PALACE_CINEMA_10232 LED Lighting Kit

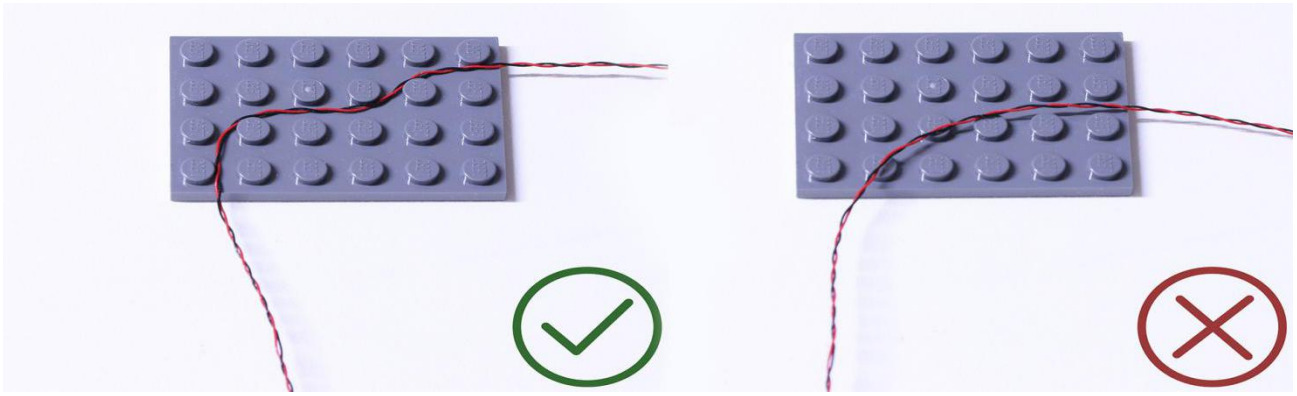
Package contents:

- 5x LED Strip Lights
- 15x White 30cm Dot Lights
- 12x Flashing White 30cm Dot Lights
- 3x 12-Port Expansion boards
- Lamp Post with LED and cable attached
- 1x Battery Pack (3x AA batteries not included)
- 8x Adhesive squares
- 2x LEGO Plates 1x6 (for mounting strip lights)

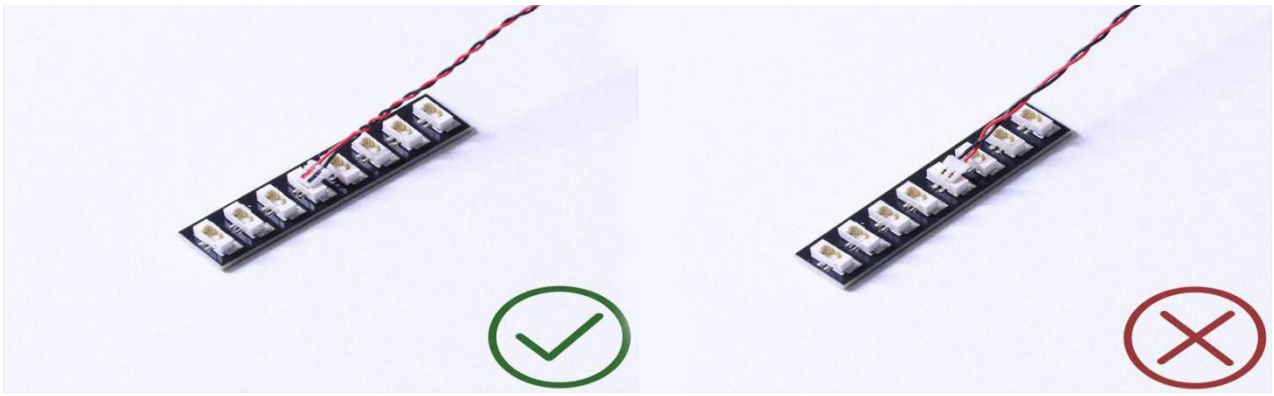
Connecting Cables

- 2x 5cm cables
- 3x 15cm cables
- 2x 30cm cables

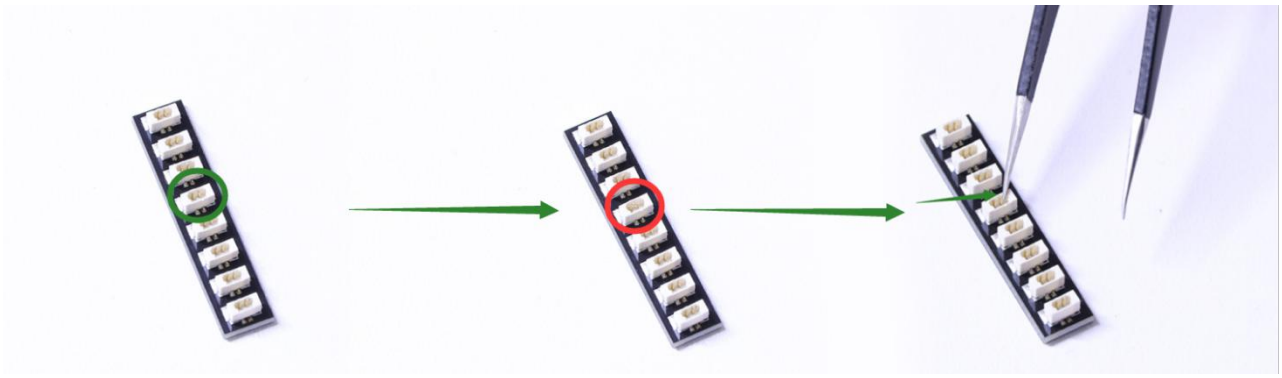
Note:
Place wires on the surface or under the LEGO building blocks.
The wire can be place between the building blocks or under the block, but they should be placed between the studs correctly.



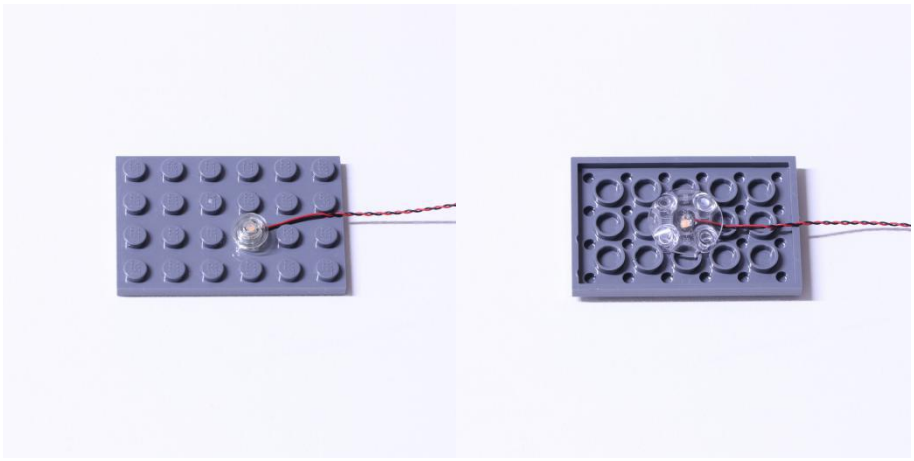
Insert the connectors to the ports.
Be careful when you are operating, there's only one correct way to insert, make sure the expansion board is upward, find the soldered "=" sign on the left of the port. When you are inserting, the side which the wires can be seen should be faced to the "=" sign and if you feel hard to insert, please stop, and don't force it, for that may result in bent pins inside the port or overheating of the expansion board.



At this point, use the tweezers to straighten the bentpins.

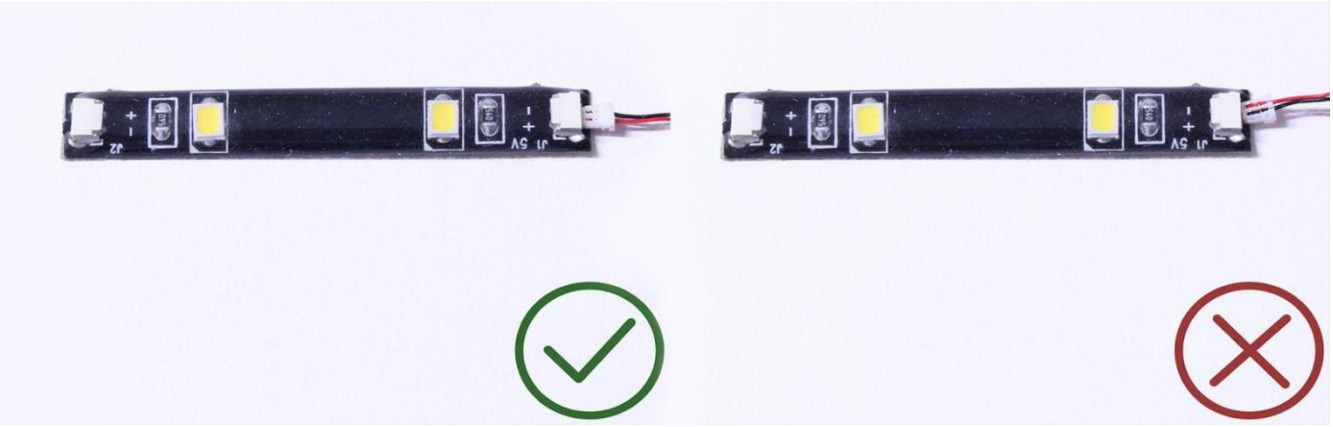


When installing dot lights, make sure they are correctly placed (Yellow LED package is exposed). You can put they either on the top of the studs or between studs.

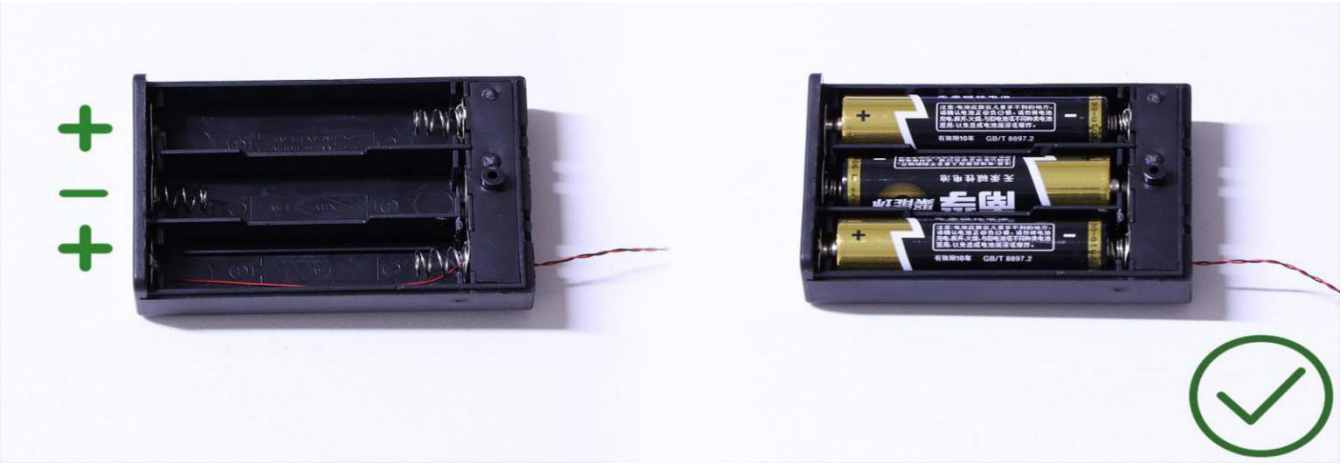


Connecting cable connectors to Strip Lights

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.



Finally, please pay attention to the positive and negative terminals of the battery when installing the battery case.



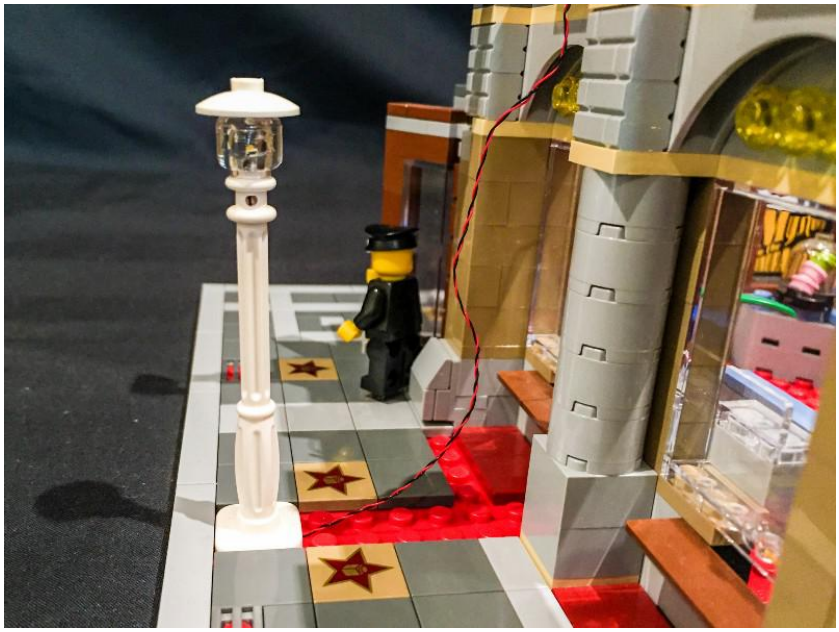
OK, Let’s Begin!

Instructions for installing this kit

1.) This lighting kit is installed from the bottom up. Start by removing the 2nd and top levels of the modular building as well as the “Palace Cinema Marquee”.

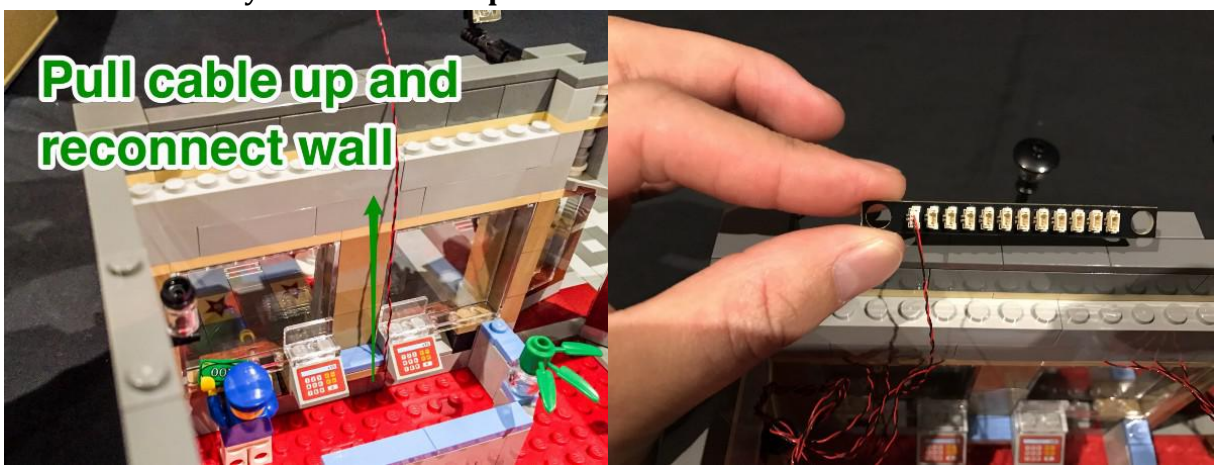
2.) To enable us to lay the cable for the lamp post underneath the brick tiles, remove the following tiles as per below.

3.) Replace the stock lamp post with the Vonado lamp post ensuring that the cable is laid in the middle of the 2 studs facing the building.

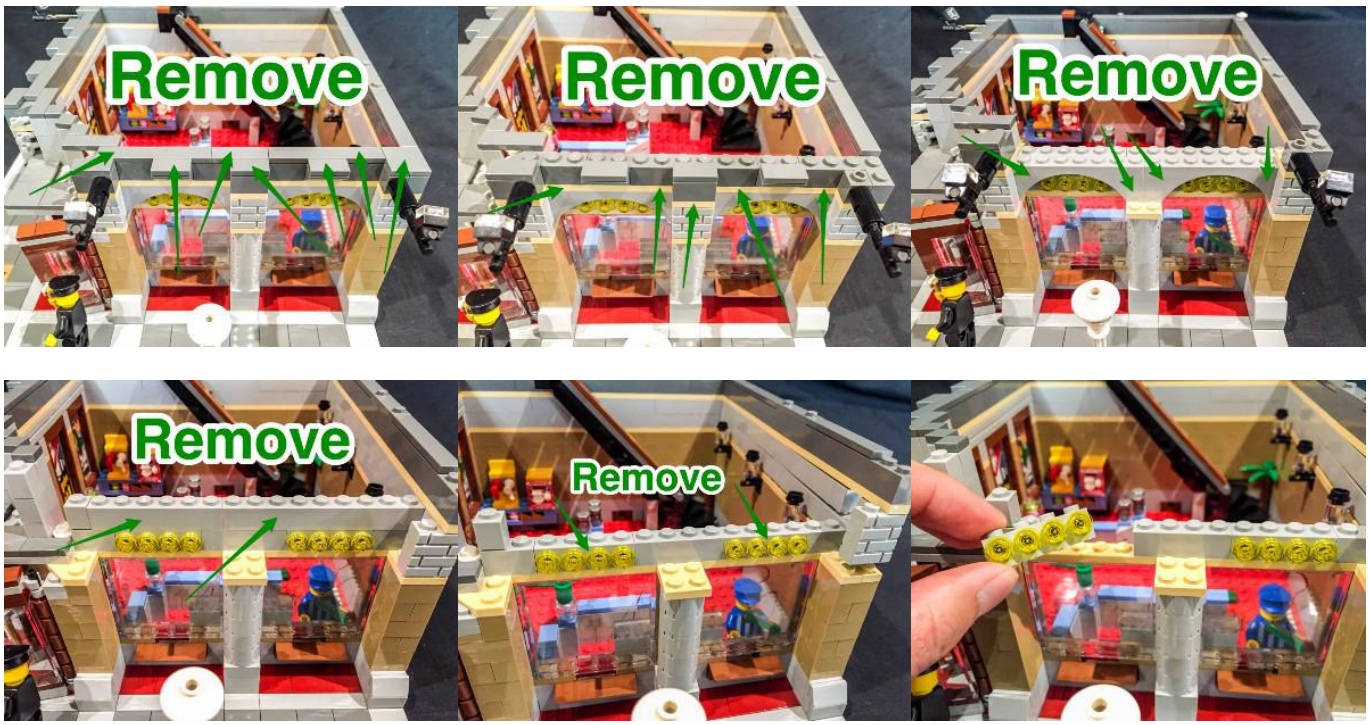


4.) Gently bend the base plate down and lift the building of the ground floor up and thread the cable for the lamp post underneath the building wall. Ensure that the cable is laid in between the Lego studs as pictured below.

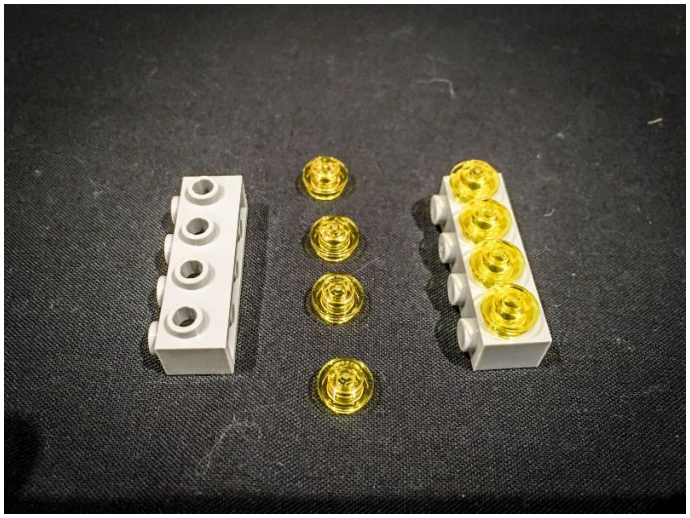
5.) Pull the cable up from underneath the wall and then reconnect the building to the base plate. Then connect the cable to the first available port of a 12 port expansion board. This set has 3 expansion boards so we will identify this one as “**Expansion board#1**”.



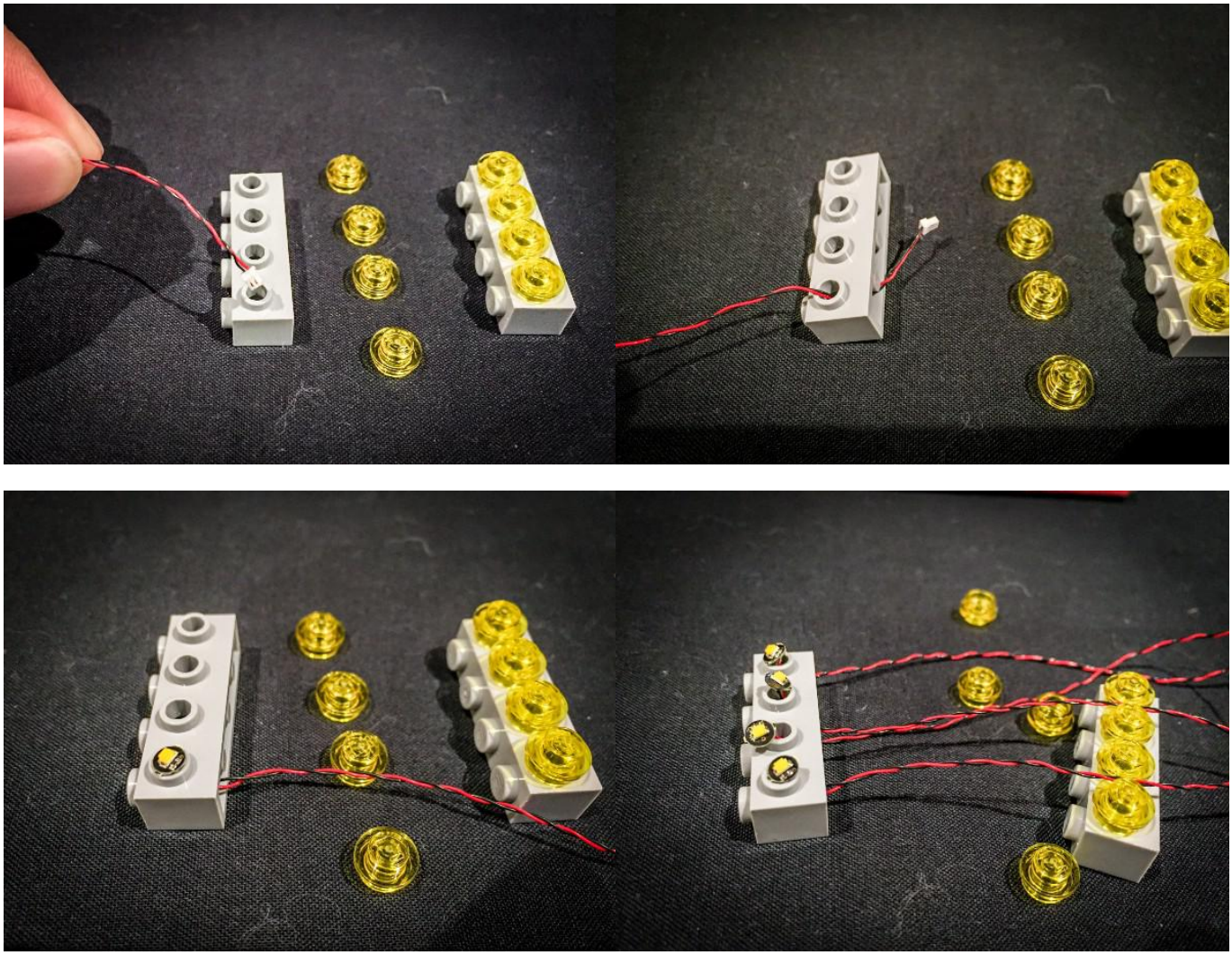
6.) We will now move on to installing the 8 lights above the ticket windows. In order to get to these light sections, please remove the following pieces starting from left to right.



7.) Disassemble the clear yellow pieces from the grey bricks.

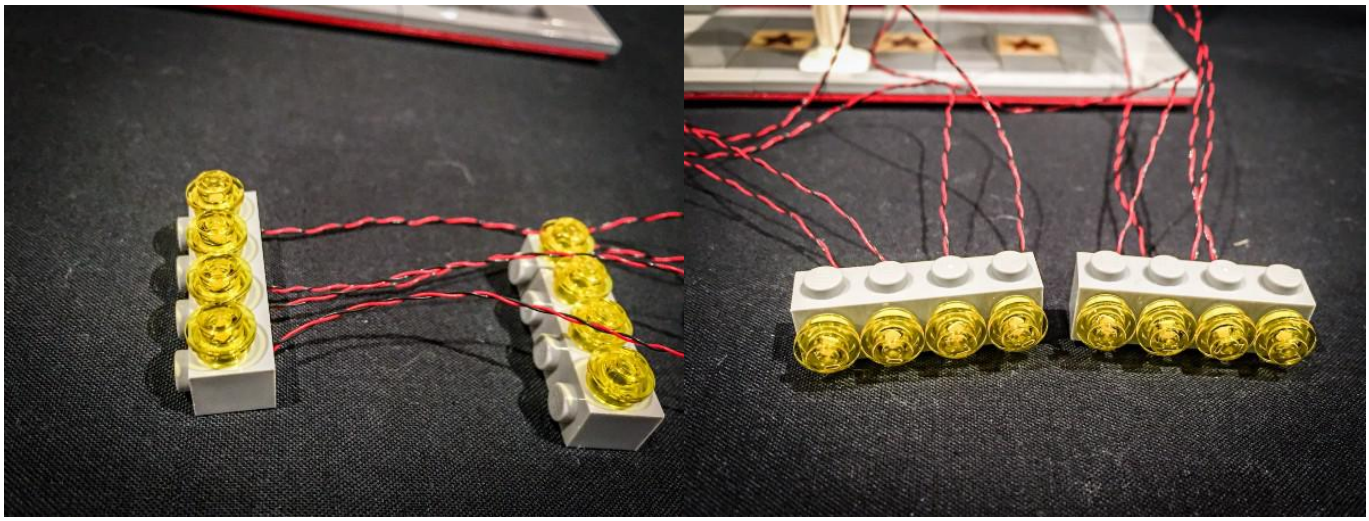


8.) Start installing the lights by taking a standard Dot Light (non flashing) and thread the connector end through the top of the first hole of one of the grey bricks. Thread this through and then pull the cable from the bottom of the grey brick all the way until the LED is sitting flat against the top ensuring the LED component part is facing the correct way up. Repeat this for all 4 lights of the first set of ticket window lights.

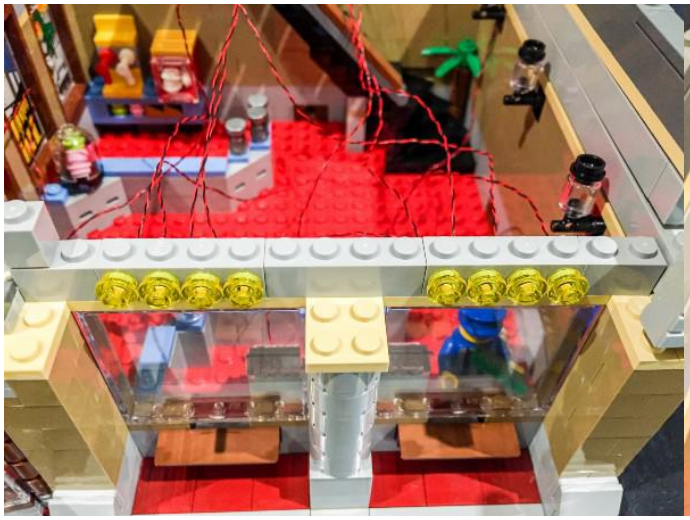


Ensure LED component is facing the correct way up

9.) Secure these LEDs in place by reconnecting the clear yellow Lego pieces over the top of them. Repeat the same process for the other 4 lights in the second lot of ticket window lights.

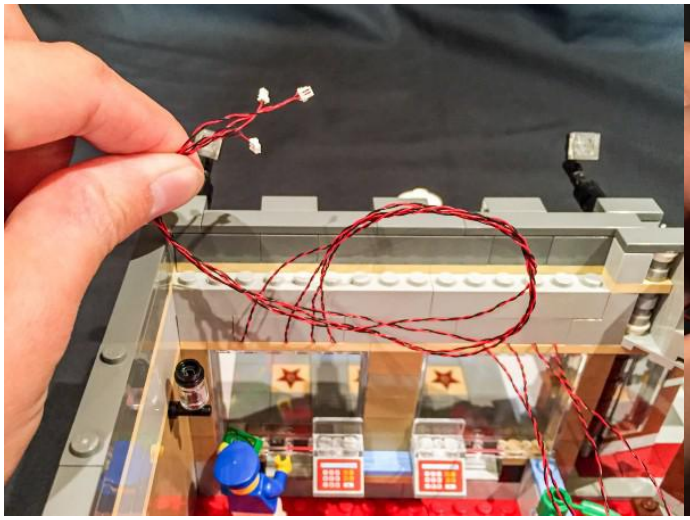


10.) Reconnect these 2 section of lights in the original positions ensuring that the cables for the lights are laying behind and underneath them and in between Lego studs.



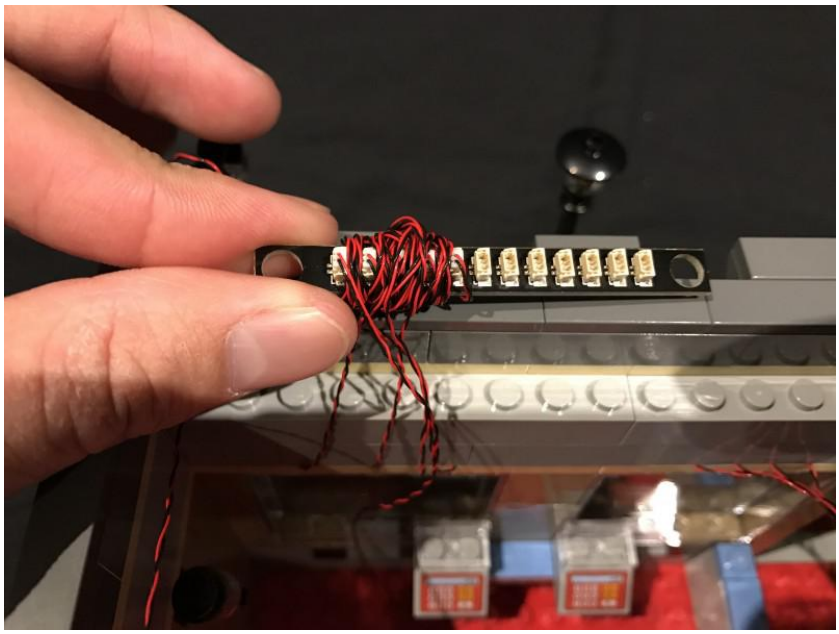

11.) Reconnect the other Lego pieces we removed earlier that surround the window frames.

12.) Turn the building toward the back so we can easily access the cabling for these lights. Group the left lot of 4 cables together by twisting them around each other, then connect them to next lot of available ports on Expansion board#1.

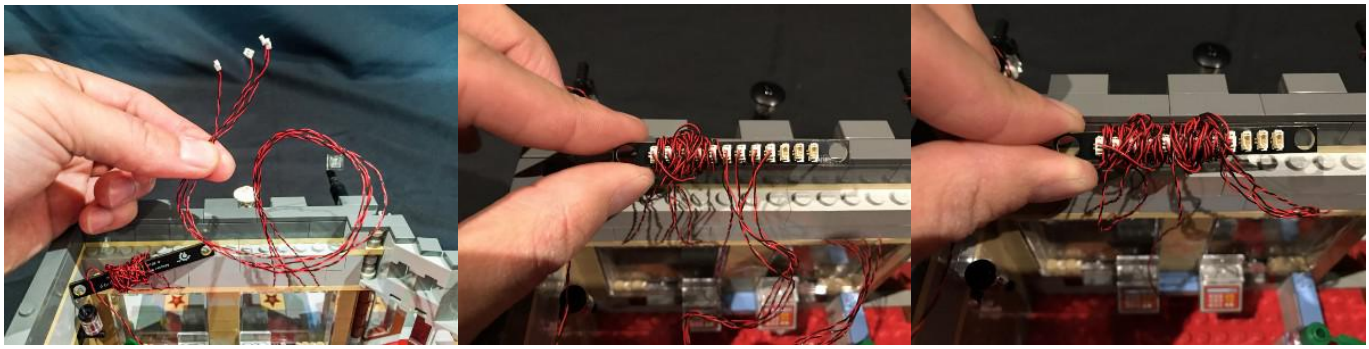



13.) To prevent all of the cables from hanging everywhere and getting tangled, (there will be a lot more to install) wind the excess cables from the first group of ticket window lights as well as the lamp post

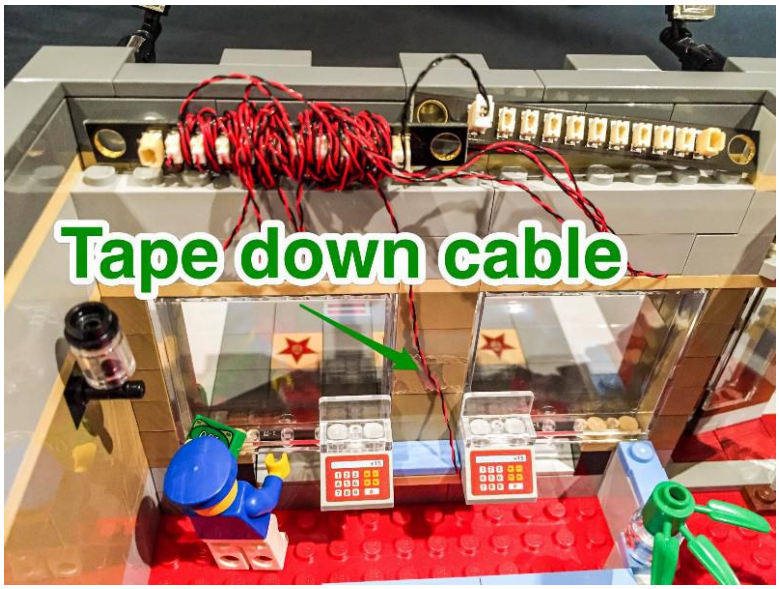
cable around the expansion board.



14.) Group the cables from the second lot of ticket window lights together the same way as we did for the first lot and then connect them to remaining ports of Expansion board#1. Then, wind the 4 cables around the expansion board again, like we did for the first lot.



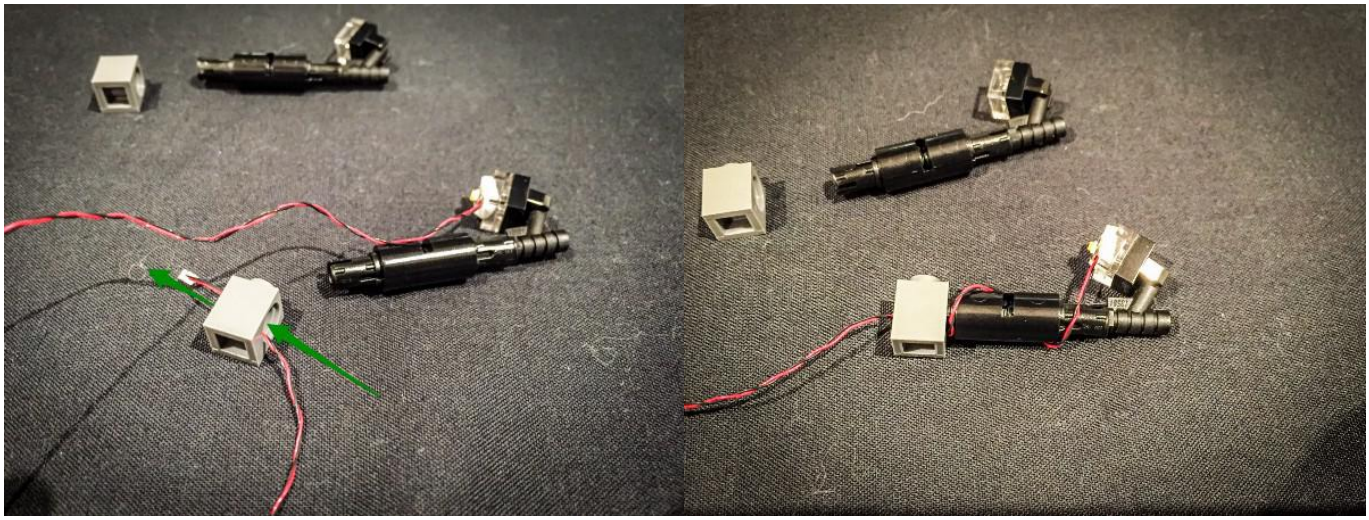
15.) You will notice that the cable from the lamp post is dangling down freely. This can probably be noticed from the front when looking through the window. Use a little bit of tape to stick the cable against the wall space between the 2 windows.



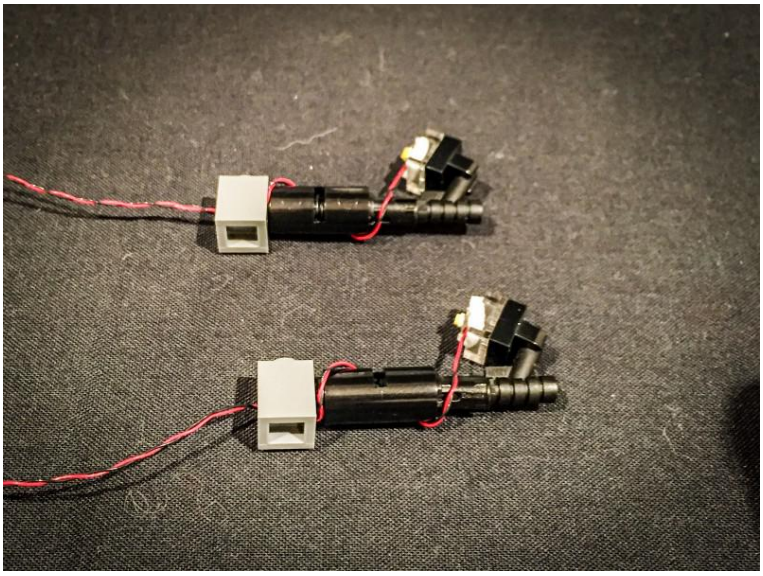
16.) We will now move on to installing the 4 building spot lights. We will start with the 2 on the ticket window side. Remove them by pulling them out at the following sections.

17.) Disconnect the grey brick from each section of the 2 building spotlights then take a standard Dot Light (non flashing) and stick it to the light section of the building spotlight using one of the provided double sided adhesive squares. When doing so, ensure that the LED component facing the correct way up.

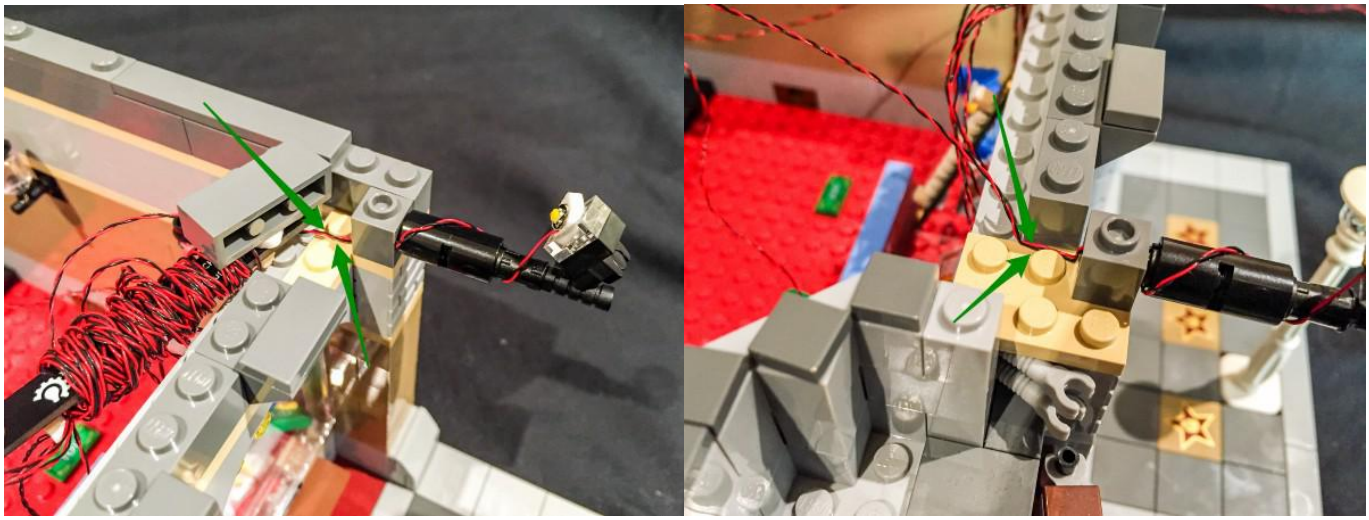
18.) With the LED stuck down, thread the connector end of the cable through the centre hole of one of the grey bricks. Wind the cable around the black pole a few times at the LED part before connecting the spotlight section back to the grey piece (with cable threaded through).



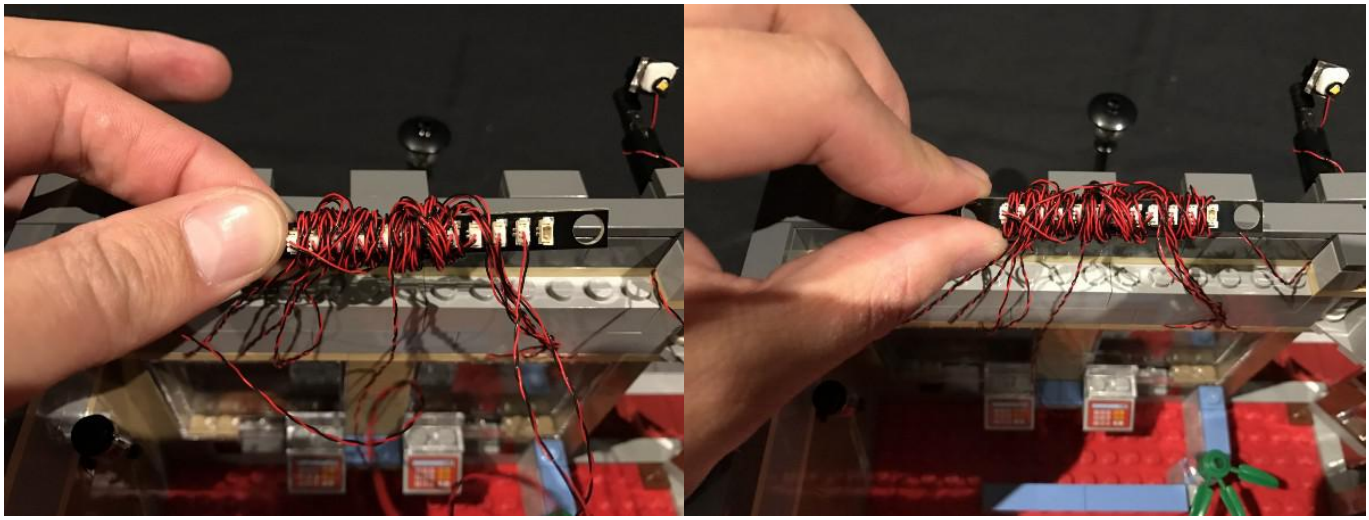
Repeat this process for the second building spotlight.



19.) Connect the 2 building spotlights back to their original positions ensuring that the cables are laying in between Lego studs.

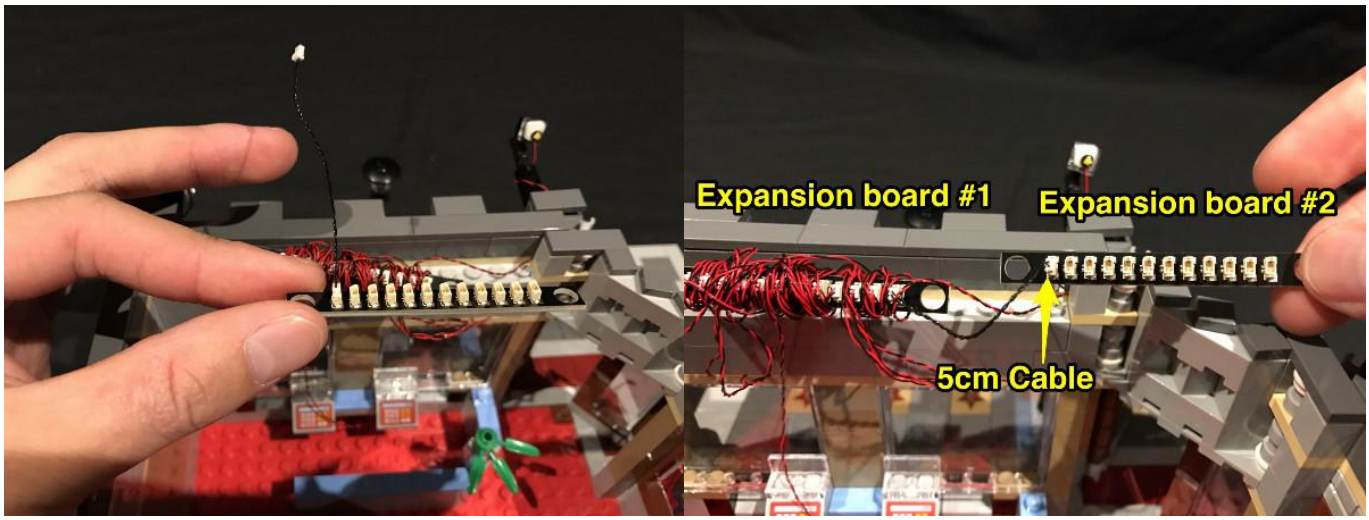


20.) Connect the 2 cables from the building spotlights to the next available ports of Expansion board#1 and then wind the cables around the expansion board.

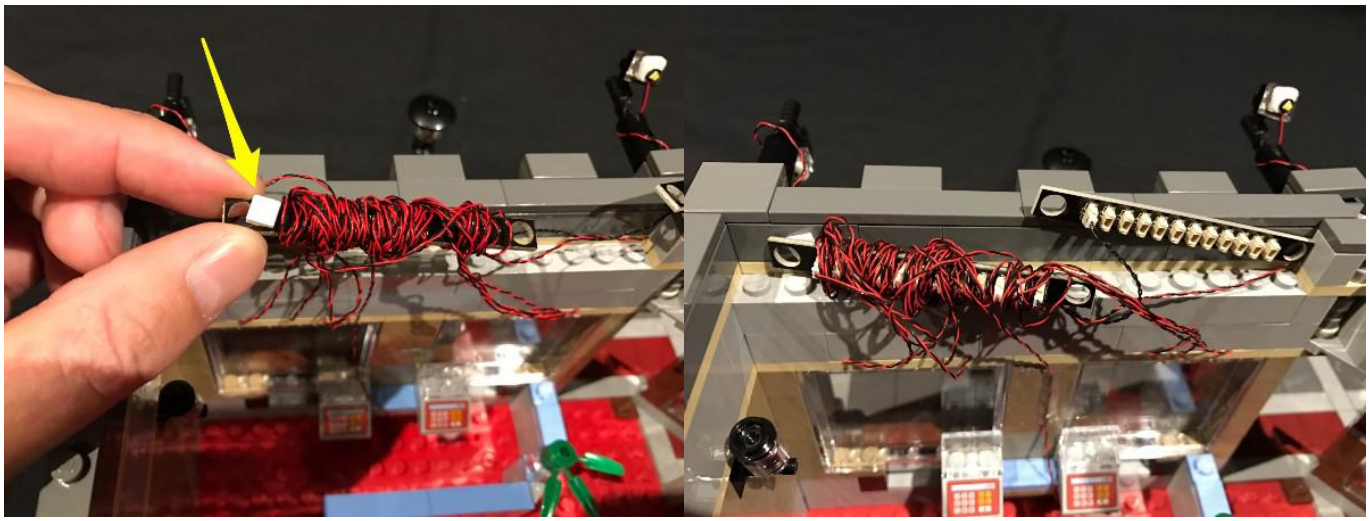


21.) Take another 12-port expansion board and then connect a 5cm connecting cable to the first port.

Connect the other end of this port into the last port on Expansion Board#1



22.) Secure Expansion board#1 to the top of the first floor using one of the provided self adhesive squares.



23.) Reconnect the Lego pieces we removed earlier surrounding the building spotlights on the other side of the building.

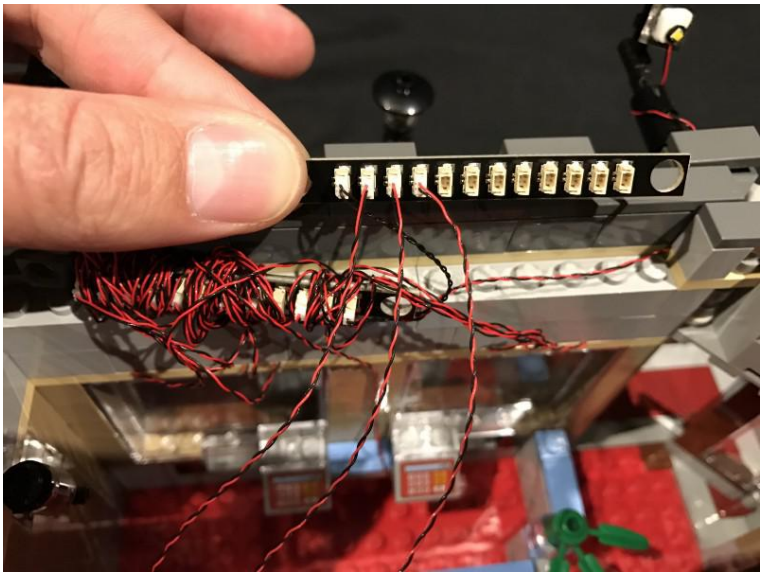
24.) Before we move onto installing the 2 building spot lights on the other side, we need to install 3

Dot Lights to the top of the movie posters. Start by removing the following pieces to allow us access.

Install a Dot Light underneath the brown 2x4 plate as shown. Place the Dot Light in the middle facing down and then reconnect the Lego plate ensuring the cable from the light is in the inside of the building.

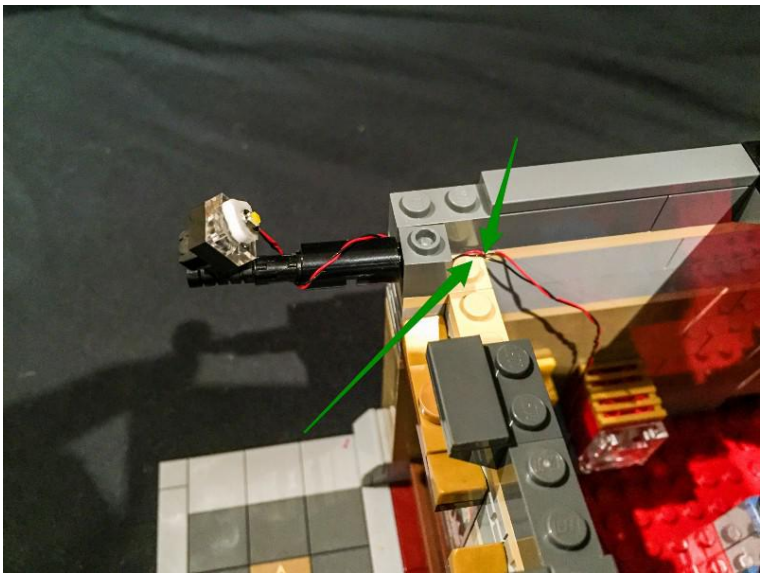
Repeat this process to the top of the remaining 2 movie posters.

25.) Connect the 3 big light cables to the first available ports of Expansion Board #2



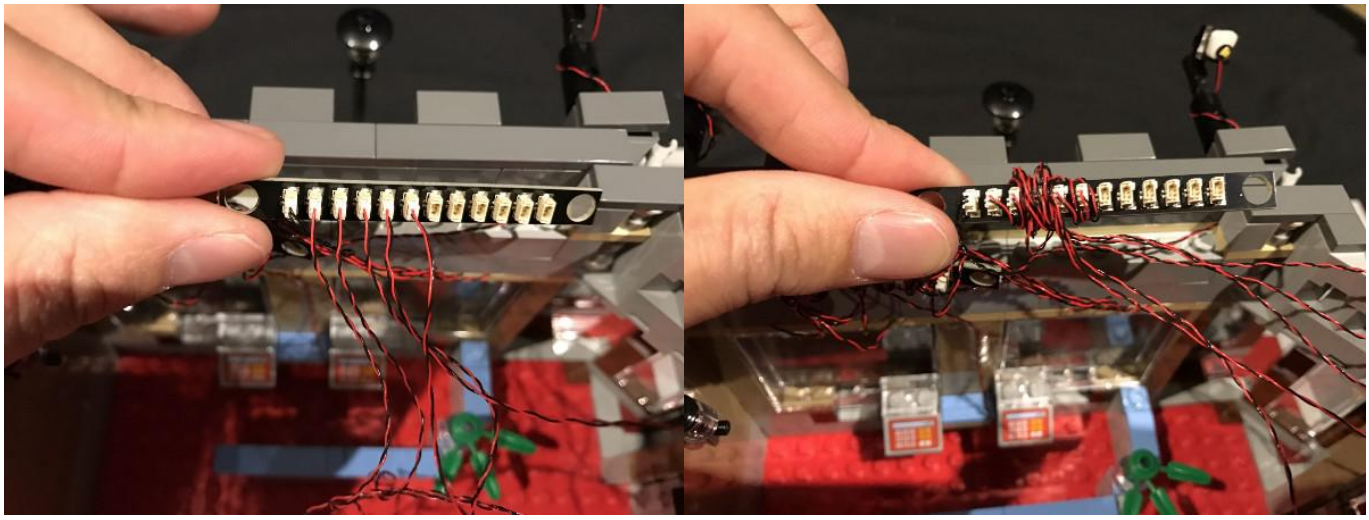
26.) Let’s move on to connect the 2 building spot lights on the other side. Turn the building around and then remove the following Lego pieces to allow us to then pull out the 2 building spotlights.

27.) Repeat steps 17 – 19 to connect another 2 standard Dot Lights to these 2 building spotlights. Once these 2 remaining spotlights are wired up, connect the left corner spotlight back to its original position ensuring that the cable is laid in between Lego studs.



For the other building spotlight, reconnect this back to its original position however this time lay the cable over the grey 2:1 Lego brick. This is important because if we lay this underneath the other grey brick, it will cut the cable when the Lego tile connects over it.

28.) Connect these 2 building spotlight cables to the next available ports on Expansion board#2, then wind all the cables around the board.



27.) Tidy up the cabling from the building spot light in the middle by laying it underneath the grey Lego tiles.

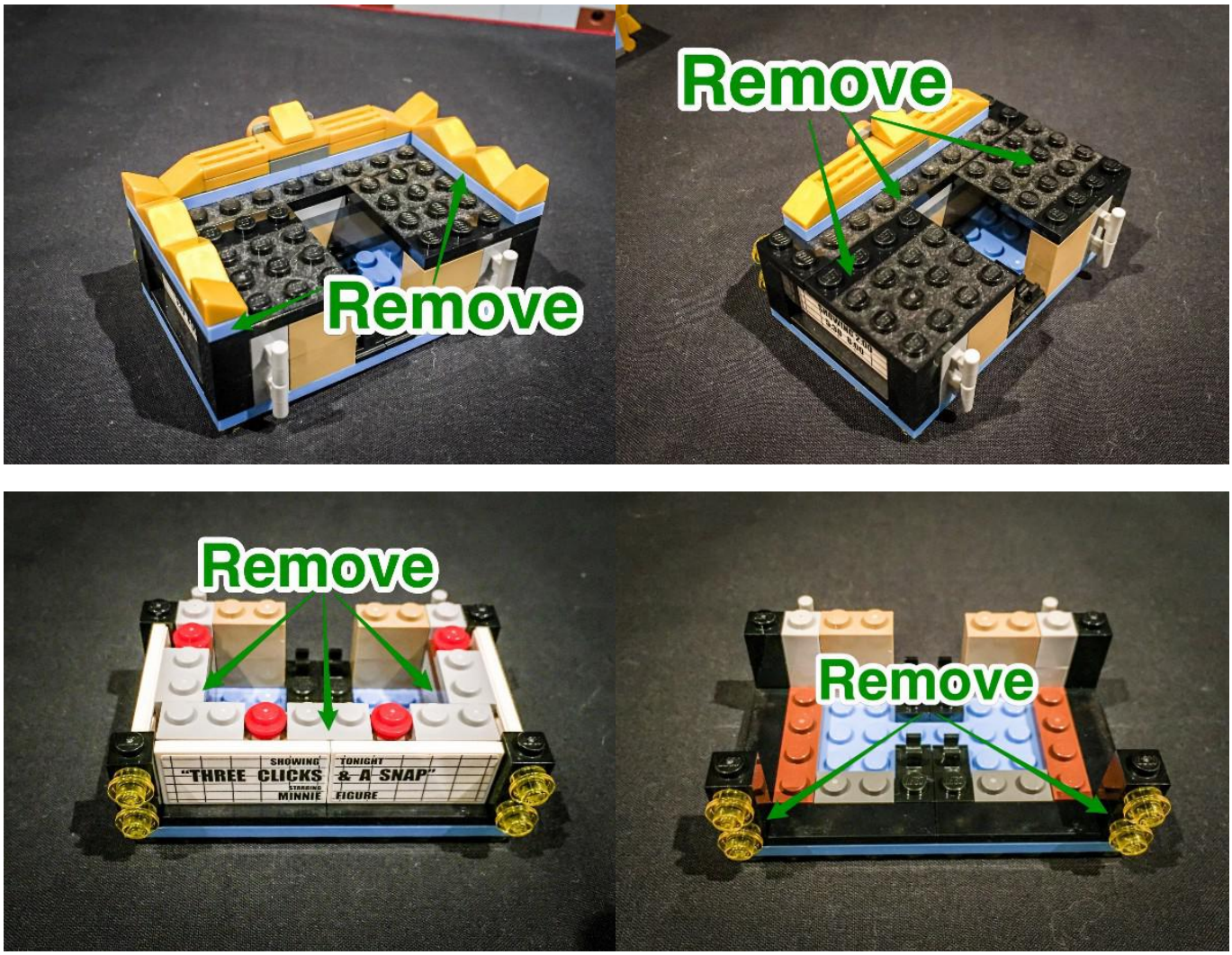
This is a good time to test all our lights so far. Simply take the AA battery pack, insert batteries, and then plug the connecting cable into one of the spare ports of one of the expansion boards. Turn on the battery pack to test the lighting circuit we have connected so far.

You can test your light circuit at any time

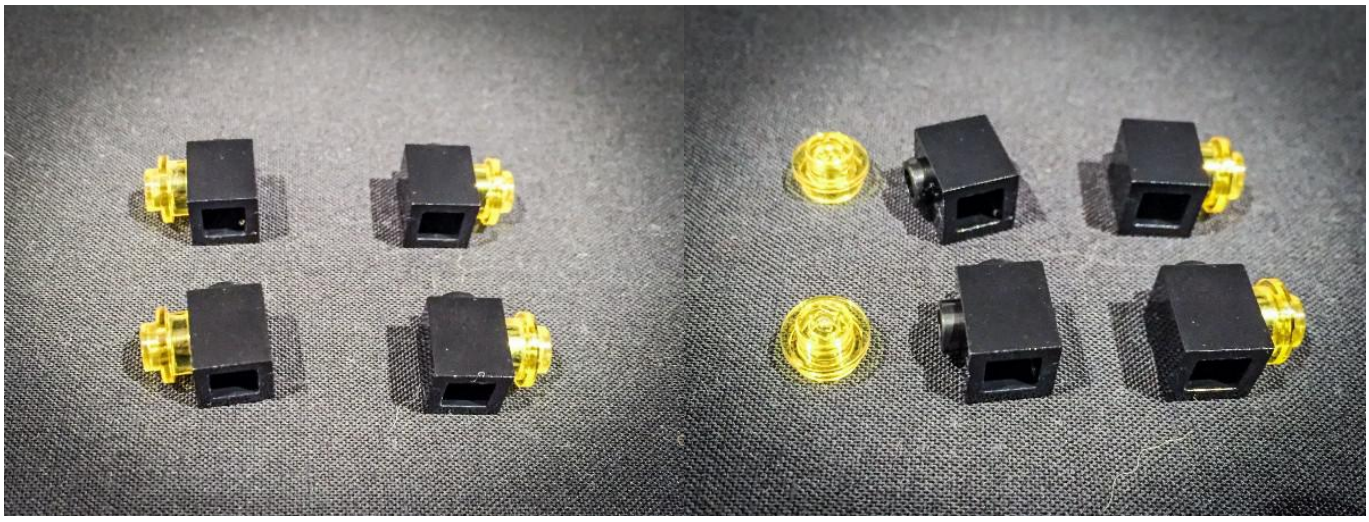
28.) We will now move on to lighting up the Palace Cinema Marquee starting from the base. Take the Marquee, turn it to the back and then remove the main centre section from the base.

29.) Remove the following Lego pieces in the below order to allow us to get to the 4 lights in the

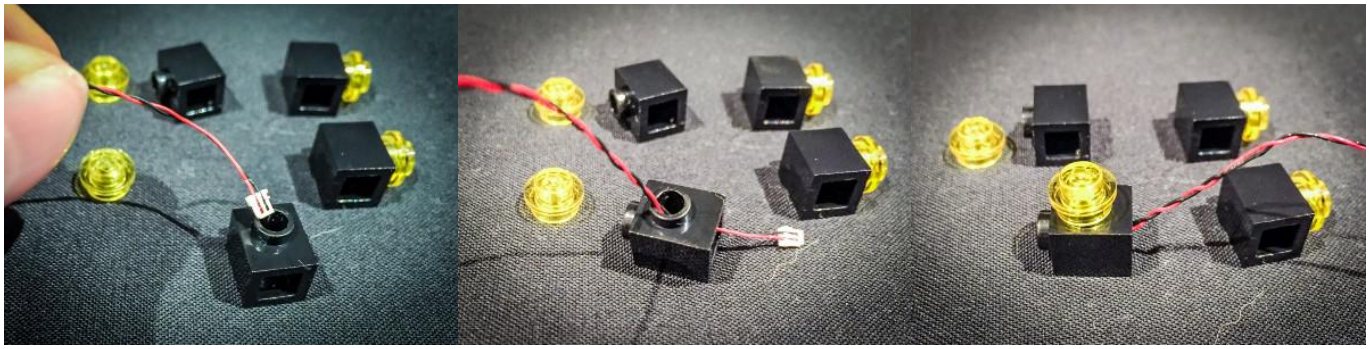
corners.



30.) Remove the 4 lights and then disassemble them.

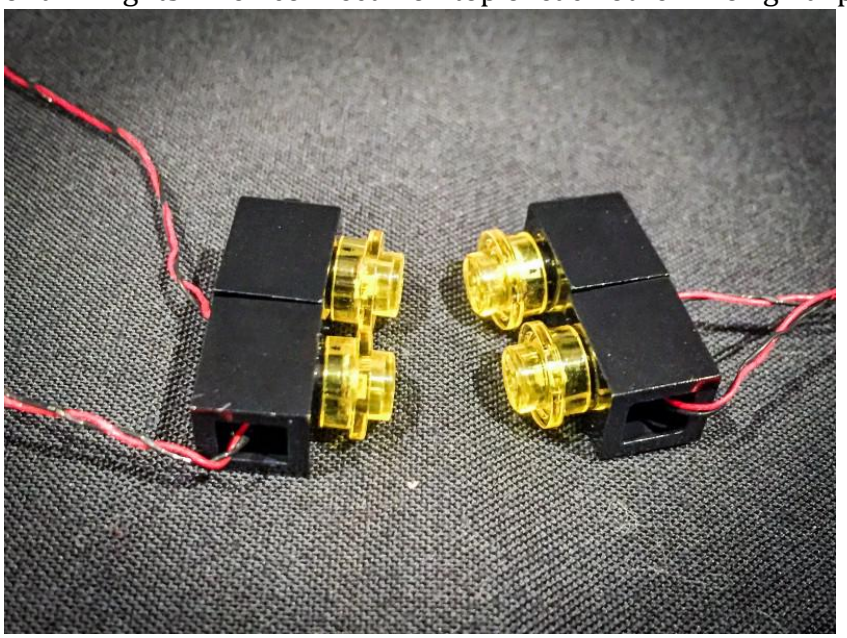


31.) Take 1 flashing Dot Light and then using the connector end of the cable, thread it through the small hole of the black Lego piece. Thread through and then pull it all the way down from underneath the Lego piece so that the LED is sitting flat against black hole. Ensure that the LED component part is facing the correct way up, then secure it down by connecting the clear yellow piece over the top.

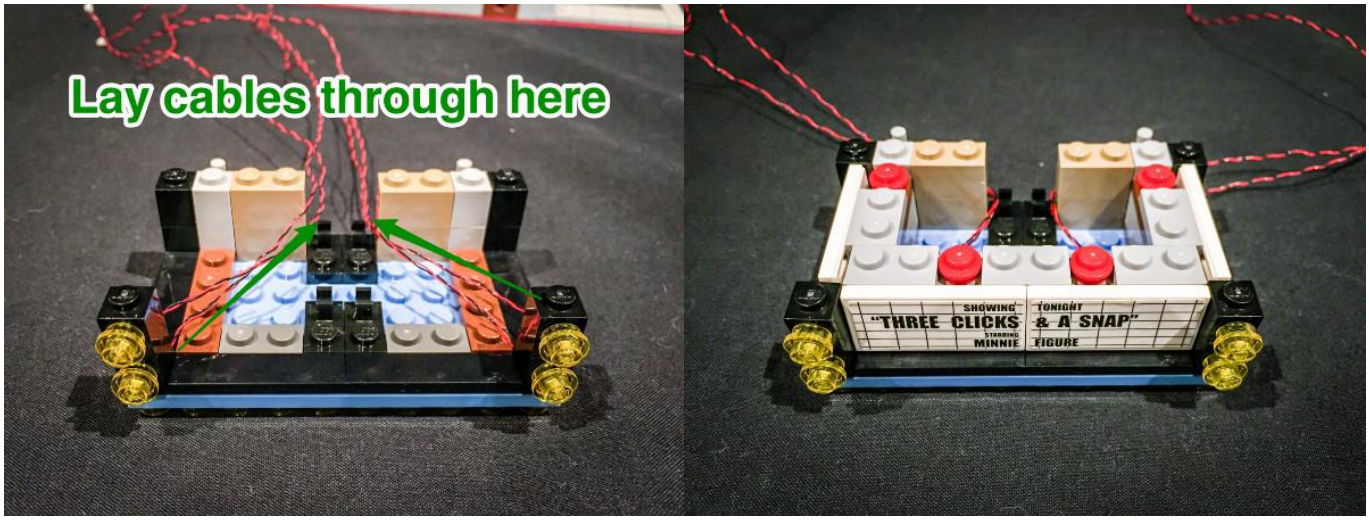


Thread flashing Dot Lights through Lego piece.

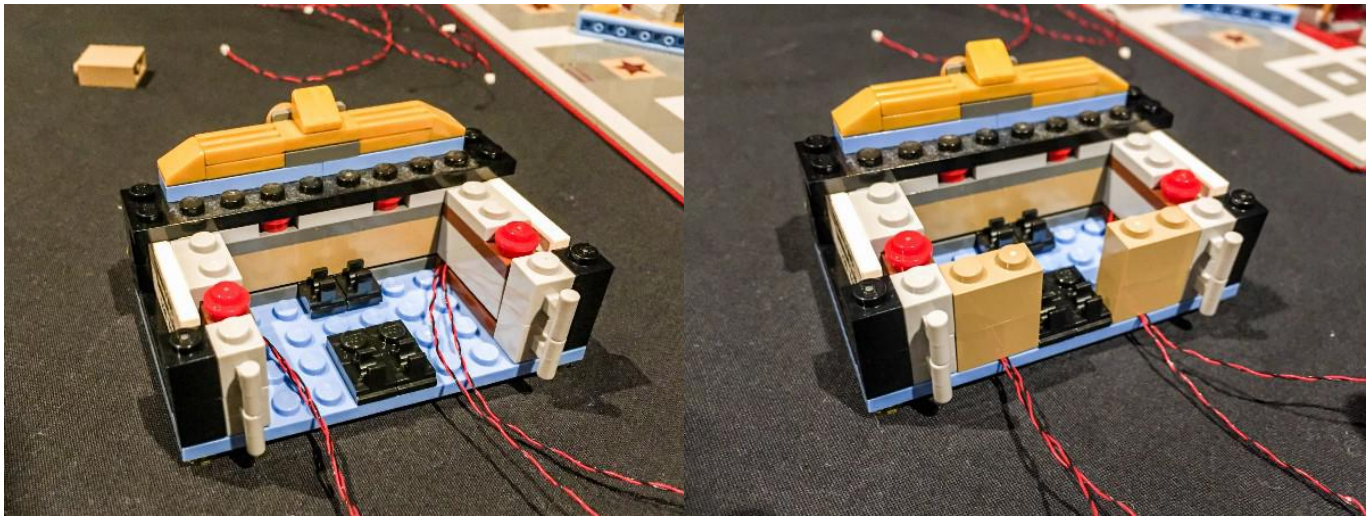
Repeat this process for all 4 lights. Then connect 2 on top of each other in original positions.



32.) Reconnect the 2 sections back to the Marquee base ensuring that the cables are threaded through the back space, then reconnect the Lego pieces that make up the base.



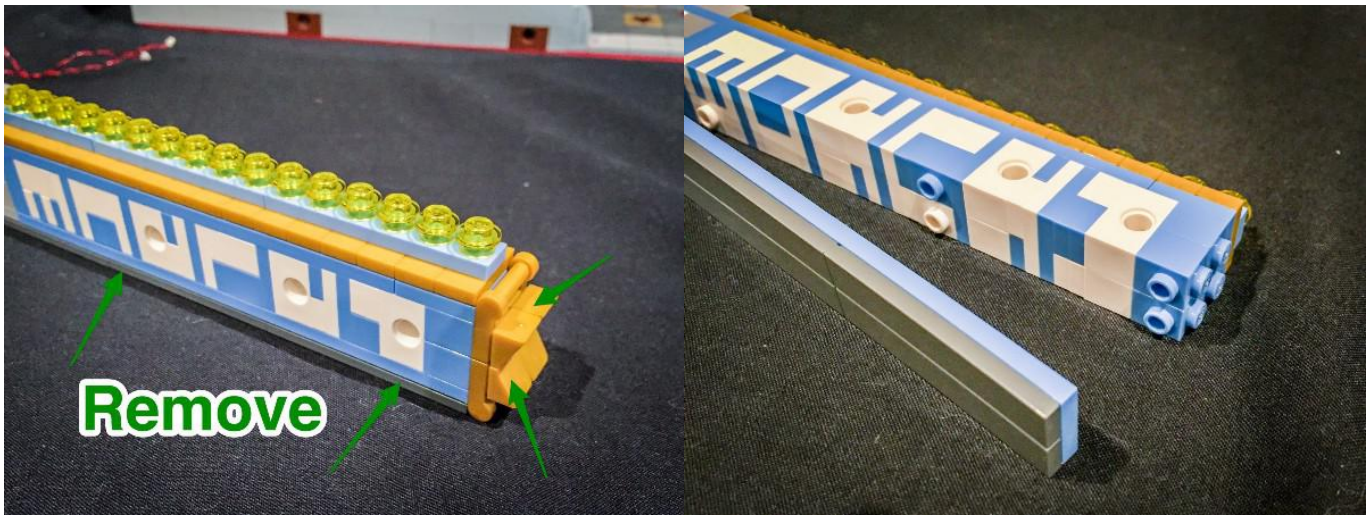
Turn the base over and lay the cables underneath the brown 2:1 pieces as per below.



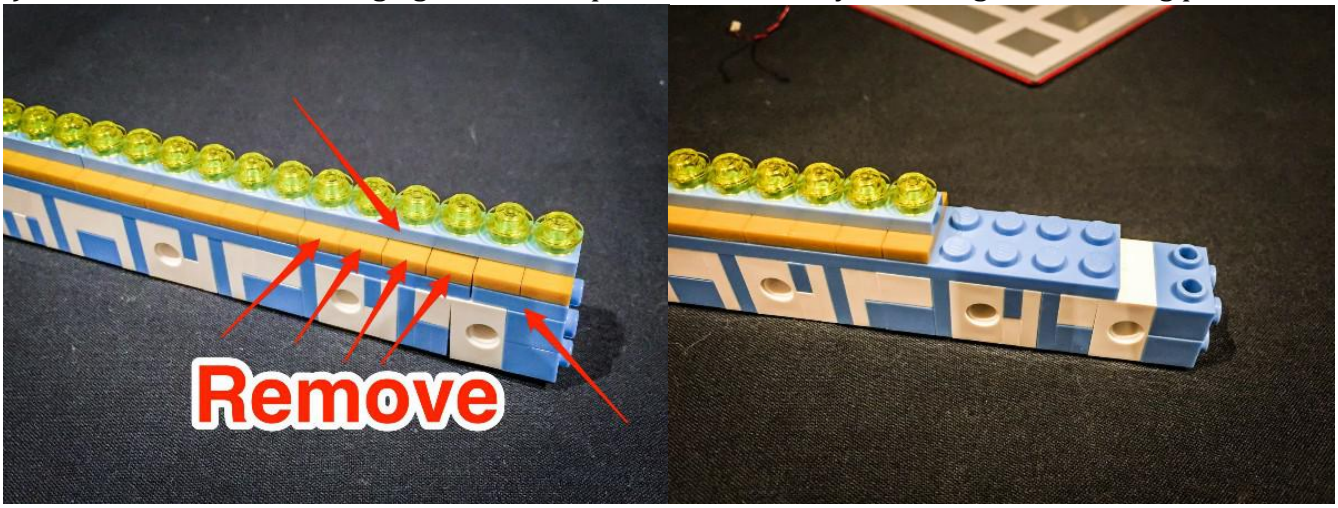
Ensure cables are laying in between studs.

33.) We will now begin installing lights to the main section of the marquee. There are 16 lights in total in the main section however, we will only be installing lights to every second light starting from the top down.

With the lights facing up, remove the bottom section from underneath as well as the 2 gold pieces on top.

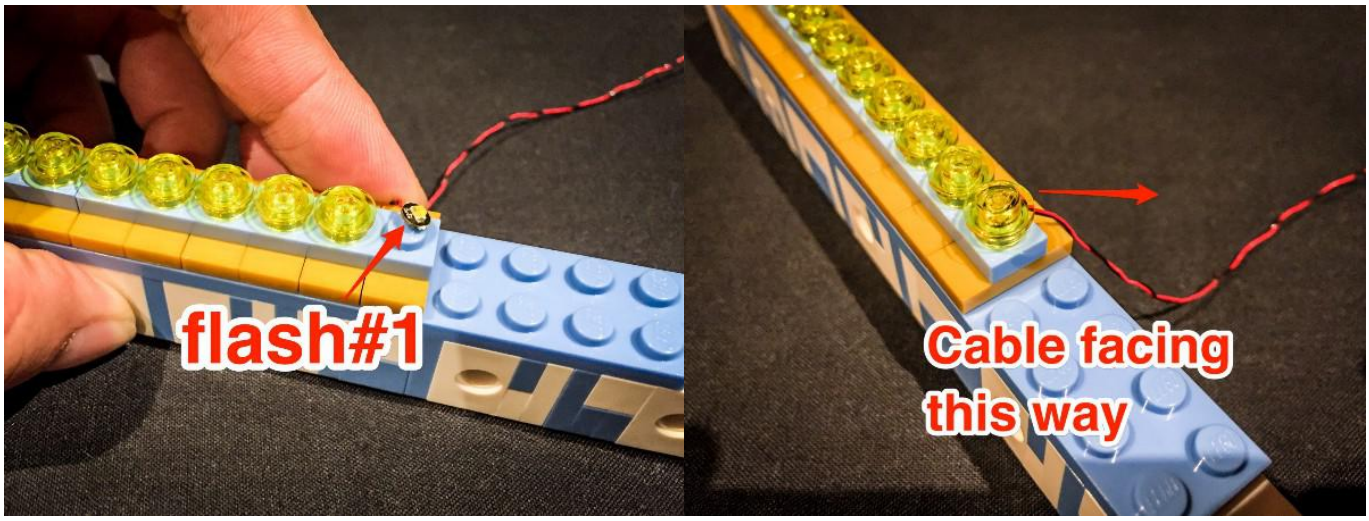


34.) We will connect 4 flashing lights to the top half first. Start by removing the following pieces.

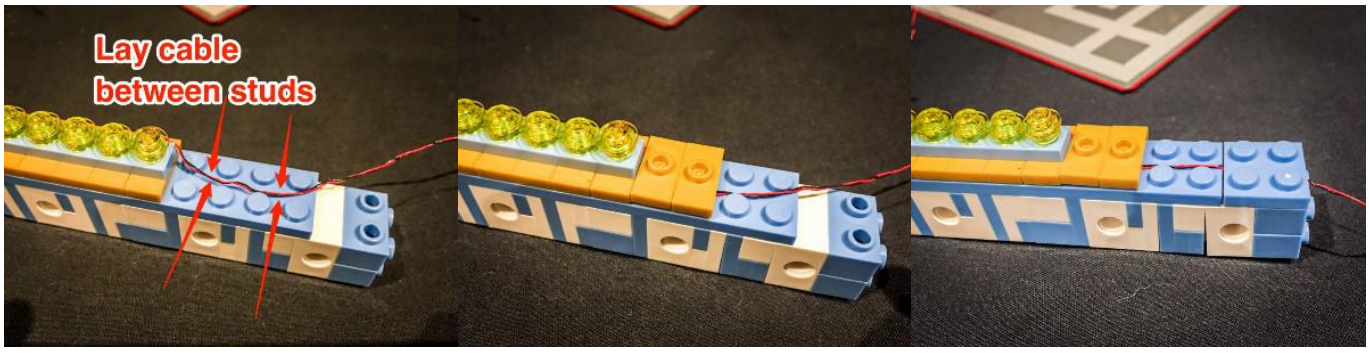


35.) Remove the first clear yellow Lego light piece from the right. Take 1 flashing Dot Light (**Flash#1**)

and place it over the Lego stud ensuring that the LED component is facing the correct way up. Secure it down with the light piece we removed earlier. Ensure the cable for the flashing LED is facing the same way as pictured below.



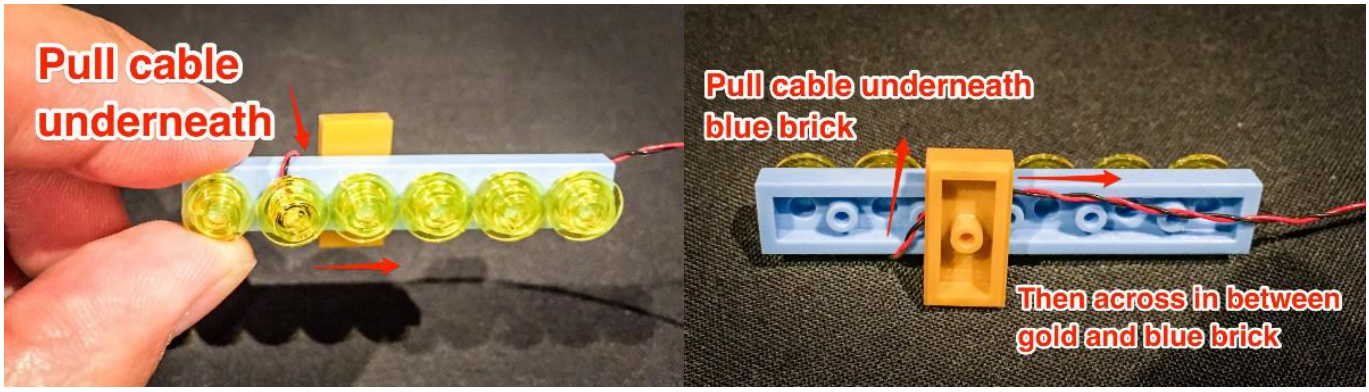
Loop the cable around then lay it in between the blue Lego studs then secure the cable down using 2 gold Lego pieces and the 2:2 Lego plate.



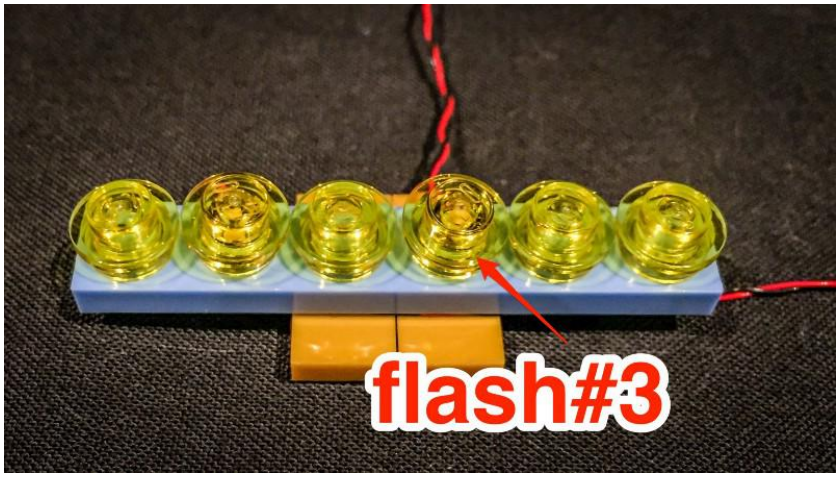
36.) Take the 6:1 blue Lego piece with light pieces we removed earlier. Remove the 2nd light piece from the left and install another flashing Dot Light (**Flash#2**). Secure it by connecting back the Lego light piece. Then connect a gold Lego piece underneath it.

Ensure the cable for the flashing LED is facing up

Pull the cable from flash#2 underneath the blue Lego piece and then across to the right ensuring that it is sitting between the gold piece below and blue piece above. You can then reconnect another gold piece to help secure the cable.

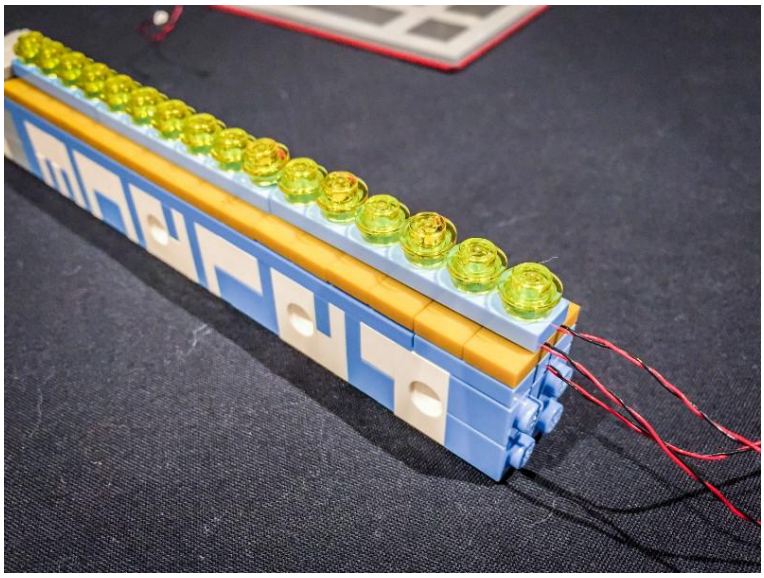


37.) Connect another flashing Dot Light (**Flash#3**) as per below, this time ensuring that the cable just sits underneath the blue Lego piece.

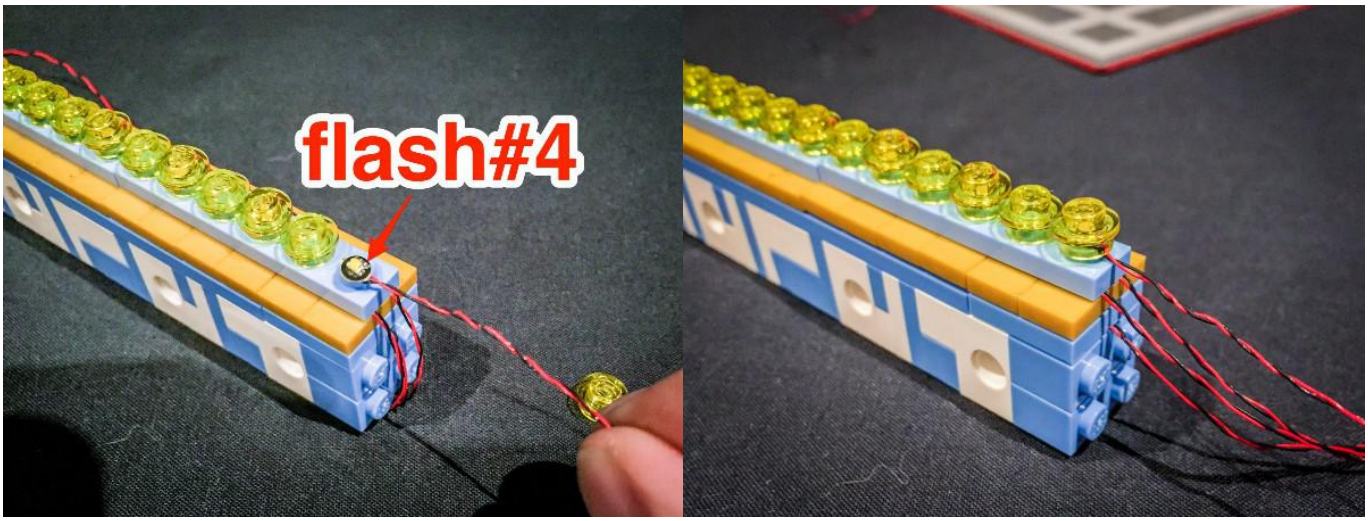


Reconnect another 3 gold Lego pieces underneath to secure cabling as it runs up in between this and the blue piece above.

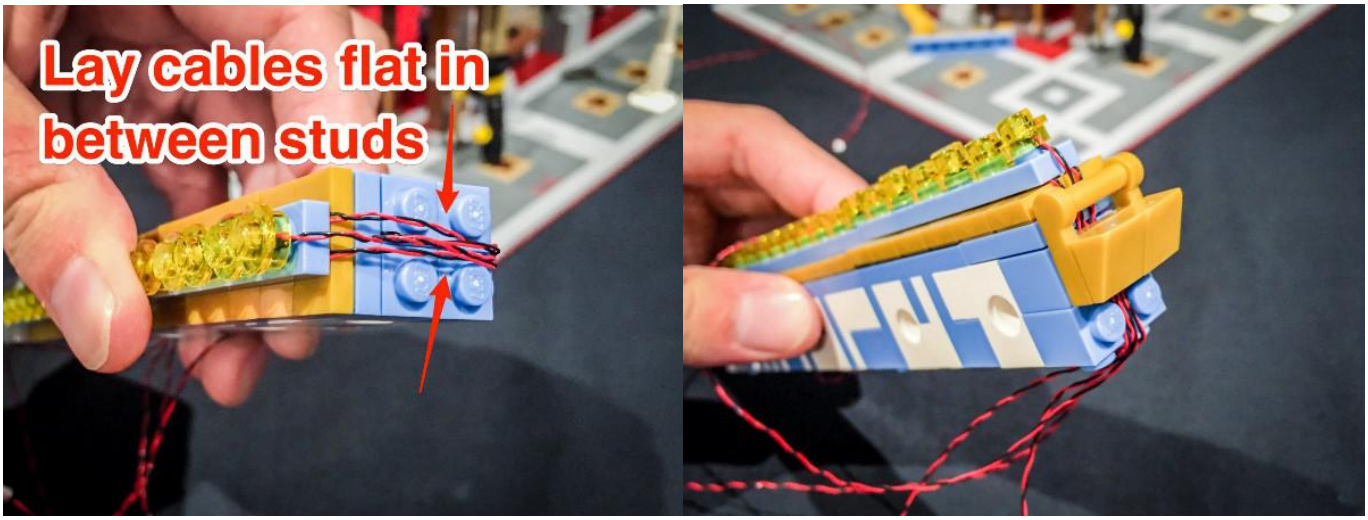
Reconnect this section (1:6 Lego brick) back to the Marquee.



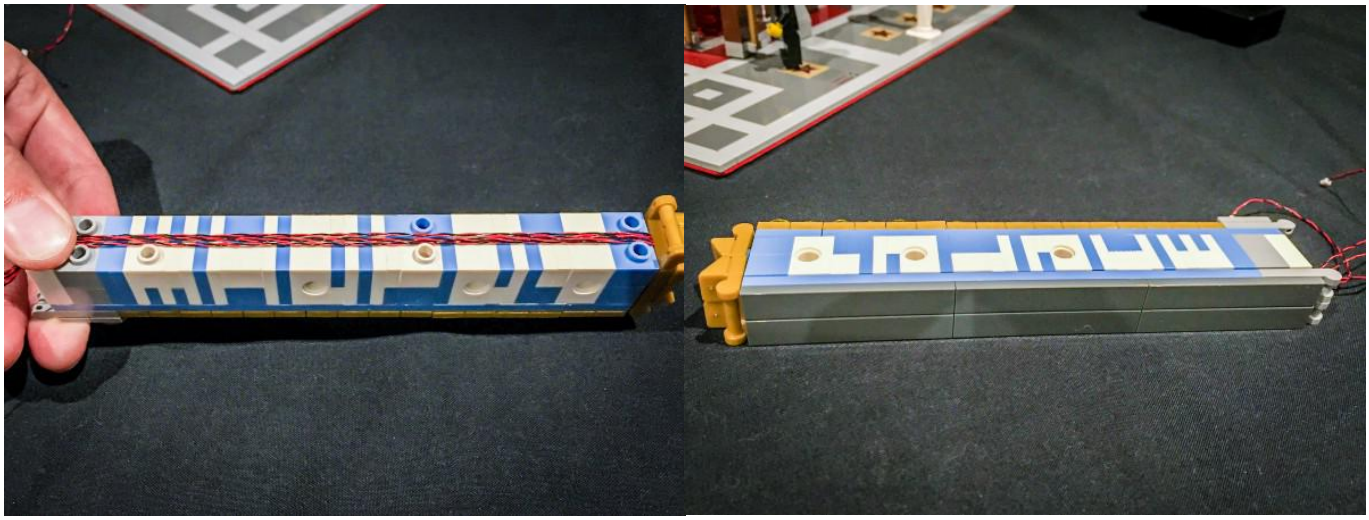
38.) Install the top light using another flashing Dot Light (**Flash#4**). This time rather than the cable facing up, it will face directly toward the middle of the 2:2 studs below.



39.) Group all 4 cables and lay them flat in between the blue 2:2 Lego studs below. Secure them down by reconnecting the 2 gold pieces on top which we removed earlier.

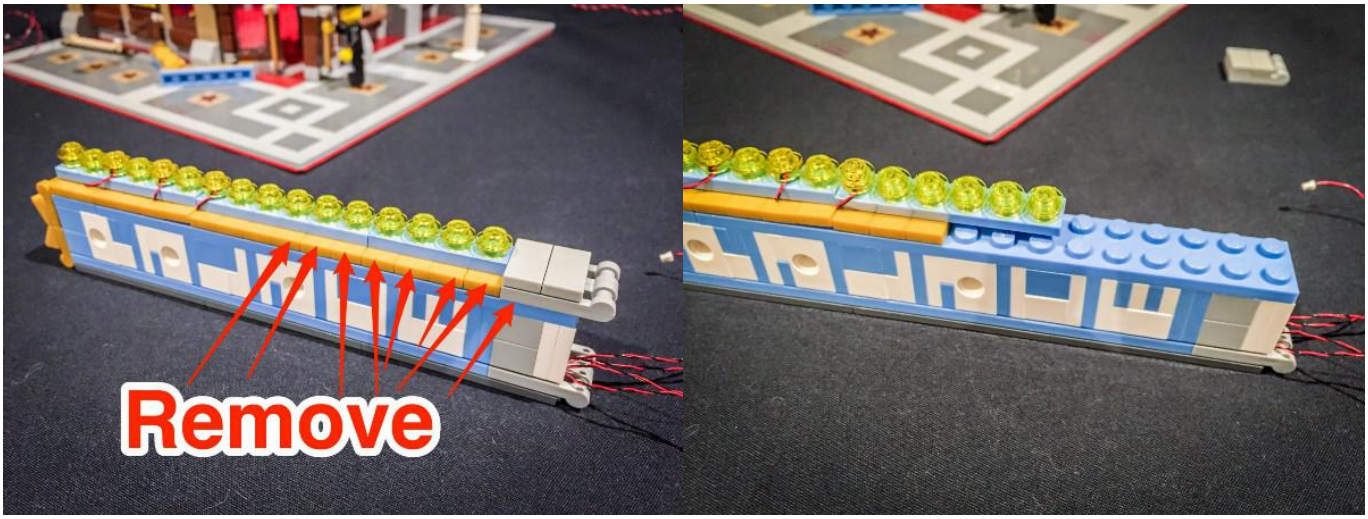


40.) Pull all 4 cables straight down the back side of the Marquee and then reconnect the long grey section we removed previously over the top securing the cables down.

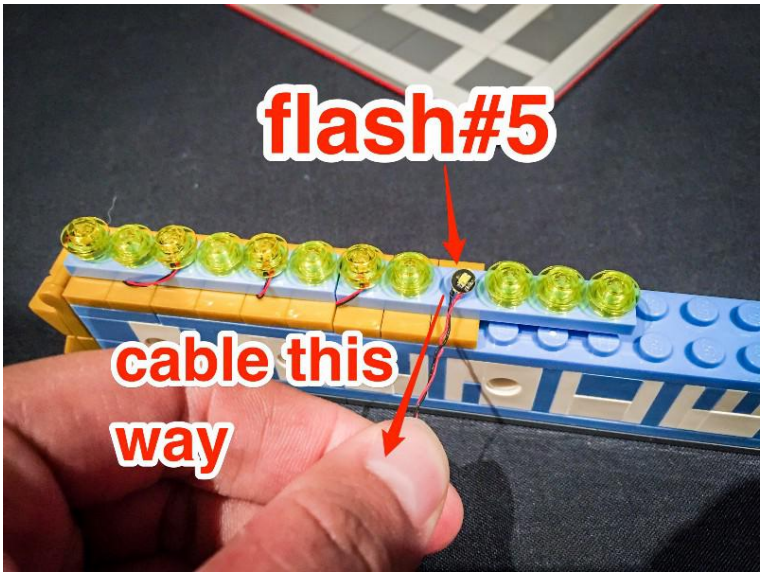


The long grey section may not connect tightly back in place, note that this is OK as all will be secured more tightly when we reconnect the main section of the marquee to the base.

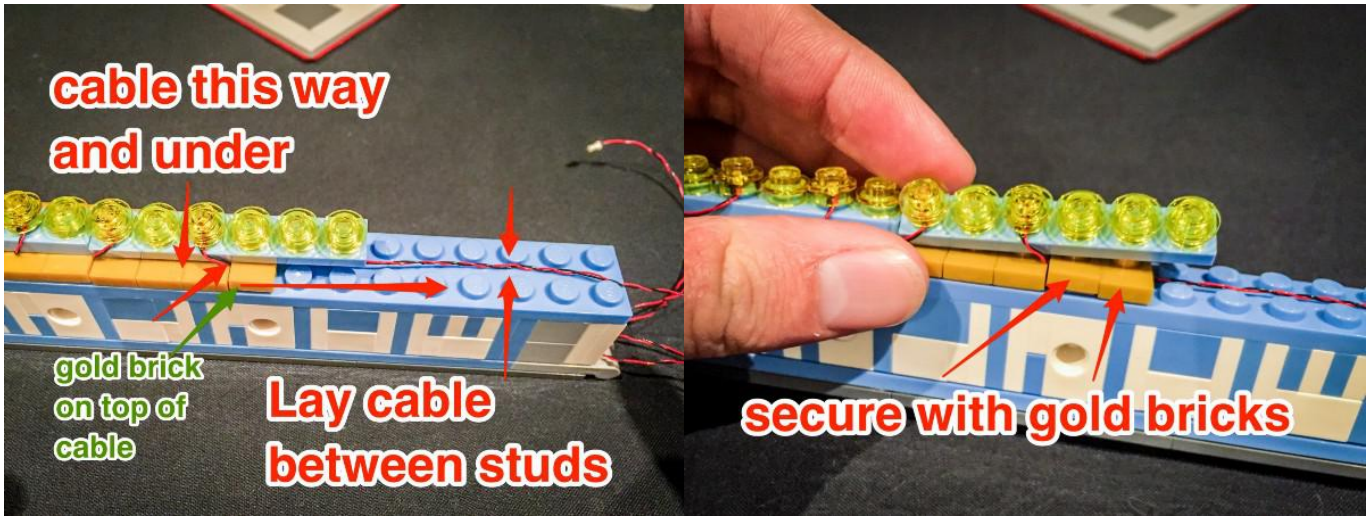
41.) We will now install lights to the lower half of the Marquee. Start by turning it over and removing the following pieces.



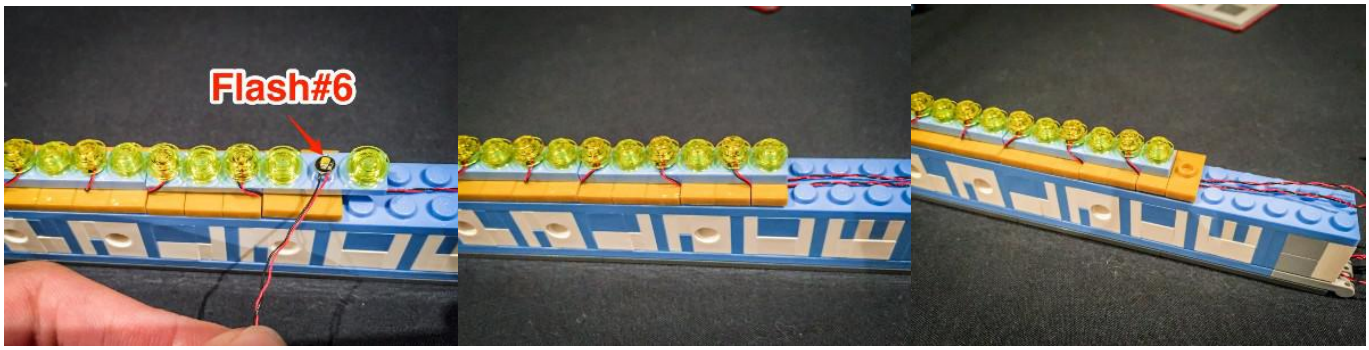
42.) Install a flashing Dot Light (Flash#5) to the light in the following position ensuring the cable is facing downward.



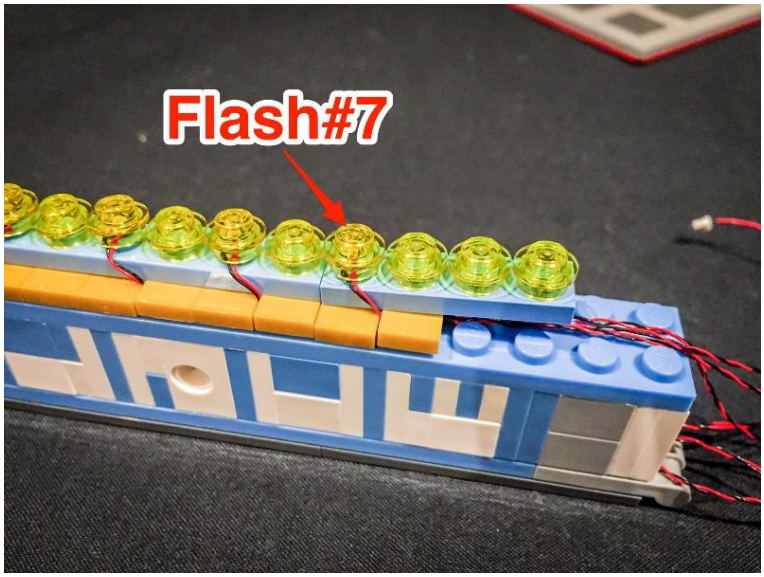
Thread the cable back up underneath the blue piece and then straight down the marquee in between the blue studs. Secure this down by reconnecting gold pieces over the top of the cable..



43.) Install another flashing Dot Light (**Flash#6**) and thread the cable underneath the blue piece the same way we did for previous flash#5. Keep securing using gold pieces to connect over the cables ensuring the cables are laying in between the blue studs

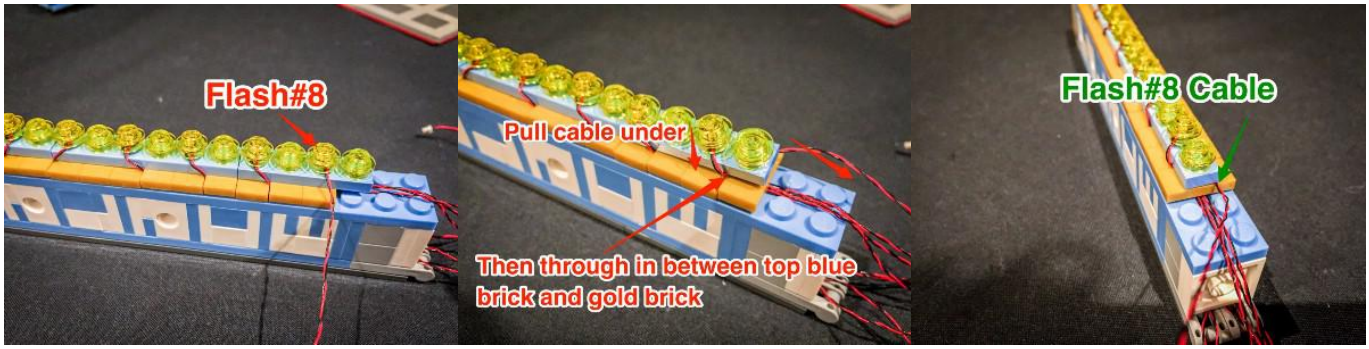


44.) Reconnect the Lego 1:4 blue piece with light pieces on top and then install another flashing Dot Light (Flash#7) using the same process as we did for flash#5 and #6.

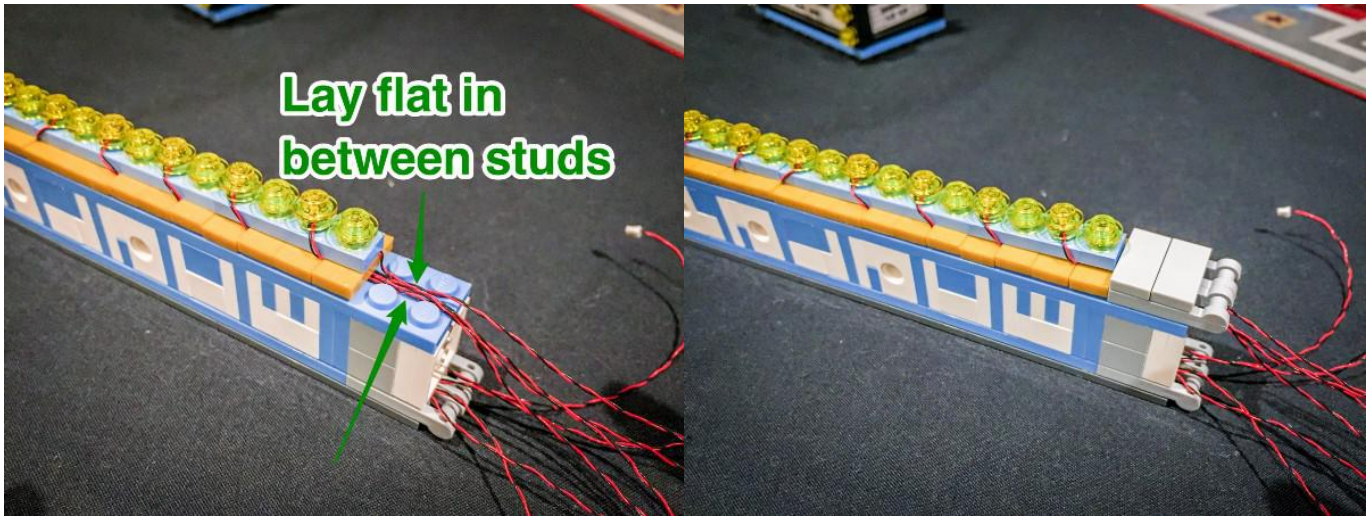


45.) Reconnect another gold piece underneath the blue piece and then install the final flashing Dot Light (Flash#8), this time rather than securing the cable underneath the gold piece, secure it on top of the gold piece (in between top blue piece and gold piece). Ensure the cable is facing the same way as

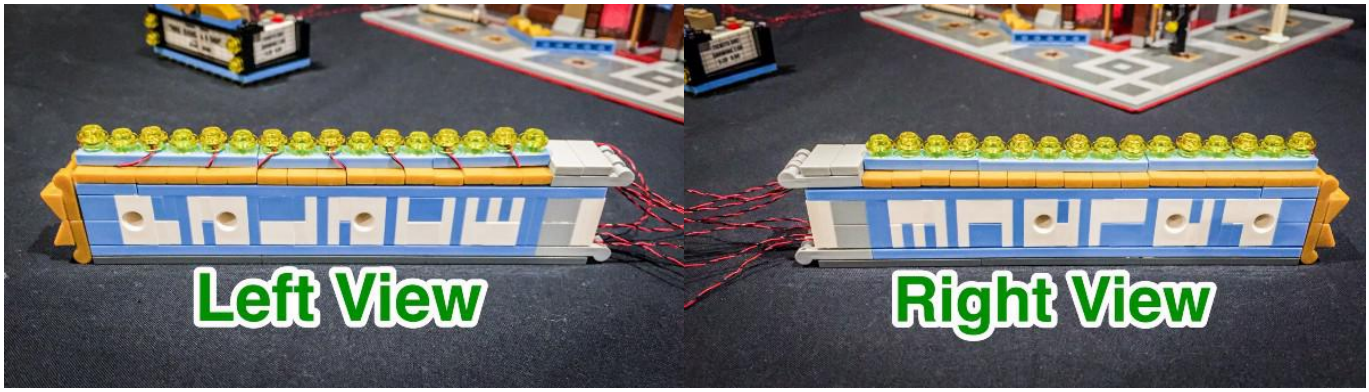
the others once secured down.



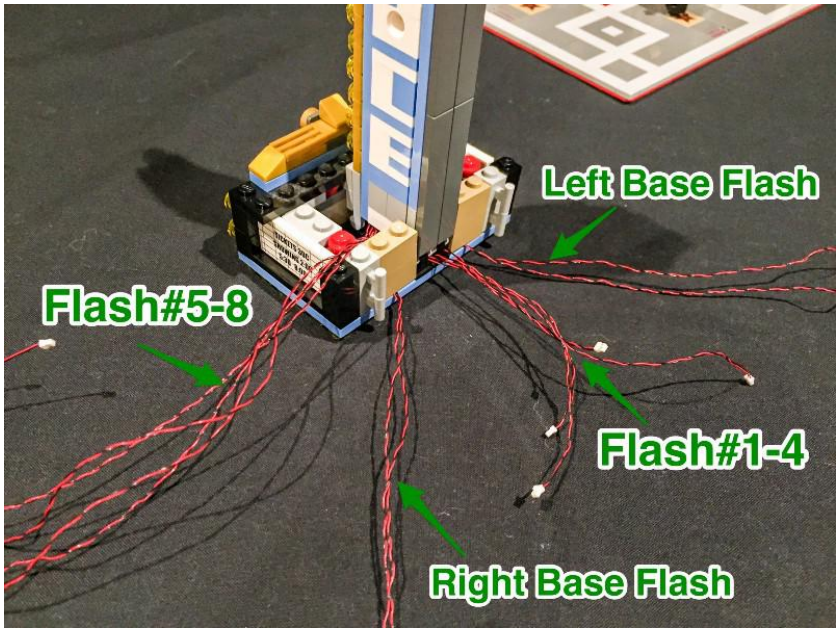
46.) Group all the cables together and lay them flat 1-by-1 next to each other in between the blue studs. Then reconnect the grey Lego 2:2 section directly on top.



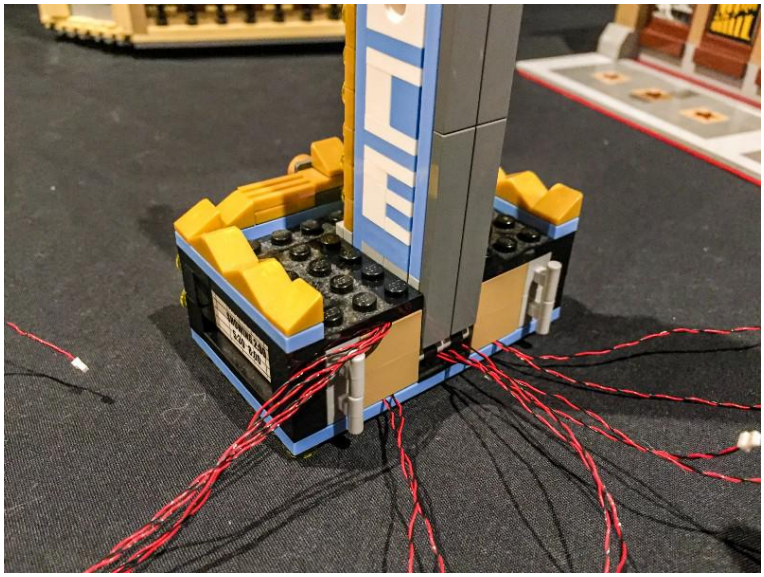
This completes the main section of the Marquee. Your Marquee should look exactly the same as the below examples.



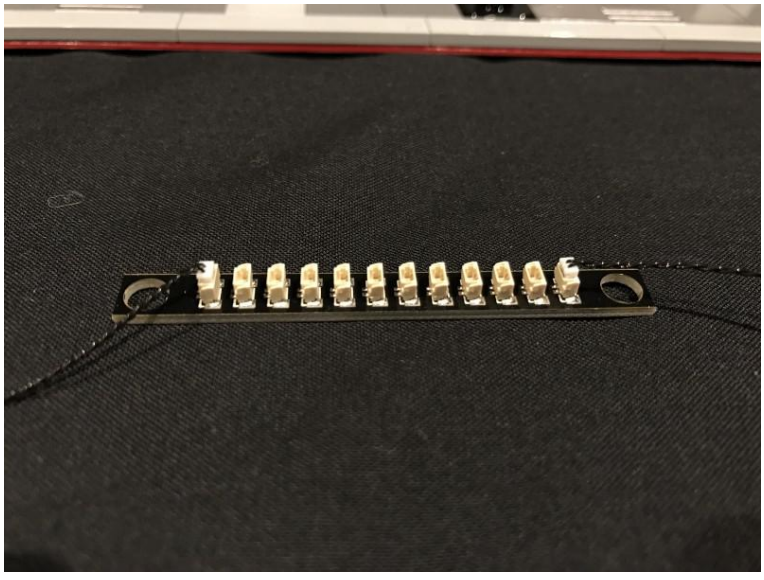
47.) Group the cables from all 12 flashing lights into 4 sections, Flash#1 – #4, Left base flash, Right base flash, and Flash#5-#8. Reconnect the entire main section of the Marquee to the base with Flash#1 – 4 cables in the middle directly underneath the Marquee connectors.



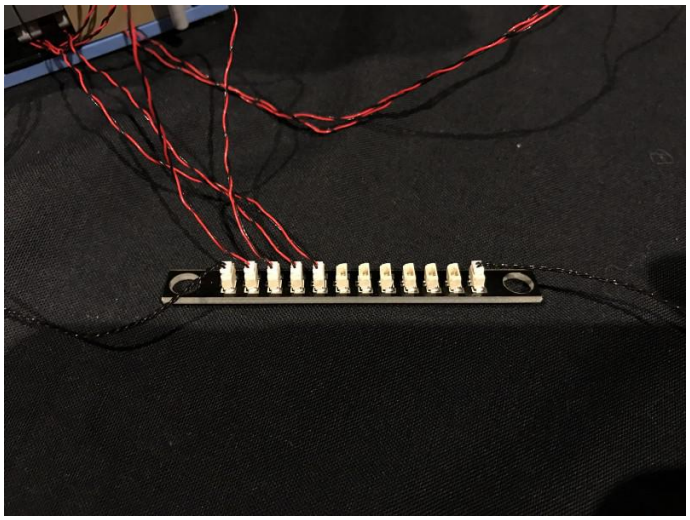
Lay the cables for Flash#5 – 8 over the left side of the base (from the back view) and then secure them down by reconnecting sections we removed earlier.



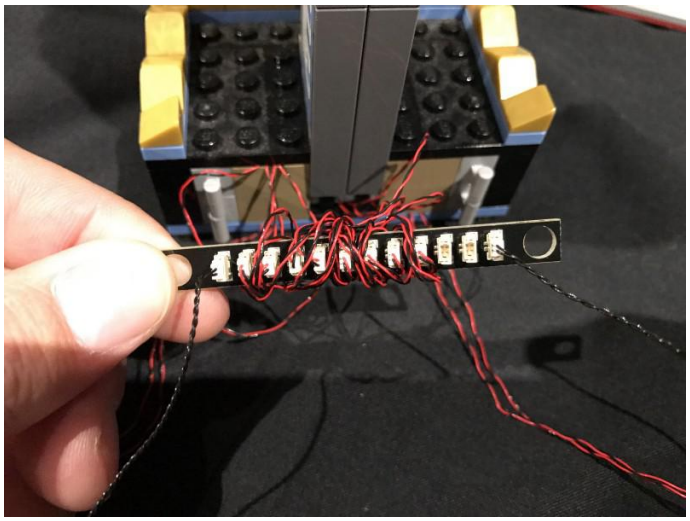
48.) Take another 12-port expansion board (**Expansion board#3**) and connect a 5cm cable to one side and a 15cm cable to the other side.



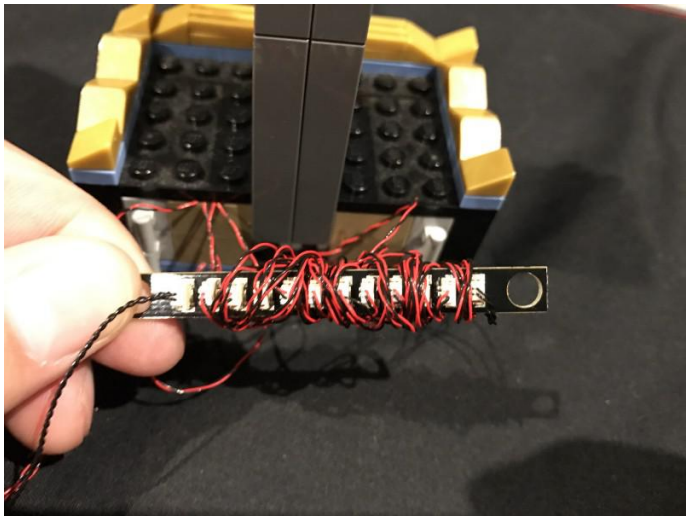
49.) Connect cables from Flash#1 – 4 to the mini ports of Expansion board#3 .



50.) Connect cables from Flash#5 – 8 to Expansion board#3 and then wind excess cabling for the 2 groups of cables around the expansion board. Ensure that you leave around 5 – 6 cm for slack.

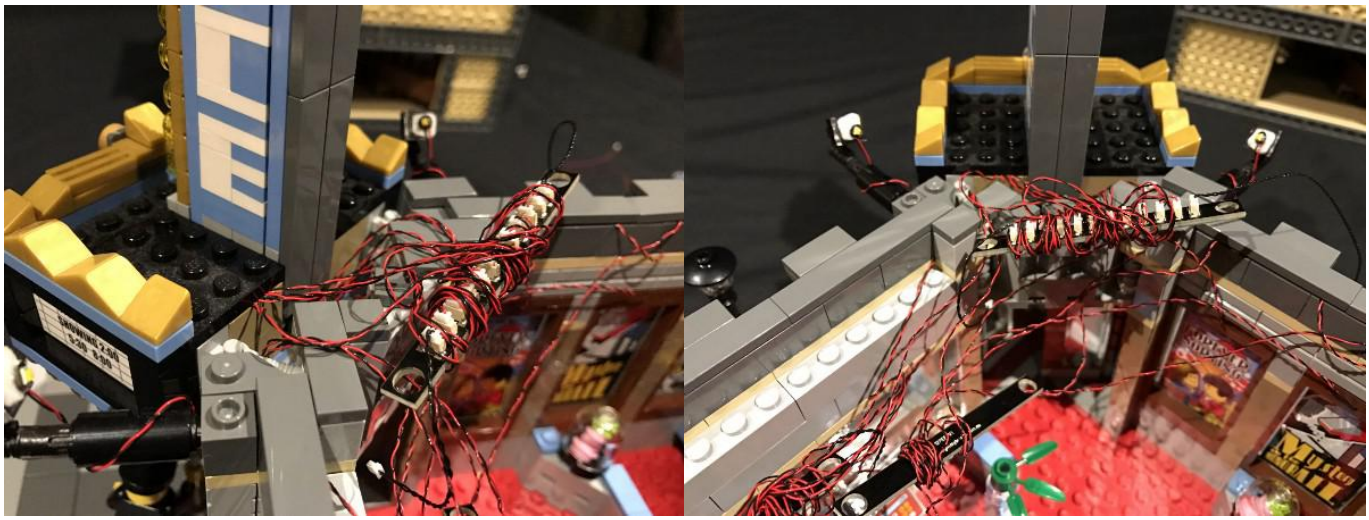


51.) Take the light cables from Left Base Flash and connect these 2 cables in the remaining ports on the expansion board. Again, wind them around the board until you have about 5cm of slack.

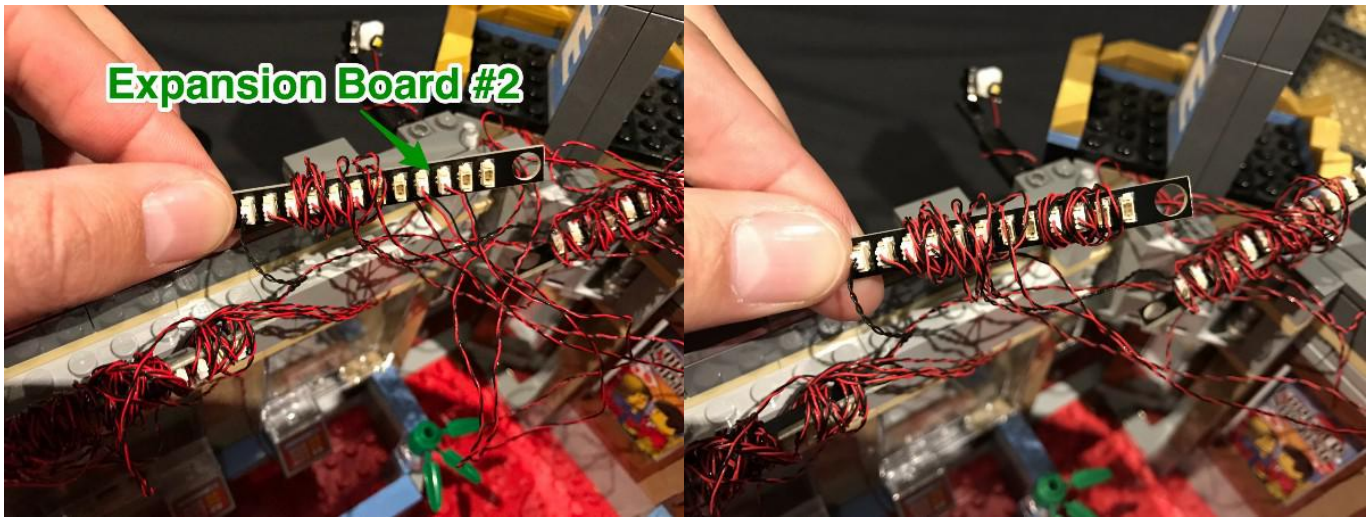


52.) Now reattach the entire Marquee back to the building ensuring the expansion board and cables are pulled over to the inside of the building. Group cables from Right flash and pull them to the side as

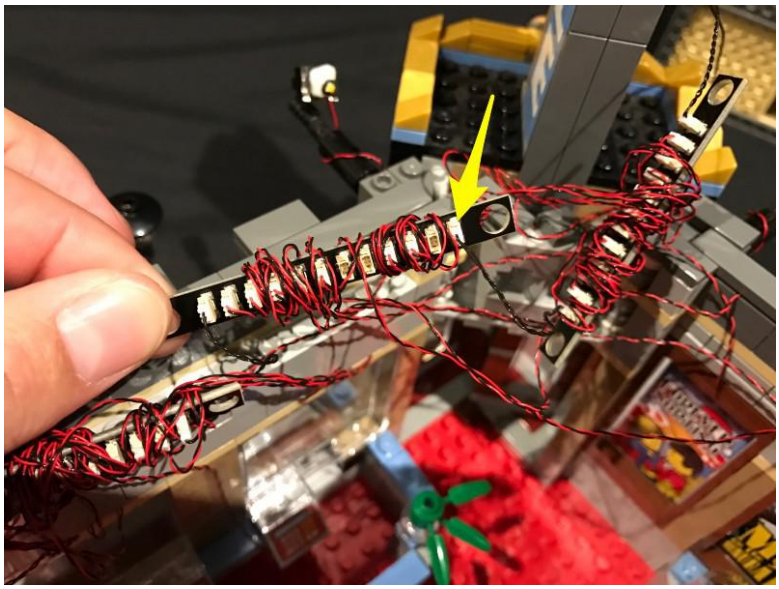
we will connect them to Expansion board#2.



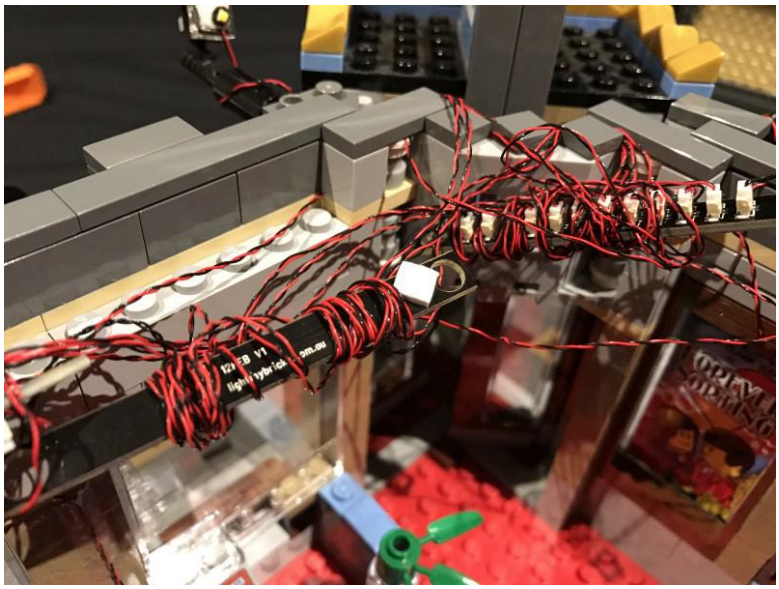
Group the 2wires from Right flash and then connect them into Expansion Board#2, then wind the cables around the board to eliminate excess cable.



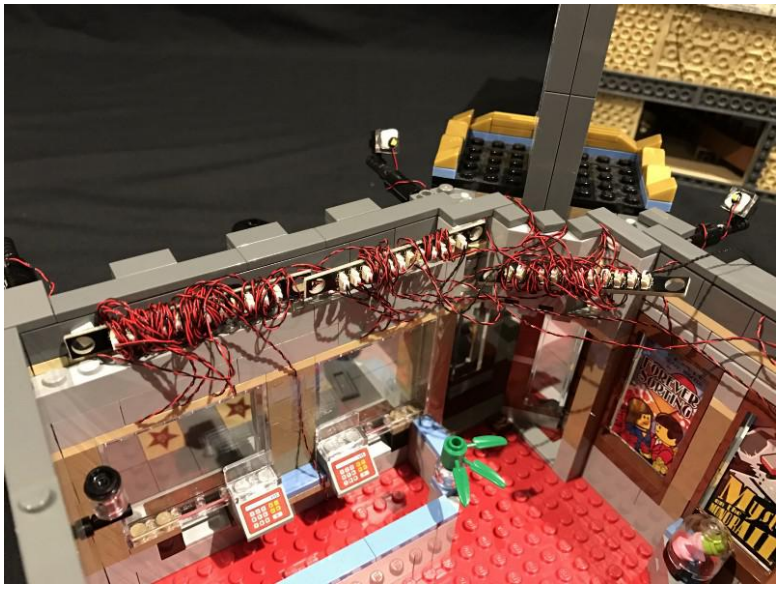
53.) Connect Expansion board#2 and Expansion board#3 to each other by using the 5cm connecting cable.



secure all expansion cables down using self adhesive squares.



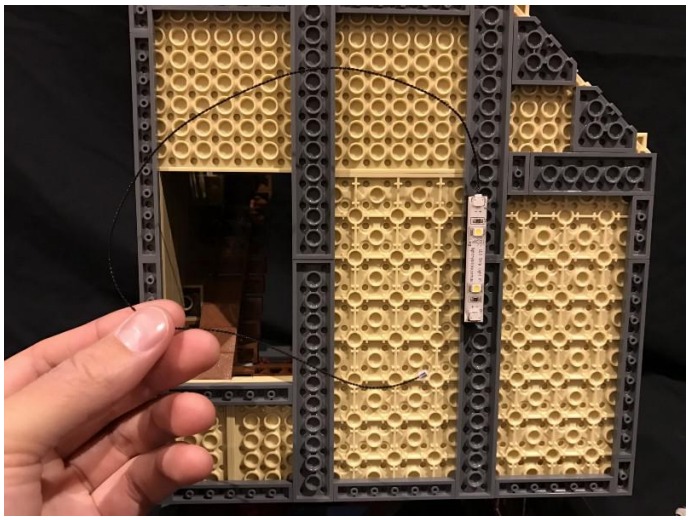
54.) You can secure all the cables down by laying them down in between and underneath the grey Lego tiles on the top of this level.



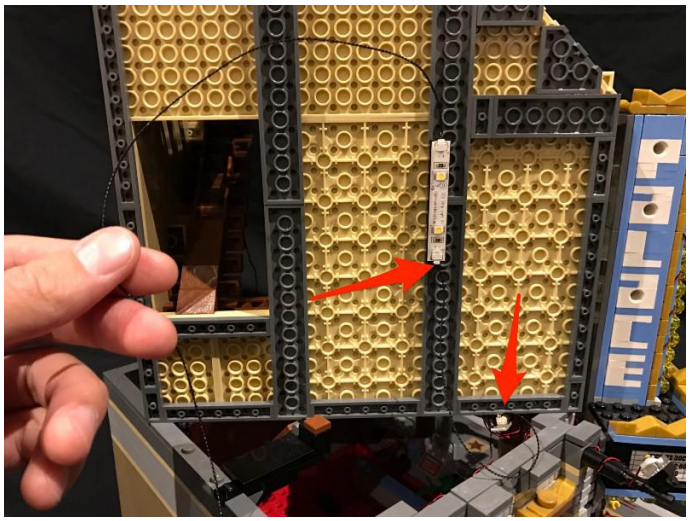
Now turn on the battery pack to test the lighting for the Marquee we just installed.

55.) Take the entire second floor and turn it on its side, then connect/stick a strip light (striplight#1)

to the following position. Then attach a 30cm cable to the top port of striplight#1.

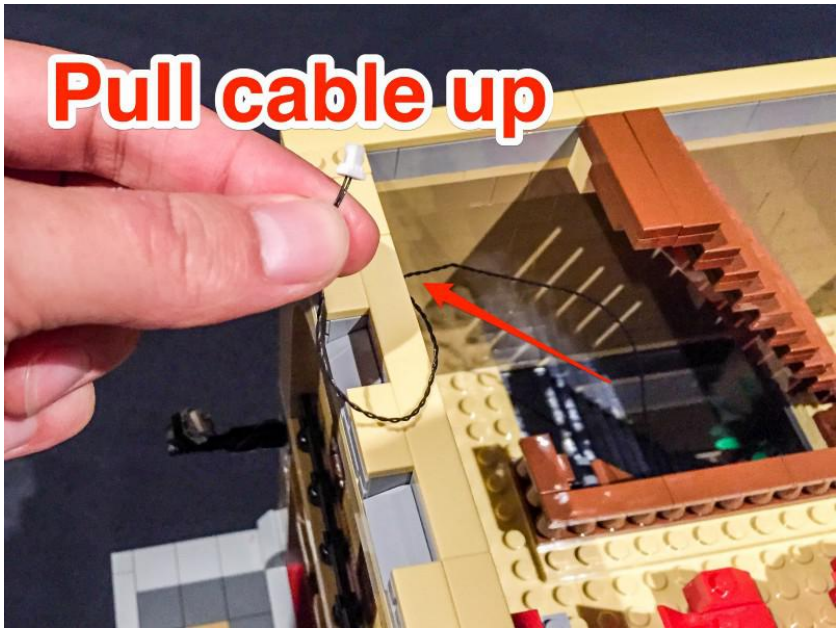


Connect this to the rest of the circuit by connecting the 15cm cable from Expansion board#3 to the bottom port of striplight#1.

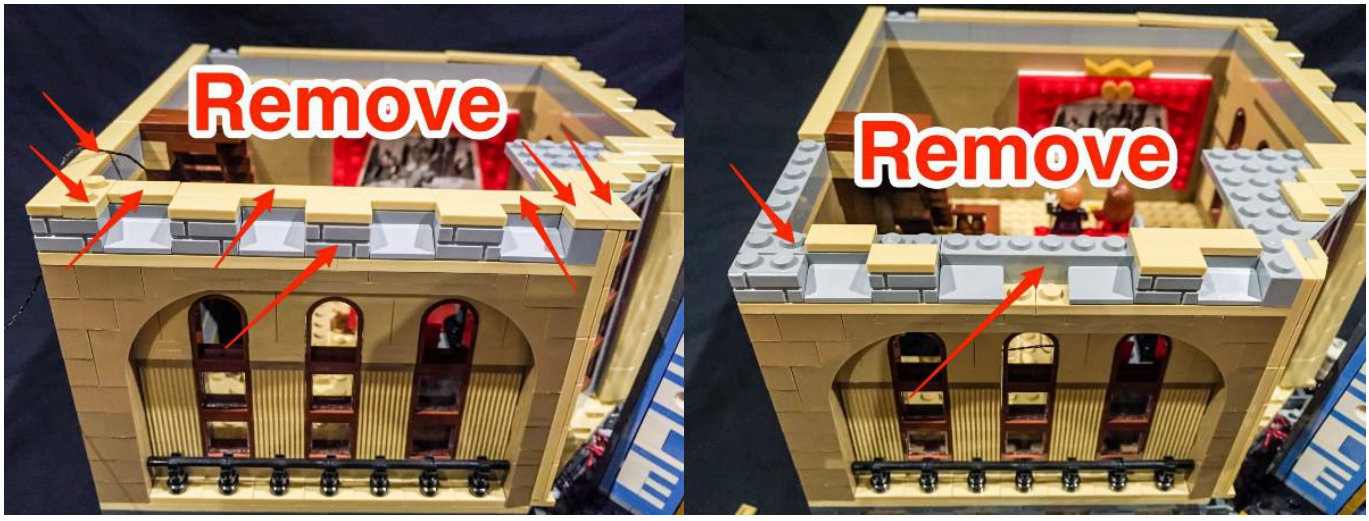


56.) Thread the 30cm cable up through the stair case and then secure it down with the grey Lego plate

Reconnect the 2nd floor on top of the 1st floor in the original position and then pull up the 30cm cable from underneath.

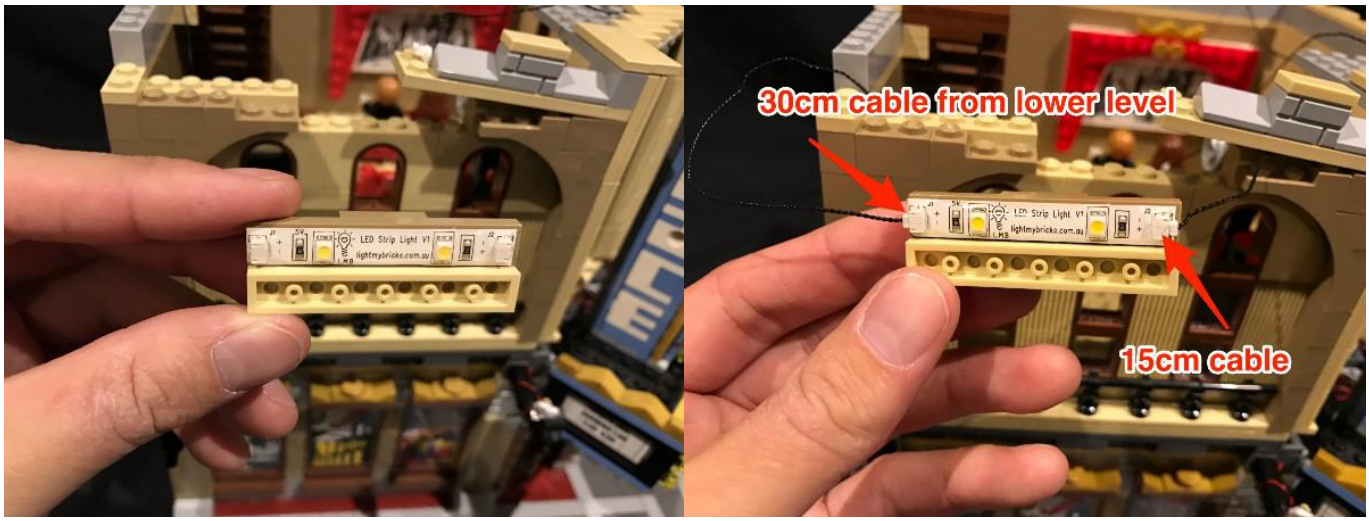


57.) We will now install the arch window lights at the top front of the 2nd floor . We will start with the left side of the building. Remove the fellowing parts for us to get to the top of the arch windows. Disconnect pieces as per below images starting from left to right.



Remove the brown Lego 2:6 plate. We will install a light underneath.

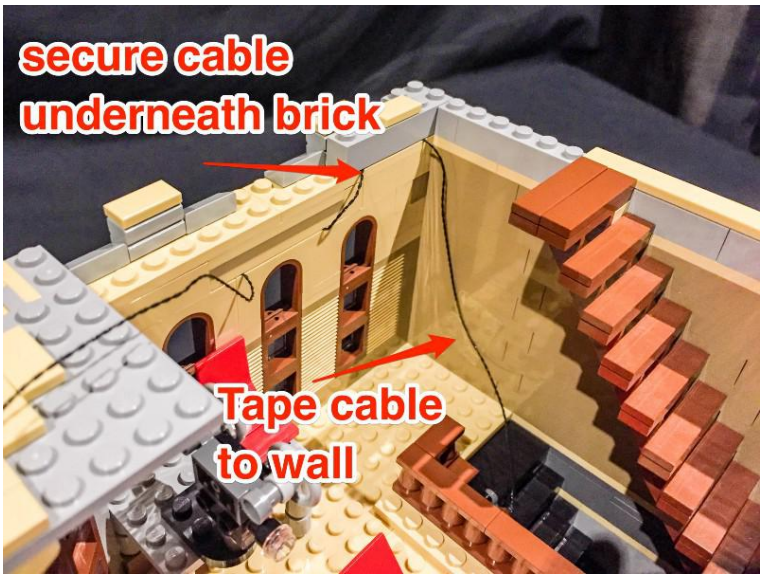
58.) Flip the brown Lego plate over and then take a LED strip light (striplight**#2**) and connect/stick it in the following position underneath the Lego plate. Then connect the 30cm cable from the lower level to the left port and attach a 15cm cable to the right port.



59.) Reconnect the Lego plate to the building ensuring that the 2 attached cables are threaded through and secured underneath this Lego plate.

60.) Secure the 30cm cable underneath grey bricks as shown below and then use tape to stick the

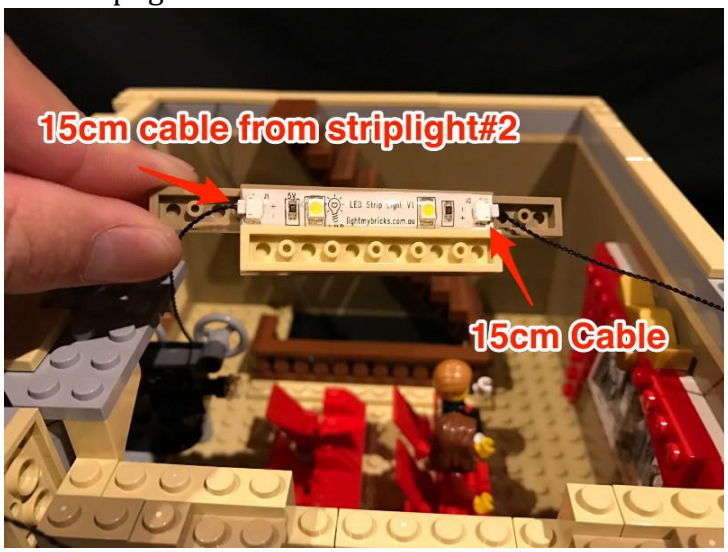
cable to the wall. This is to also prevent it from being obvious from the outside looking in through the windows.



Now reconnect all the Lego pieces we removed earlier which surround the top of the arch windows.

61.) We will now move on to installing another strip light to the arch windows on the other side of the building. Start by turning the building over and removing the following pieces, the same way as we did for the other side.

62.) Take another strip light (striplight**#3**) and connect/stick this to the bottom of the brown Lego plate. Connect the 15cm cable from striplight#2 to the left port and then take another 15cm cable and connect it to the right port of striplight#3.

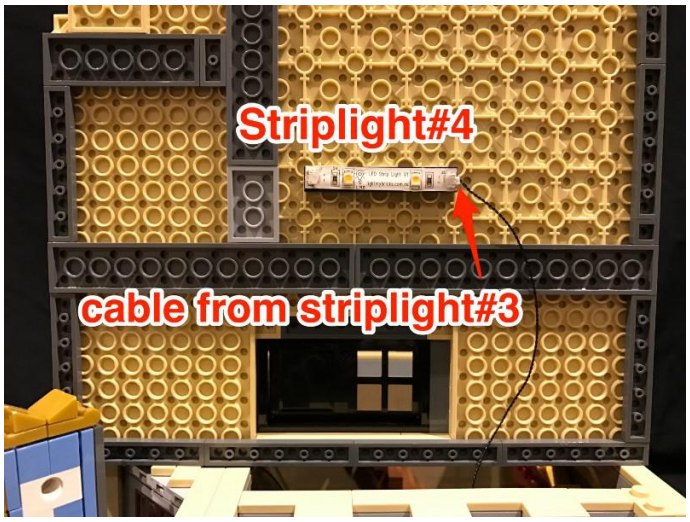


63.) Reconnect the Lego plate with strip light installed back to the building ensuring that the cables

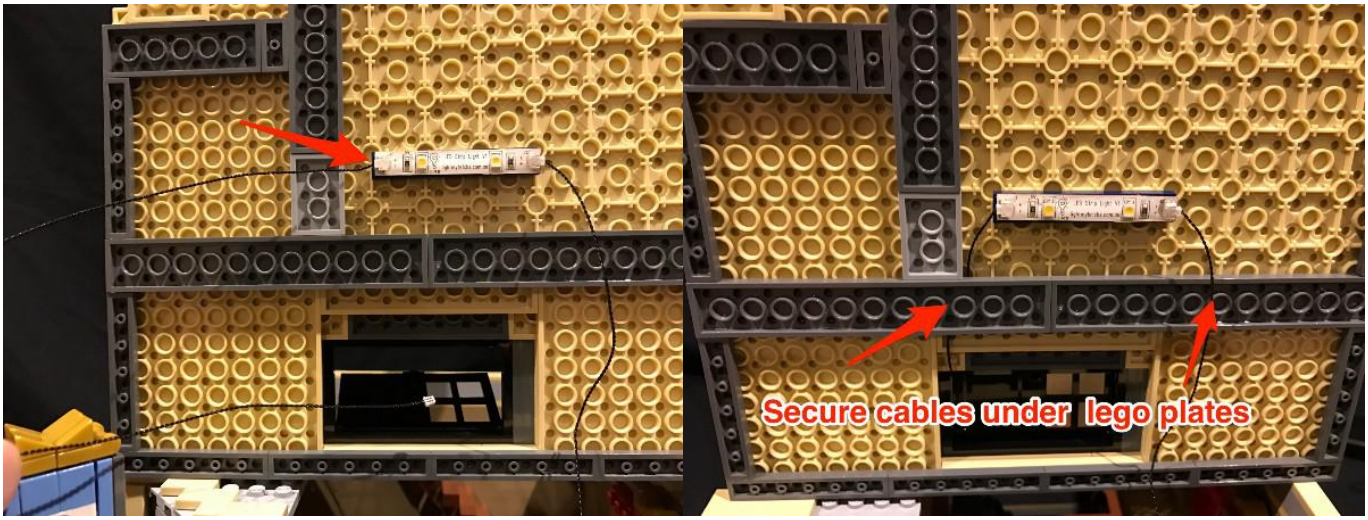
are laid underneath and in between studs.

Now reconnect all the Lego pieces we removed earlier which surround the top of the arch windows.

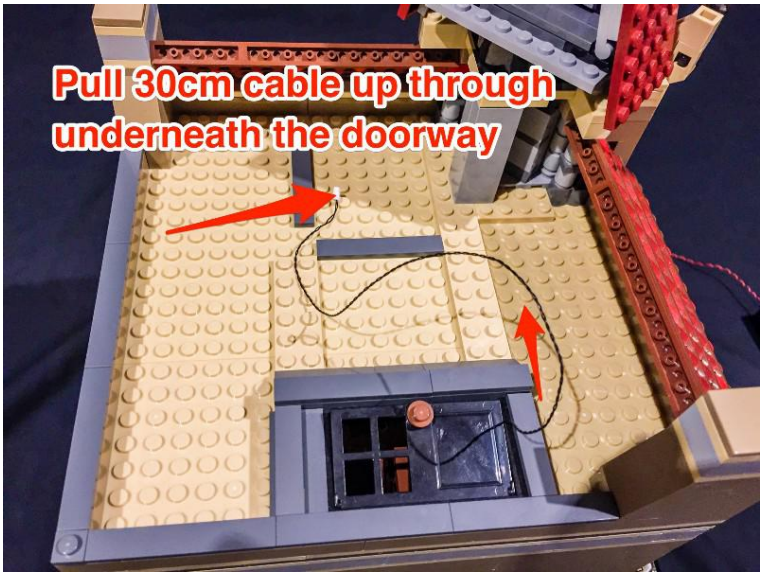
64.) Take the entire top section and turn it on its side. Take another strip light (**striplight#4**) and connect/stick it in the following position. Then connect the 15cm cable from striplight#3 to the right port.



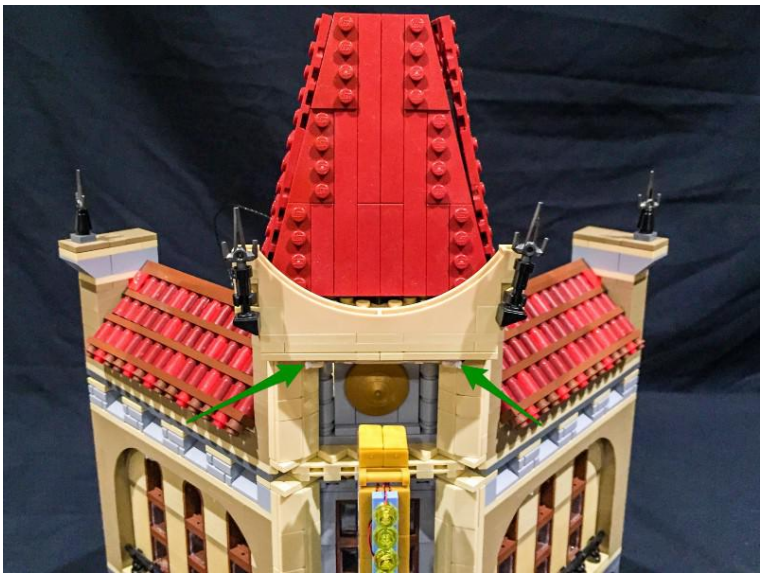
65.) Connect another 30cm cable to the left port of striplight#4. Thread this cable up the doorway space and then secure the cable down underneath the grey Lego plate.



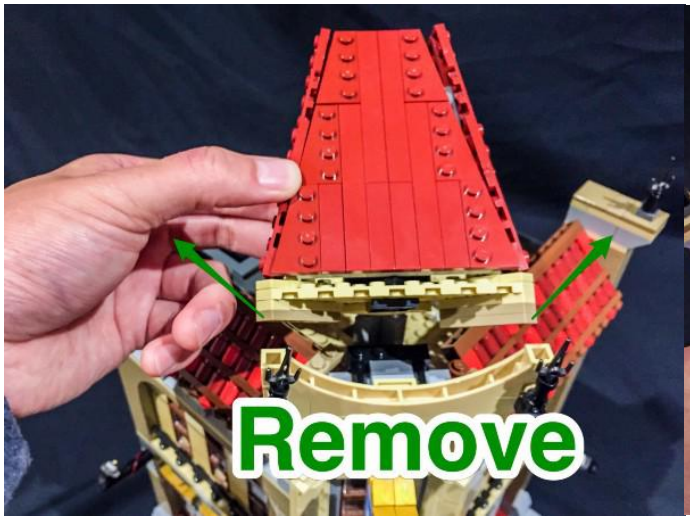
66.) Connect the entire upper level back on top of the 2nd level and then pull the 30cm cable up from the door way on the roof.

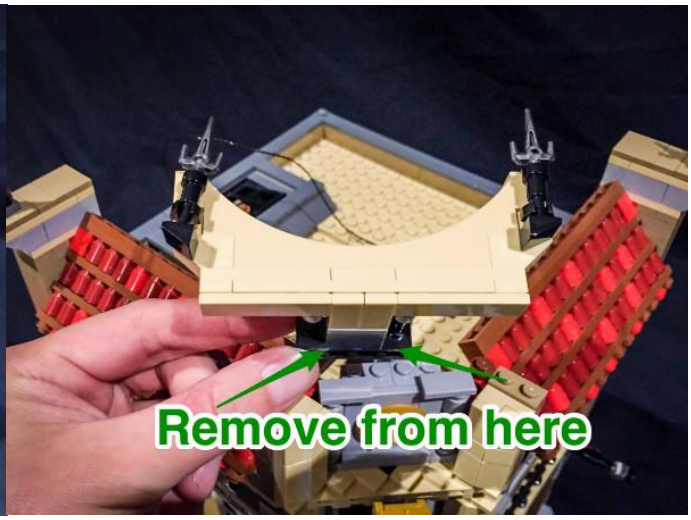


67.) We are now going to install a strip light at the very top of the middle section.

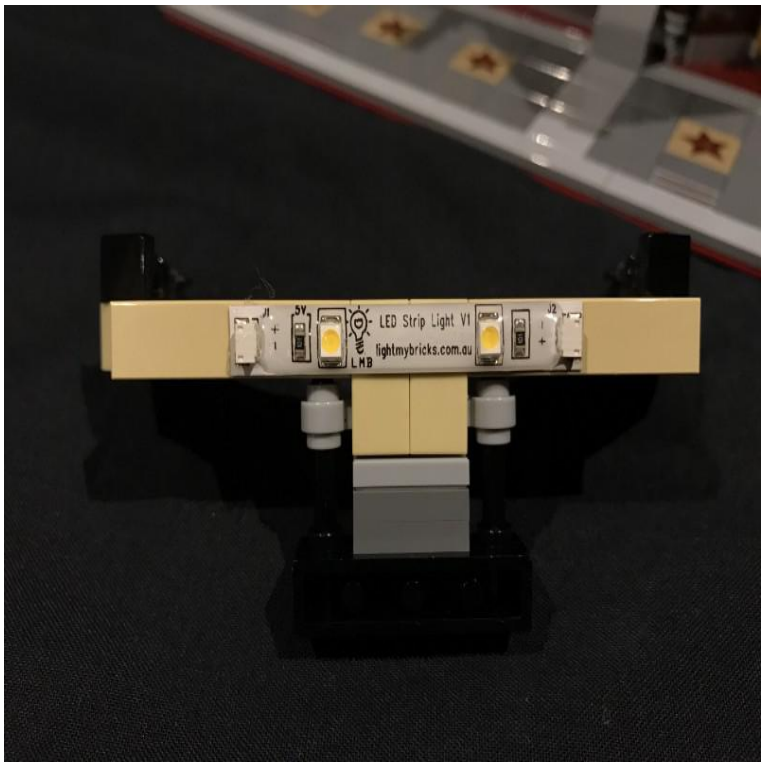


Start by removing the red centre piece of the roof and then remove the middle section directly underneath.

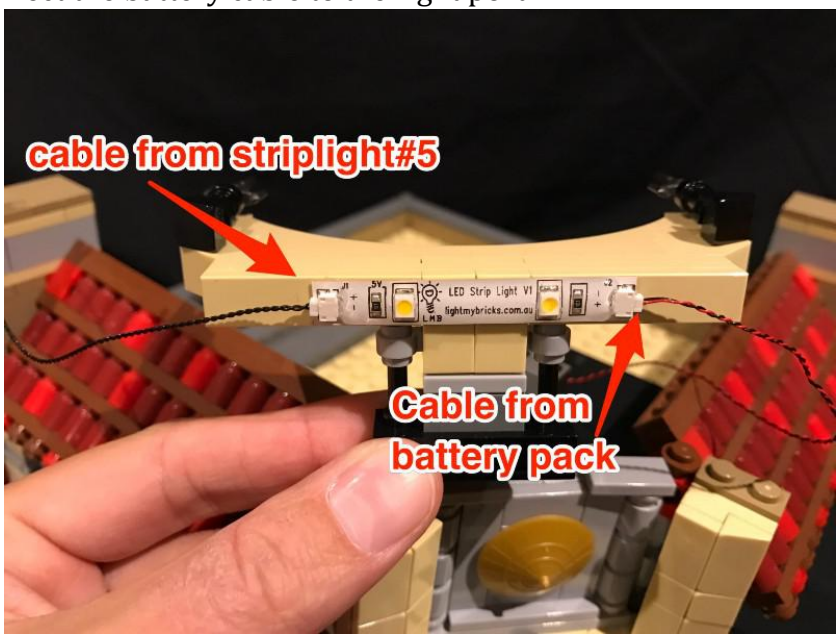




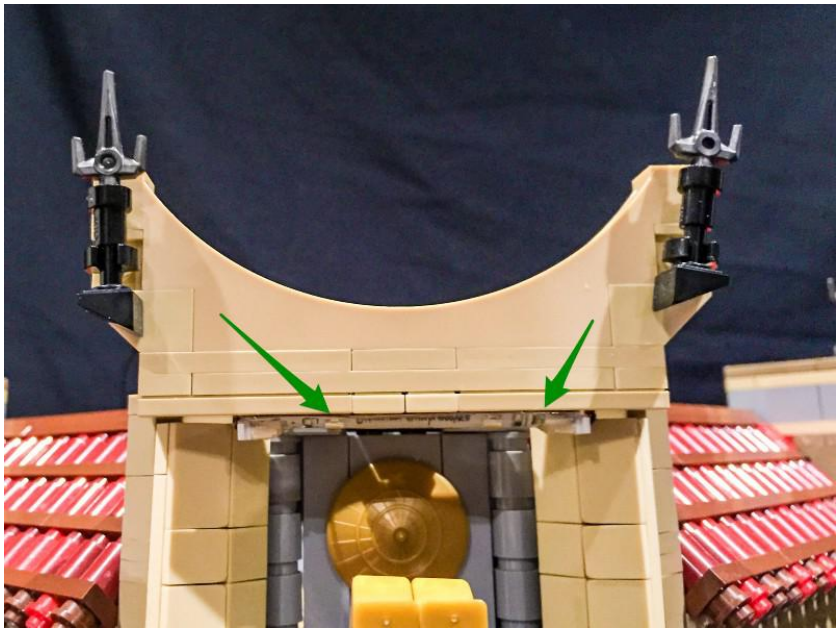
68.) Take the final strip light (**striplight#5**) and stick it (sticking is the only option for this strip light) to the bottom of the middle section we just removed.

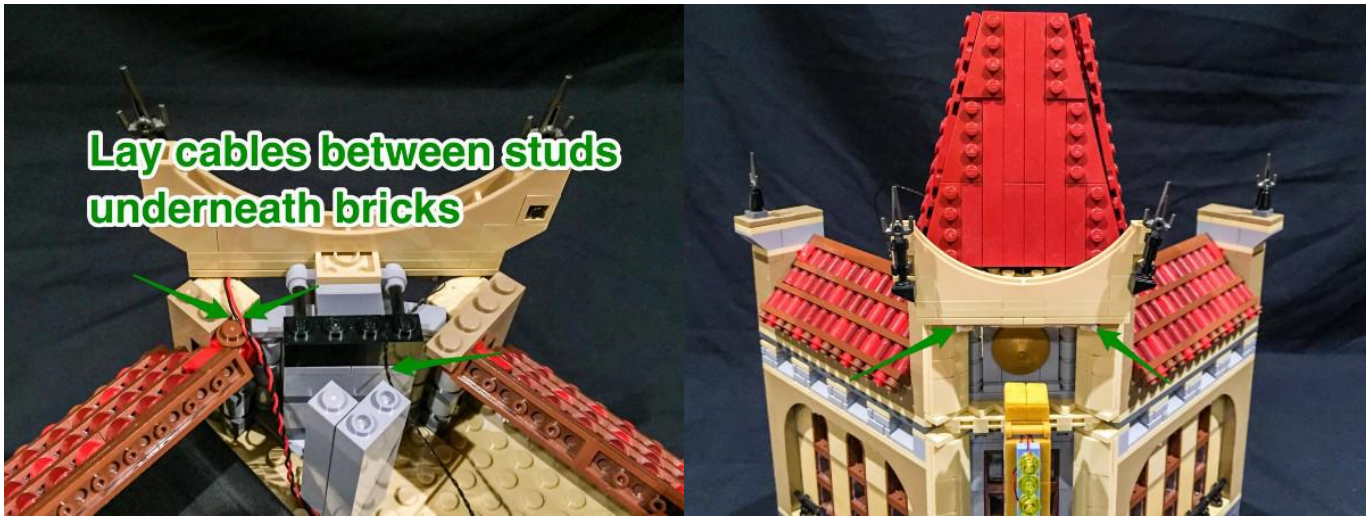


69.) Connect the 30cm cable that we pulled up from the doorway to the left port and then place the battery pack and connect the battery cable to the right port.

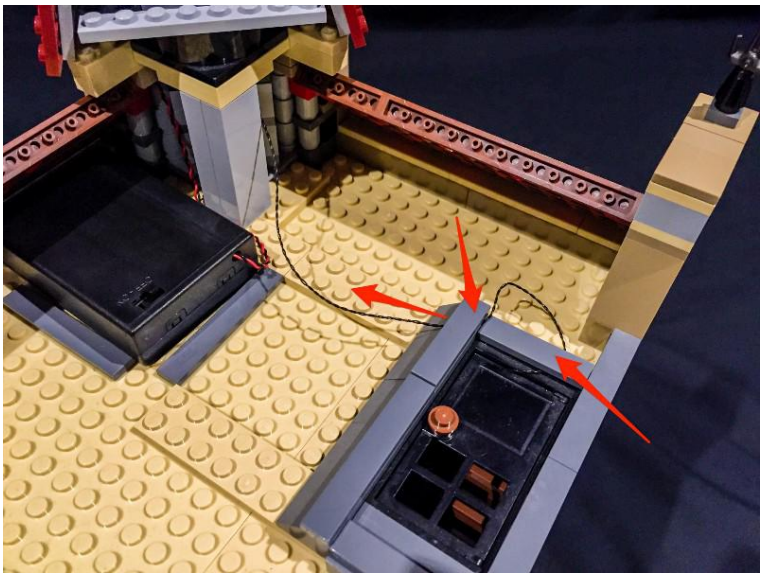


70.) Reconnect the middle section back to the roof in it’s original position ensuring that the 30cm cable and battery pack cable are laid underneath and behind this section.





71.) Secure the 30cm cable using the grey lego tiles just above the doorway.



This now finally completes the lighting kit circuit. Your LED lighting kit is now ready to be turned on. Turn ON the battery pack, turn off the lights in the room and Enjoy!