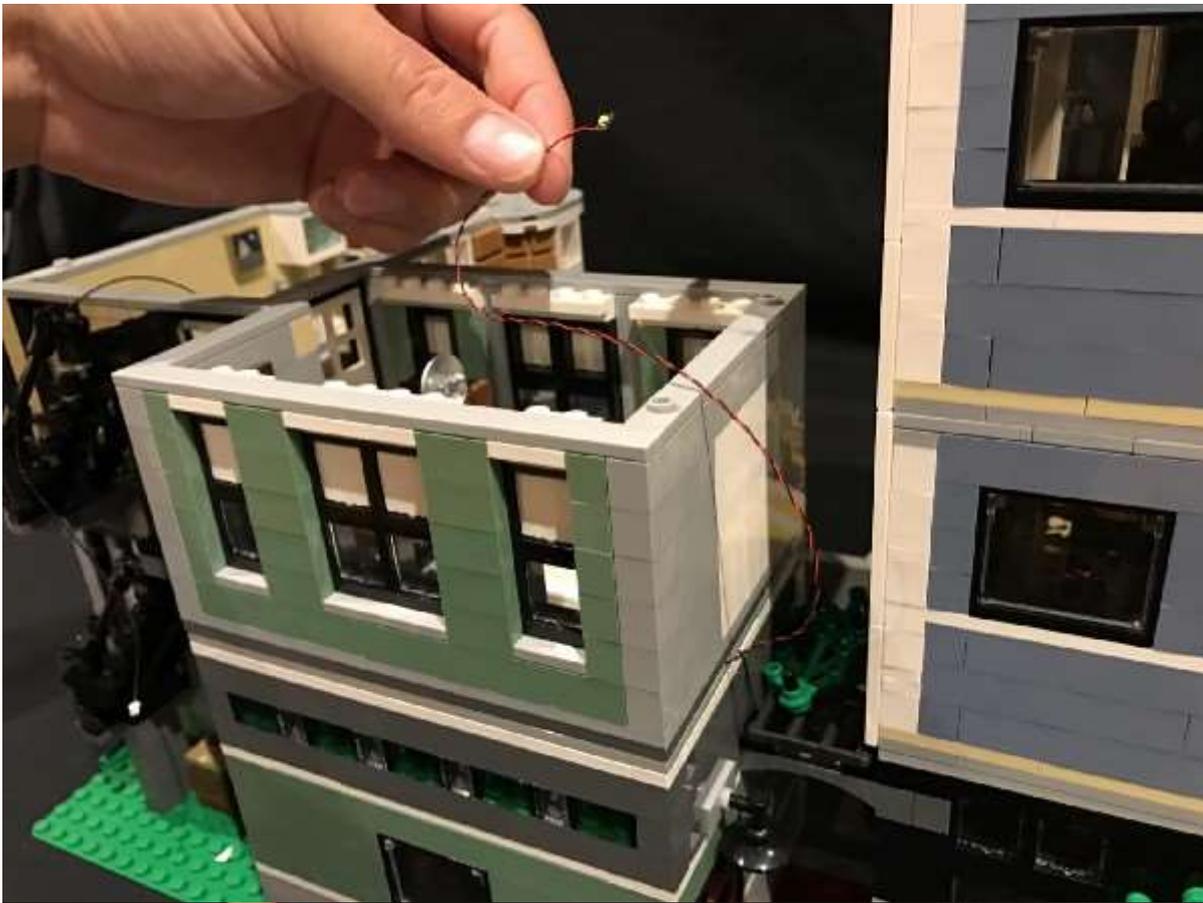




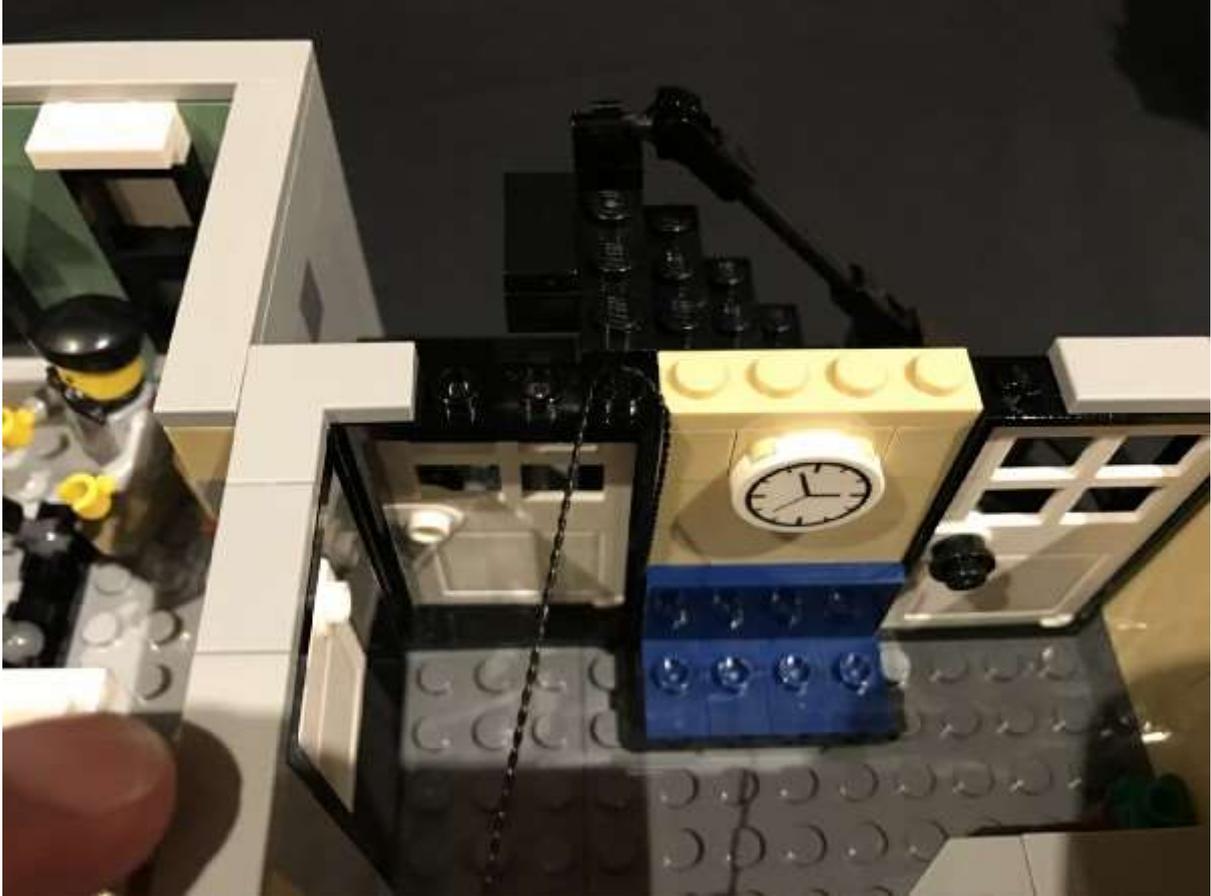
30.) Connect the other end of the 15cm cable from striplight#4 to one of the available ports on the expansion board in the flower shop then reconnect the entire second level back on top.

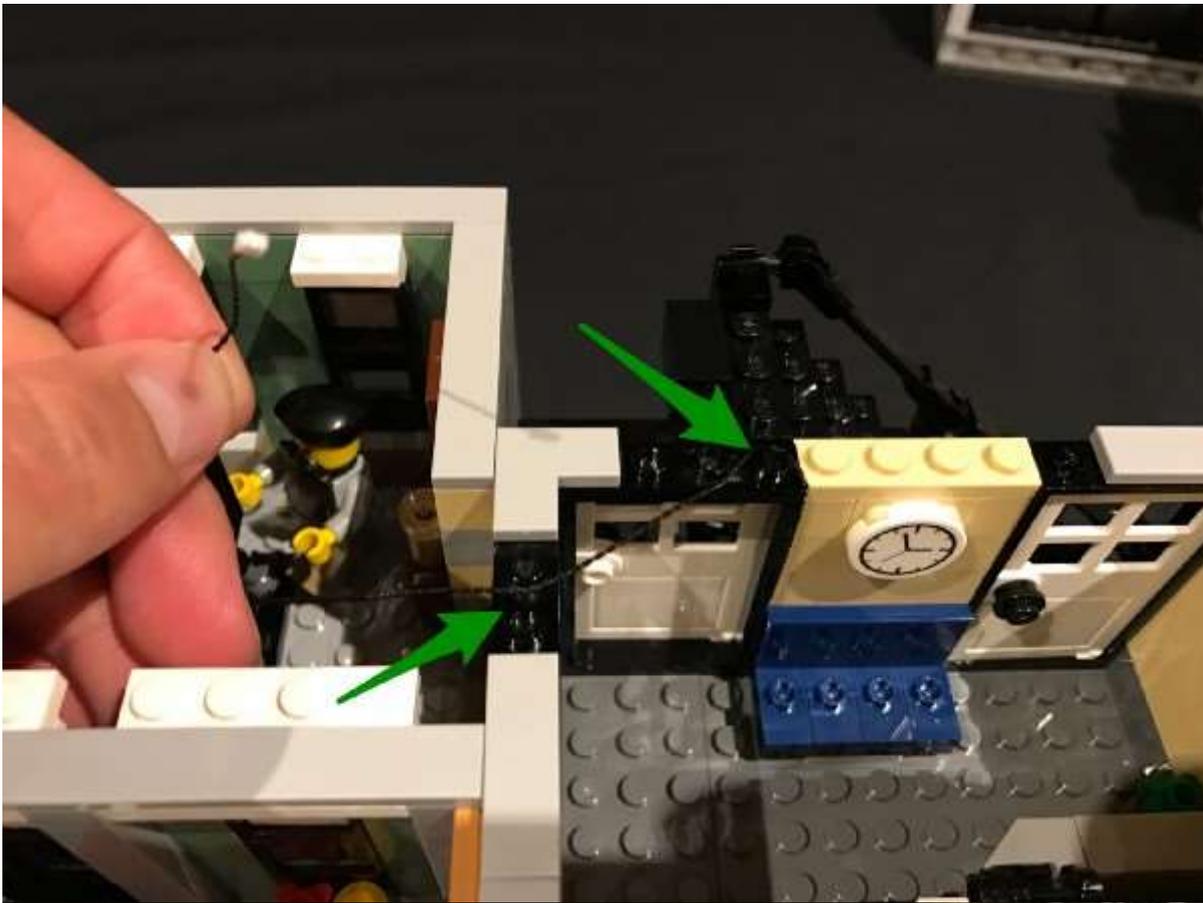


Ensure the bit light from the effects board is pulled all the way out from the side of the building.

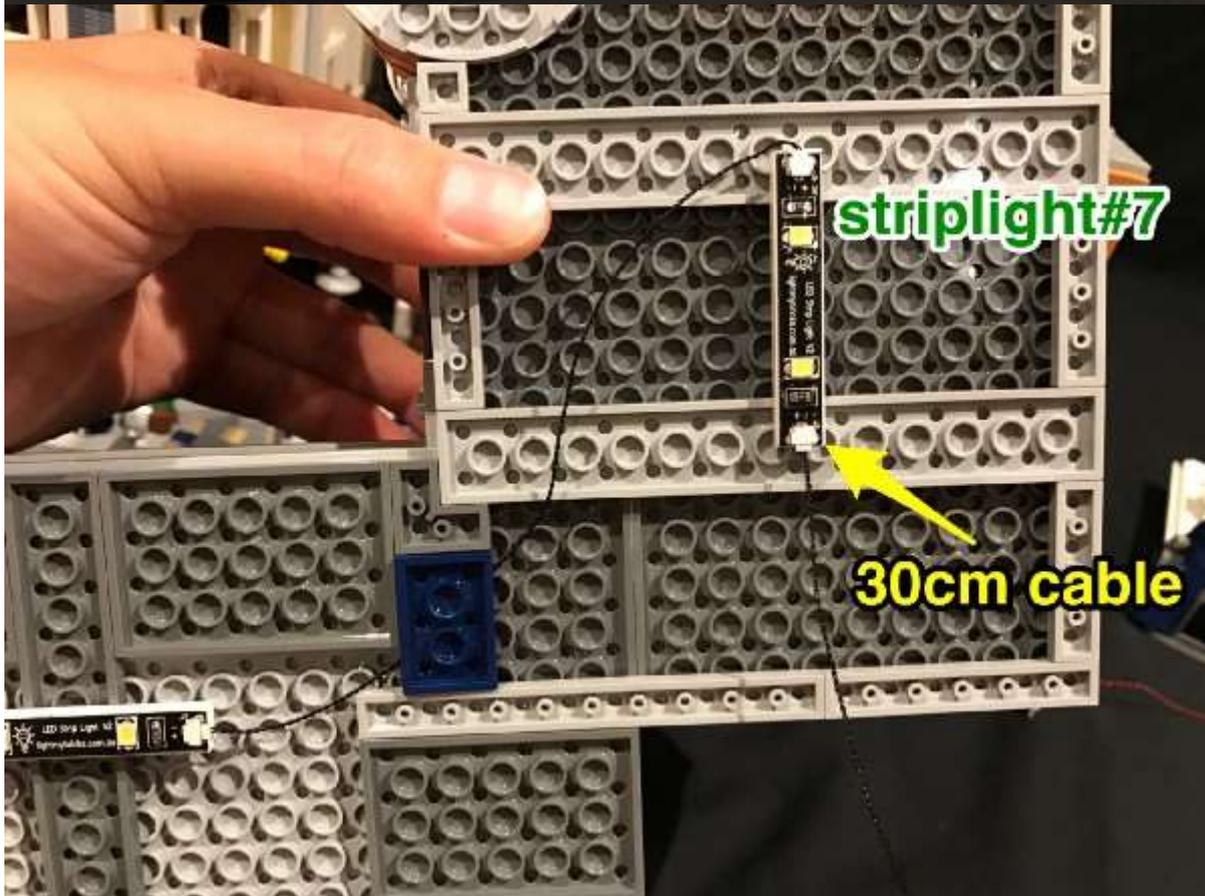


31.) Locate the other end of the 30cm cable we pulled up from underneath the door and pull it up and secure it underneath the grey tile on top. Pull the cable across to the left side and then secure this underneath another grey tile.

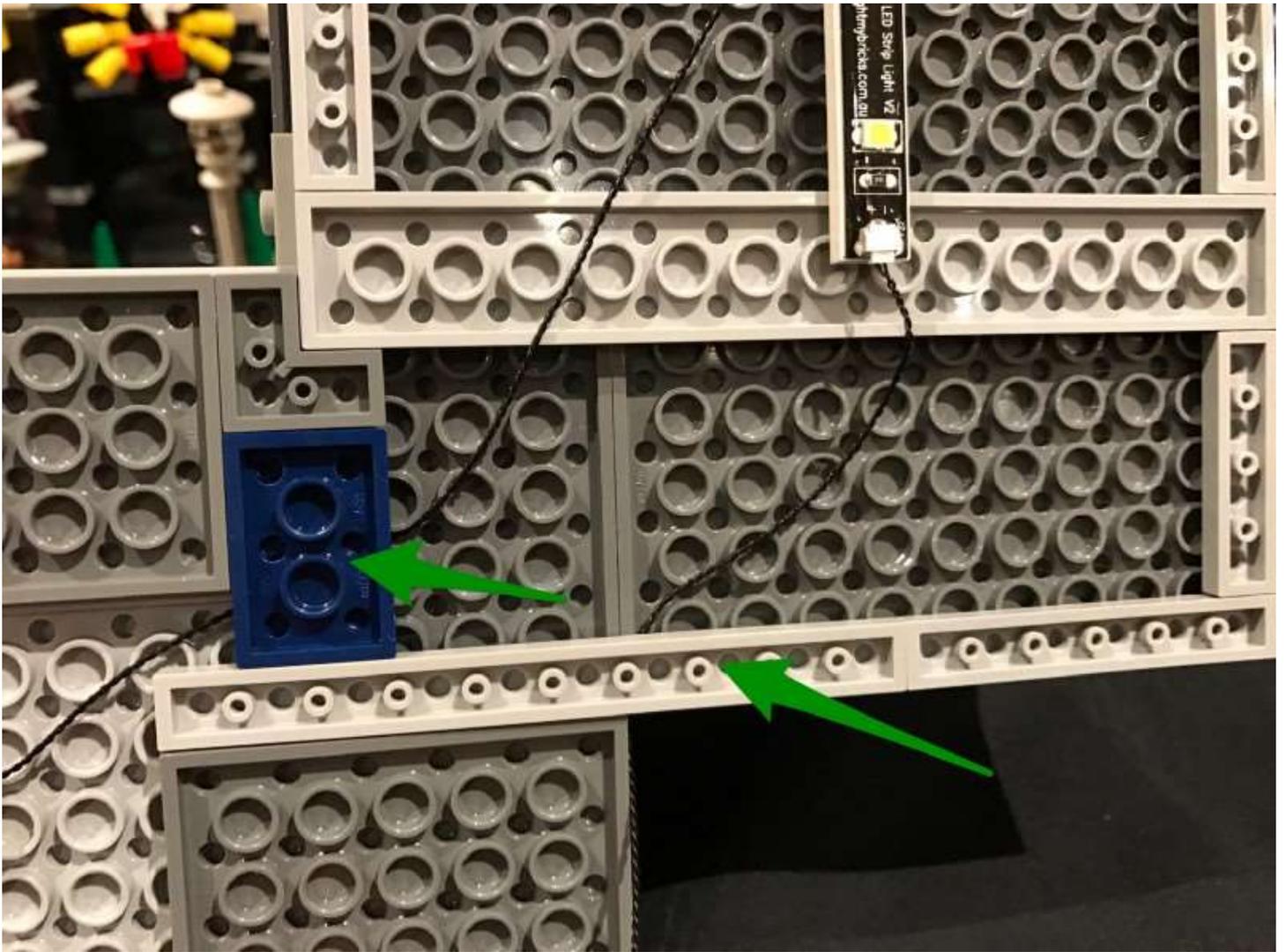




32.) Take the entire top level and then turn it on its side to allow us to be able to install another 2 LED strip lights (**striplight#6** and **striplight#7**) to the following positions. Connect a **15cm cable** in between the 2 strip lights and then connect a **30 cm cable** to the other port on **striplight#7**.



To prevent the cable from hanging down and being seen from the outside looking in, connect LEGO pieces over the top.



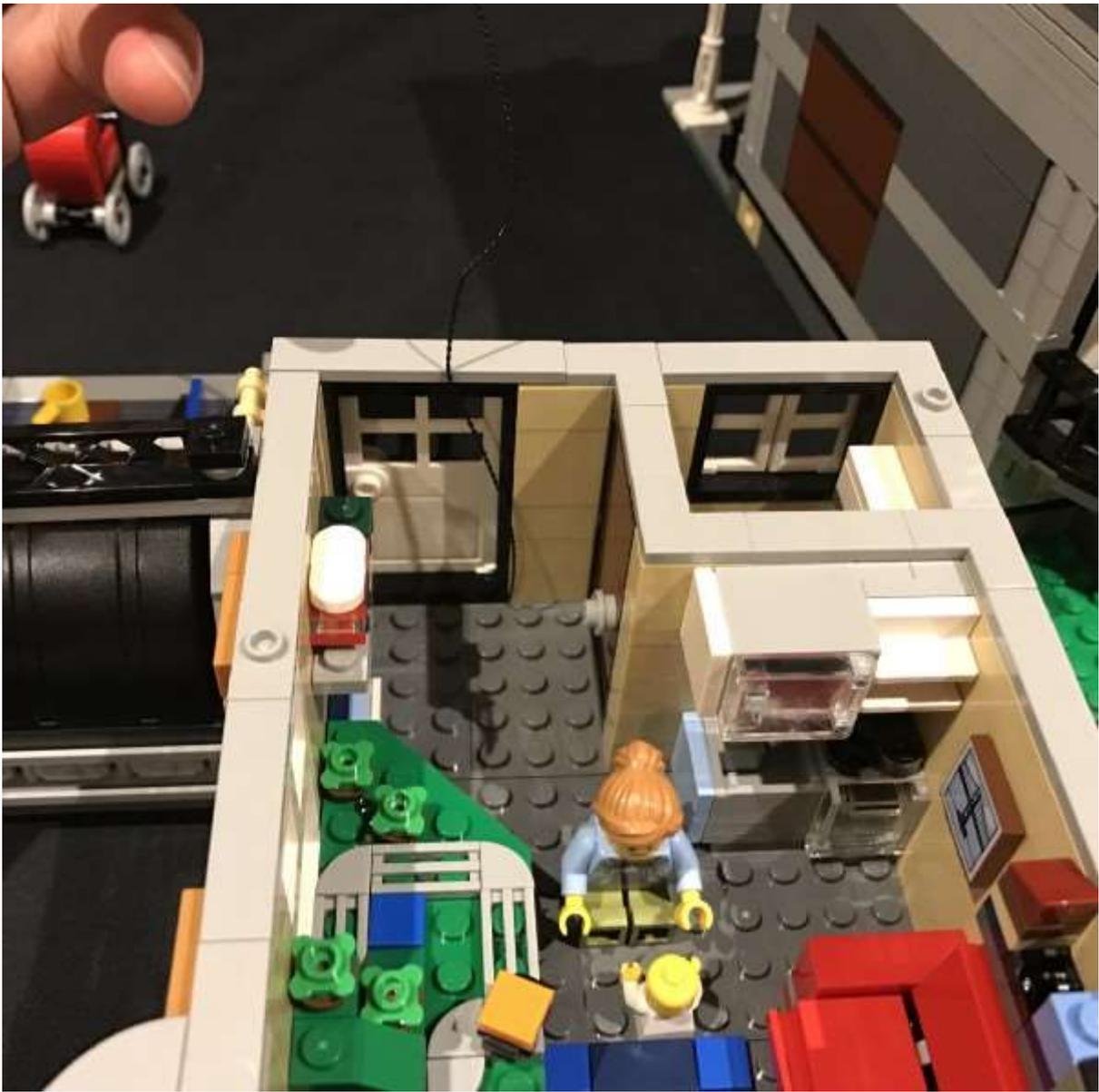
33.) Turn the top level back over to its correct way up and then remove the following LEGO pieces to allow us to then remove the door.

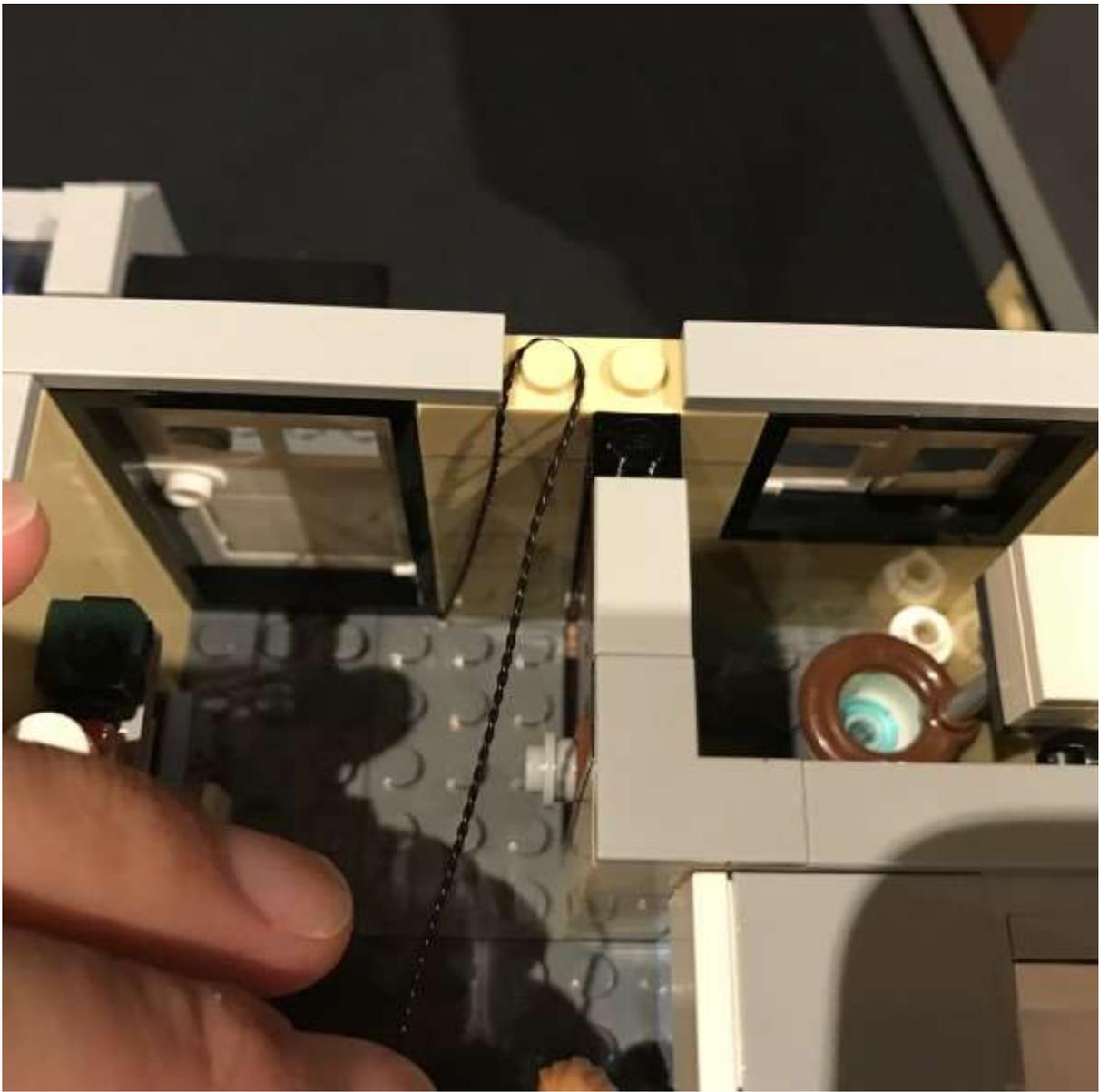


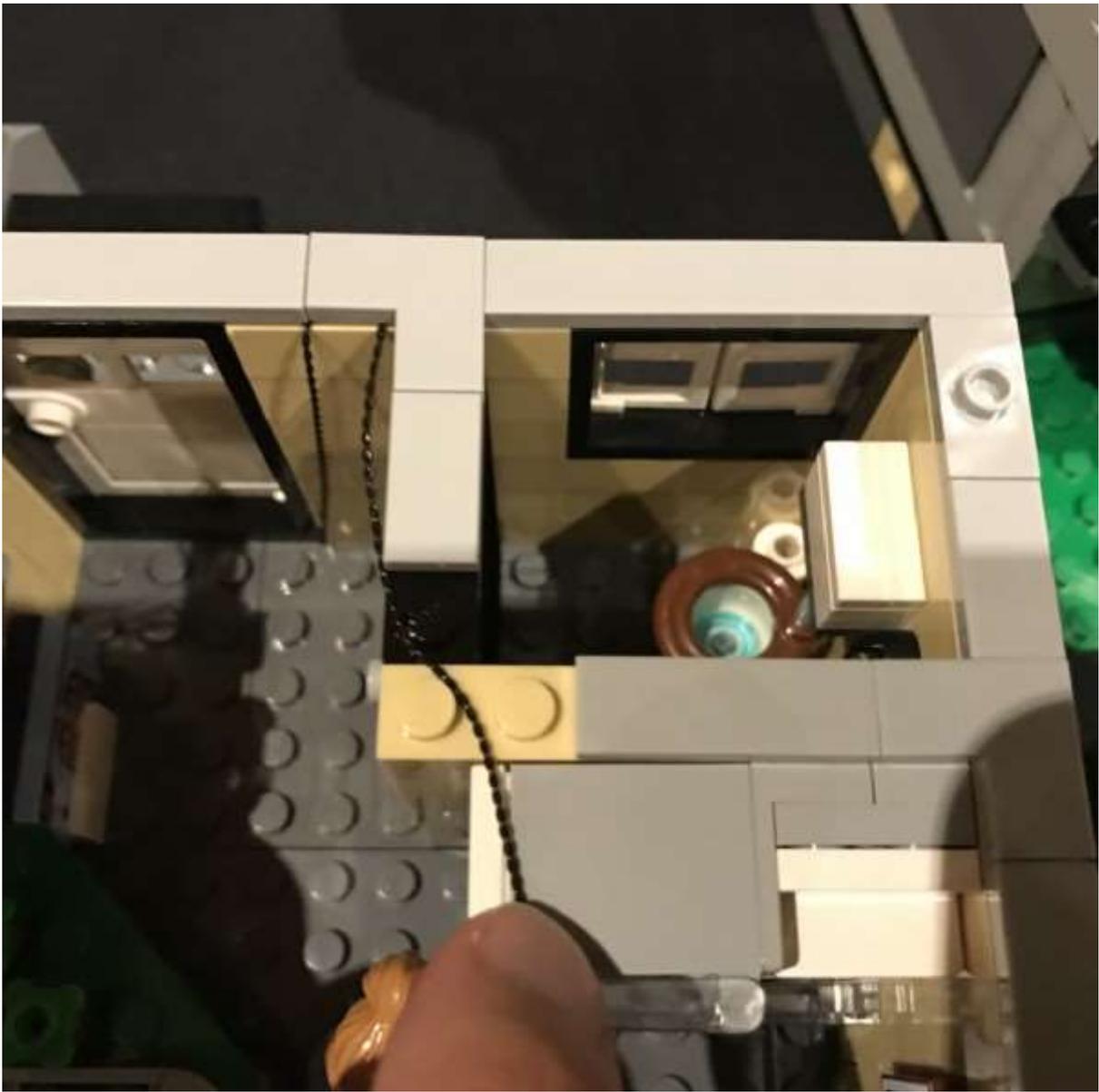
Pull the 30cm cable up from underneath and then thread the cable through to the inside of the building. Reconnect the door over the top of the cable, same way we did for the level below, then reconnect the surrounding pieces.



34.) From the top floor apartment, pull the 30cm cable up and secure it underneath the grey tiles as per below.









35.) Take the entire top floor and then connect the other end of the 30cm cable from underneath to striplight#6 then reconnect the top floor back on top of the building

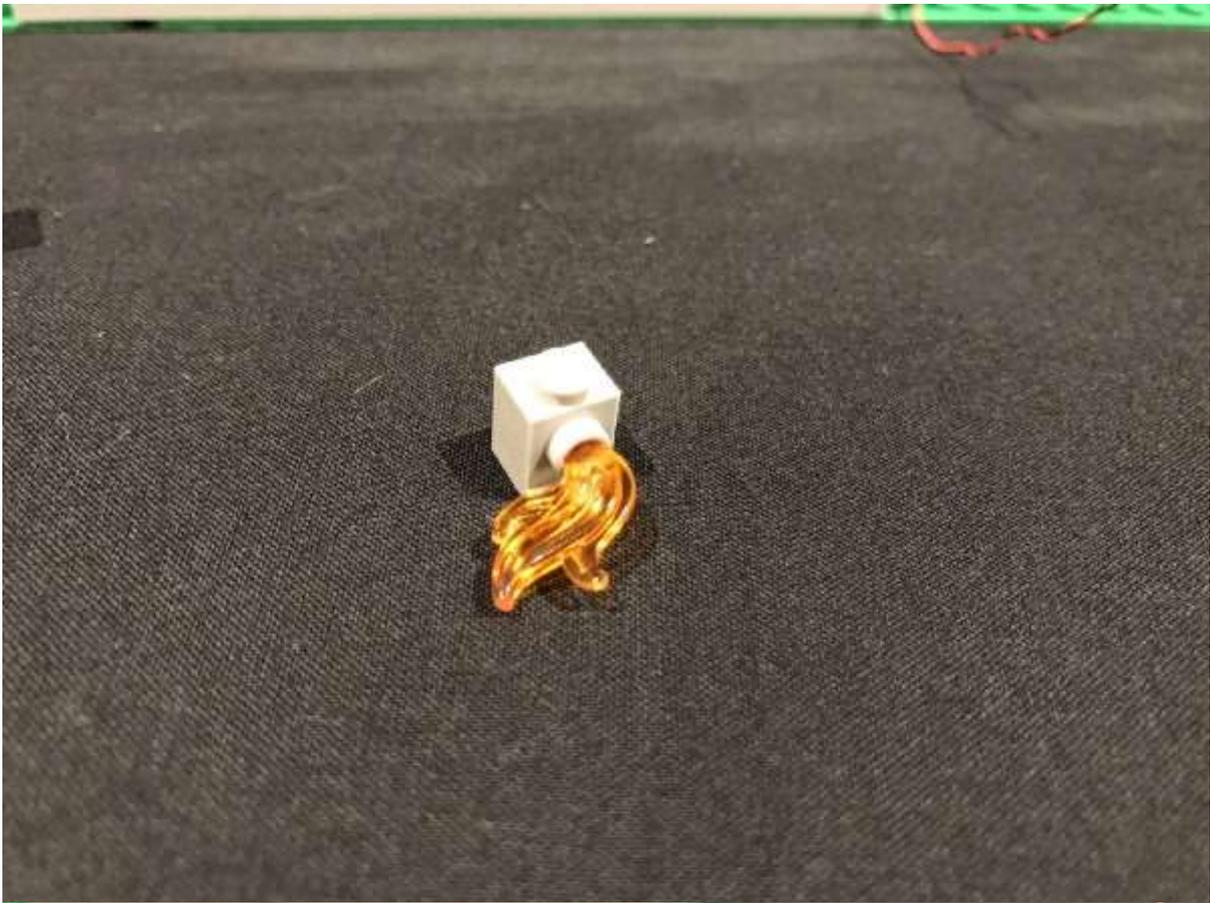


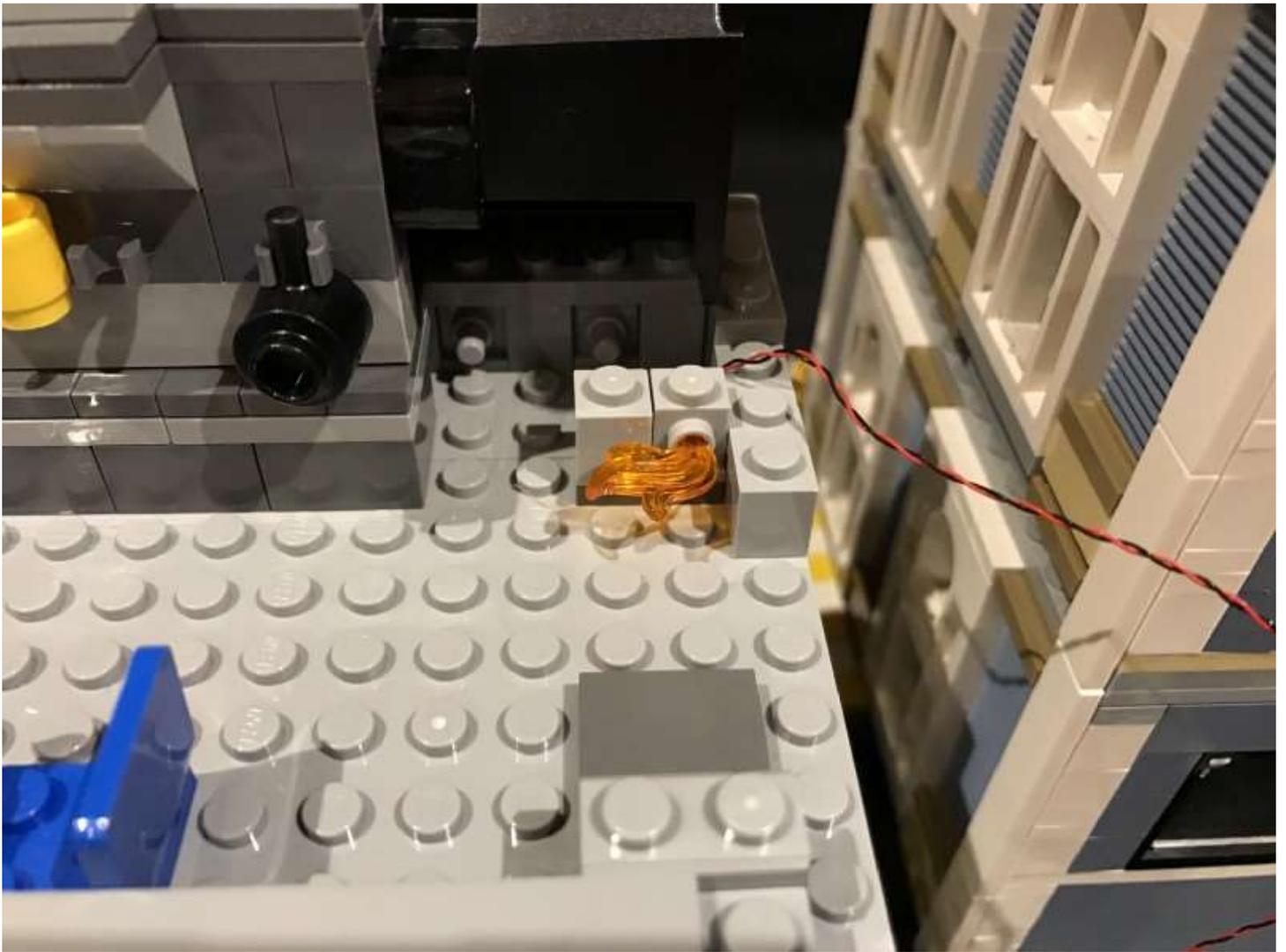
36.) Now that we have reconnected the entire top floor, we can now install the other bit light to the flame of the bbq (hanging on the side of the building). Start by removing the following LEGO pieces.



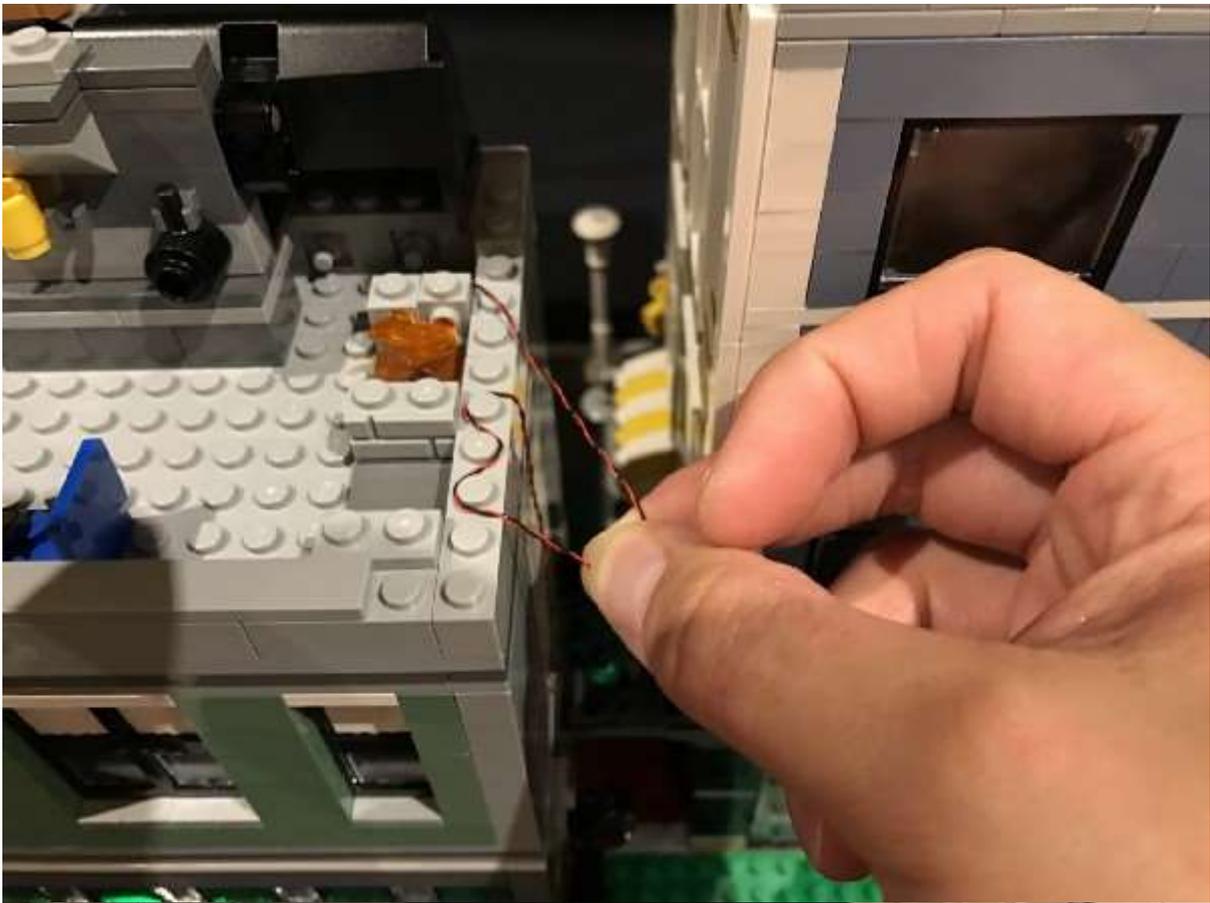


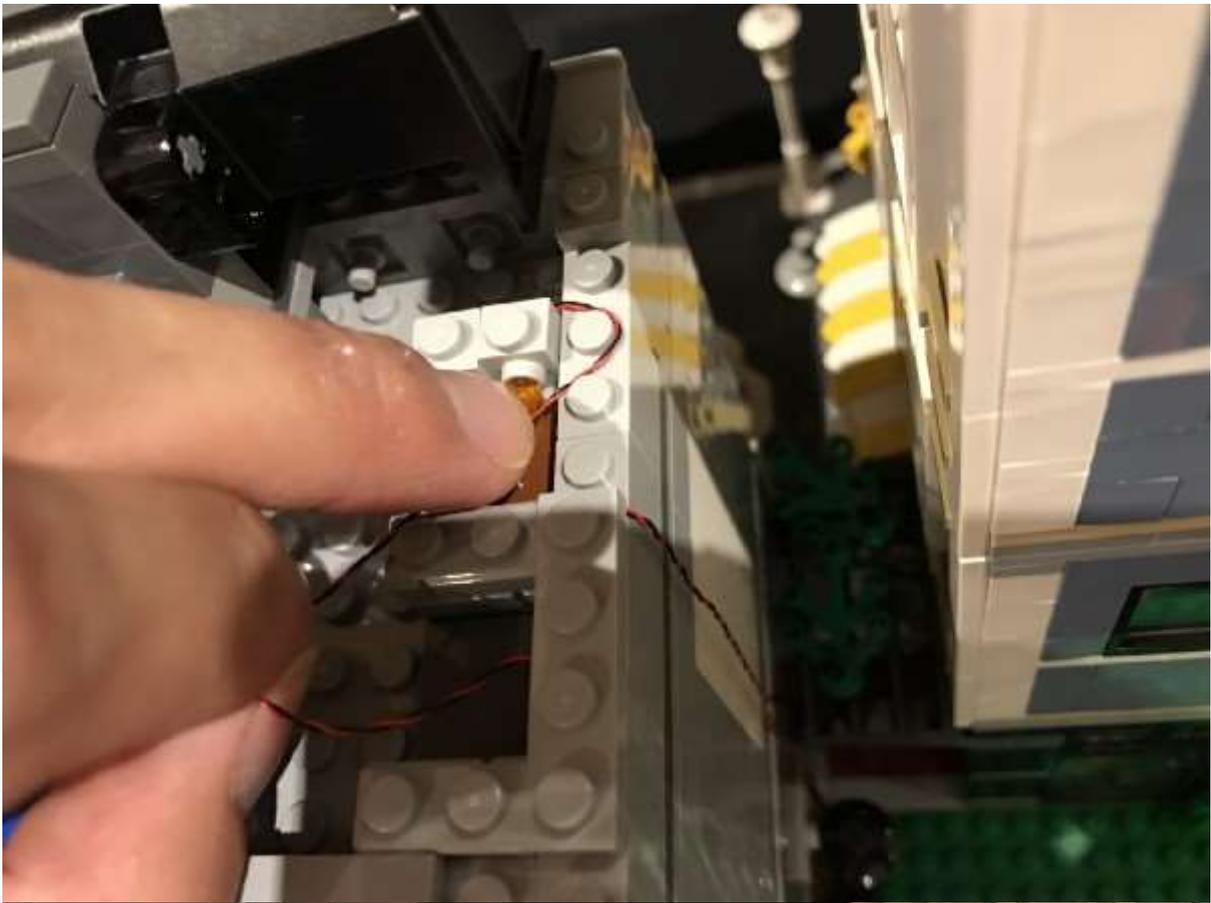
Remove the grey 1×1 brick with flame piece attached and take the bit light from below and then thread the LED component through the back of the 1×1 brick. Ensure the LED component is facing toward the flame piece. Hold it in place before then reconnecting this brick back to its original location.

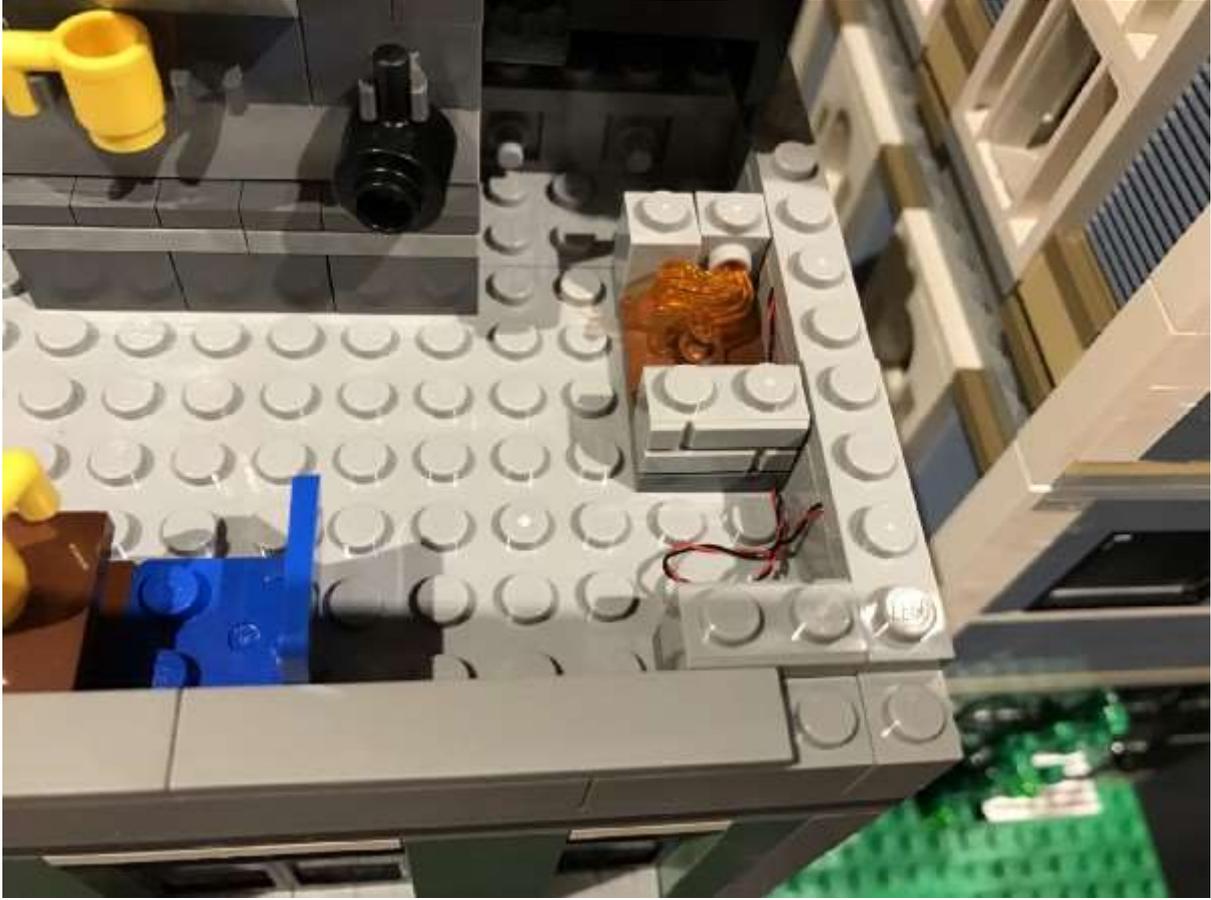


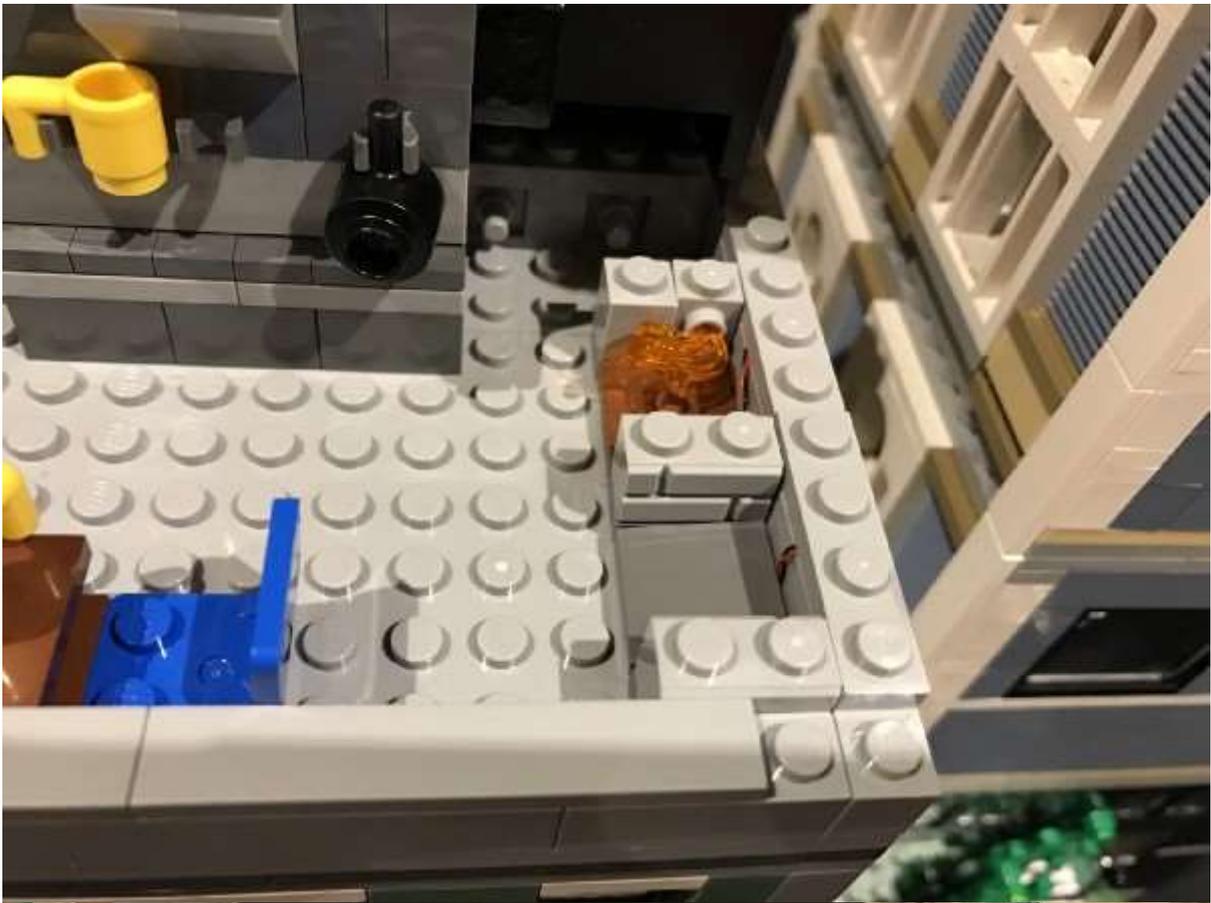


Reconnect the pieces we removed earlier, piece by piece. Follow the images below to lay the cable in between studs and underneath bricks as you reconnect them.







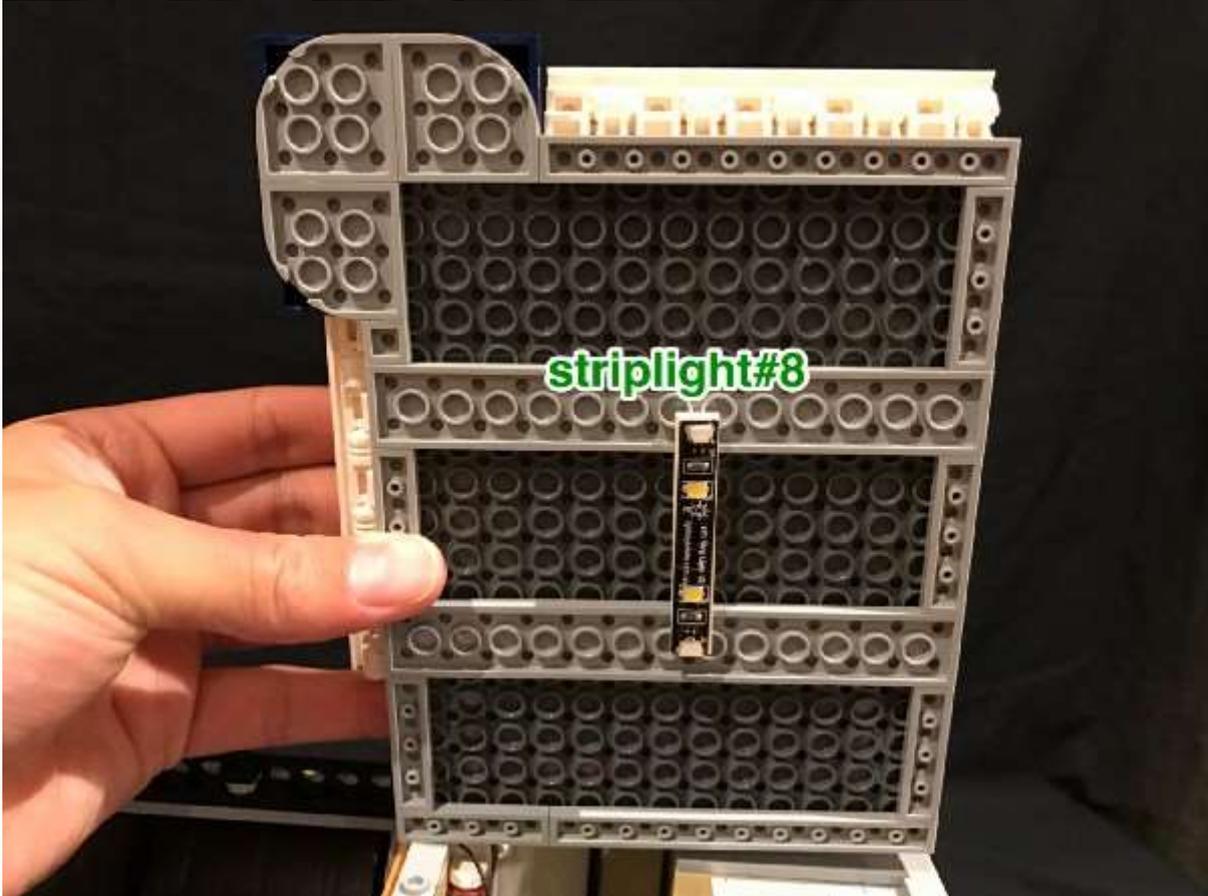
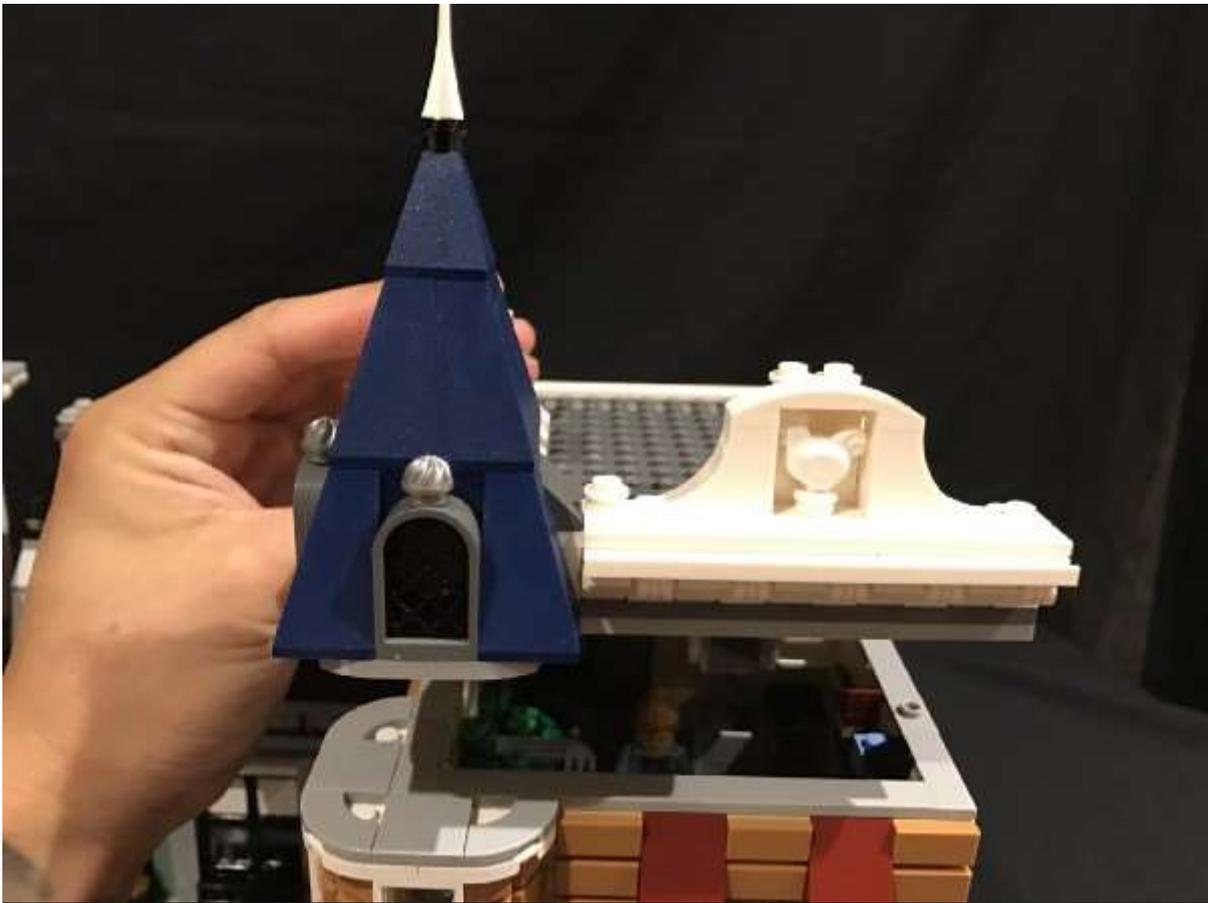


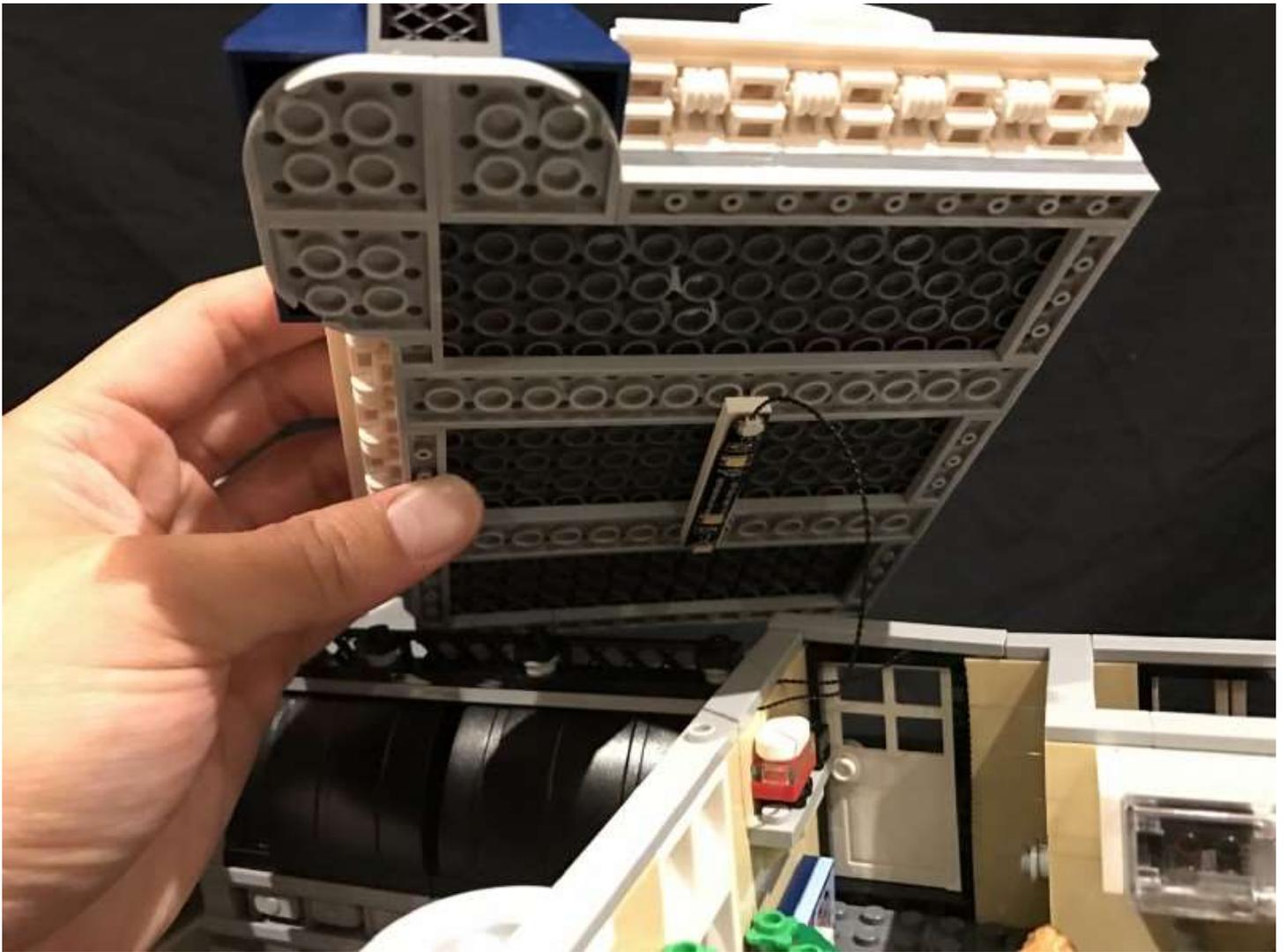


The main thing we want to do is to ensure there is minimal excess cable running up the wall. You can also use a bit of tape to secure the cable to the wall and prevent it from hanging loosely.

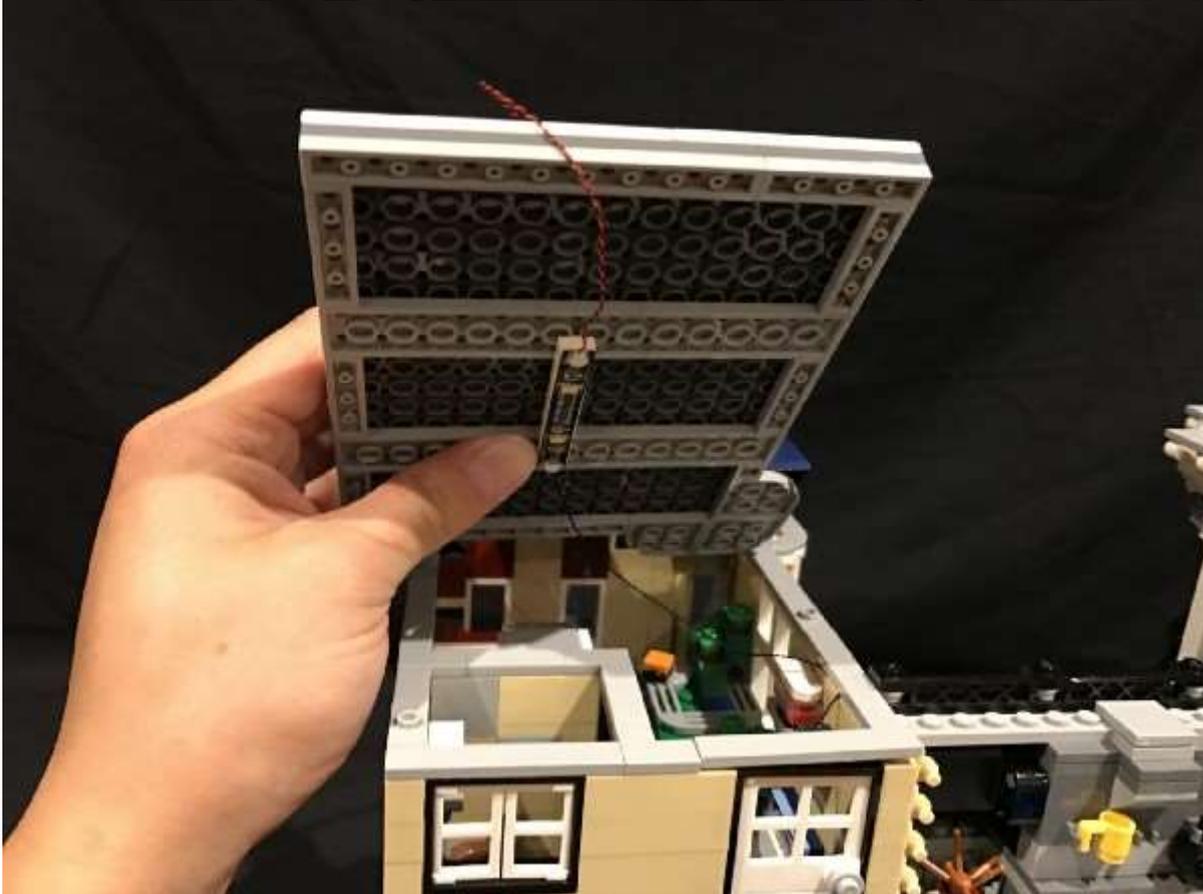
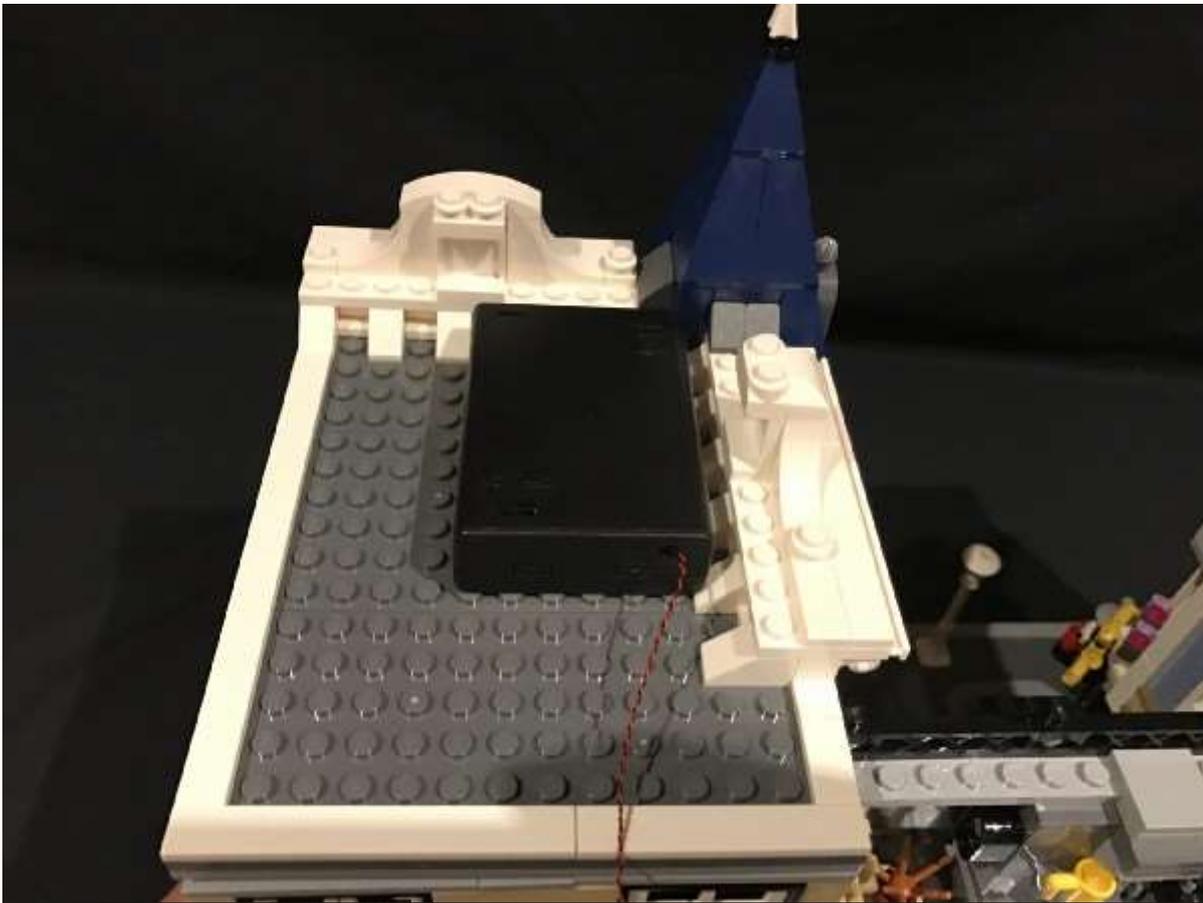


37.) Take the roof of the building (above the top floor apartment) and install the final LED Strip Light (**striplight#8**) to the following position underneath then connect the 30cm from underneath into the port closest to the front of striplight#8.





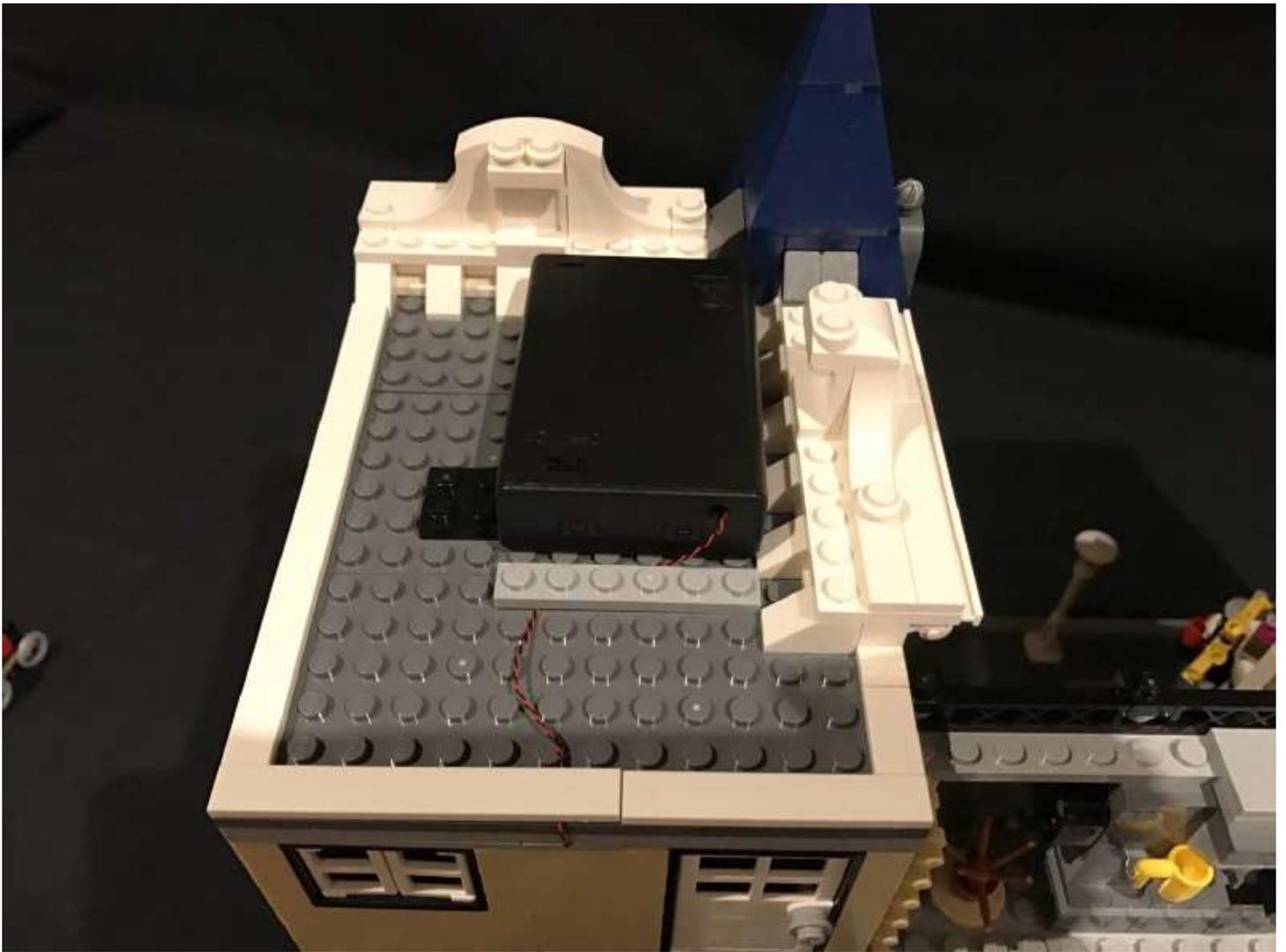
38.) Take the battery pack and connect the battery pack cable to the back port of striplight#8 then reconnect the roof back on top.



39.) Place the battery pack on the roof of the building in the following position. You can also secure the cable underneath the white tile on the roof.



You can also use other LEGO pieces to secure the battery pack from moving around, similar to what I have done below.



This now completes installation of the Assembly Square LED Light Kit. Your light kit is now ready to be turned on!

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Light My Bricks



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