

## Ninjago\_City\_70620 LED Lighting Kit

### Package contents:

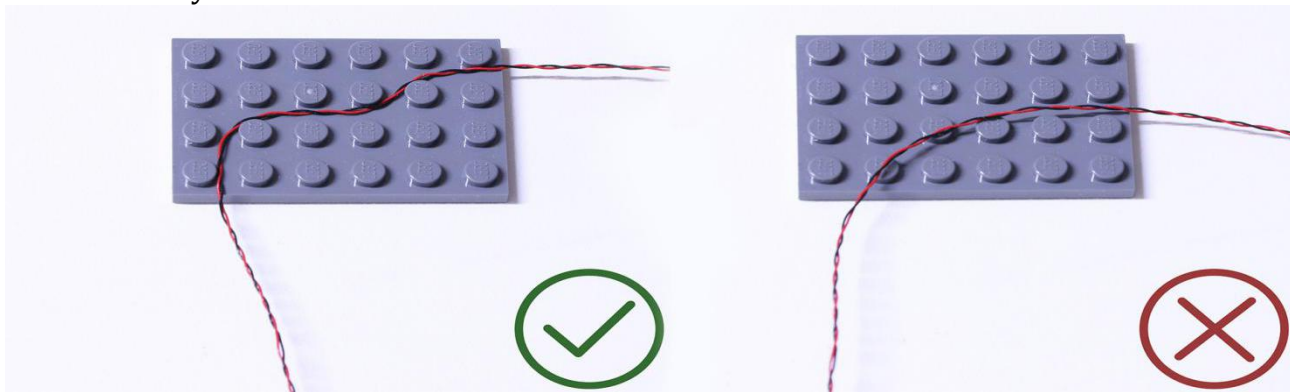
- 11x White Strip Lights
- 2x Blue Strip Lights
- 3x White 30cm Dot Lights
- 13x White 15cm Dot Lights
- 3x Flashing White 30cm Dot Lights
- 4x Pink 30cm Dot Lights
- 2x 12-Port Expansion Board
- 2x 6-Port Expansion Boards
- 3x 30cm Connecting Cables
- 11x 15cm Connecting Cables
- 2x 5cm Connecting Cables
- 1x AA Battery Pack
- 8x Adhesive Squares
- LEGO Pieces
- 10x LEGO Plate 1x6 (any colour)
- 1x LEGO Plate 1x8 (Dark Bluish Grey)

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### Note:

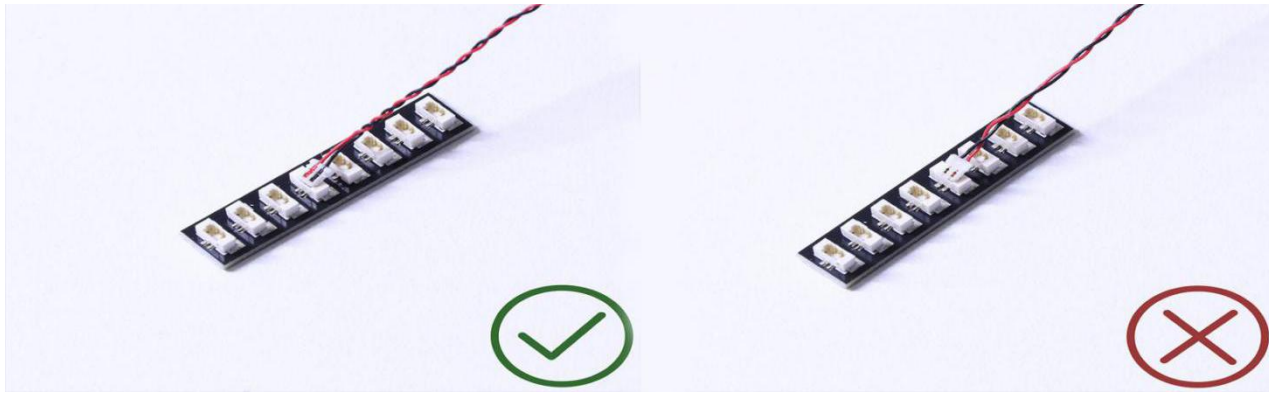
Place wires on the surface or under the LEGO building blocks.

The wire can be placed between the building blocks or under the block, but they should be placed between the studs correctly.

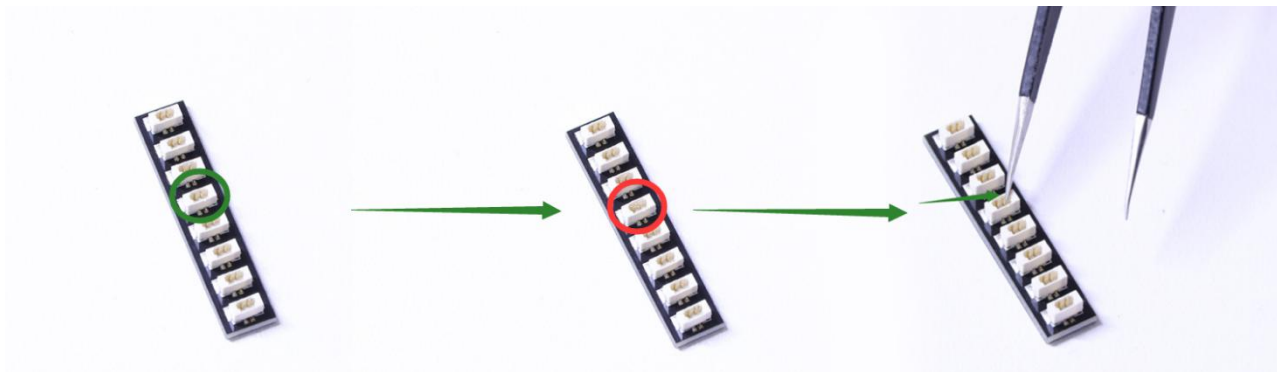


Insert the connectors to the ports.

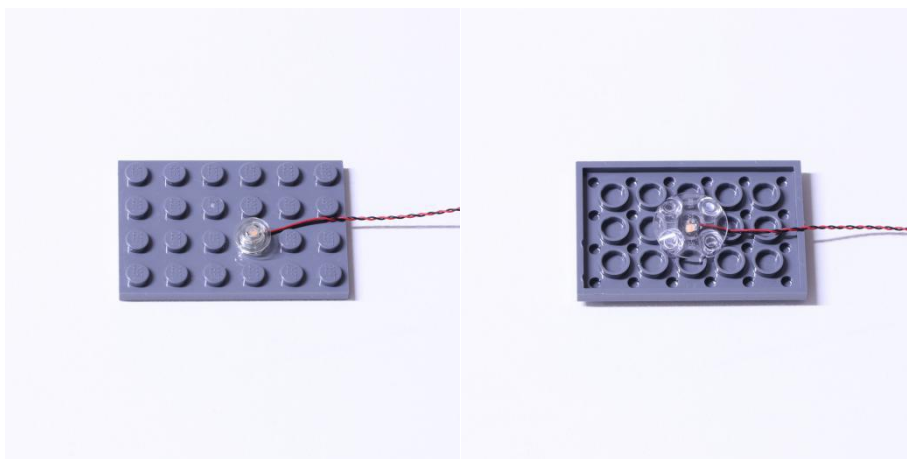
Be careful when you are operating, there's only one correct way to insert, make sure the expansion board is upward, find the soldered "=" sign on the left of the port. When you are inserting, the side which the wires can be seen should be faced to the "=" sign and if you feel hard to insert, please stop, 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 bent pins.

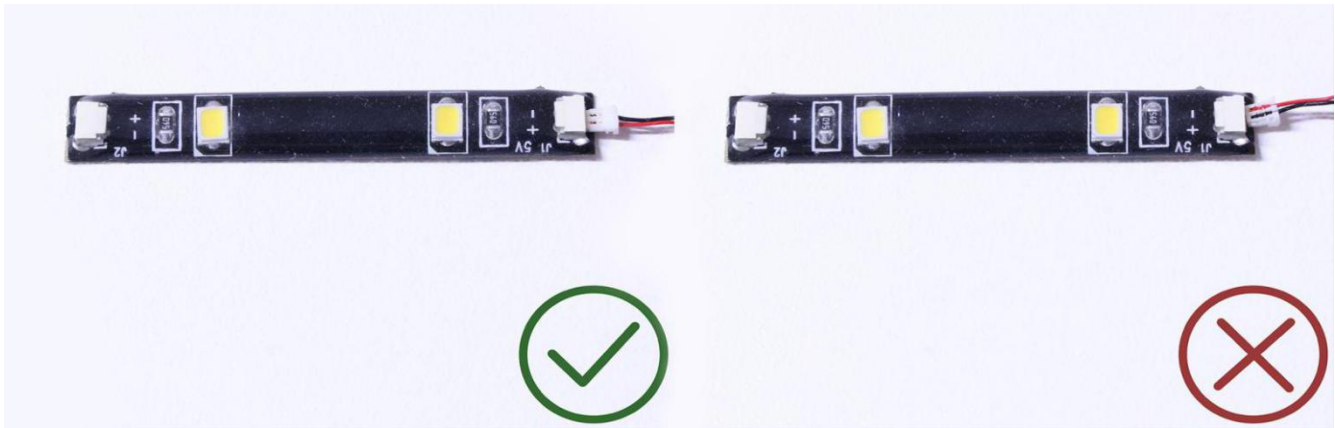


When installing dot lights, make sure they are correctly placed (Yellow LED package is exposed). You can put them either on the top of the studs or between studs.

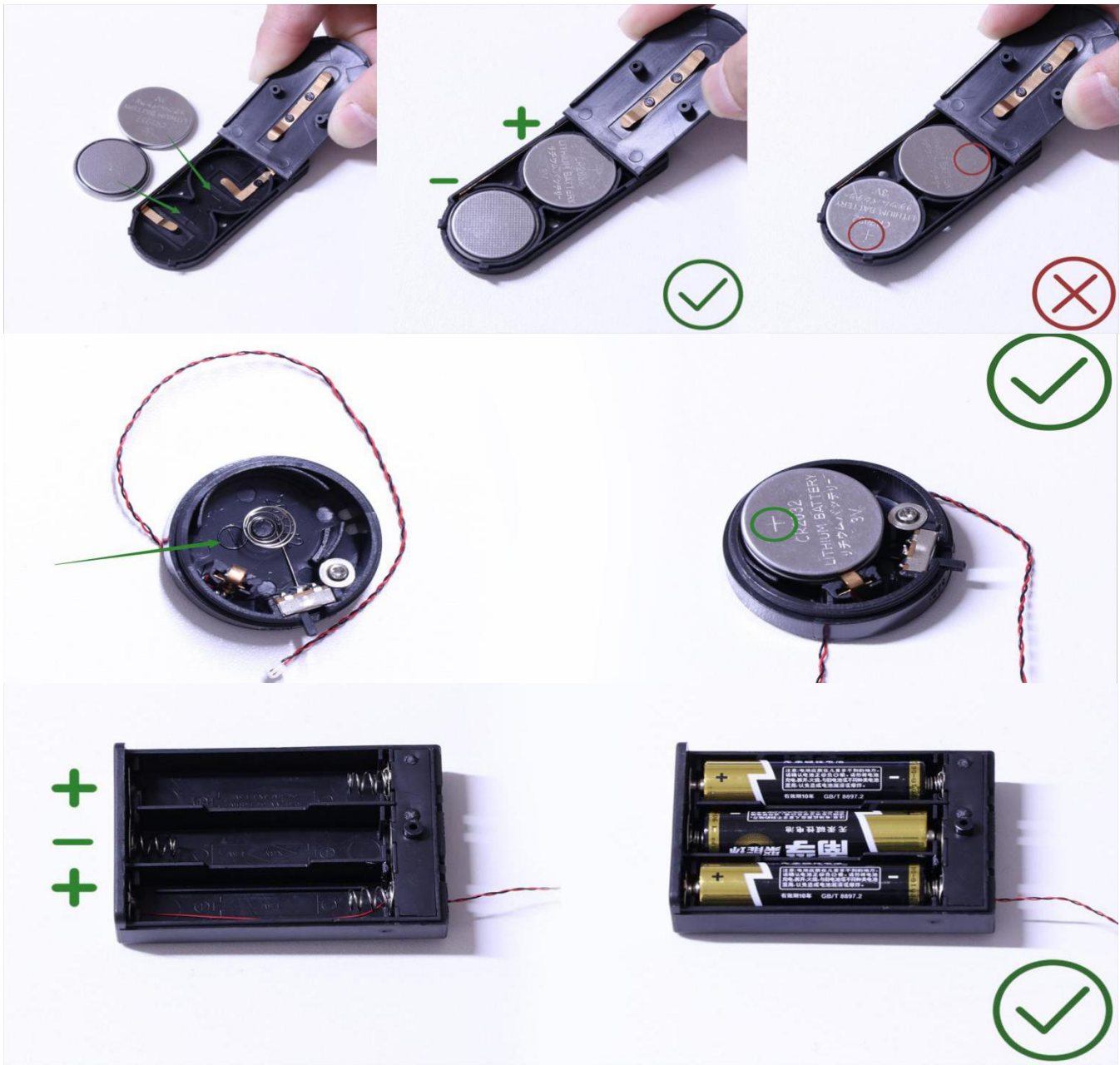


## Connecting cable connectors to Strip Lights

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 this Kit

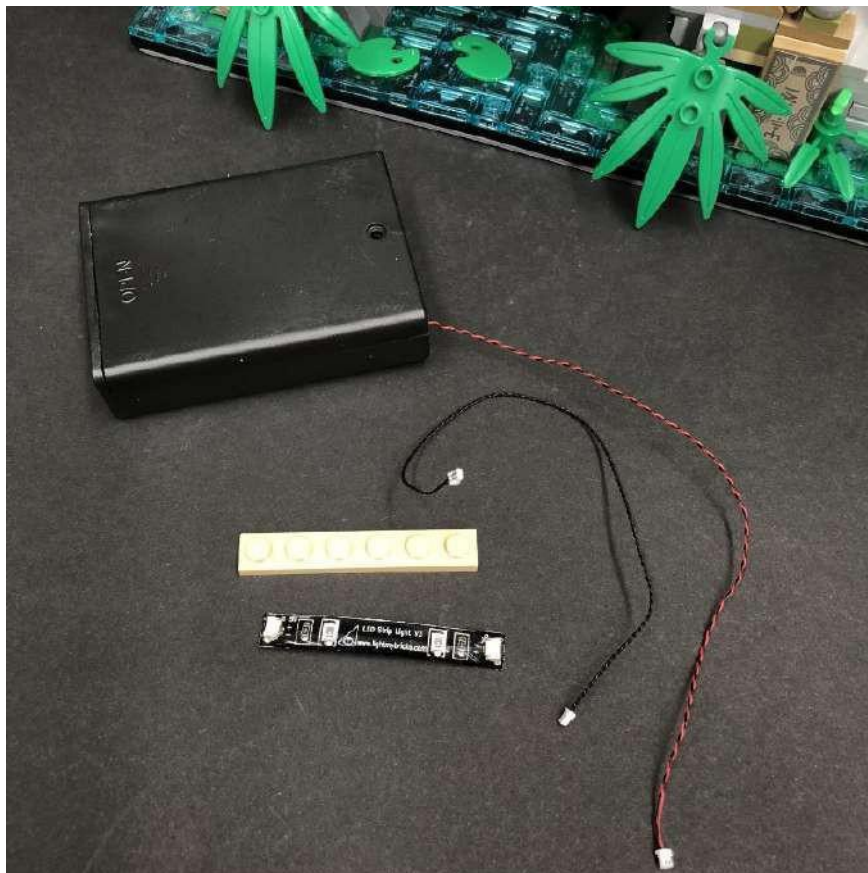
1.) Start by removing the roof, third, and fourth floors.



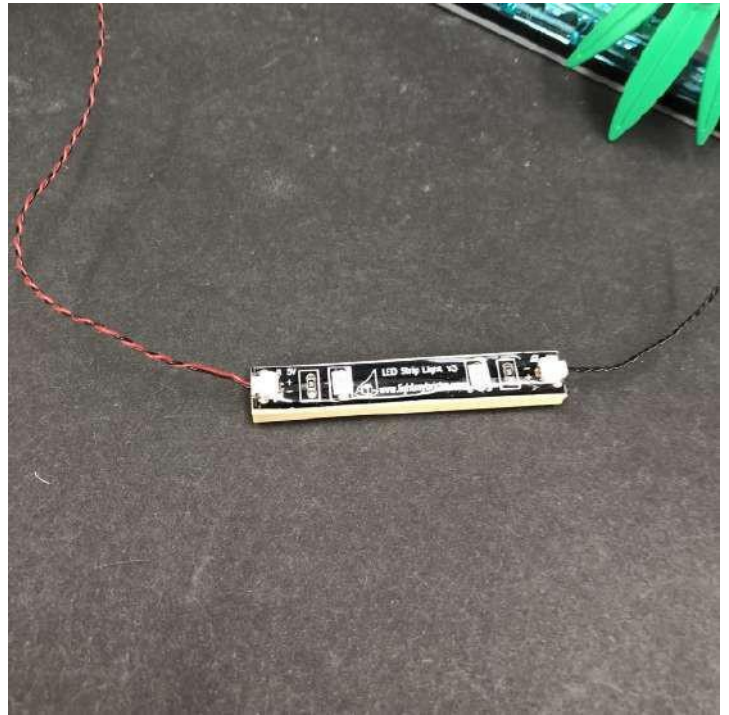
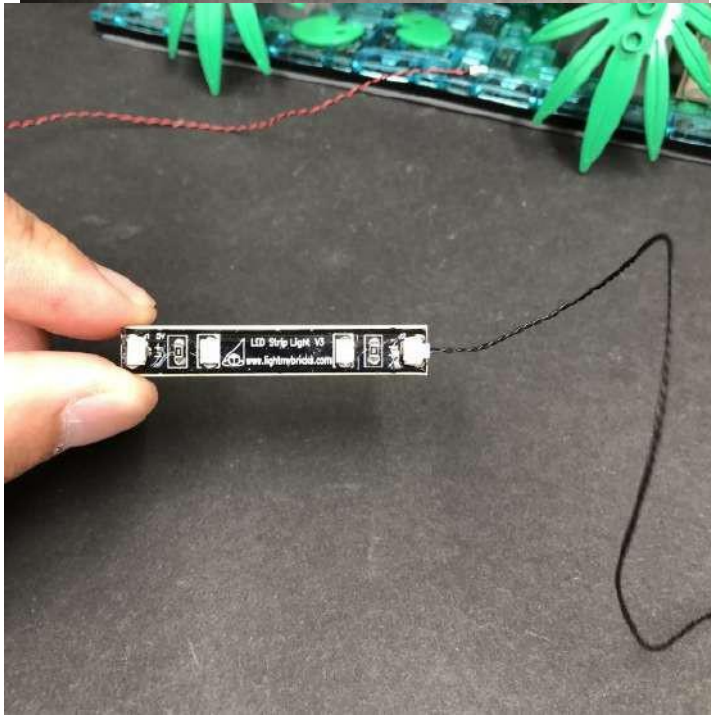
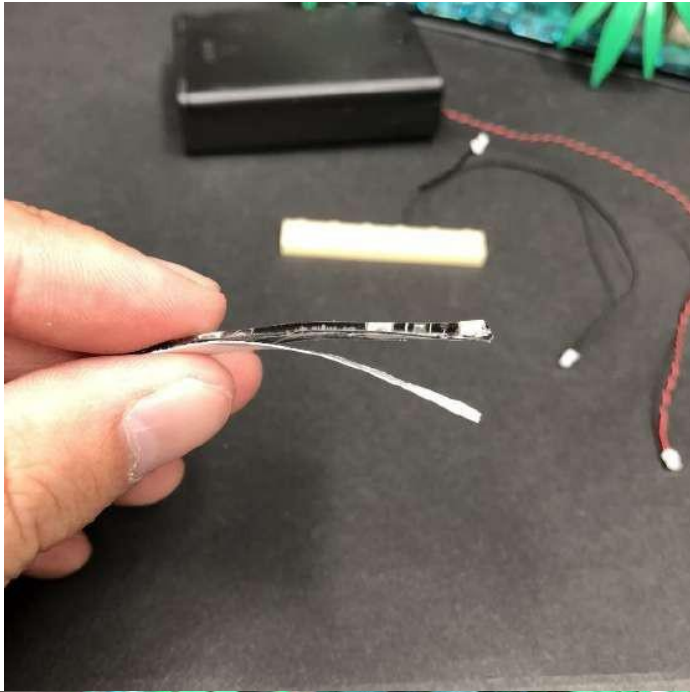
2.) We will first install blue lights under the bridge.



Take the AA Battery Pack and insert 3x AA batteries into it. Take 1x Blue Strip Light, 1x LEGO 1x6 Plate and 1x 15cm Connecting Cable.



Stick the Blue Strip Light to the base of the LEGO plate using it's adhesive backing. Then connect the 15cm Connecting Cable to one end of the strip light and then connect the Battery Pack cable to the other end.



Mount the strip light underneath the bridge in the following position. Ensure the Battery pack cable is facing toward the left end of the building before laying it neatly against the back.



Hide the battery pack cable underneath the Lego pieces as shown below.





Turn on the battery pack to test the lights are working



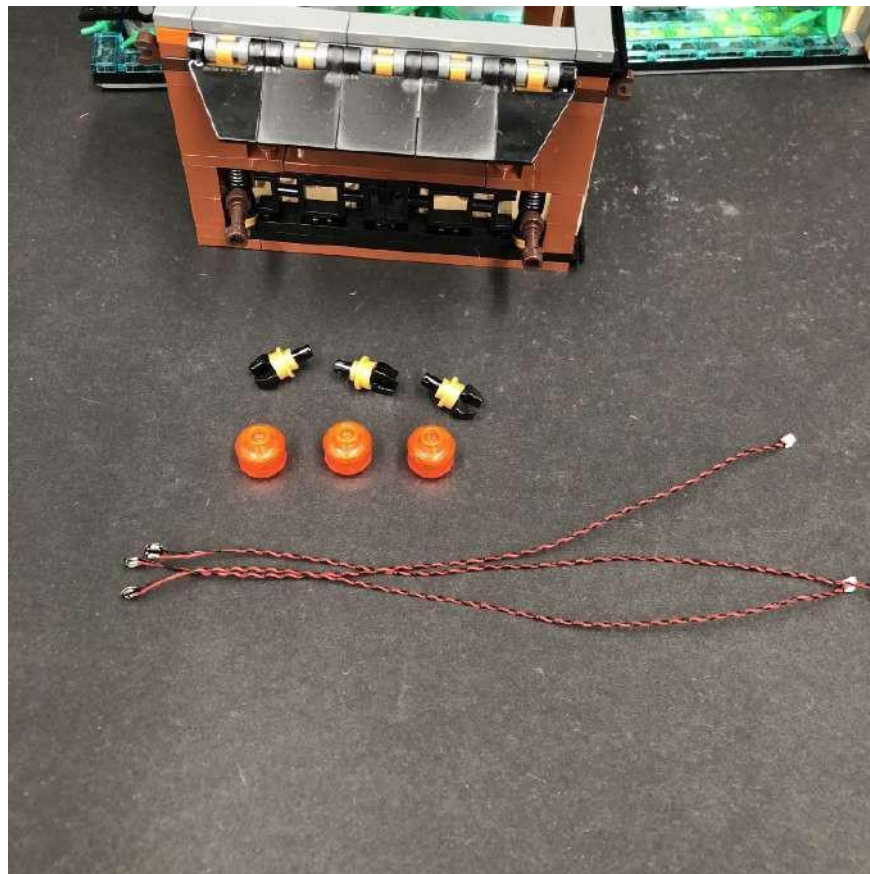
3.) Pull the other end of the 15cm Connecting Cable out to ensure that it is not dangling down and visible from under the bridge.



4.) Remove the second koor section and then disconnect the three lantern pieces from the bottom.



Disconnect the black and gold pieces from the top of the lanterns and then take out 3x White 15cm Dot Lights.



Install the first White 15cm Dot Light by inserting the led component inside the lantern piece. Take the black and gold pieces and then

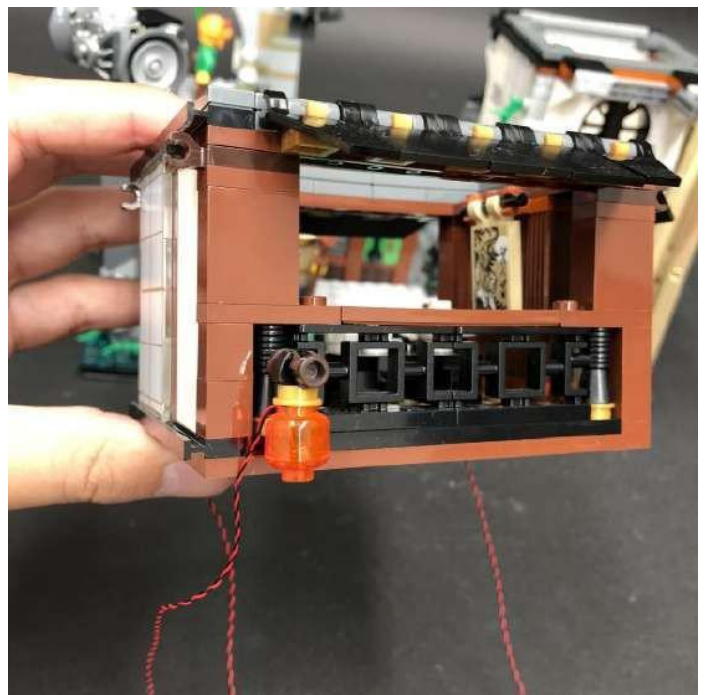
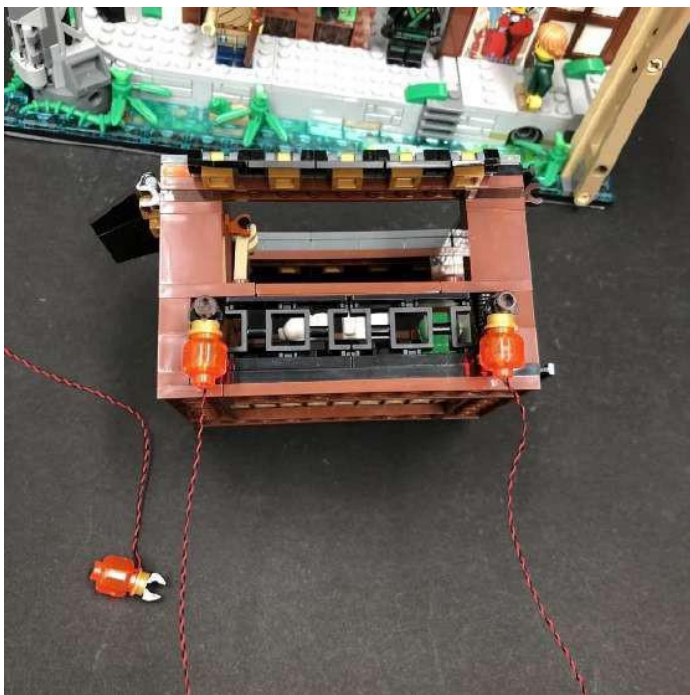
reconnect them over the top. Ensure the led component is facing the front (of where you will be positioning the lantern) and that the cable is pulled to the back of the lantern



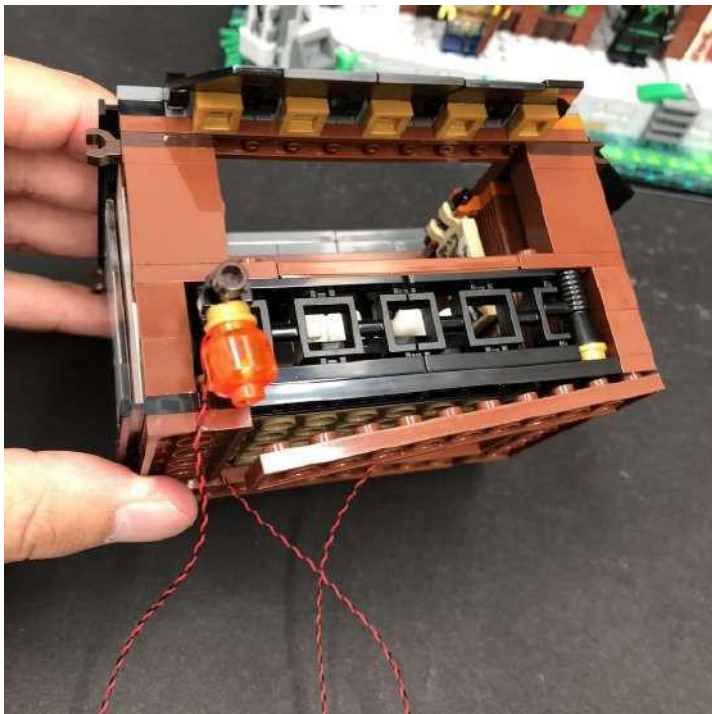
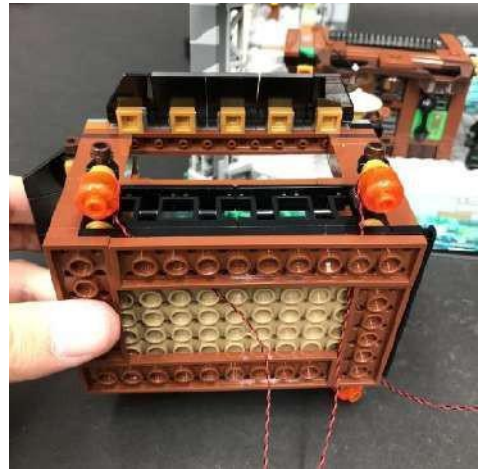
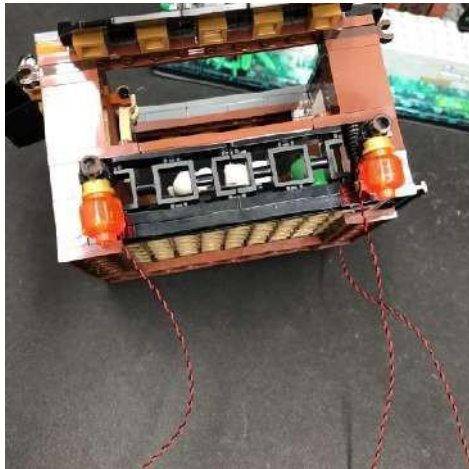
Repeat this process to install Dot Lights to all three lanterns.



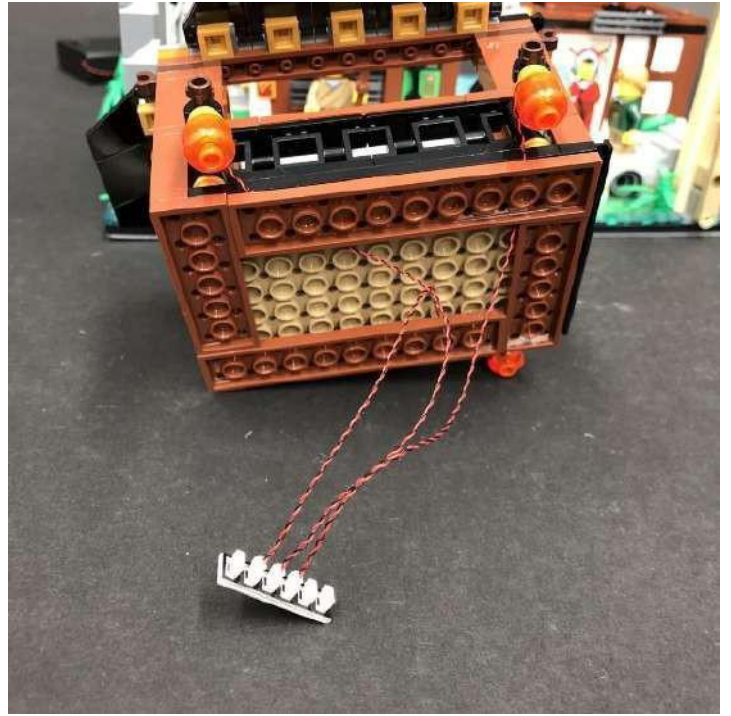
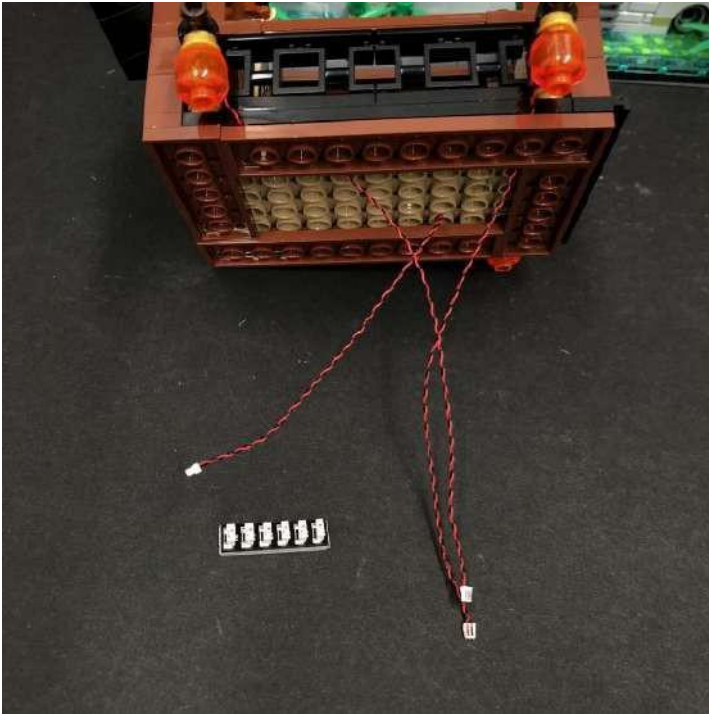
5.) Reconnect the lantern pieces to the bottom of the second koor section ensuring the cables are facing behind each lantern.



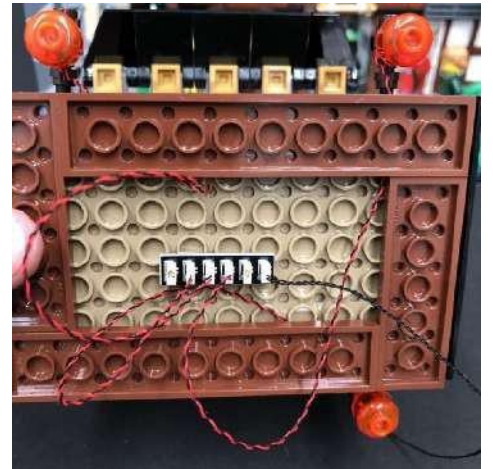
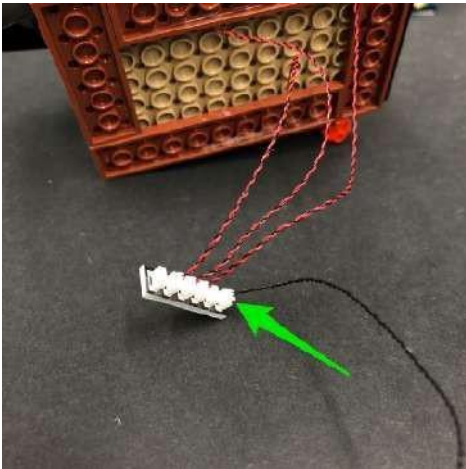
Disconnect the brown plates from underneath and then lay the lantern cables underneath before reconnecting the plates. Ensure the cables are laid in between studs.



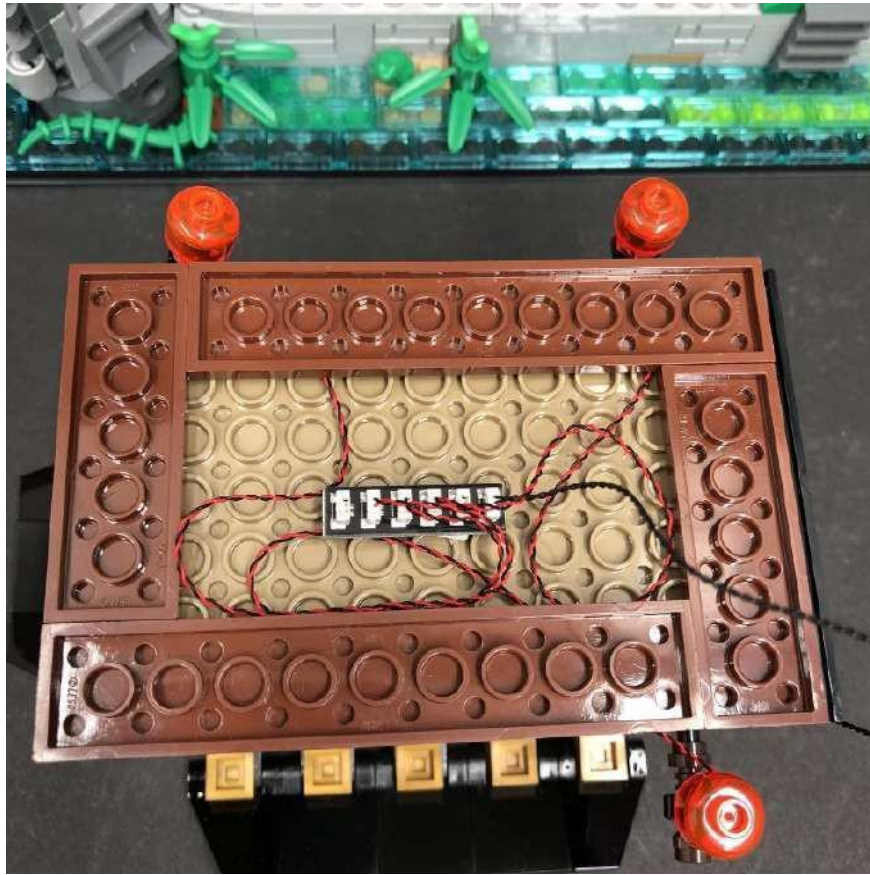
6.) Take a 6-Port Expansion Board and then connect the Dot Lights from the lanterns to spare ports.



7.) Take a 15cm Connecting Cable and connect one end to a spare port then mount the expansion board underneath the second floor using 2x Adhesive Squares.



Secure the Dot Light Cables neatly and push them up against the base to prevent them from dangling down and being visible.



8.) Locate the other end of the connecting cable from under the bridge and then connect this to the 6-port expansion board then securely reconnect the second koor on top ensuring the other end of the second 15cm connecting cable is pulled out.



Turn on the battery pack to test the lights we have installed so far.



9.) Take the entire third koor and then disconnect the four lanterns above the crab restaurant.





10.) Take 4x White 15cm Dot Lights and install one to each lantern following the same method used to install lights to the lanterns above the first koor.





11.) Reconnect each lantern back to the top of the restaurant ensuring each cable is pulled up behind the grey bars.





Lay each Dot Light Cable underneath the brown tiles on the top of this section





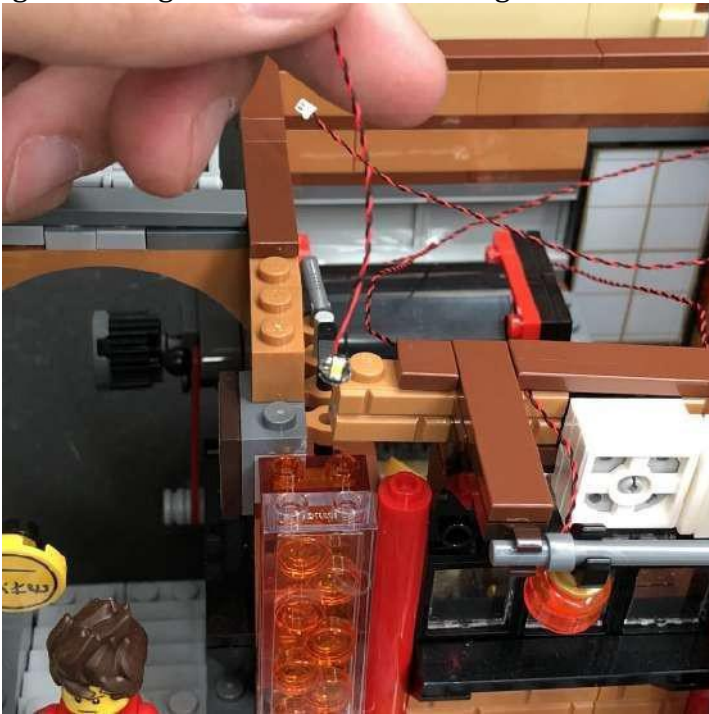
12.) We will now install lights above the window features of the restaurant. First disconnect the following pieces



Lift the bricks above and then carefully disconnect the brown 2x2 plate above the window feature section.



Take a White 15cm Dot Light and then place the LED Component in the centre of the 4 studs. Ensure the Dot Light is facing down and cable is facing the inside of the restaurant.



Secure the Dot Light in place by reconnecting the brown 2x2 plate over the top followed by the surrounding pieces we removed earlier.



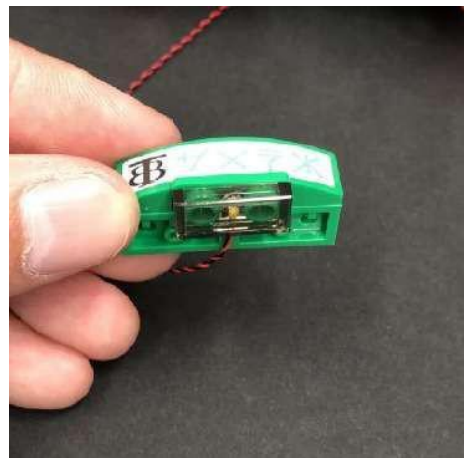
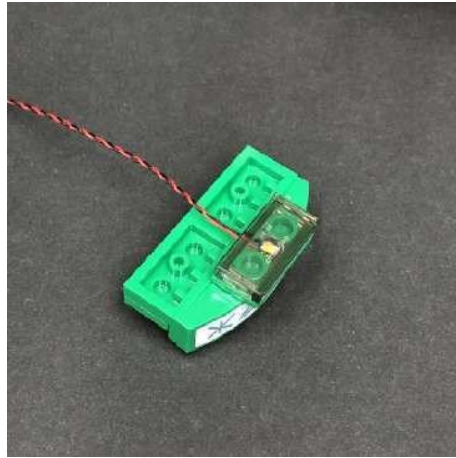
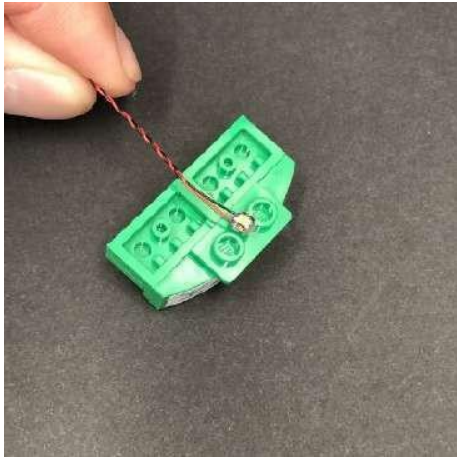
13.) Install another White 15cm Dot Light to the window feature on the other side of the restaurant following the same method used in previous step.



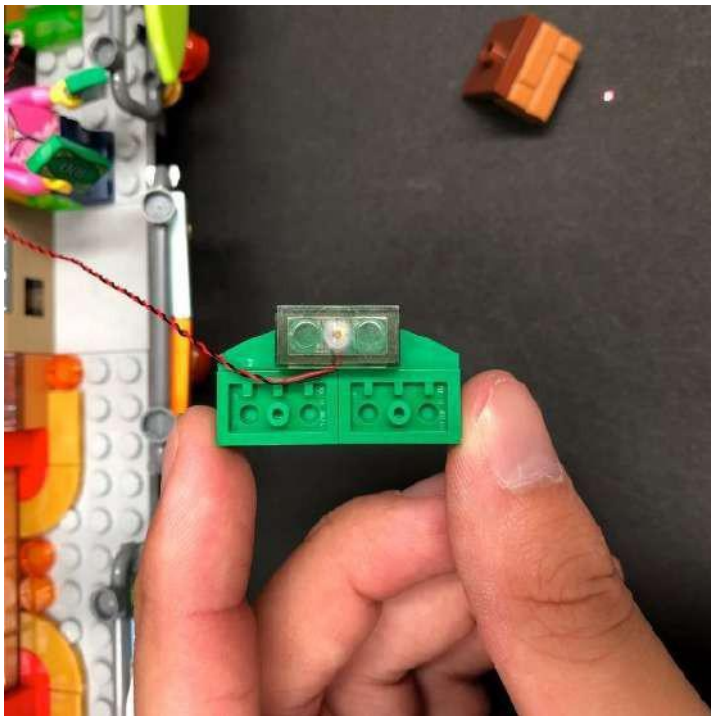
14.) Before reconnecting the corner bricks and tiles, we will install a light above the ATM. First disconnect the top section of the ATM and then disconnect the trans blacktile.



Take a White 15cm Dot Light and then place it in between the two studs (facing up). Secure the Dot Light in place by reconnecting the trans black tile over the top.



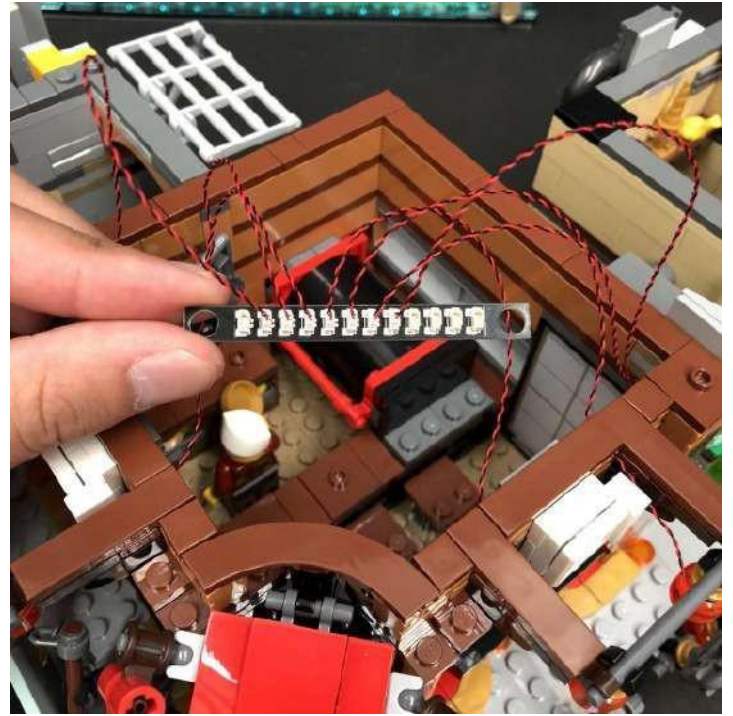
Lay the cable to the left side of this section and then carefully reconnect this section back to the ATM.



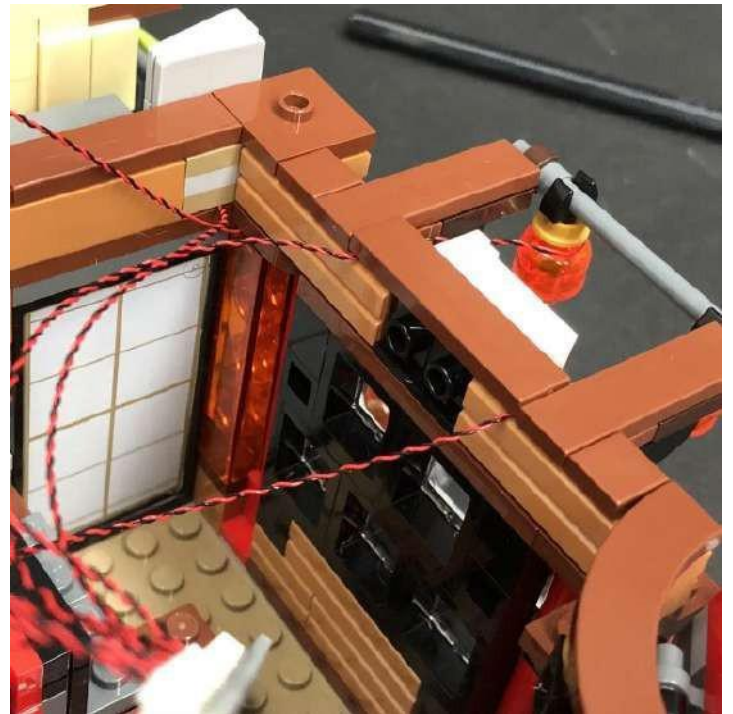
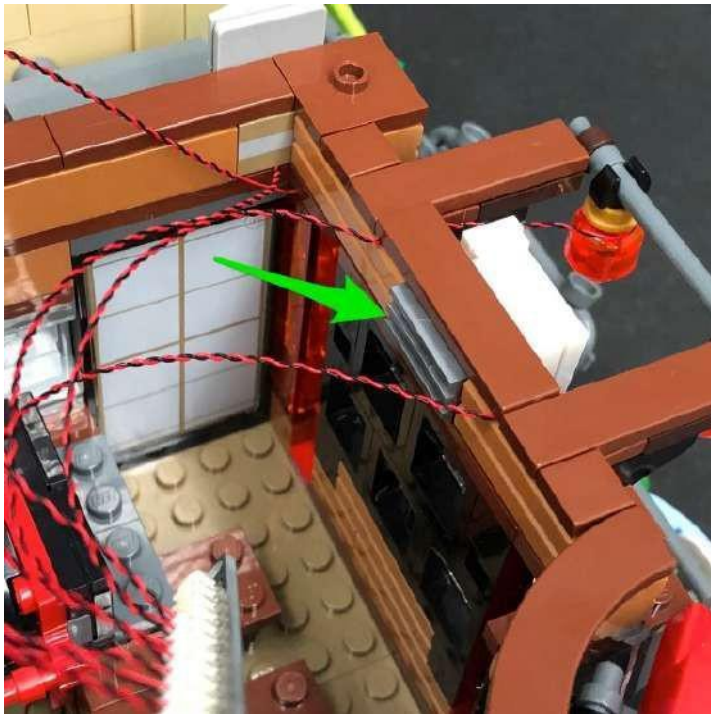
Lay the cable in between studs before reconnecting the corner bricks and tiles from the restaurant.



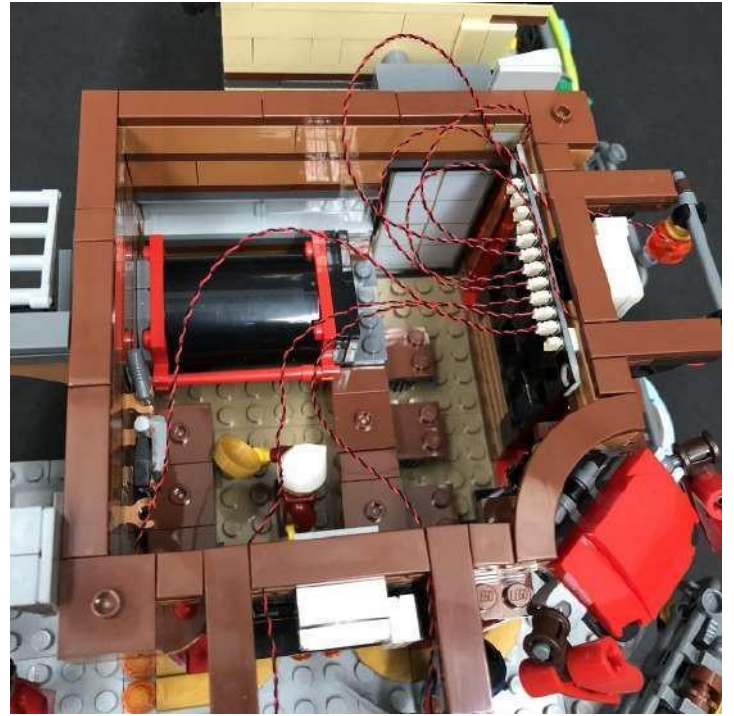
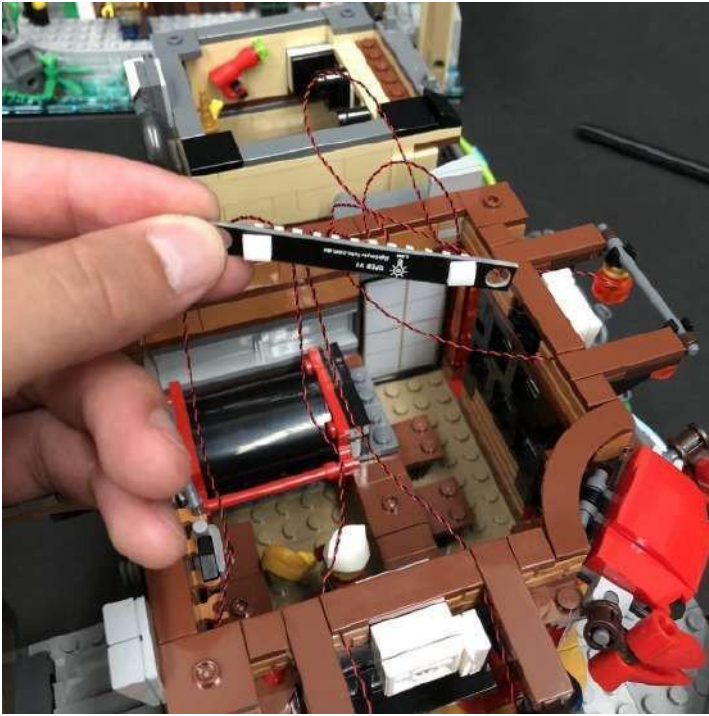
15.) Take a 12-Port Expansion Board and then connect all seven of the Dot Light cables to it.



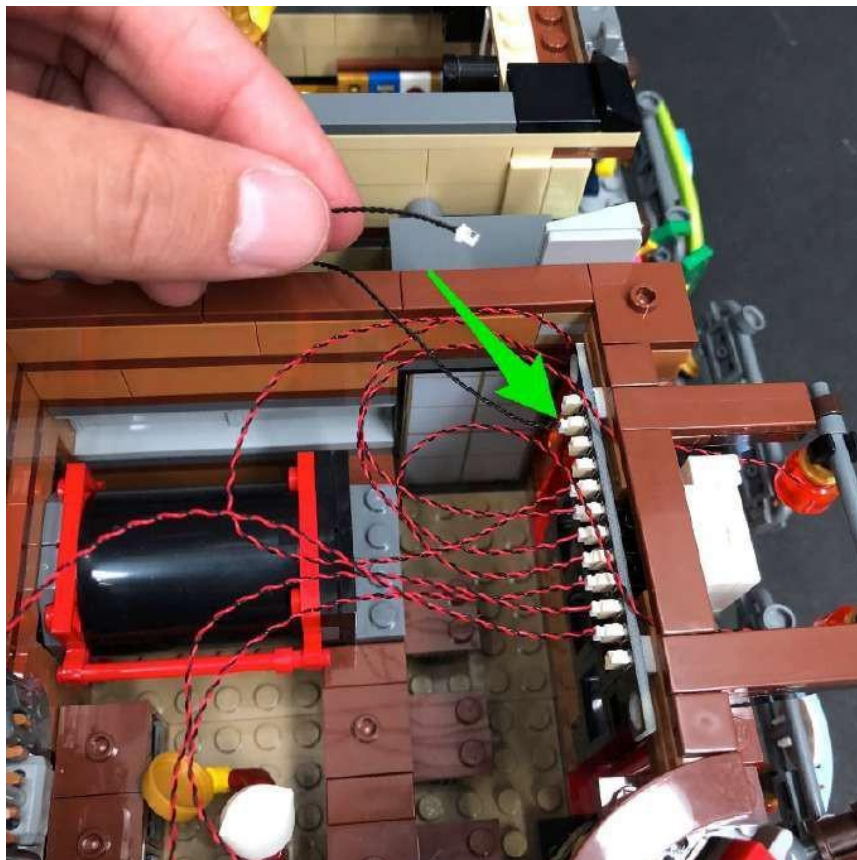
Remove the following LEGO piece.



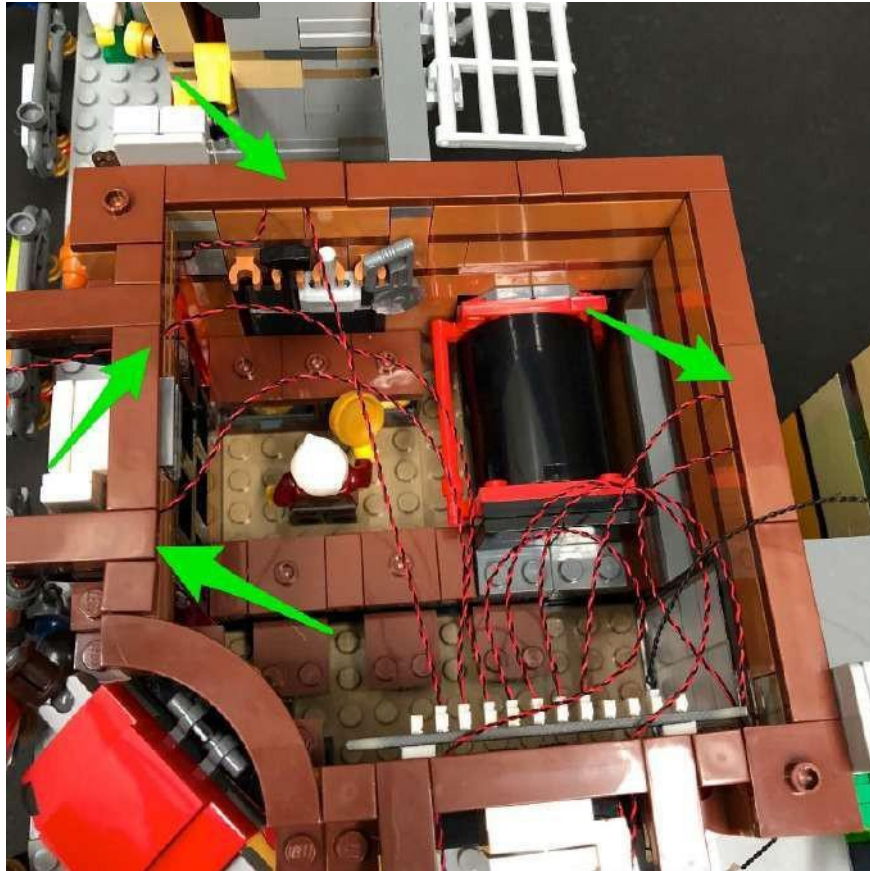
Mount the expansion board to the following position inside the restaurant using 2x Adhesive Squares.



26.) Take a 15cm Connecting Cable and connect one end to a spare port closest to the right side.



27.) Eliminate excess cables by laying them underneath the brown tiles on top of the restaurant.

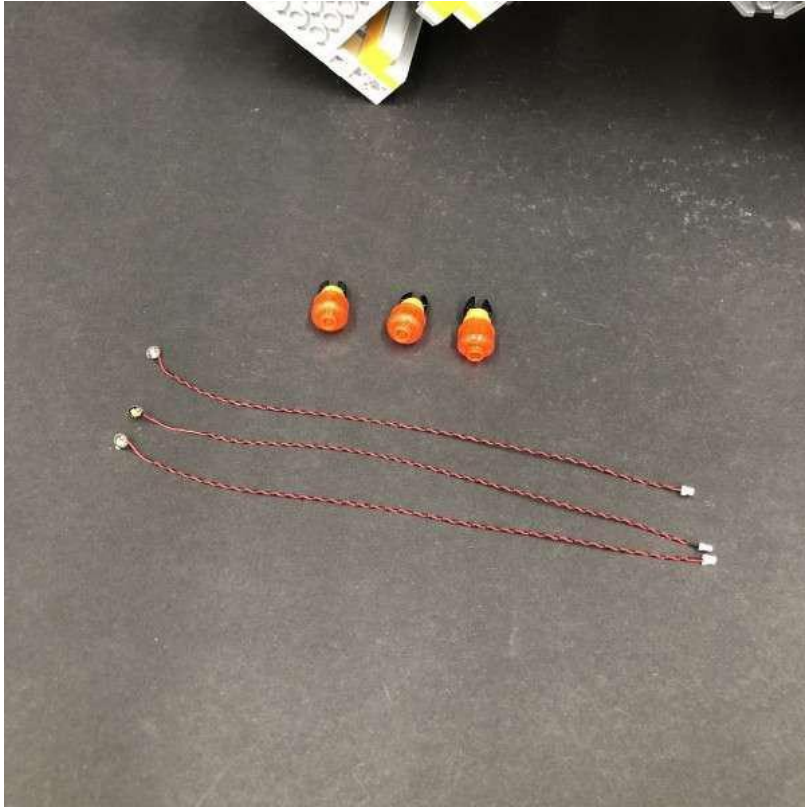


28.) Take the entire third koor and place it on it's back and then disconnect the six lantern pieces from underneath.

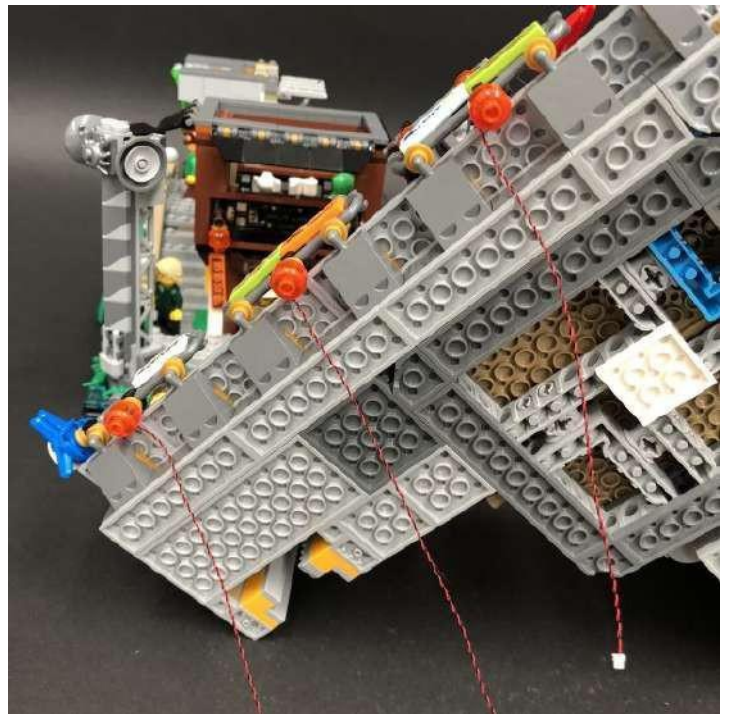


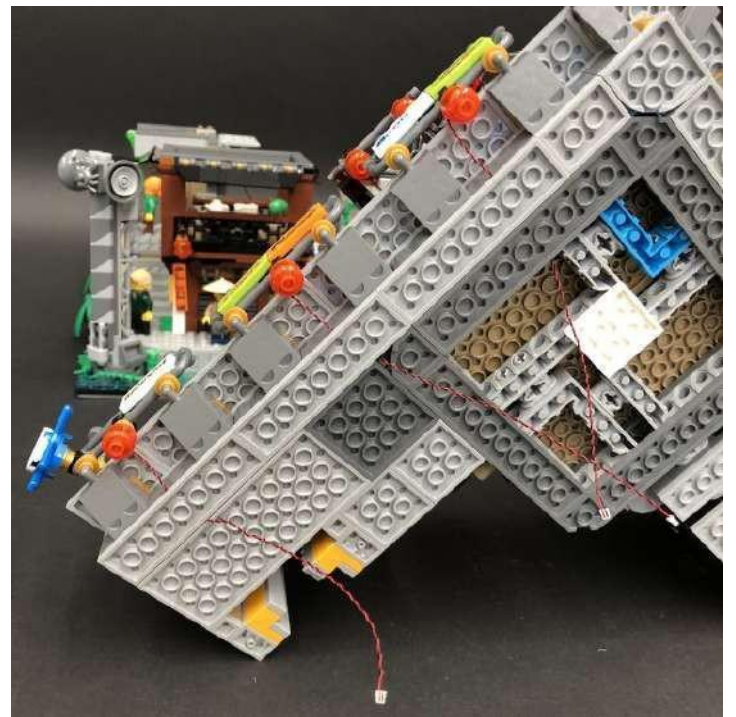
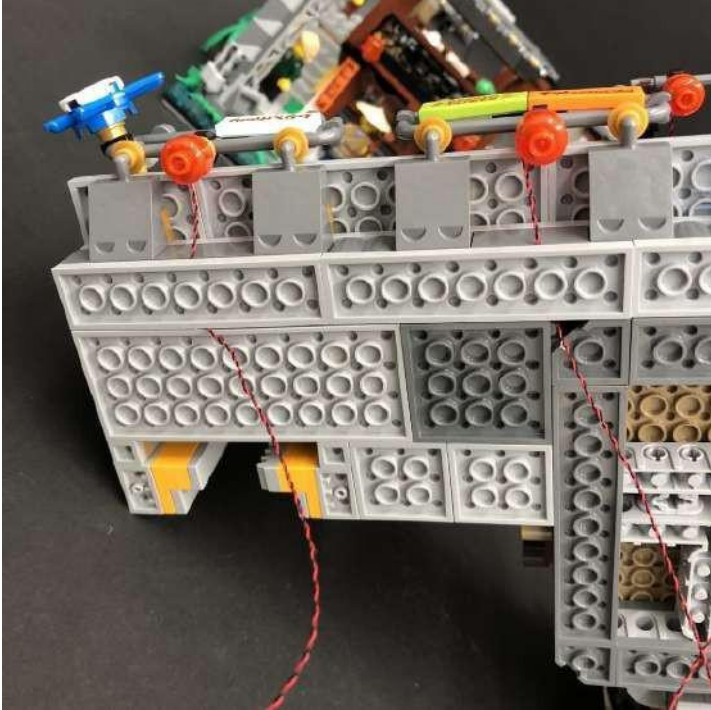
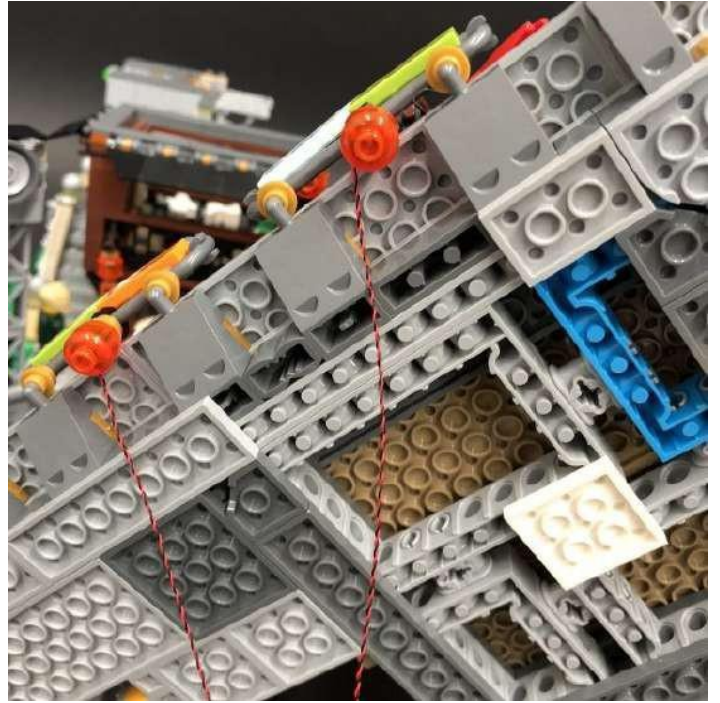
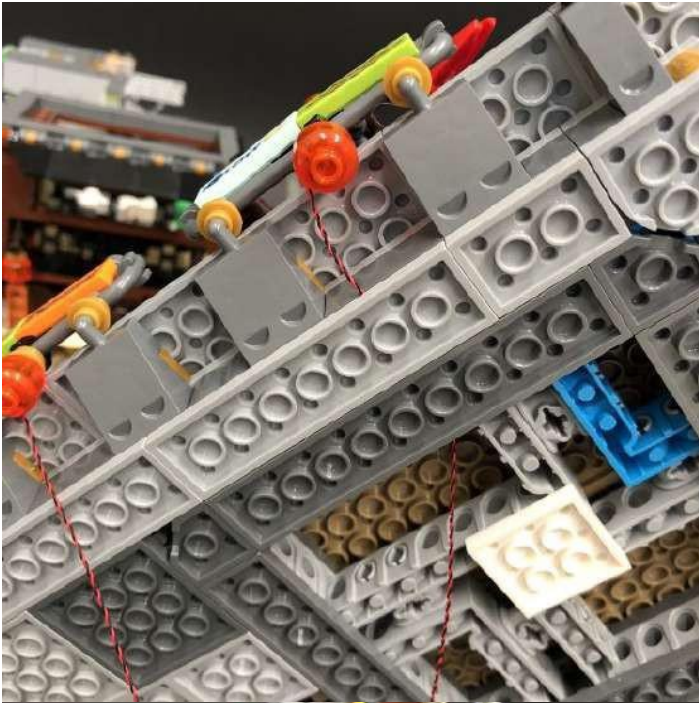
Take the three lantern sections from the left side and then take 3x

White 15cm Dot Lights and install one to each lantern following the same method used to light up the previous lanterns.



29.) Reconnect the lanterns back to the left side of the third koor and then hide the cables by disconnecting the plates underneath, laying the cables in between studs, and then reconnecting the plates.

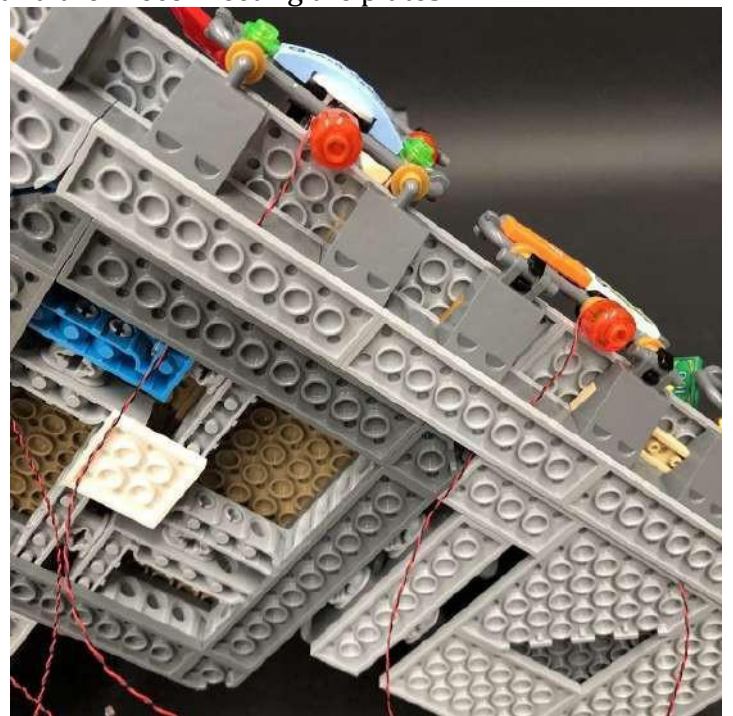
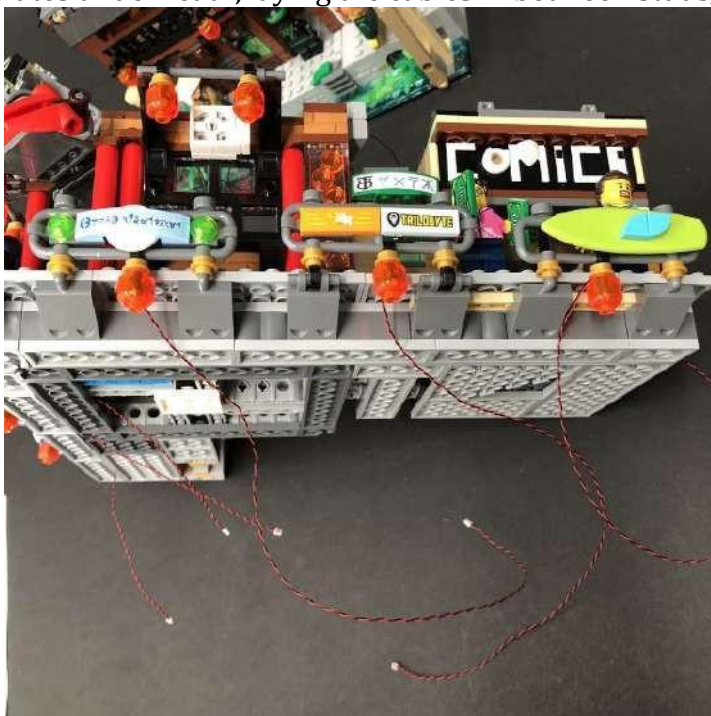


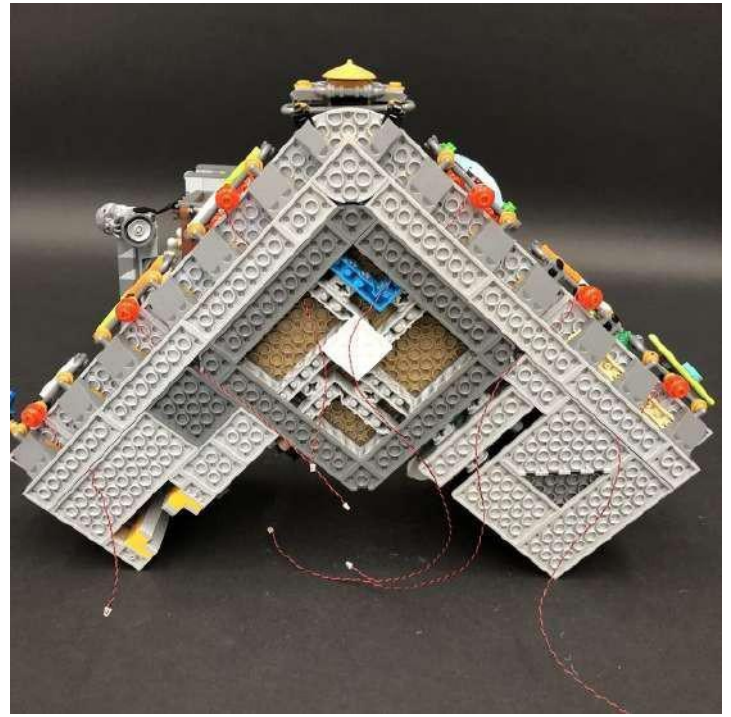
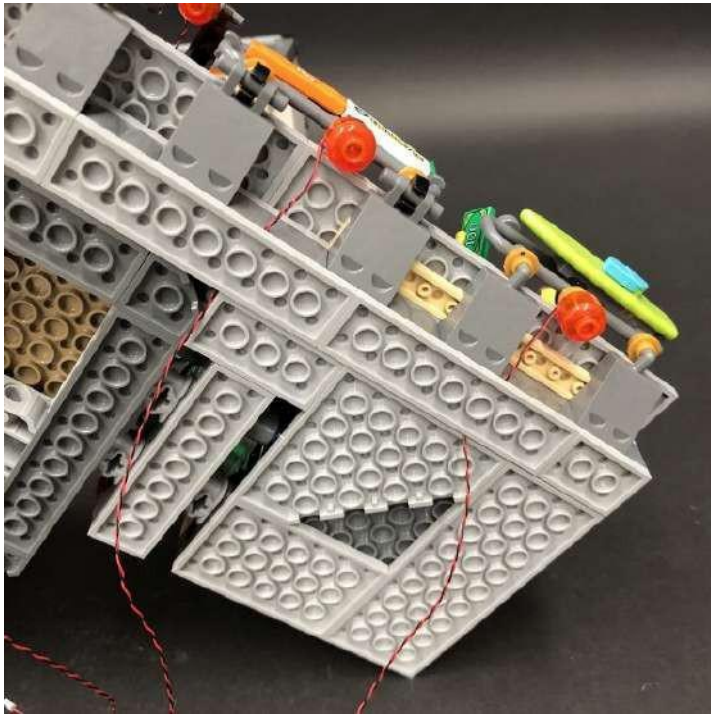


30.) Take 3x White 30cm Dot Lights and install one to each of the three lantern sections on the right side.

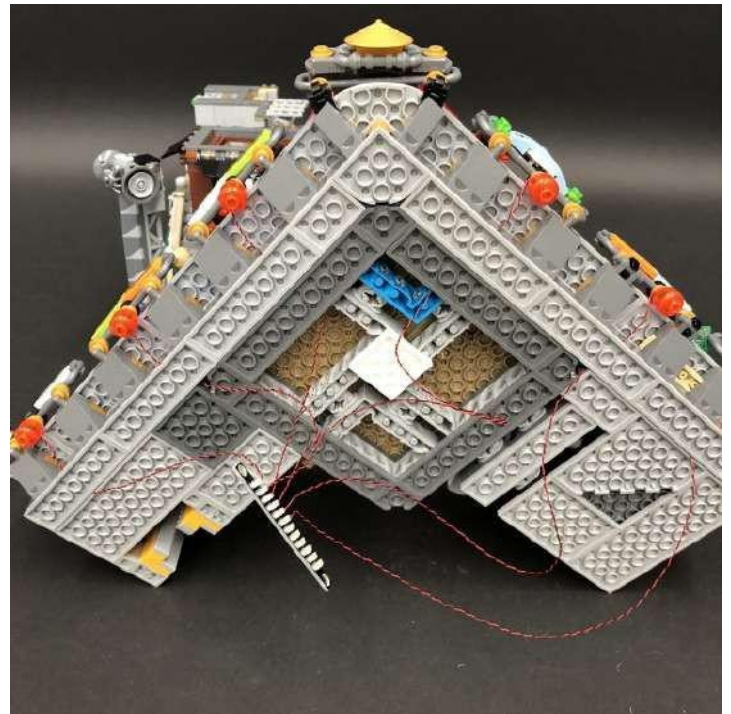
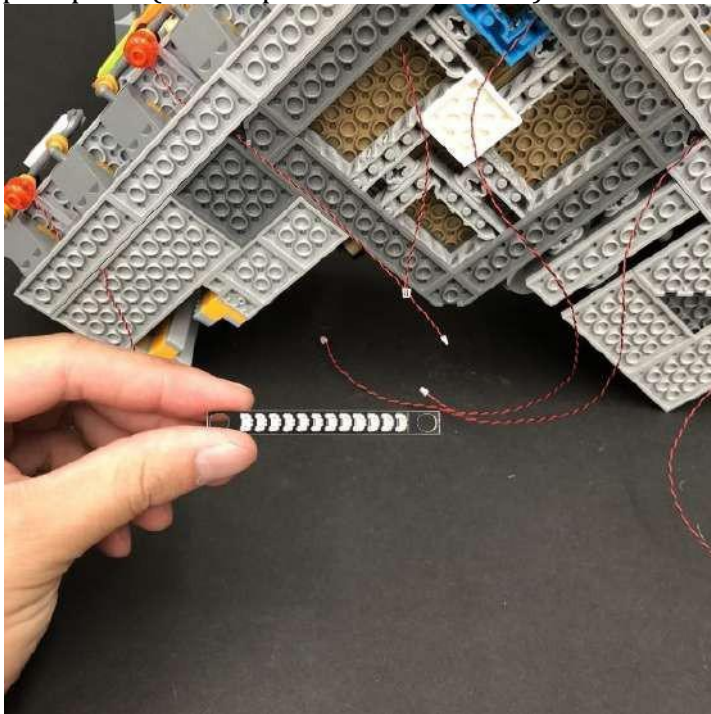


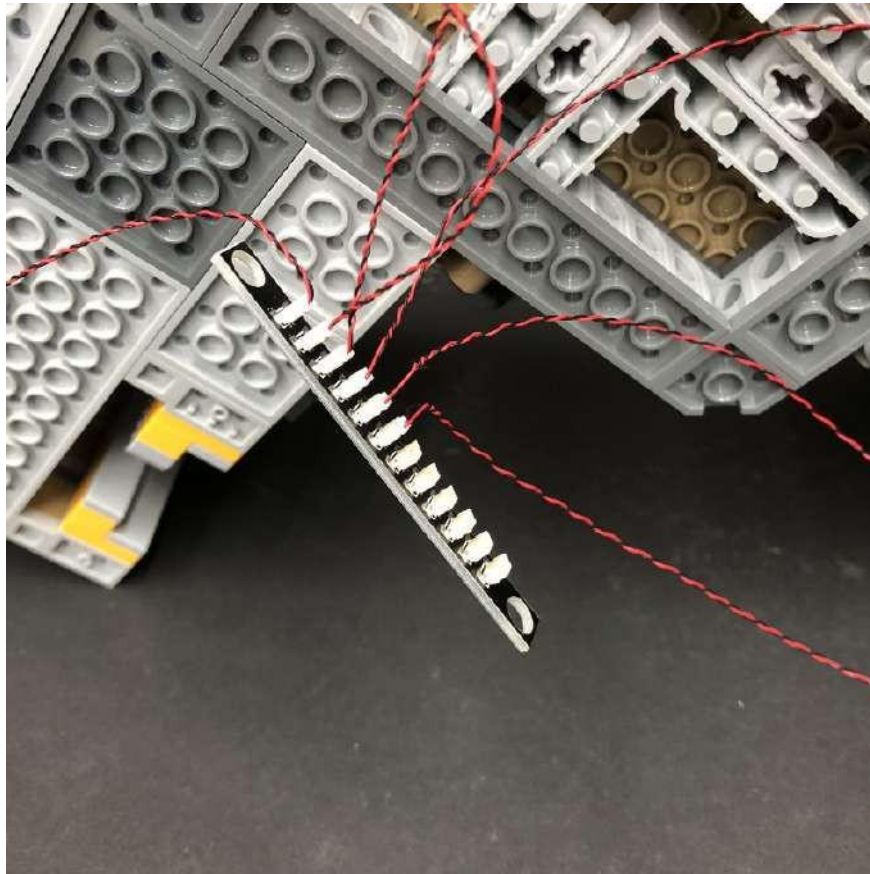
Reconnect the lanterns back to the right side of the third koor and then hide the cables by disconnecting the plates underneath, laying the cables in between studs, and then reconnecting the plates.



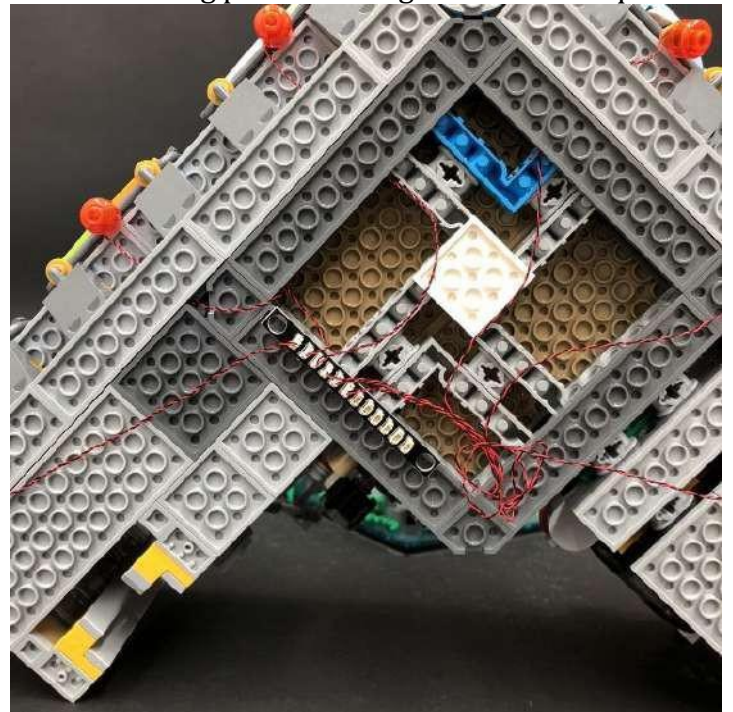
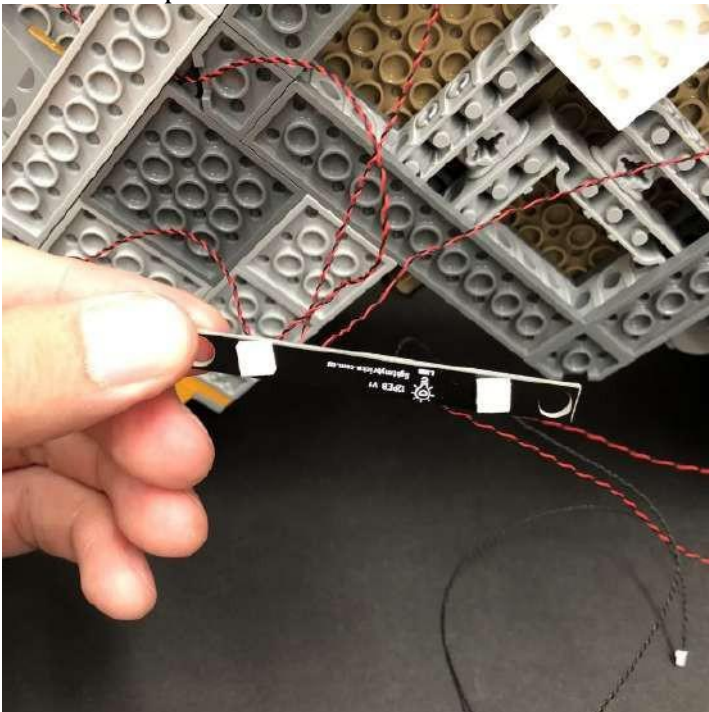


31.) Take the remaining 12-Port Expansion Board and then connect all the cables from the lanterns to the spare ports (closest ports to the left side).

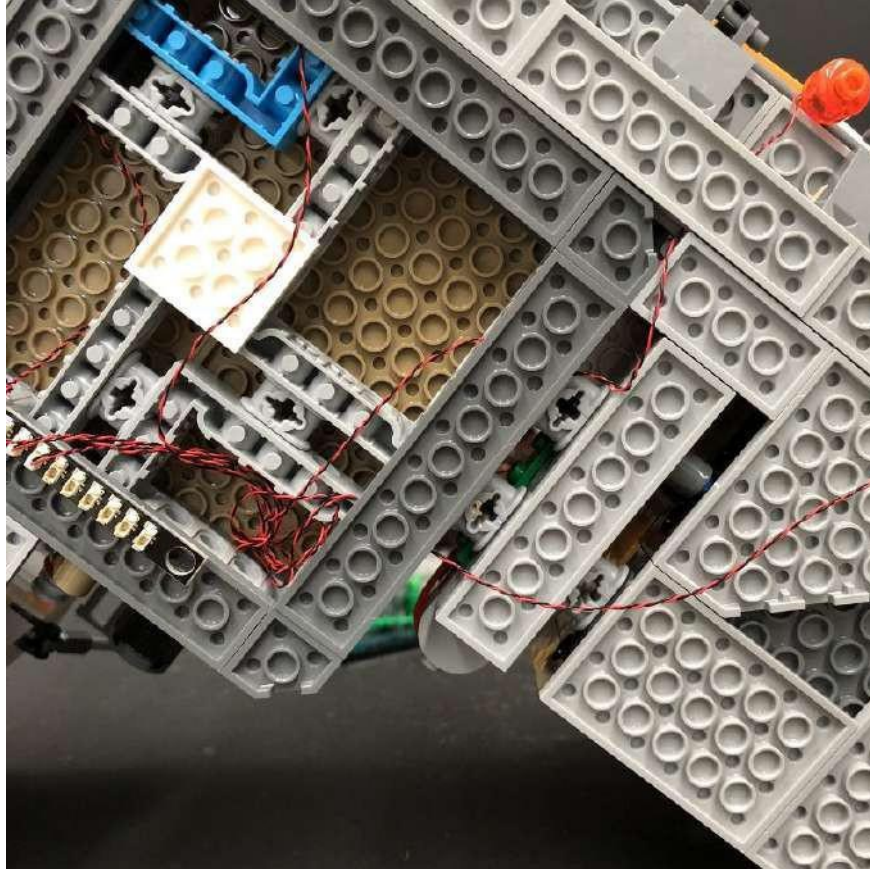
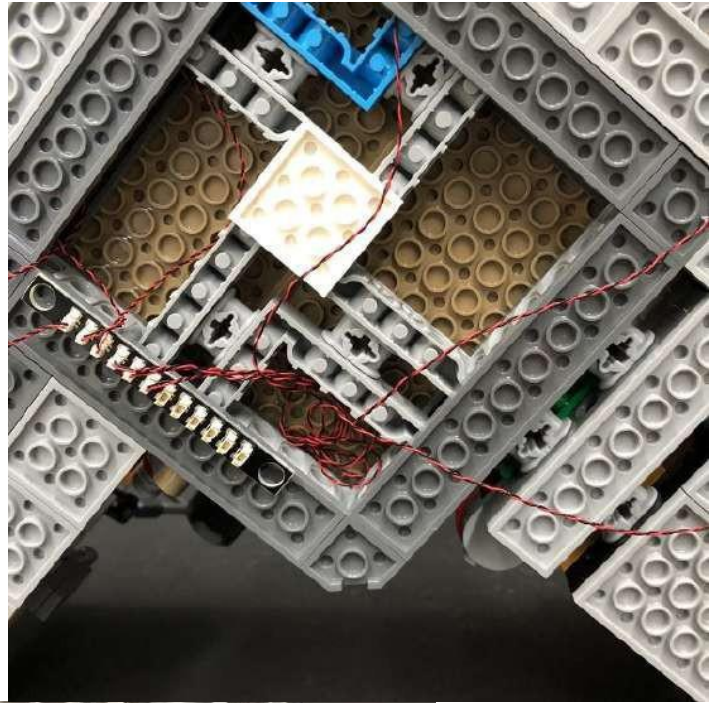
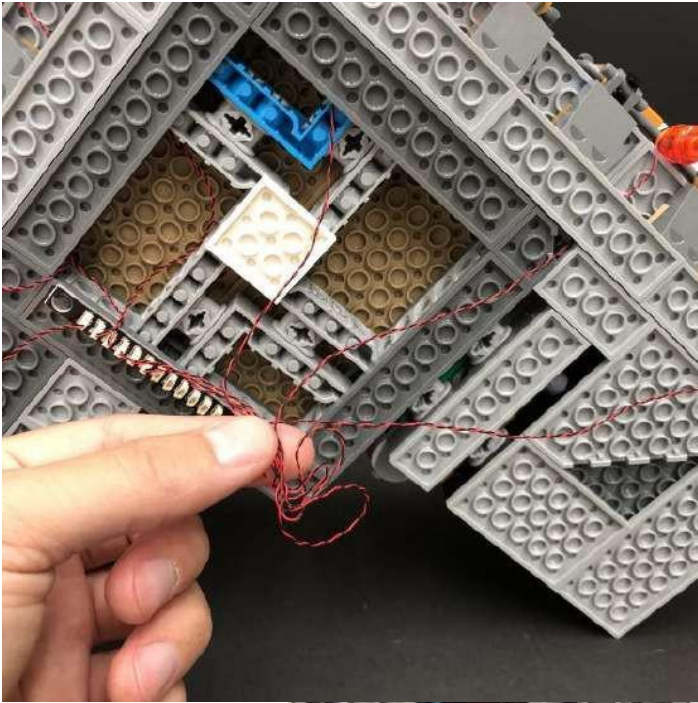




Mount the expansion board underneath the third koor in the following position using 2x Adhesive Squares.

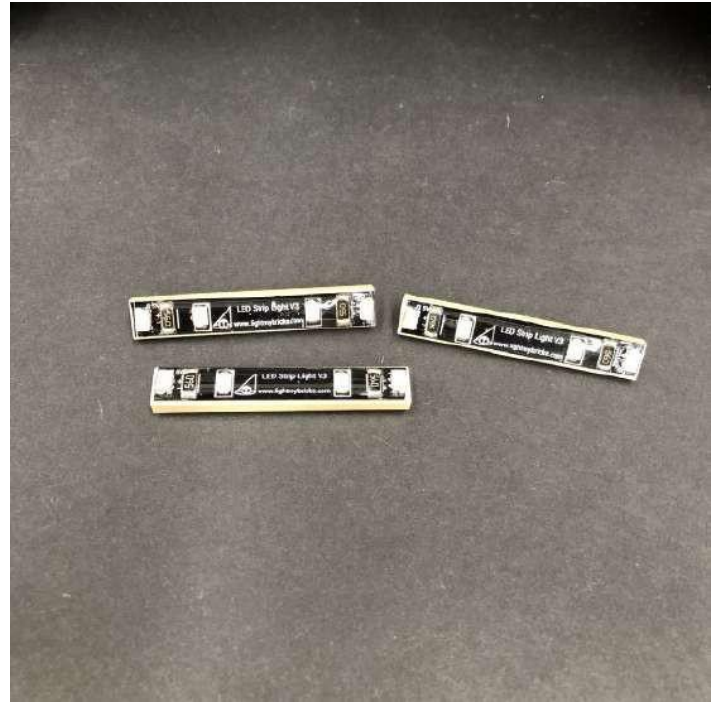
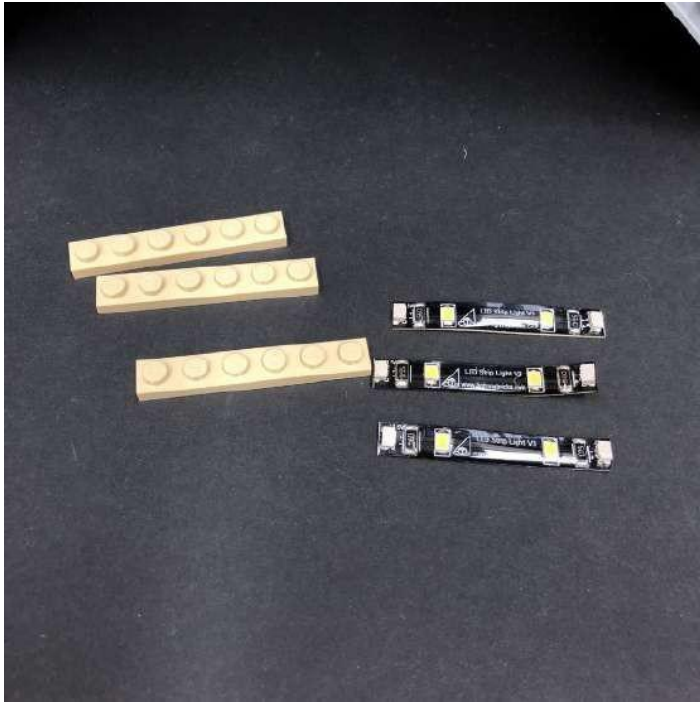


32.) Neaten up messy cables by grouping them together, twisting them around each other and then tucking them into spaces underneath the third koor.

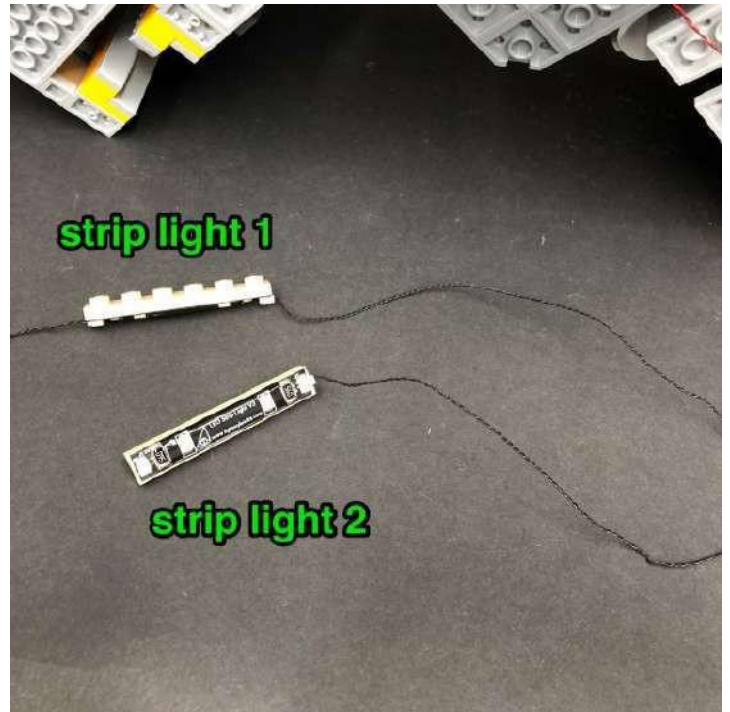


You can also secure dangling cables by laying them underneath LEGO plates.

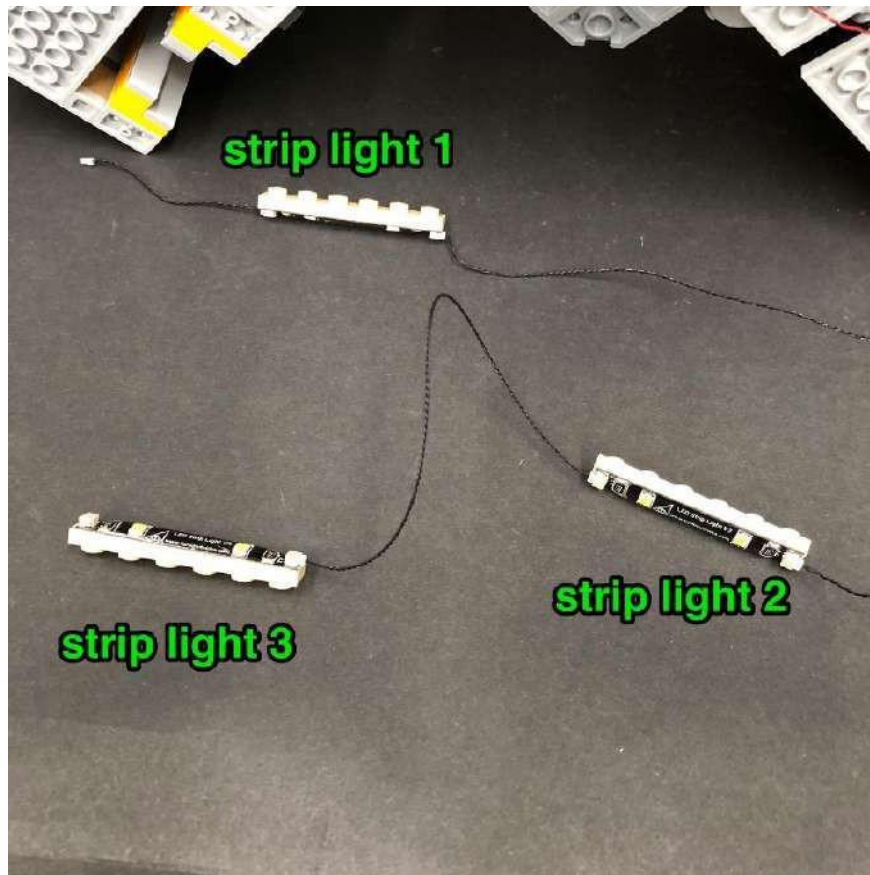
33.) Take 3x White Strip Lights and stick them to 3x LEGO 1x6 Plates.



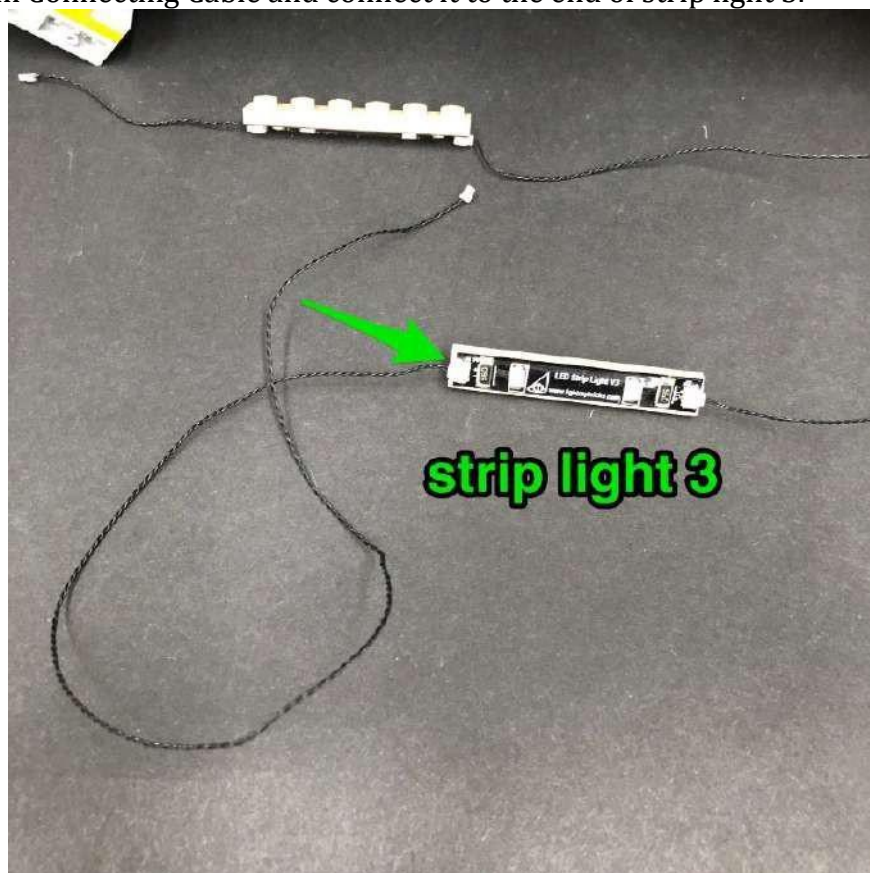
Take a 5cm Connecting Cable and connect it to the end of one strip light (strip light 1) then take a 30cm Connecting Cable and connect it to the other end of the strip light and connect the other end of the 30cm cable to another strip light (Strip light 2).



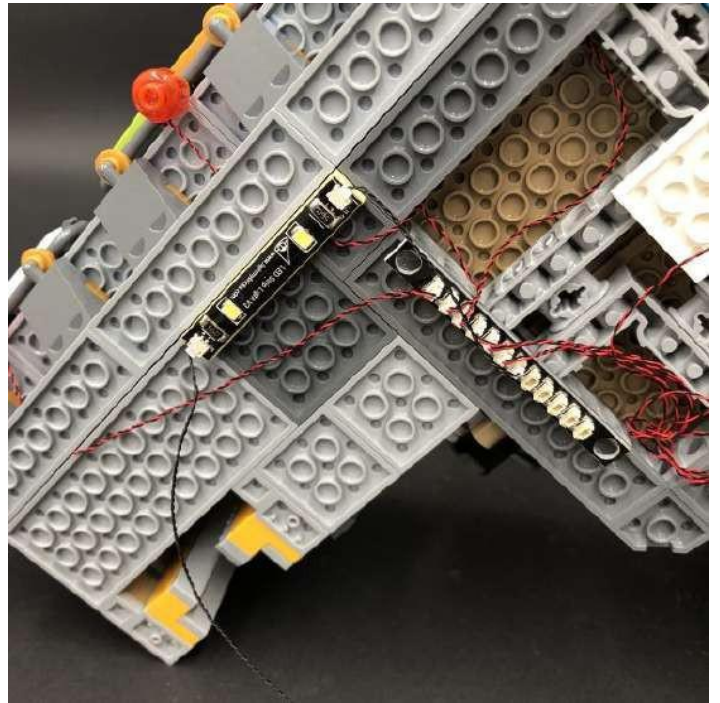
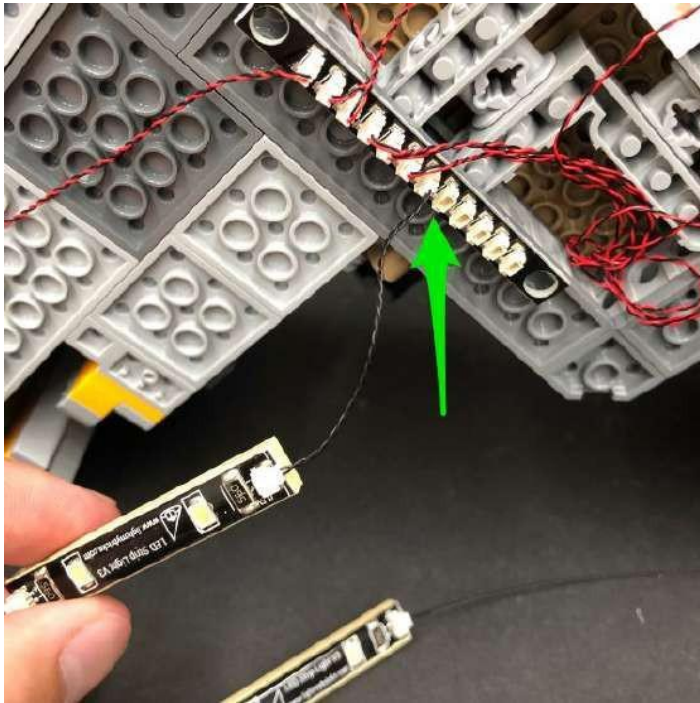
Take a 15cm Connecting Cable and connect it to the other end of strip light 2 and then connect the other end of the cable to strip light 3.



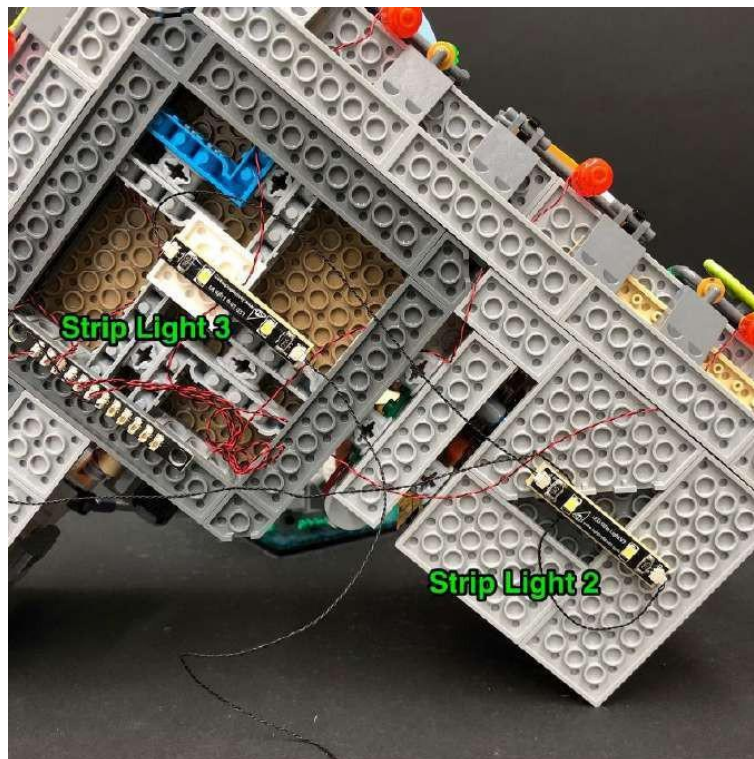
Take the another 30cm Connecting Cable and connect it to the end of strip light 3.

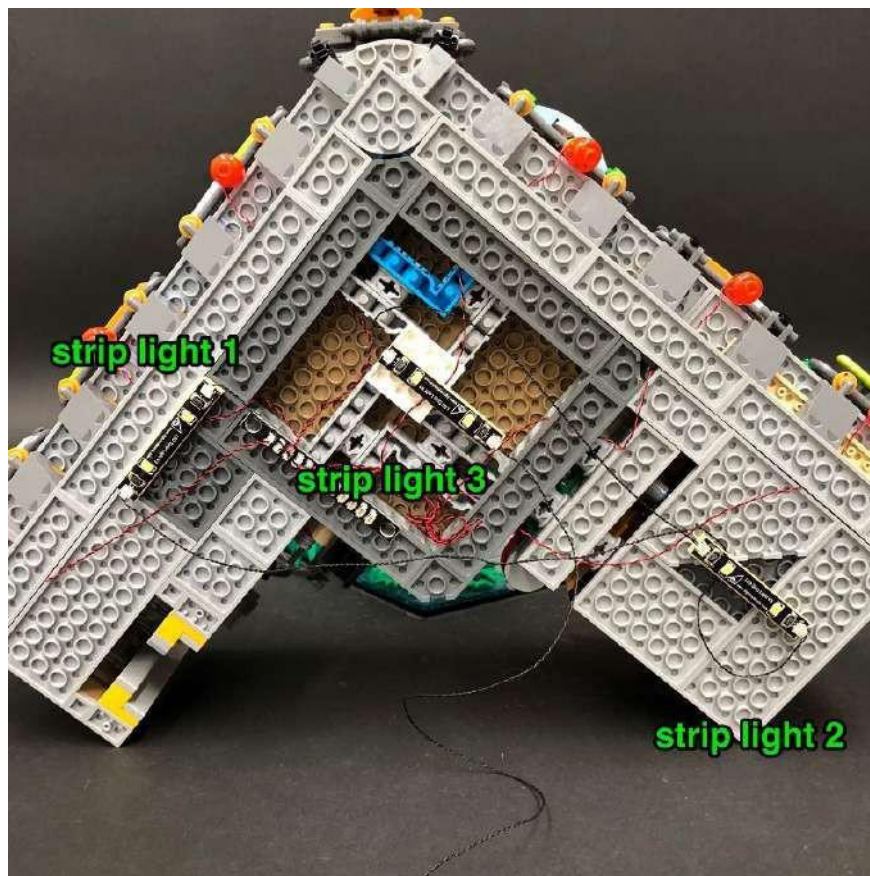


34.) Connect the other end of the 5cm Connecting Cable to a spare port on the 12-port Expansion board and then mount strip light 1 to the following position underneath the third koor.

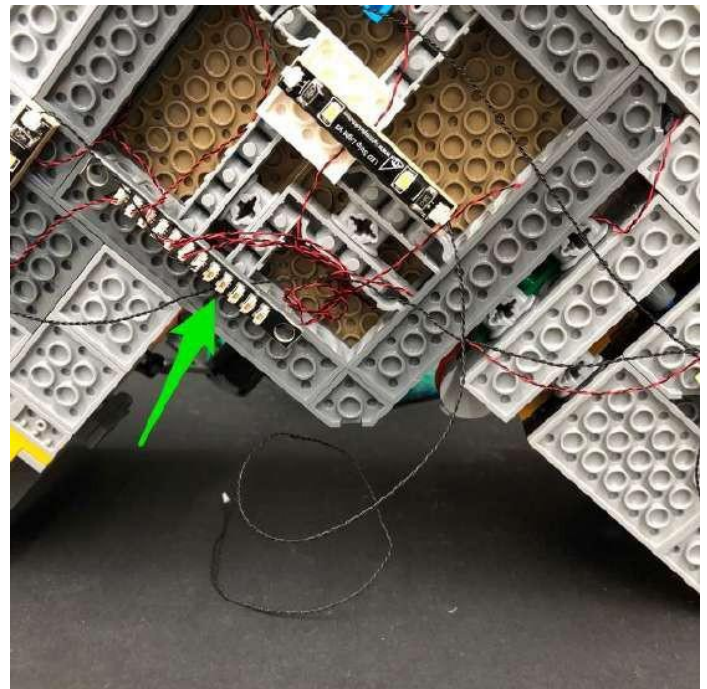
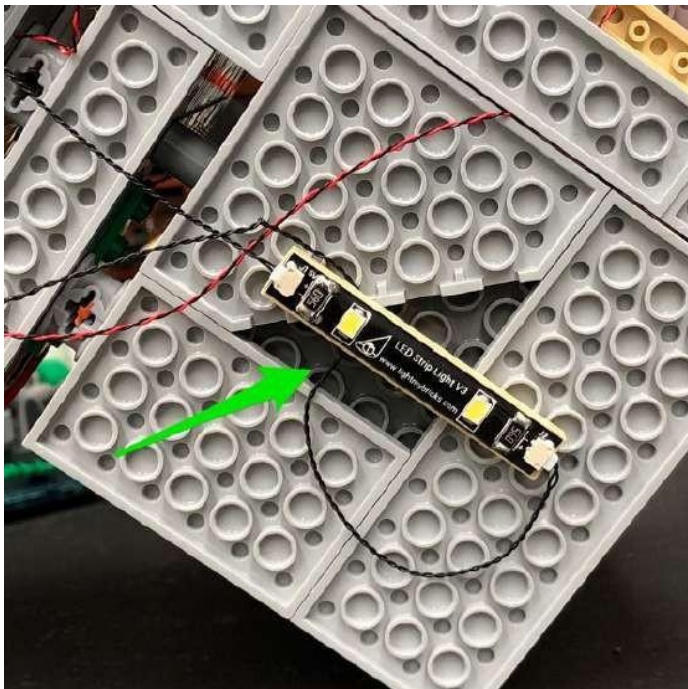


Mount strip light 2 and 3 to the following positions on the right side ensuring the other end of the 30cm connecting cable from strip light 3 is facing right.

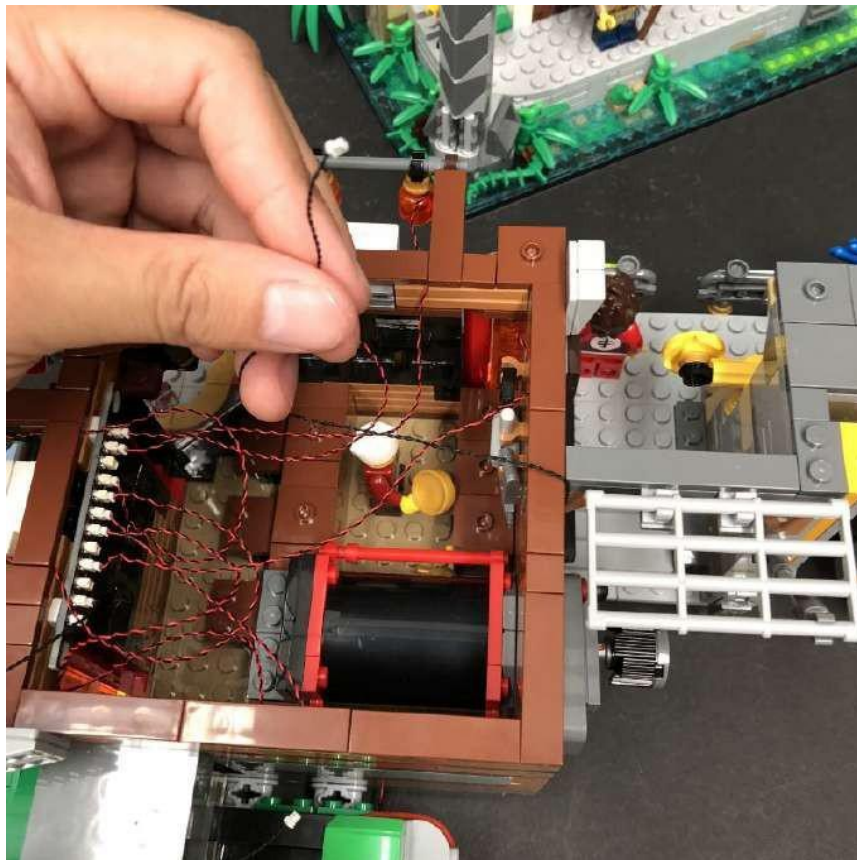
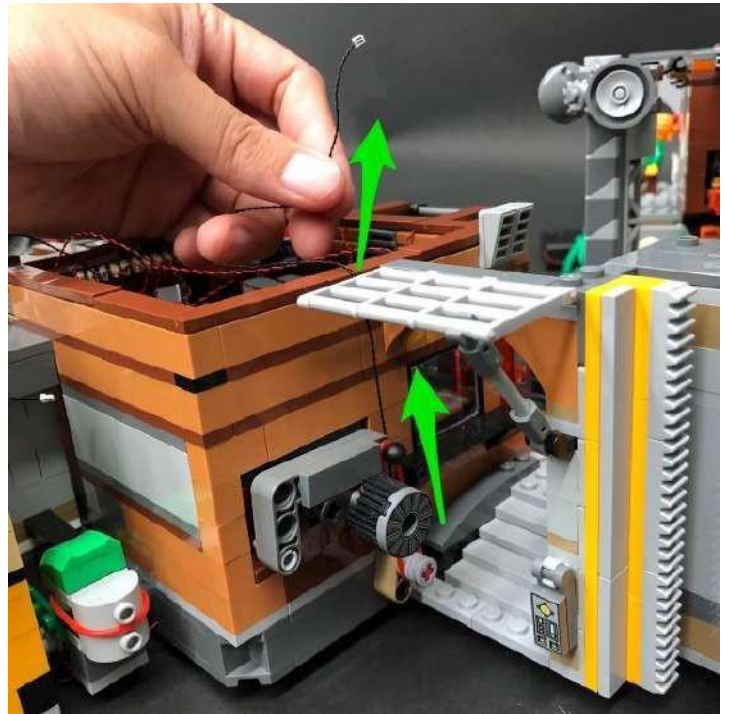
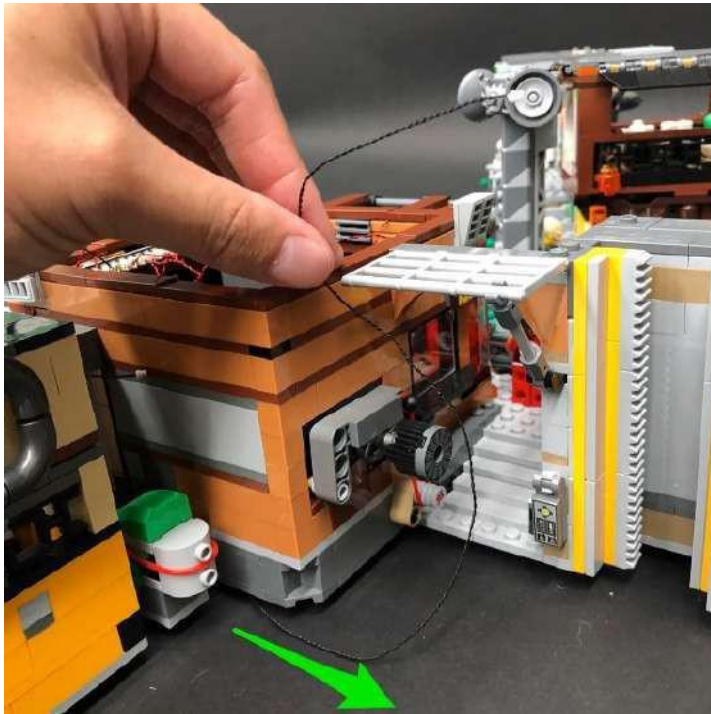




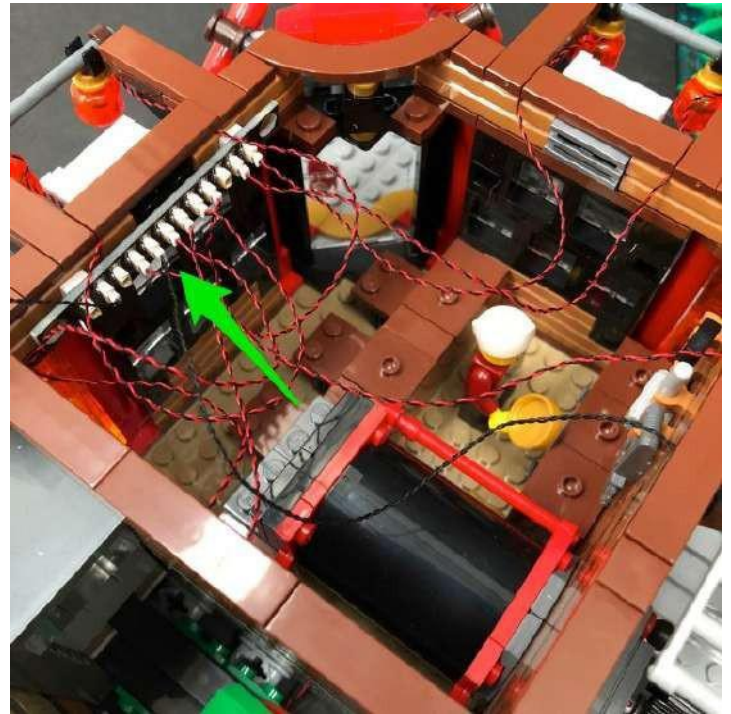
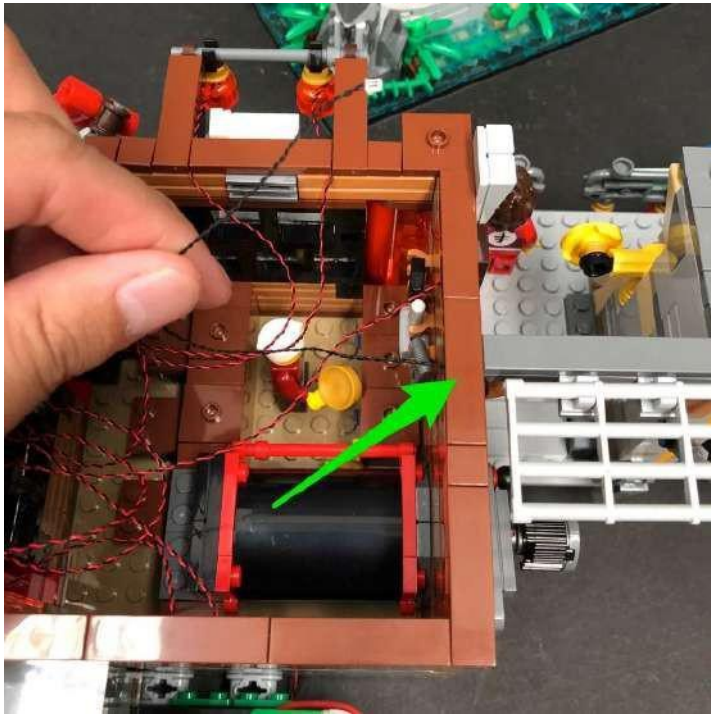
To eliminate excess cable, loop and lay the cables under plates and expansion boards



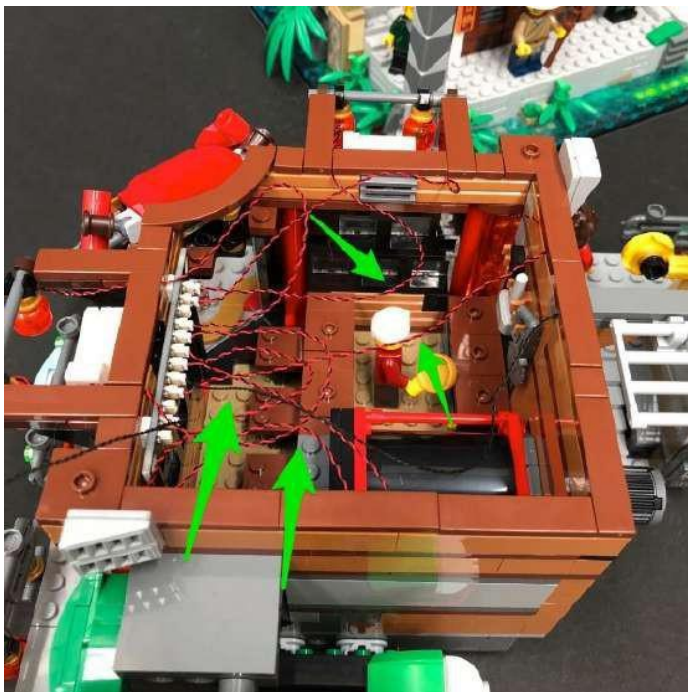
35.) Pull the other end of the 30cm Connecting Cable from strip light 3 out the back and then pull it up and bring it over the wall behind the following section below.



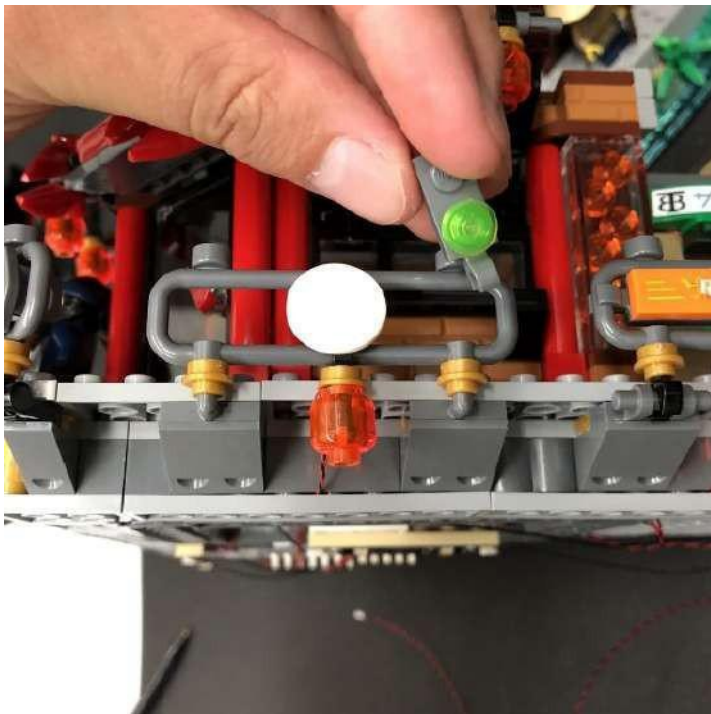
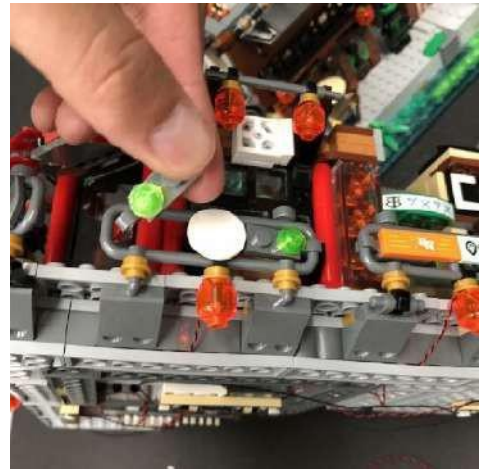
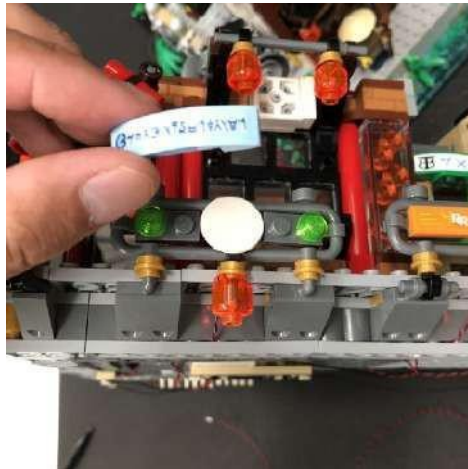
Secure the cable underneath the following brown tile and then connect it to a spare port on the 12-port expansion board inside the restaurant.



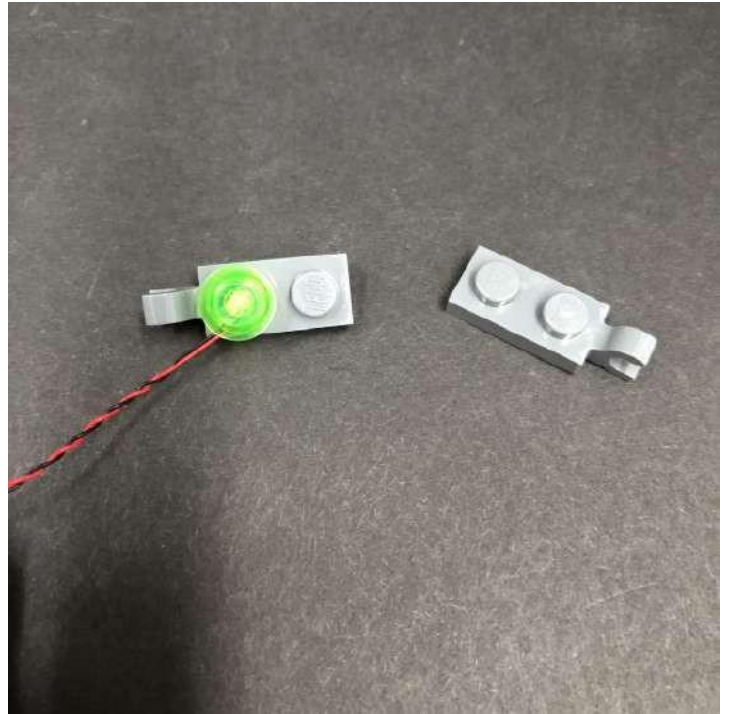
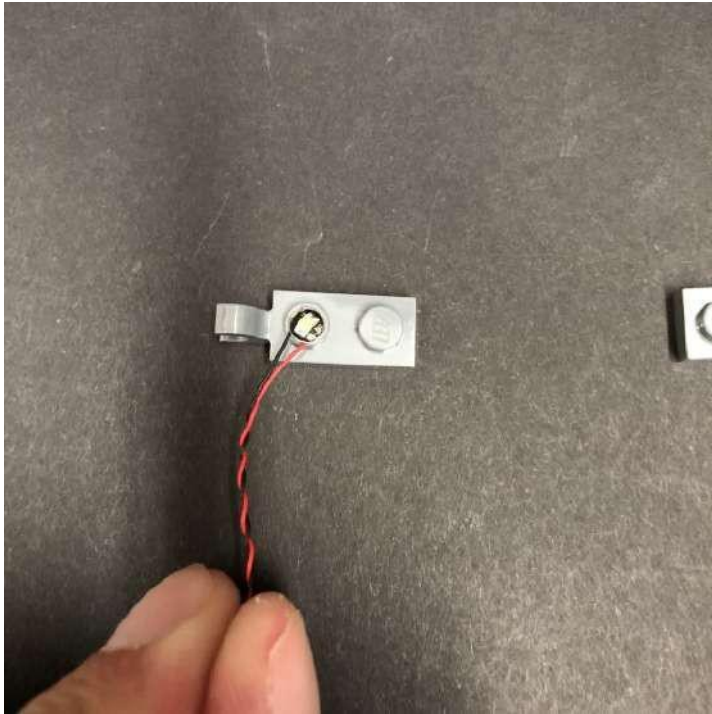
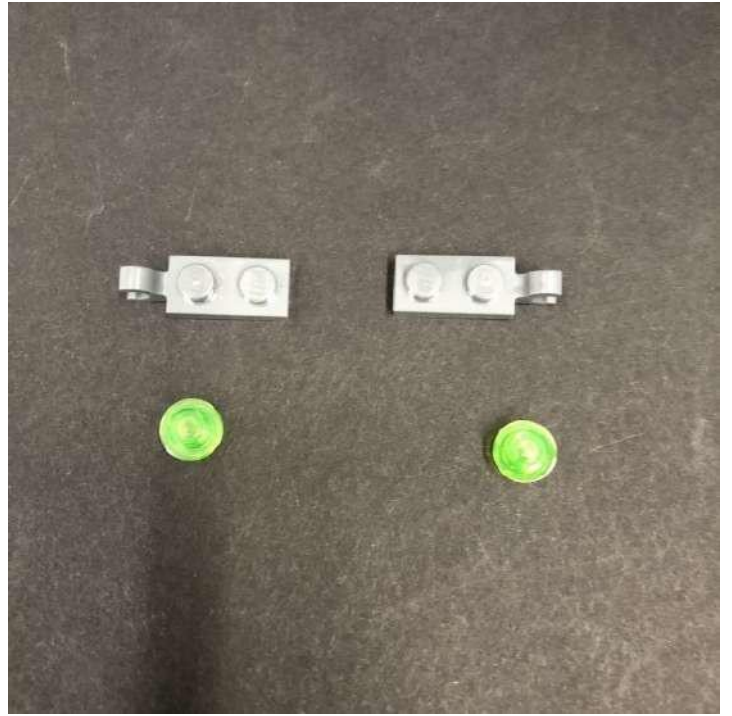
Use your hand to lift all the cables up from underneath them so they are not dangling down and seen from the outside windows.



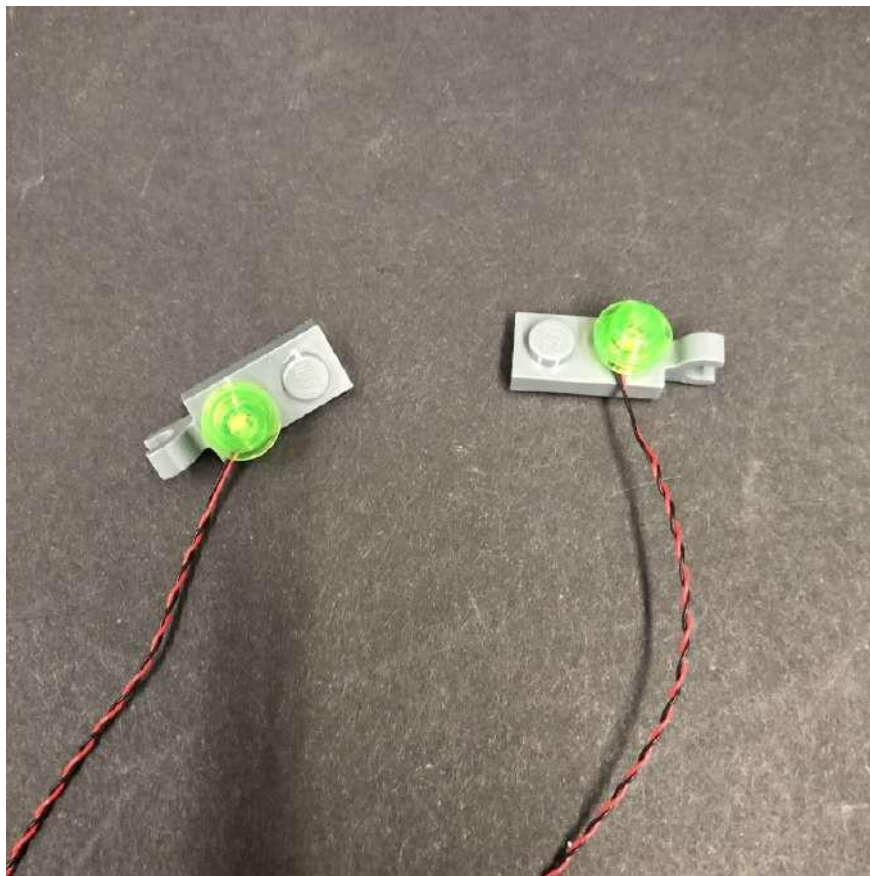
36.) We will now install kashing lights to one of the billboards at the front. First disconnect the following sections to allow us to disconnect the two dark grey plates with trans green pieces.



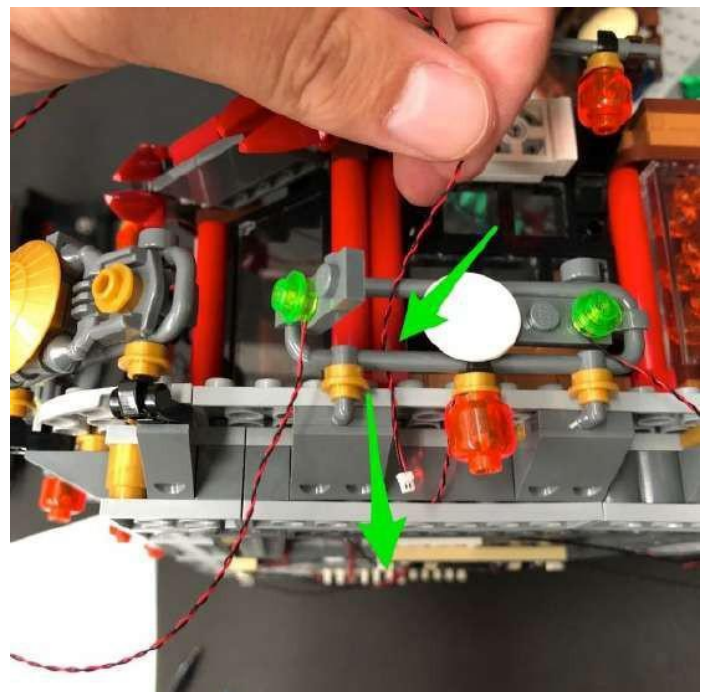
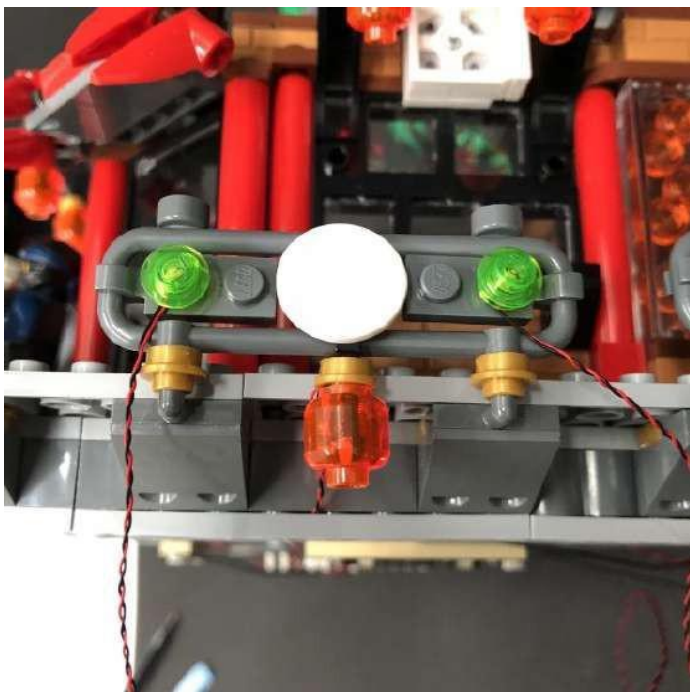
37.) Disconnect the trans green pieces from the grey plates and then starting with the left plate, take a Flashing White 30cm Dot Light and with the cable facing down, place the led component over the left stud. Secure it in place by reconnecting the trans green piece over it.

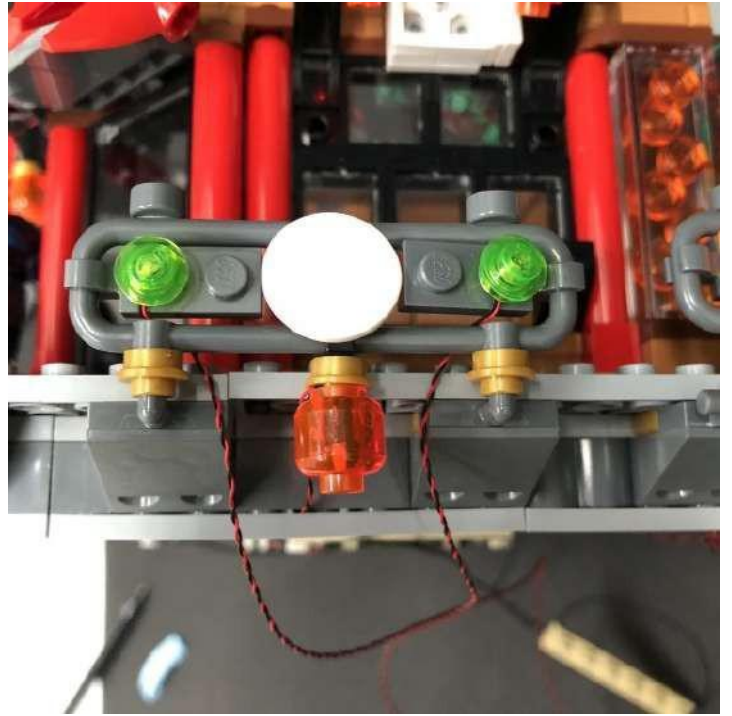
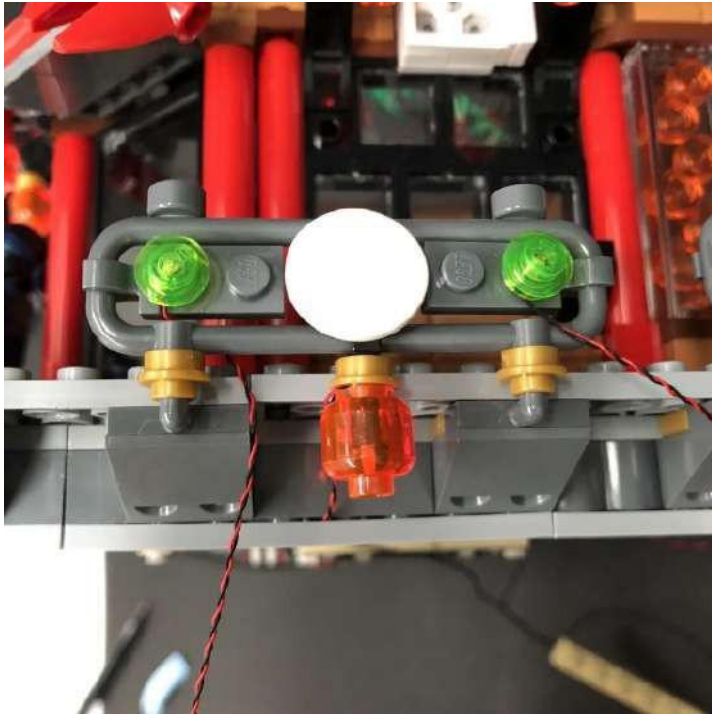


Repeat this step to install another Flashing White 30cm Dot Light to the right side.

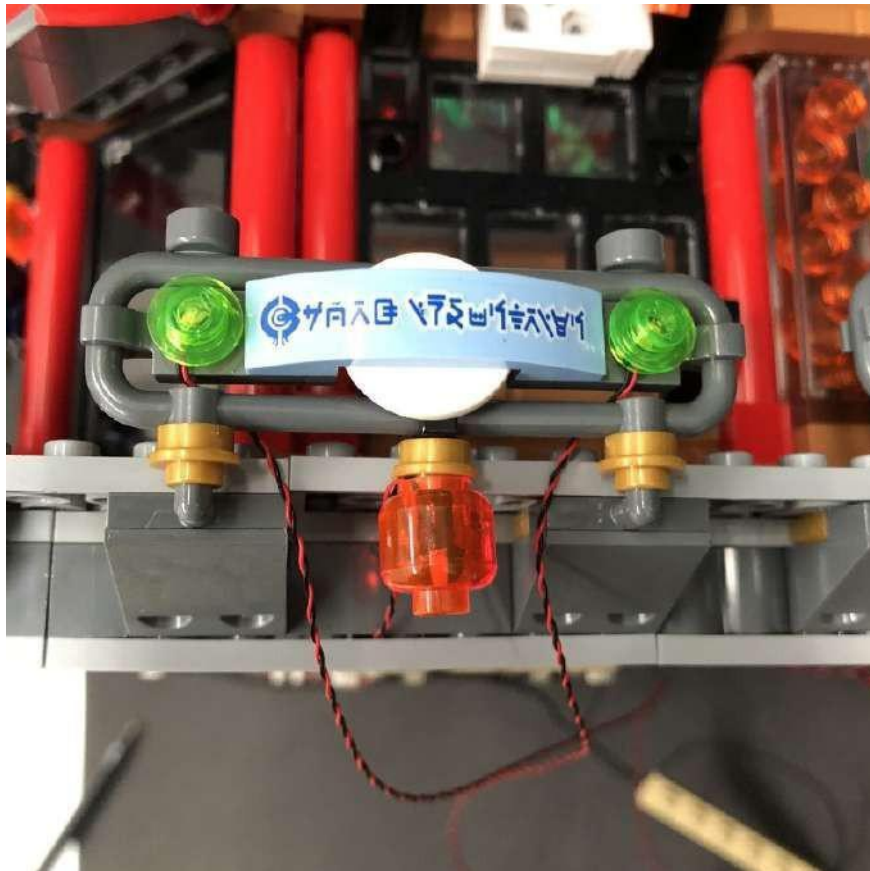


38.) Reconnect both plates to the sign poles and then thread both cables behind and then down through in between the grey bar and base plate.

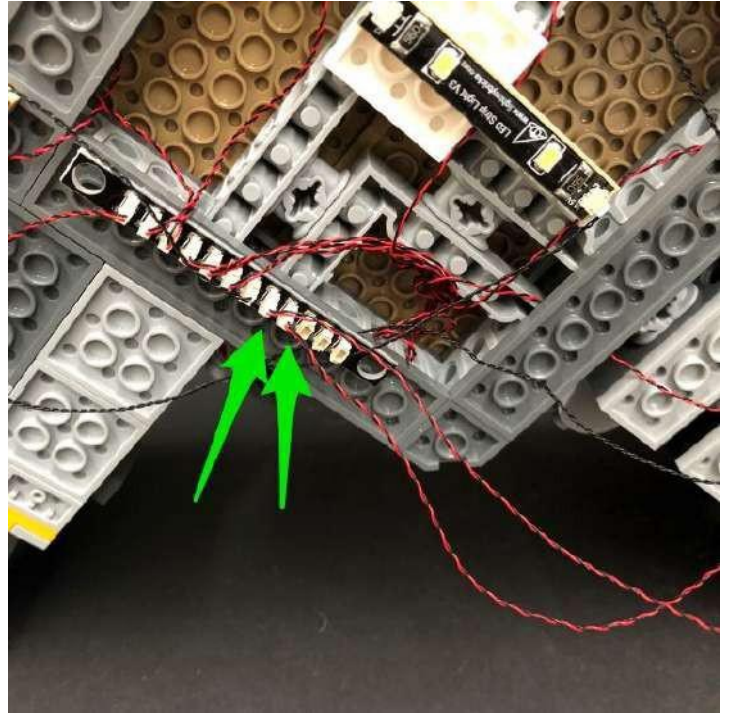
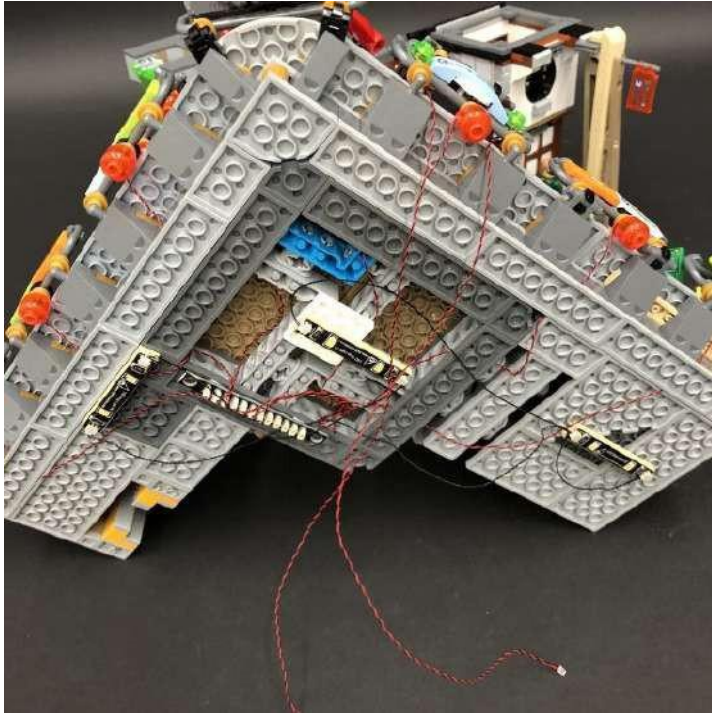




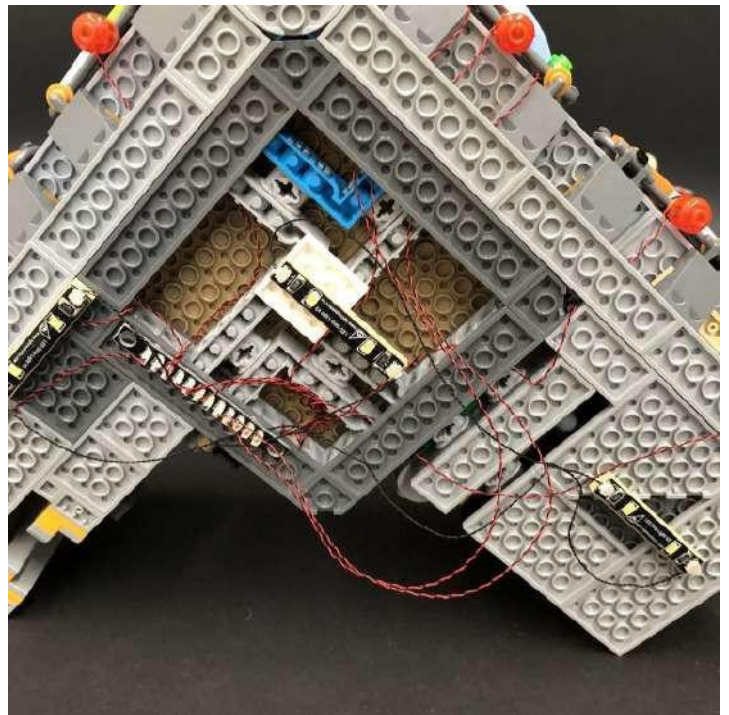
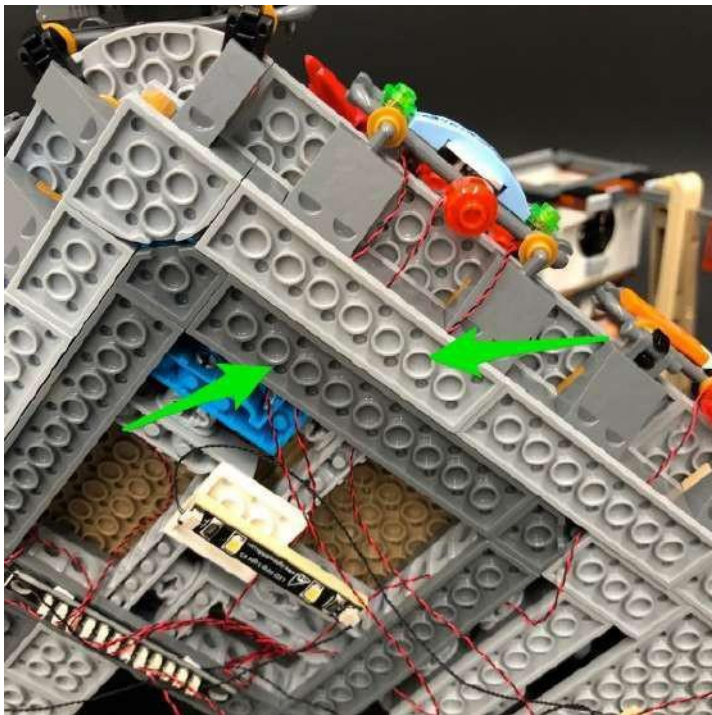
Reconnect the sign



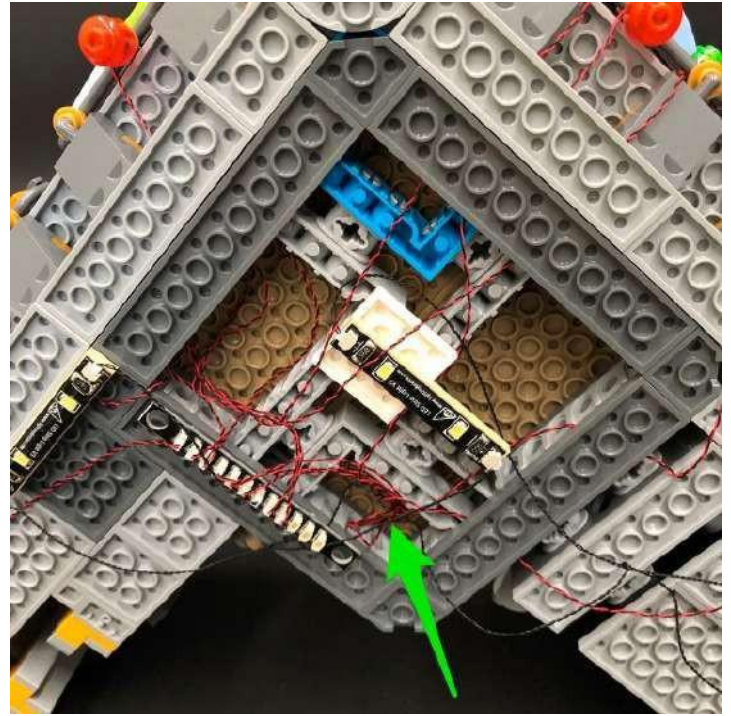
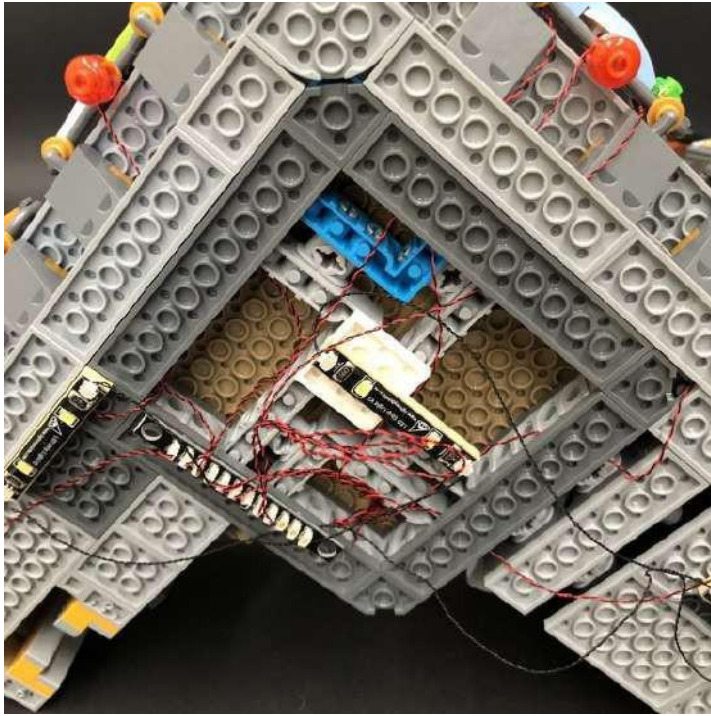
39.) Pull both cables down underneath and then connect them to the spare ports on the 12-port expansion board.



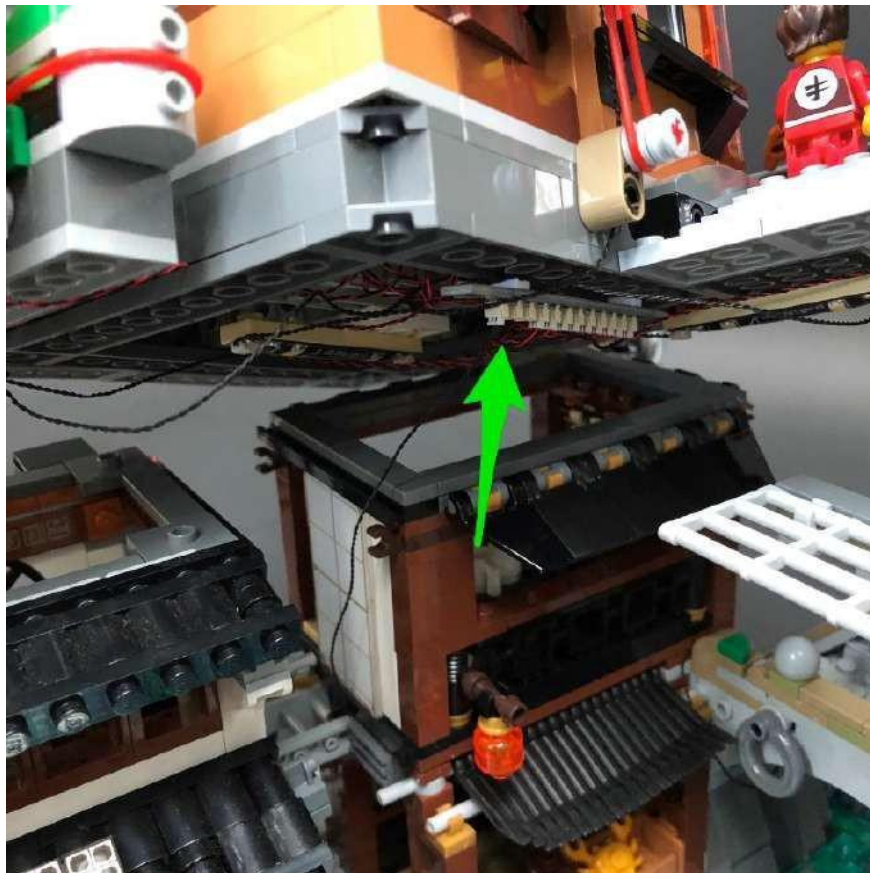
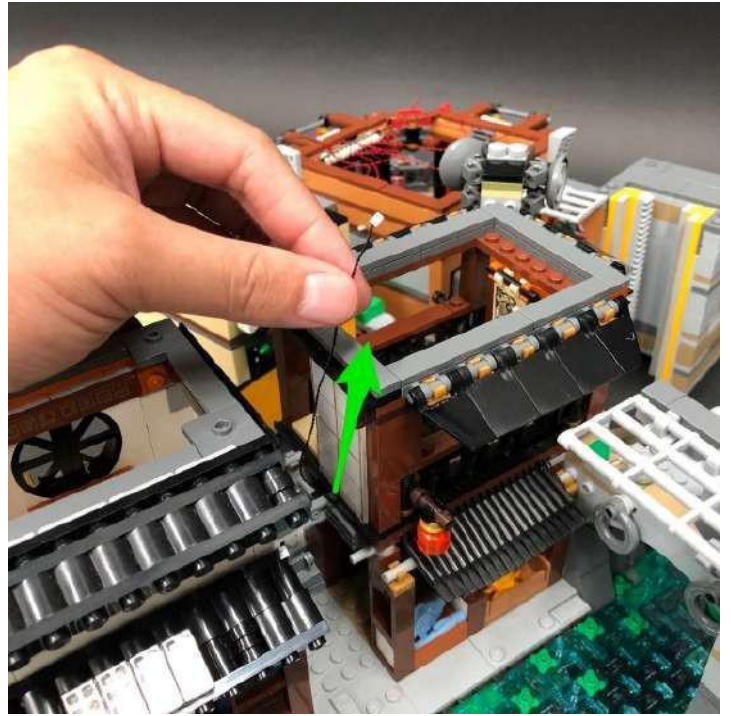
Lay both cables underneath the 2 plates underneath as shown below.



Group the remaining excess cables together, twist them around each other and then tuck them into the space underneath.



40.) Bring the entire third koor above the building and then locate the other end of the 15cm Connecting Cable from underneath. Connect this cable into a spare port on the 12-port expansion board mounted underneath the 3rd level.



Securely reconnect the entire third koor on top and then turn the battery pack to test all the lights are working OK

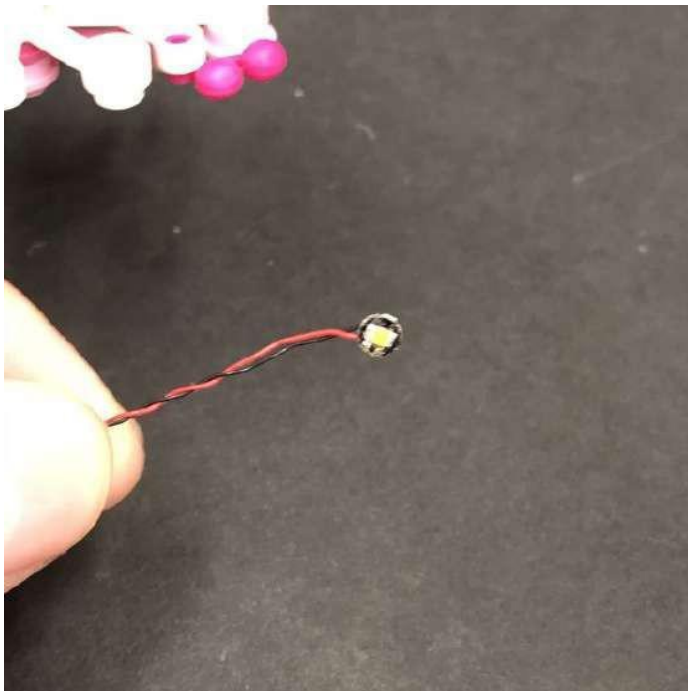


41.) We will now install some lights to the cherry blossom tree on the fourth koor.

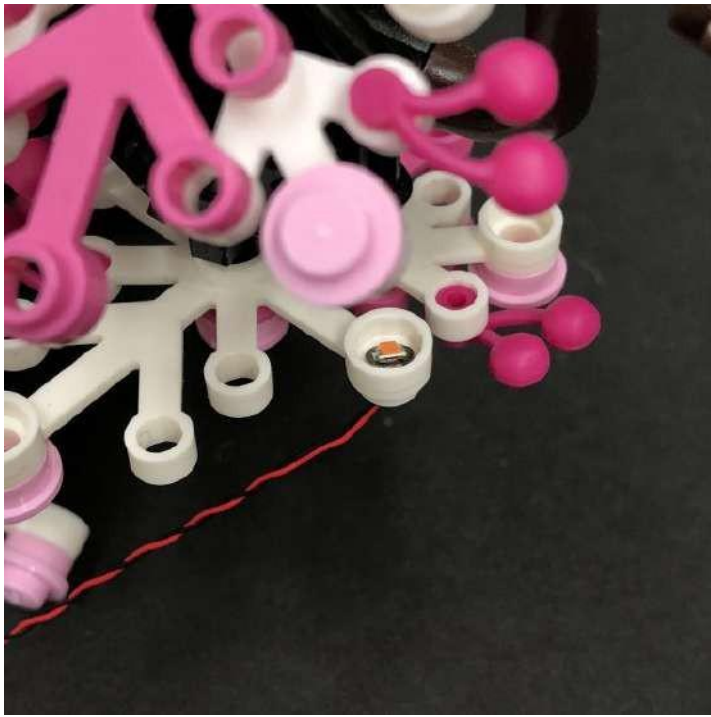
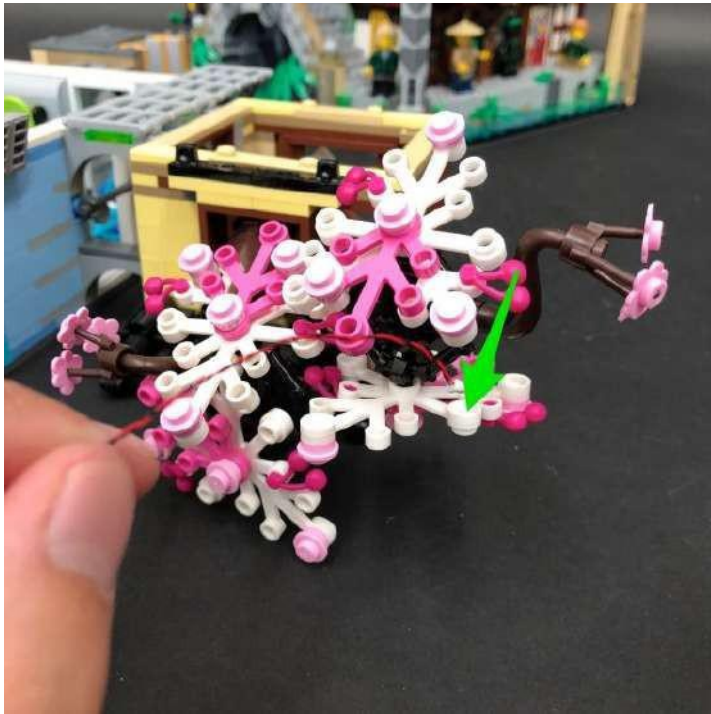




Take out the 4x Pink 30cm Dot Lights and bend the tip of the of each light on a 90 degree angle as per below:

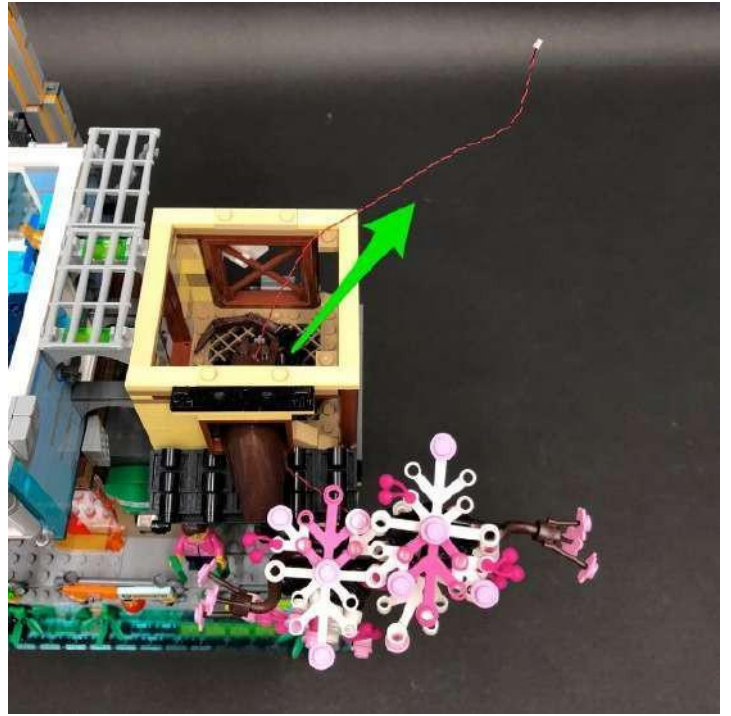
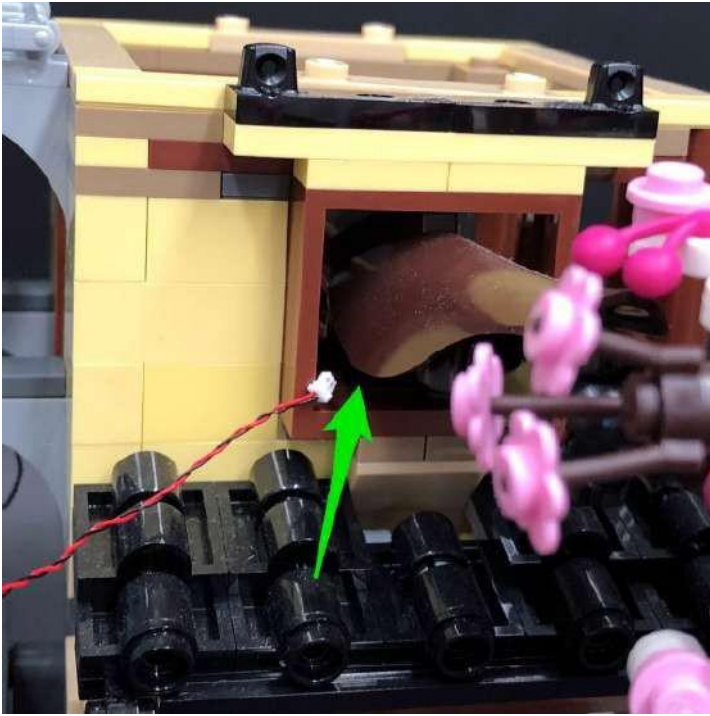


Thread the connector end of the first Dot Light down through the following hole of the tree piece. Pull the cable all the way down from underneath until the LED is sitting face up against the round hole.



Dot Light should be sitting flat against the white piece facing up

Thread the connector end of the cable through the window underneath the branch piece and then pull it out from the inside as shown below.

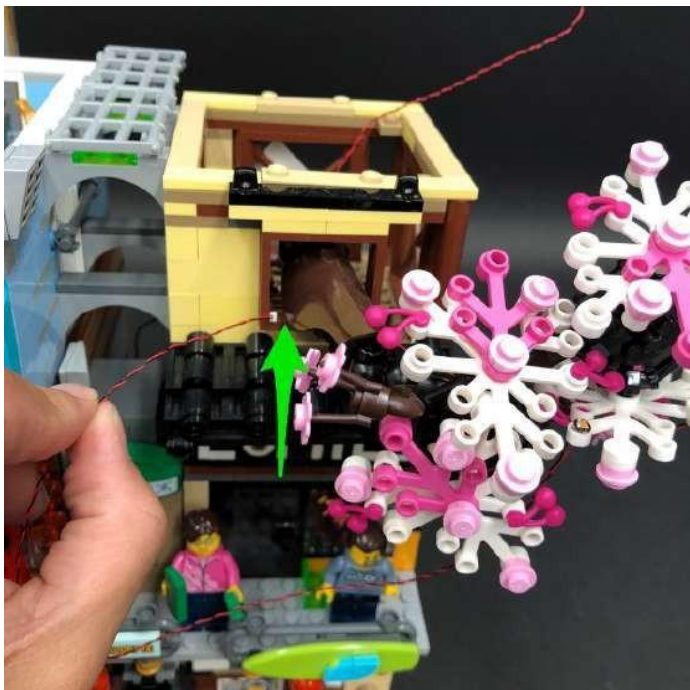


42.) Take another Pink 30cm Dot Light and then thread the connector end down through the following hole to the left of the previous light.





Thread the connector end of the cable through the window underneath the branch piece and then pull it out from the inside as shown below.

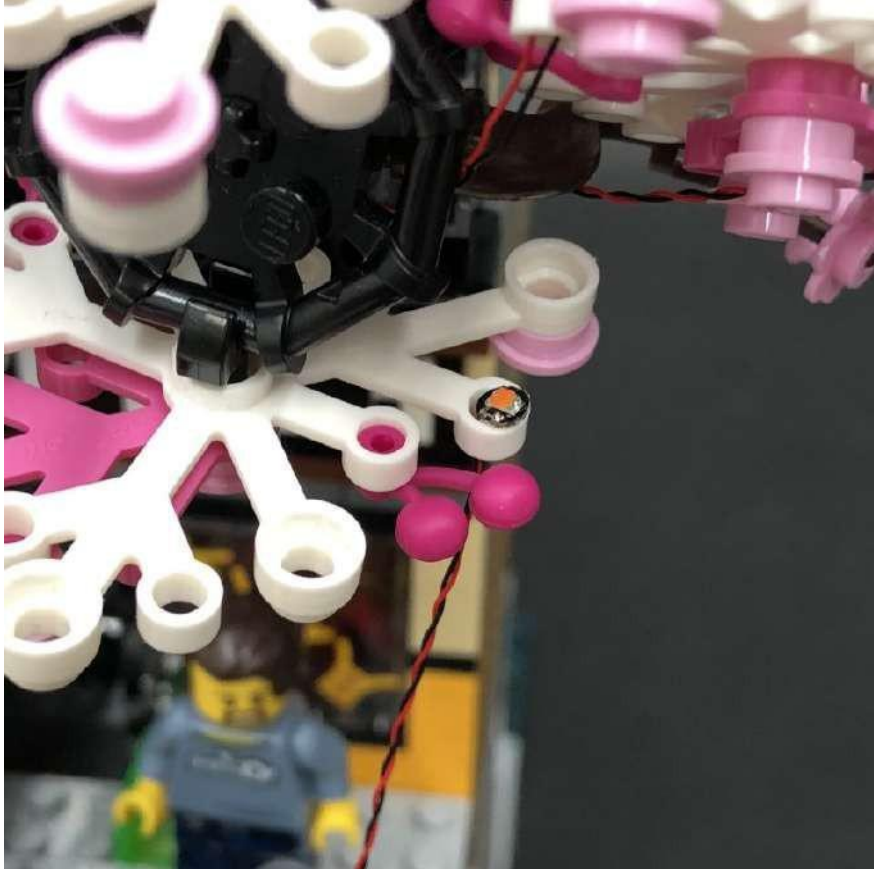


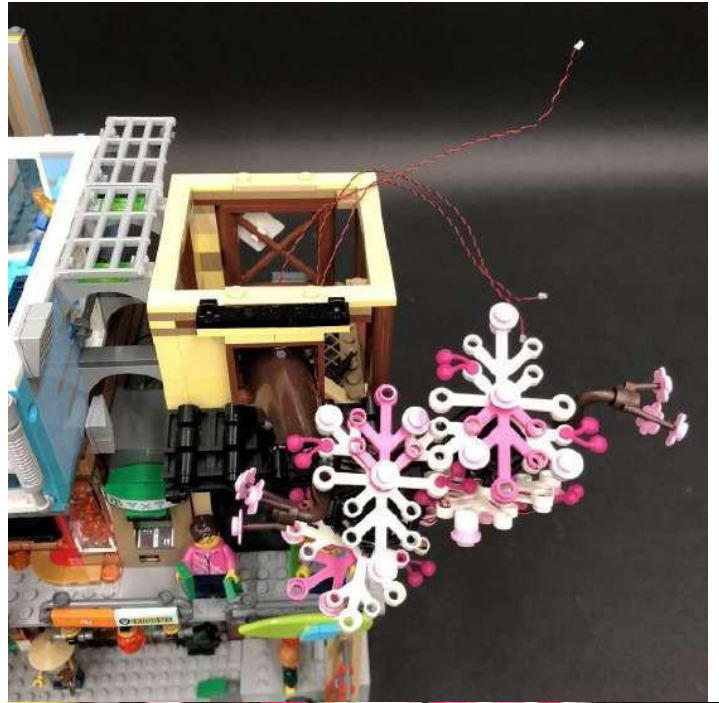
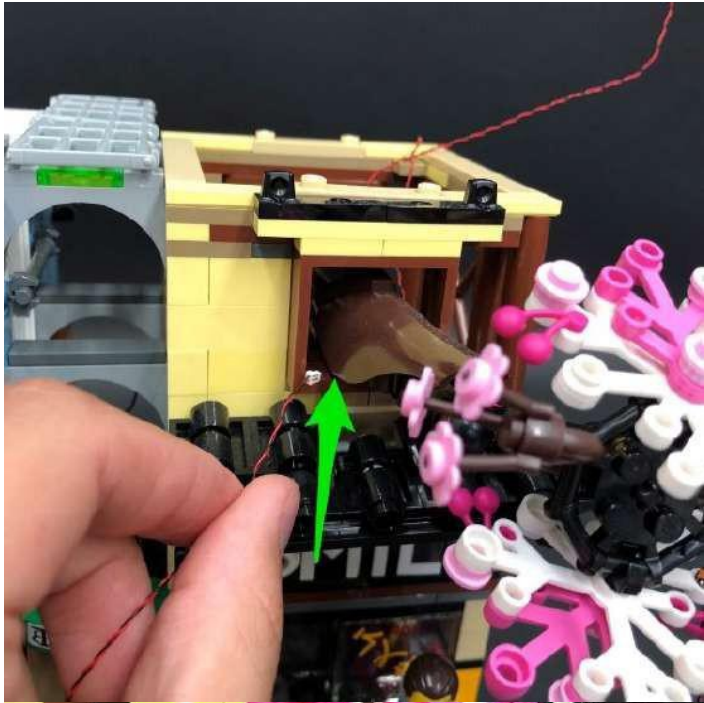
Tilt this tree section back to original position

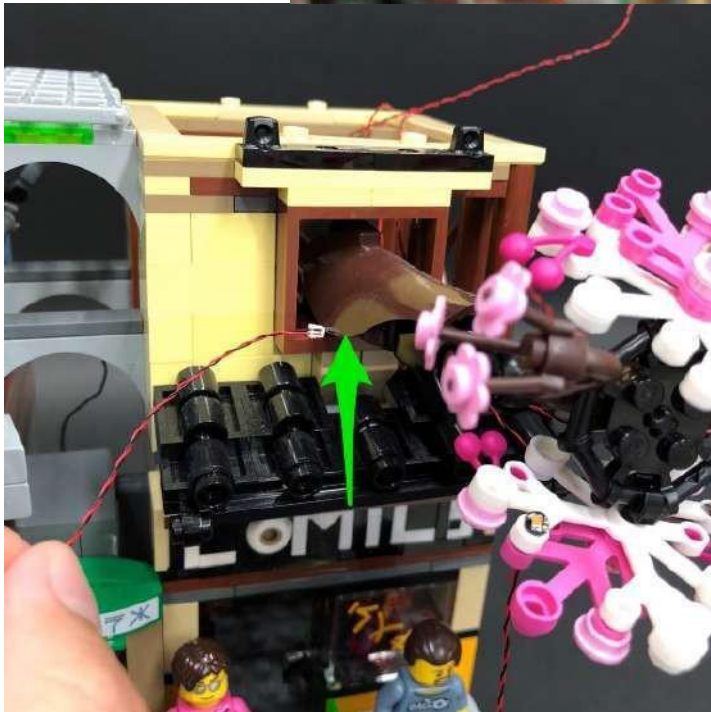


43.) Install another 2x Pink 30cm Dot Lights to the tree section toward the left following the images below to ensure you thread the lights through the correct holes.









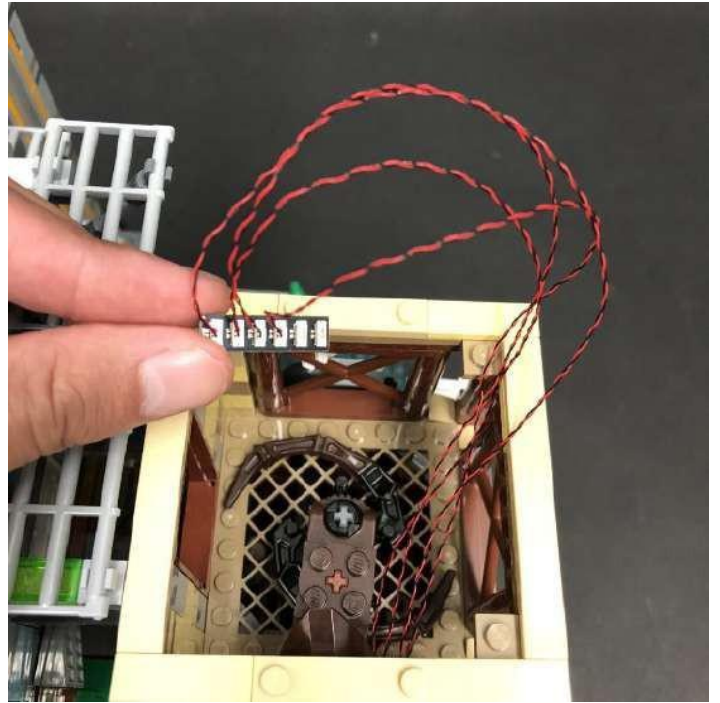
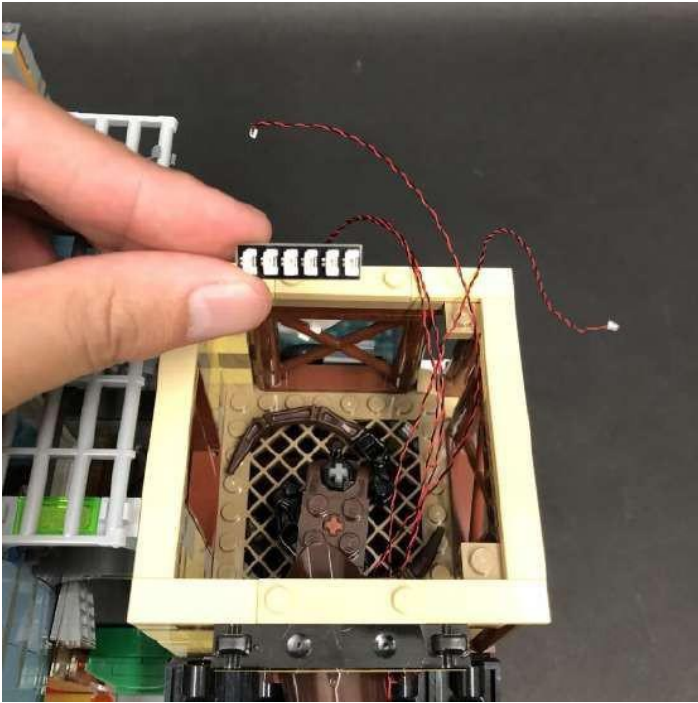
Tilt this tree section back to original position



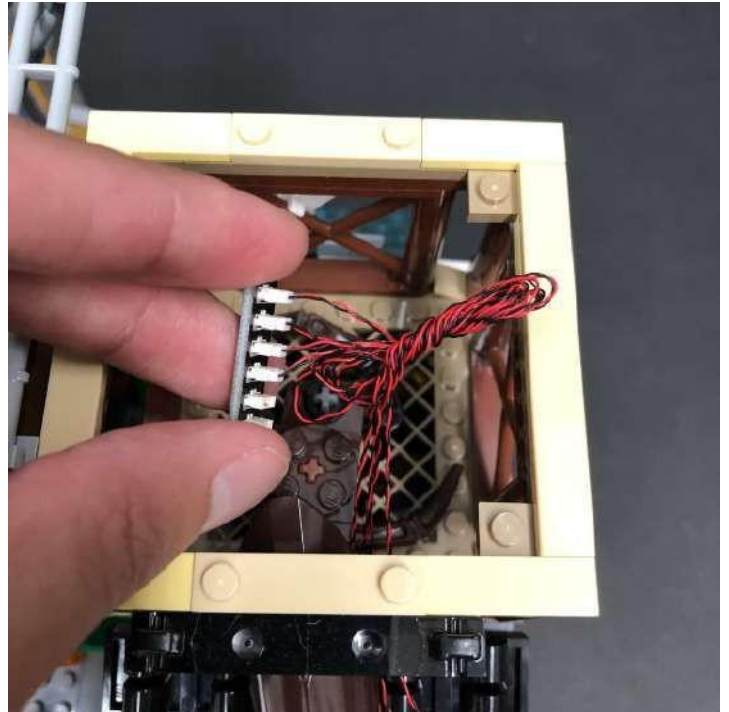
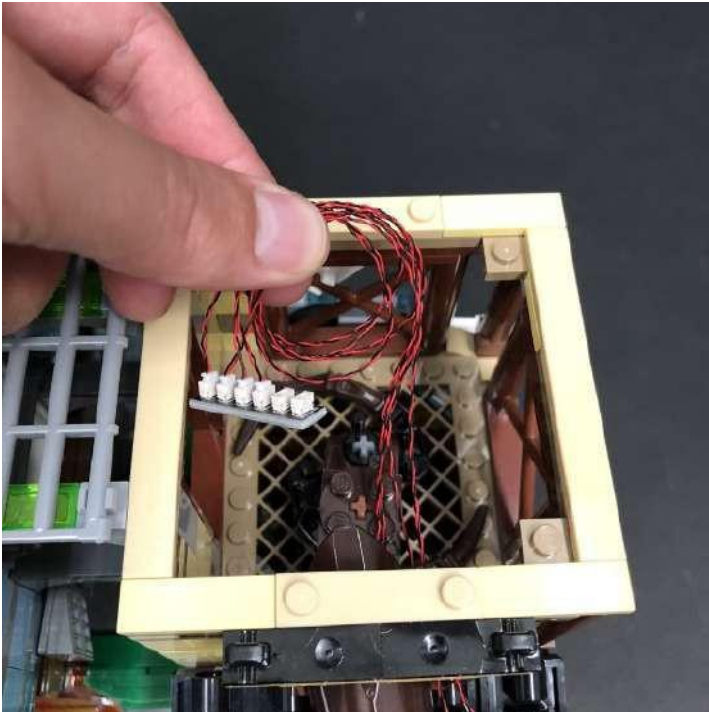
Both tree sections should be neatly positioned so that all four lights are shining up against the tree sections and branches above.



44.) Take the remaining 6-Port Expansion Board and then connect the four pink light cables to it.



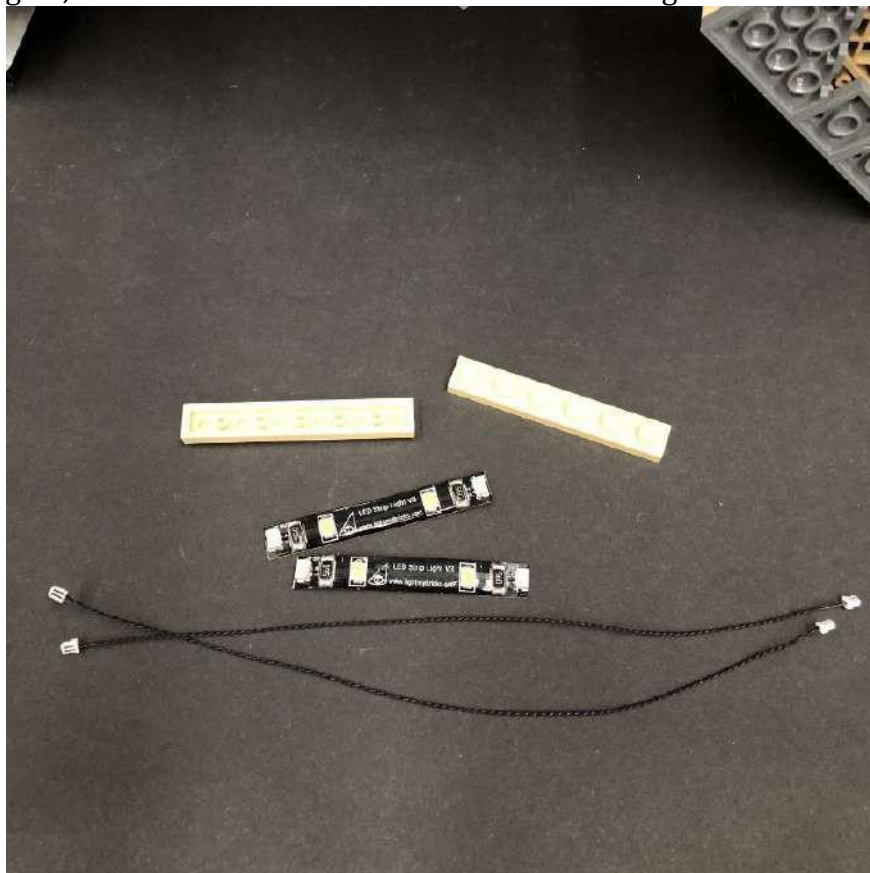
Group all cables and loop them around each other, then twist them around each other to eliminate excess cable.



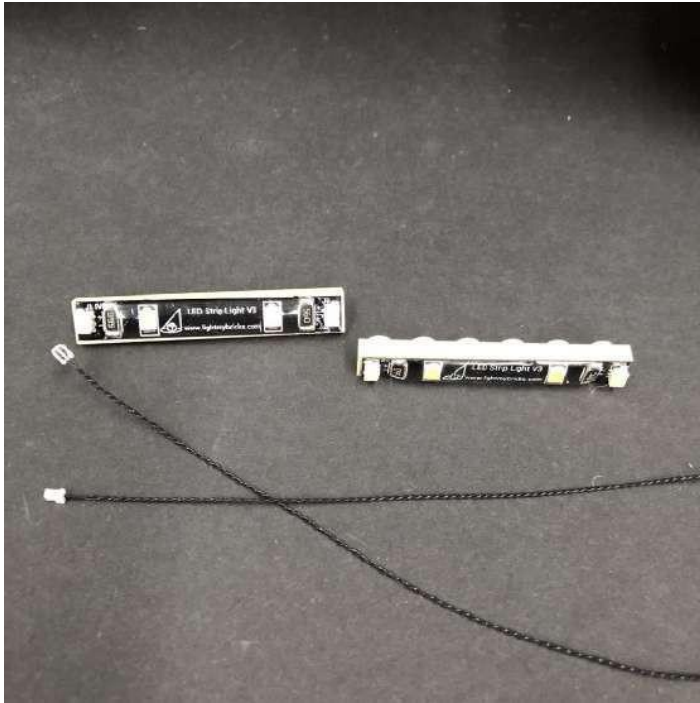
45.) Turn the entire fourth koor onto its back so we can access underneath.



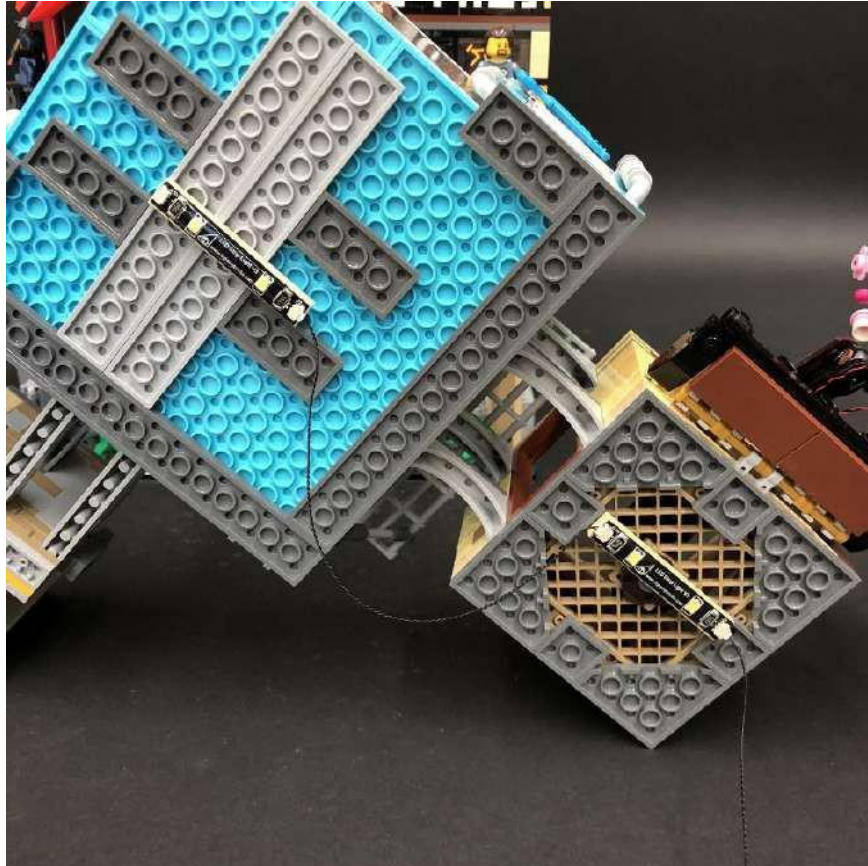
Take 2x White Strip Lights, 2x LEGO 1x6 Plates and 2x 15cm Connecting Cables.



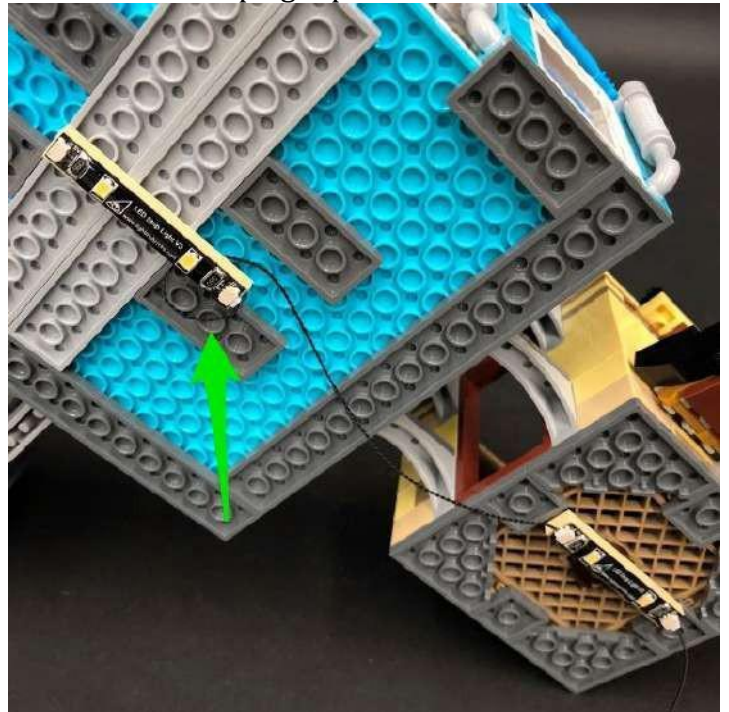
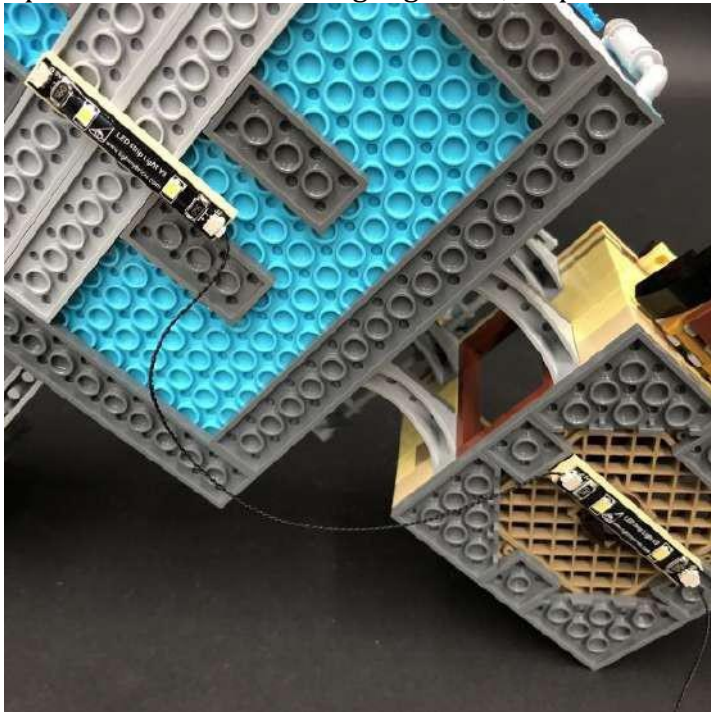
Stick each strip light to the lego plate provided and then connect one of the connecting cables in between each strip light, and the other on the end of one of the strip lights.



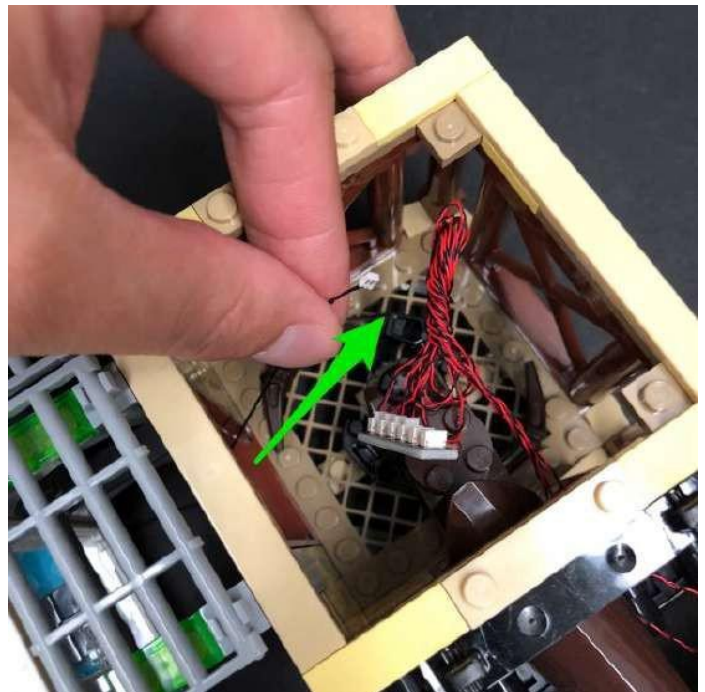
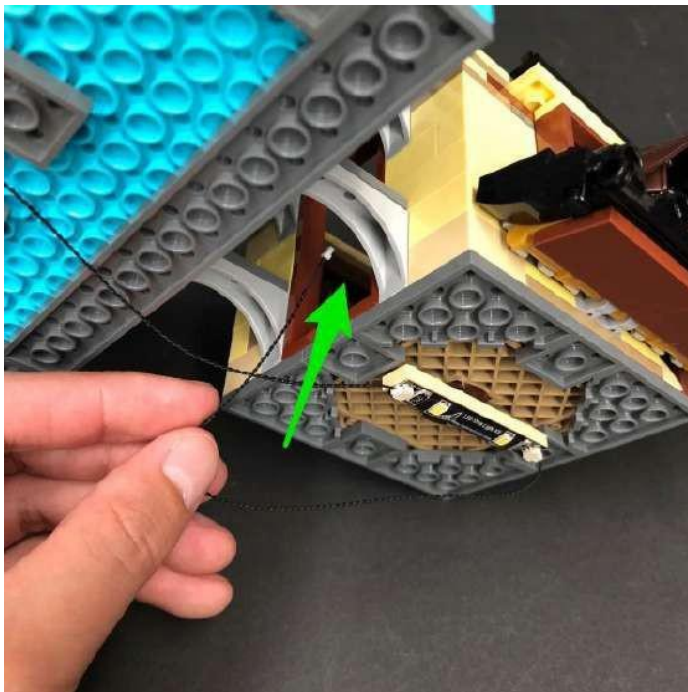
Ensuring the spare end of the 15cm connecting cable is facing right, mount the strip lights underneath the fourth koor in the below position:

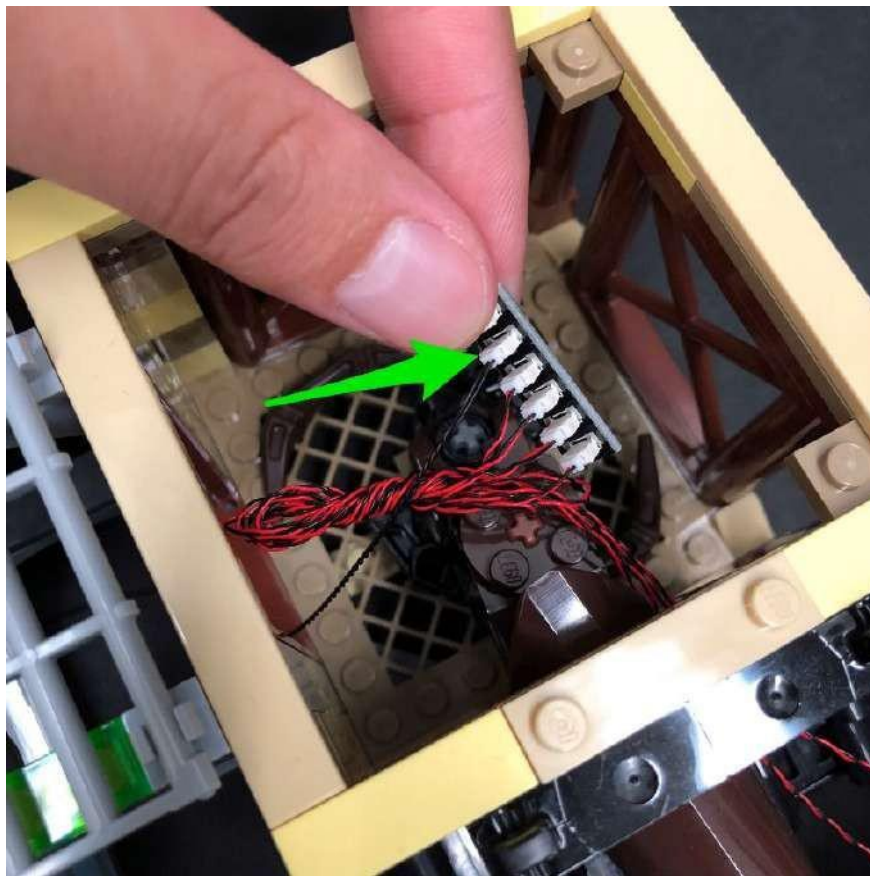


To prevent cables from dangling down, loop one side underneath the strip light plate as shown below:



46.) Take the other end of the 15cm connecting cable and thread it through the doorway above that leads into the room with the tree branch. Pull the cable up from underneath and then connect it to a spare port on the 6-port expansion board.





47.) Take the entire fourth koor above the rest of the building and then locate the other end of the 15cm connecting cable from the 12-port expansion board in the crab restaurant. Connect this into the other end of the strip light underneath the fourth koor.



Securely reconnect the fourth koor to the rest of the building and then reconnect the level above the tree room.



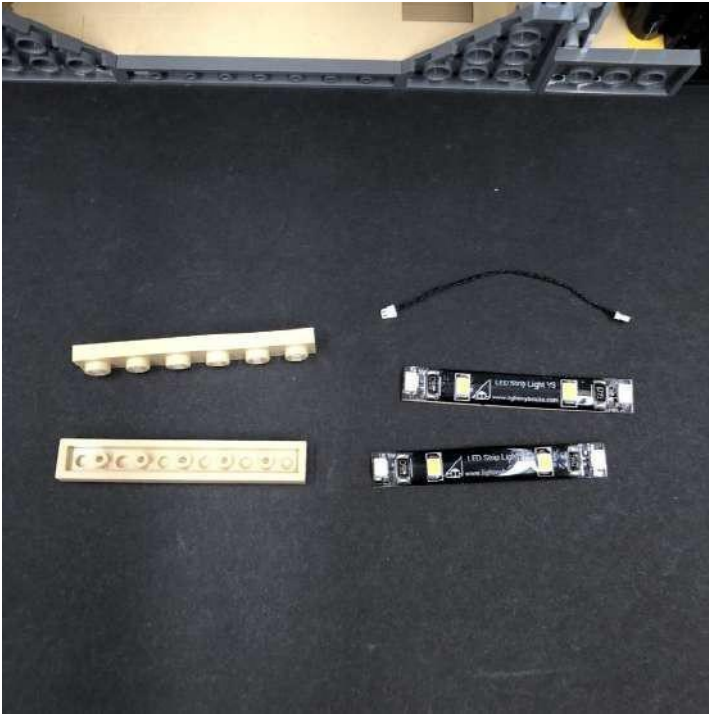
Turn on the battery pack to test all the lights are working OK.



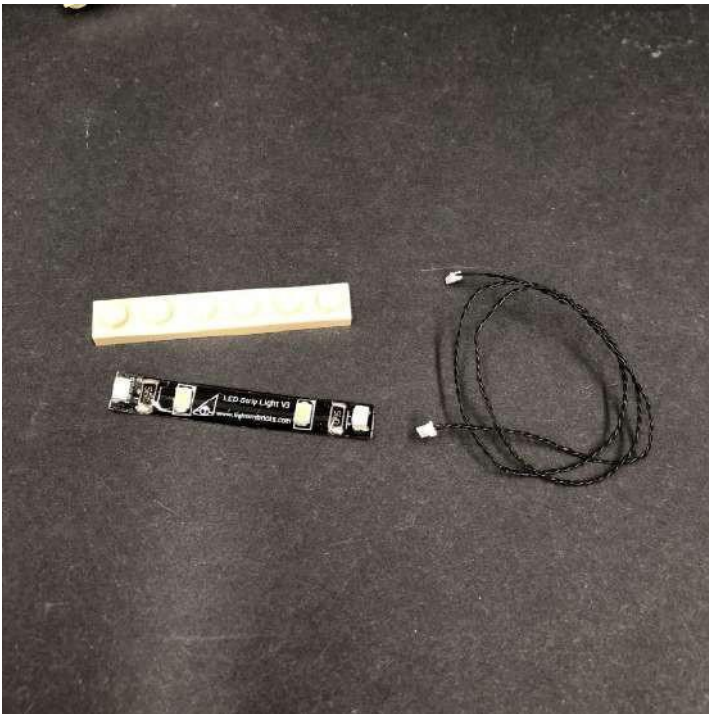
48.) We will now move onto lighting the rooftop and tower. First take the entire rooftop and disconnect the tower. Turn the rooftop onto it's back so that we can access underneath.



Take 2x White Strip Lights and then stick them both onto 2x LEGO 1x6 Plates. Join the two strip lights together using a 5cm Connecting Cable

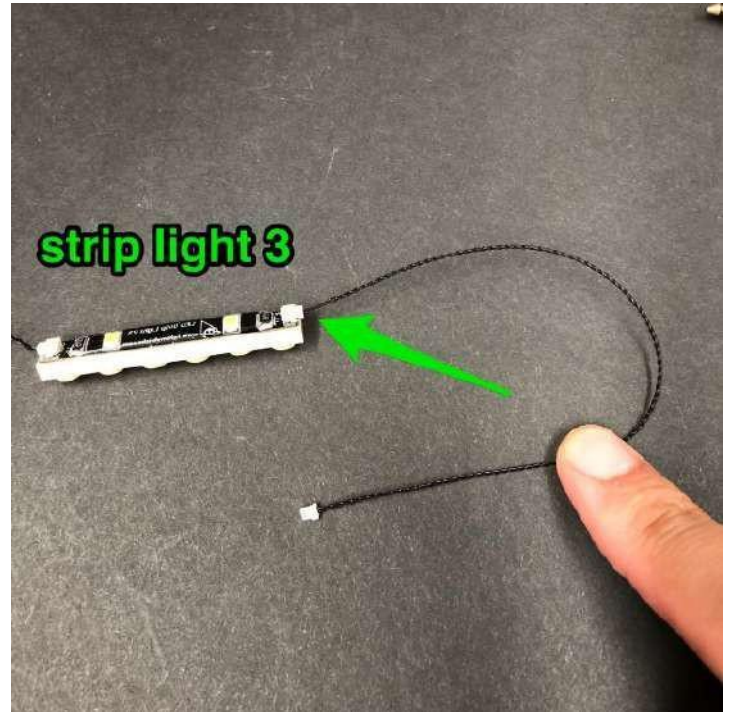
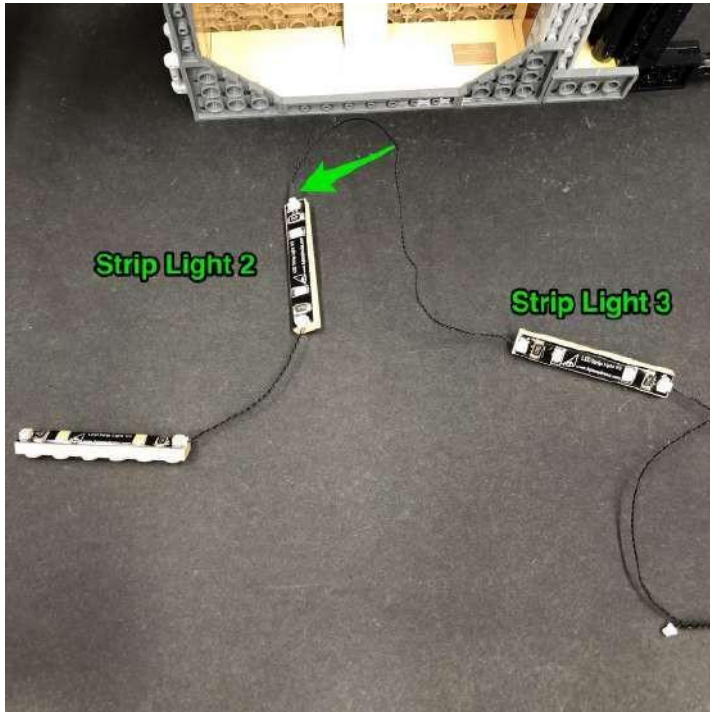


Take another White Strip Light (strip light 3) and stick it onto another LEGO 1x6 Plate. Take a 15cm Connecting Cable and connect it to strip light 3.

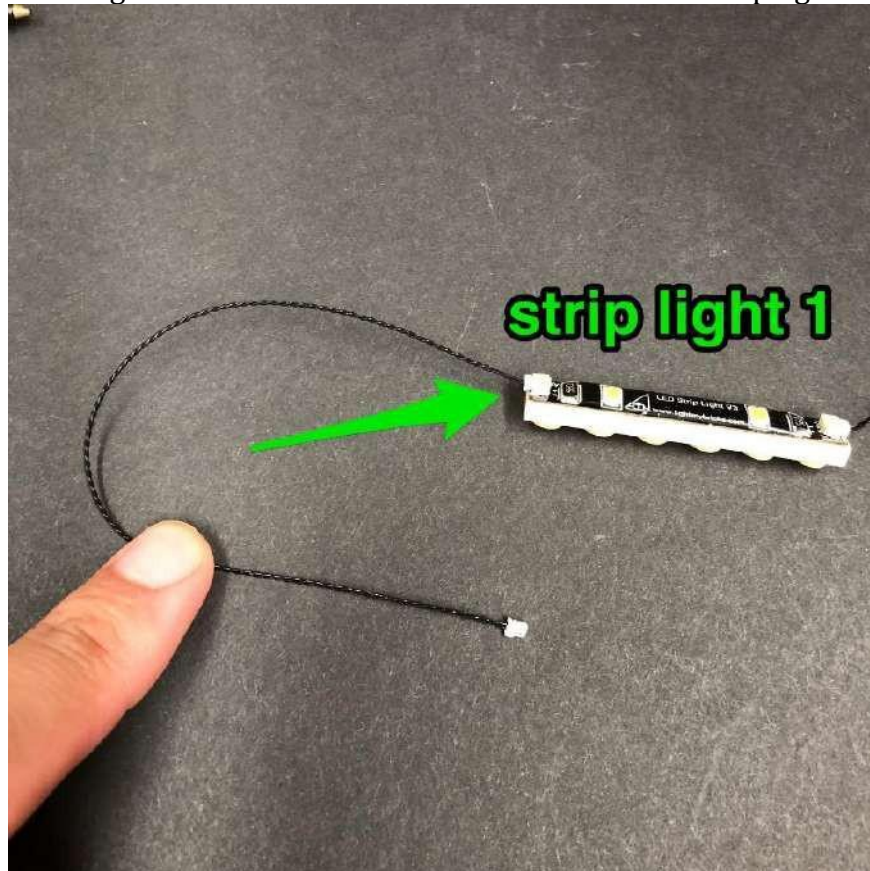


Connect the other end of the 15cm Connecting Cable to the other end of strip light 2 and then take another 15cm Connecting Cable and

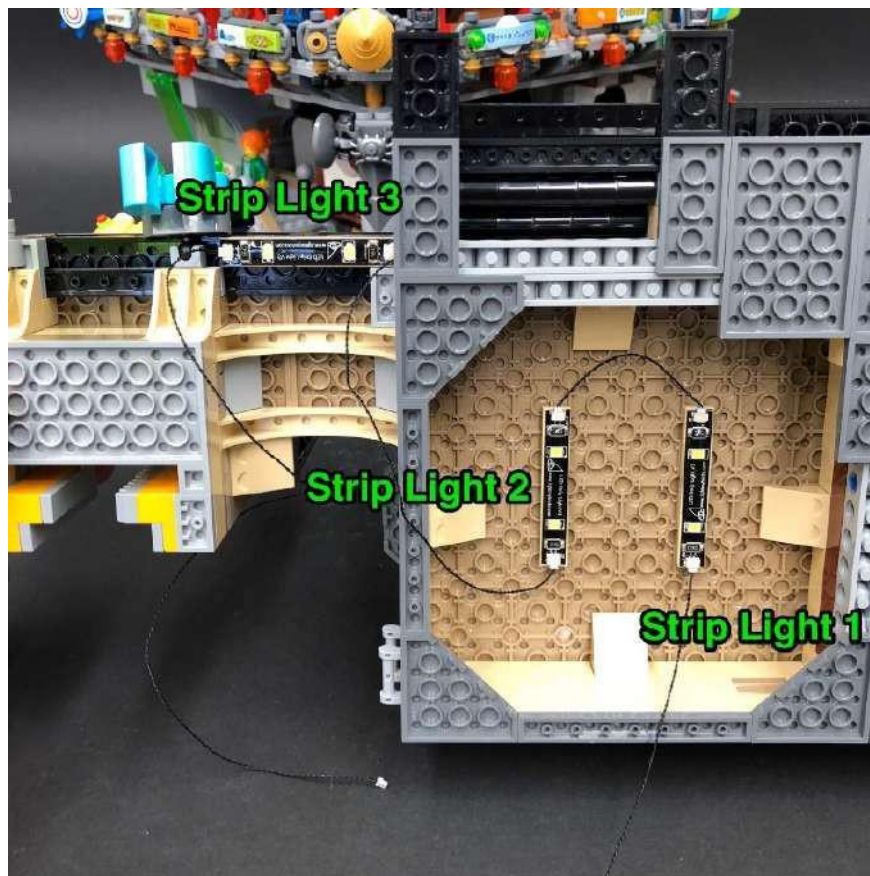
connect it to the other end of the strip light 3.



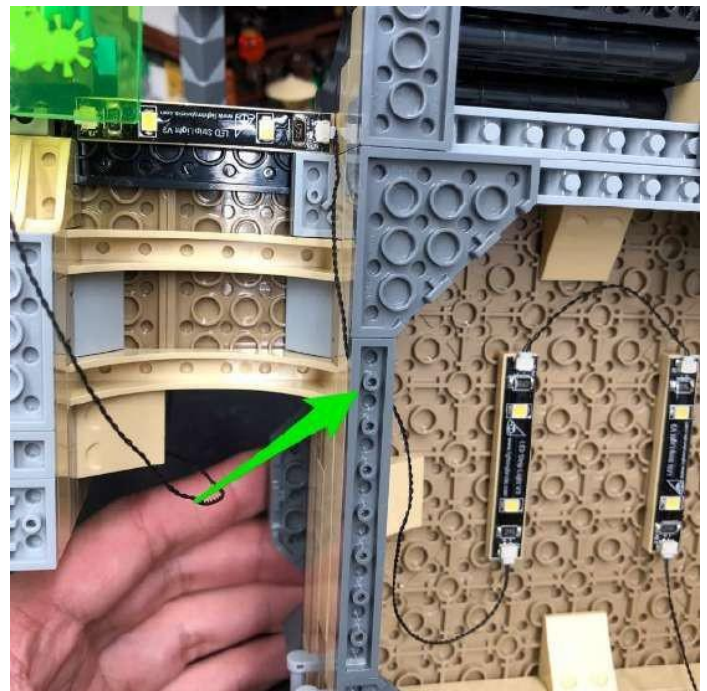
Take another 15cm Connecting Cable and connect this to the other end of strip light 1



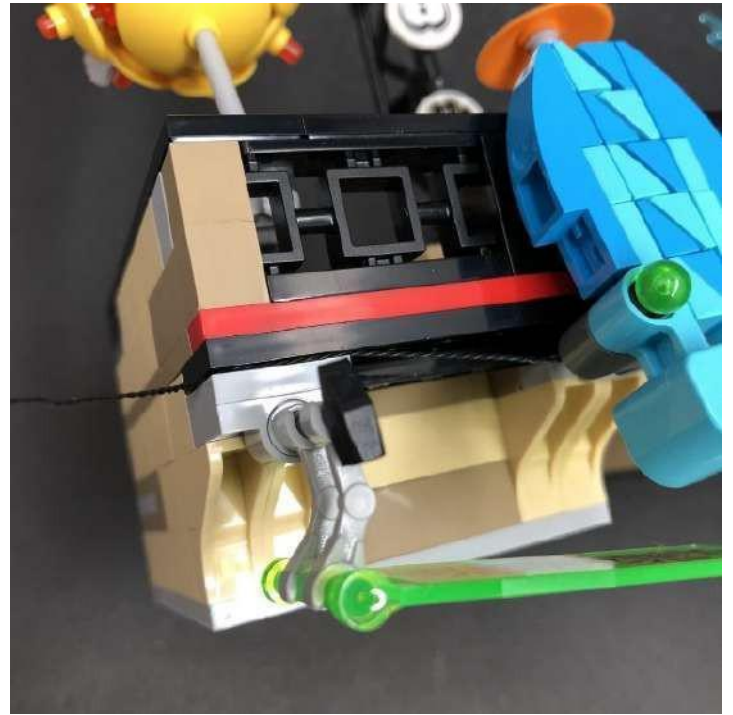
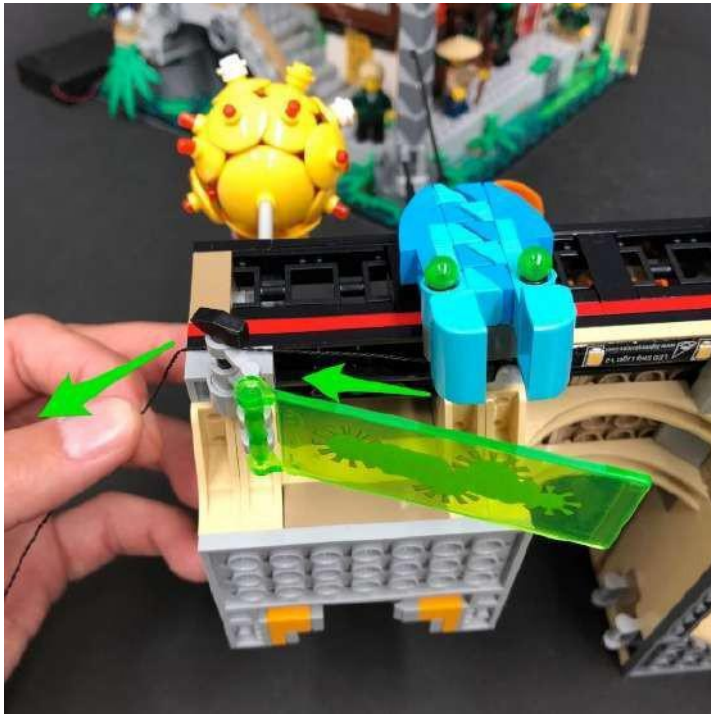
49.) Mount the three strip lights underneath the rooftop in the following positions.



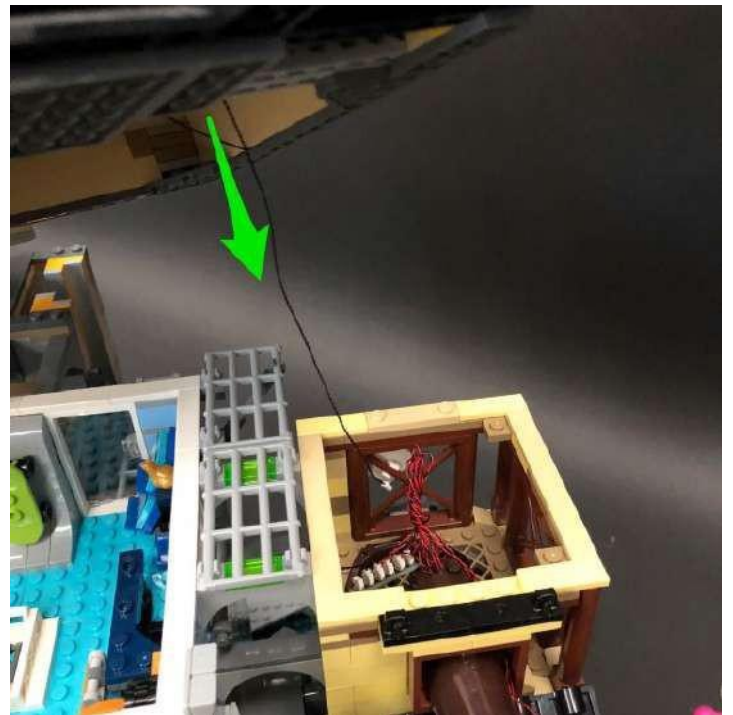
Lay the cable between strip light 2 and 3 underneath the following plate.

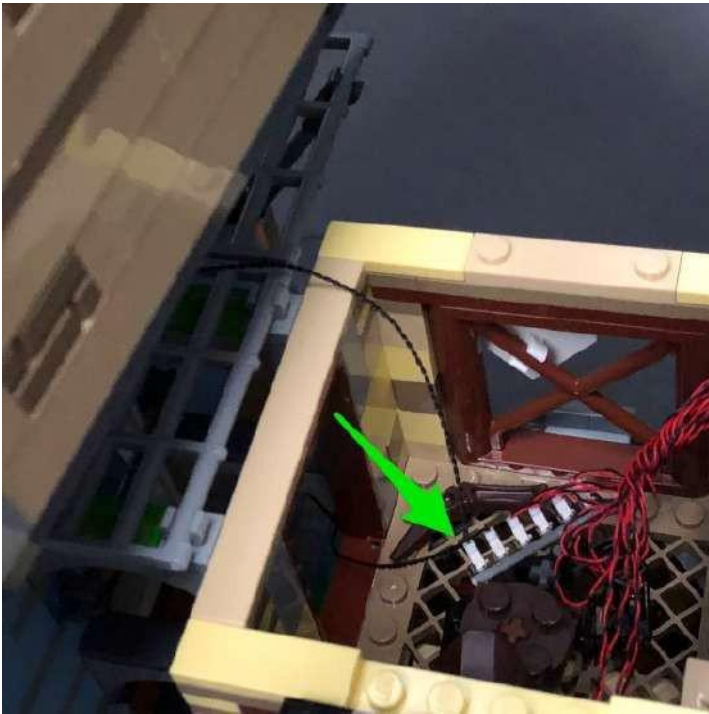


50.) Pull the other end of the 15cm connecting cable from strip light 3 across to the left and then lay it in between the following bricks.



Take the entire roof top section over the rest of the building and then connect the other end of the 15cm connecting cable from strip light 1 into the remaining spare port on the 6-port expansion board inside the cherry blossom tree room.

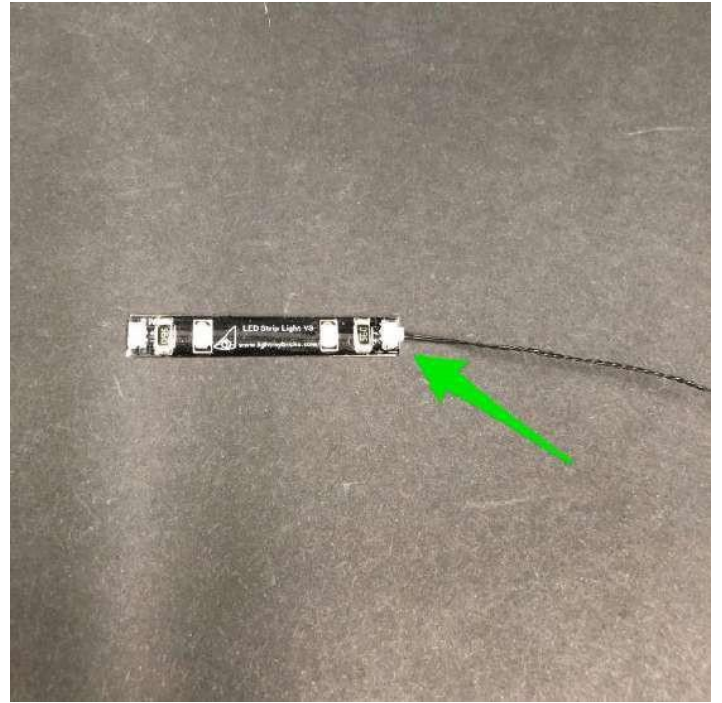




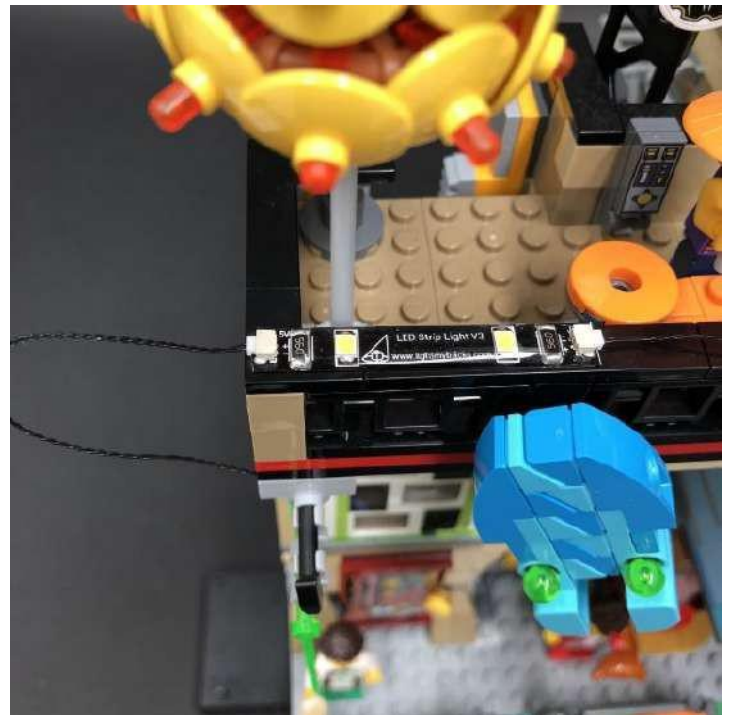
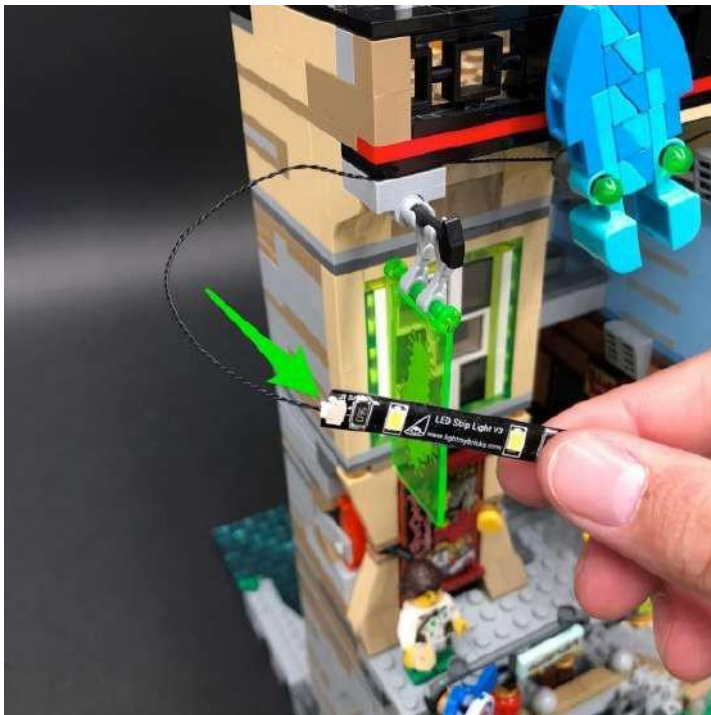
Turn on the battery pack to verify all the lights are working ok



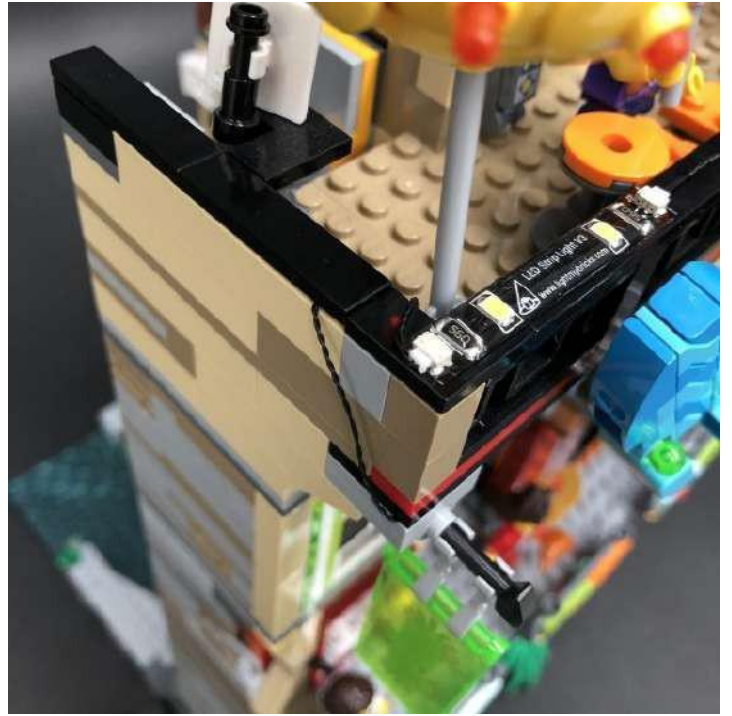
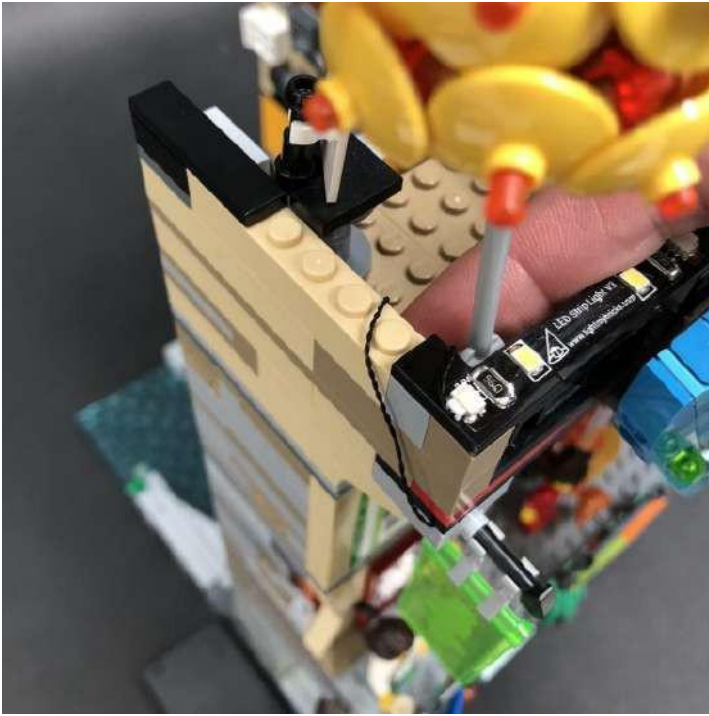
51.) Take another White Strip Light and connect a 30cm Connecting Cable to one end of it.



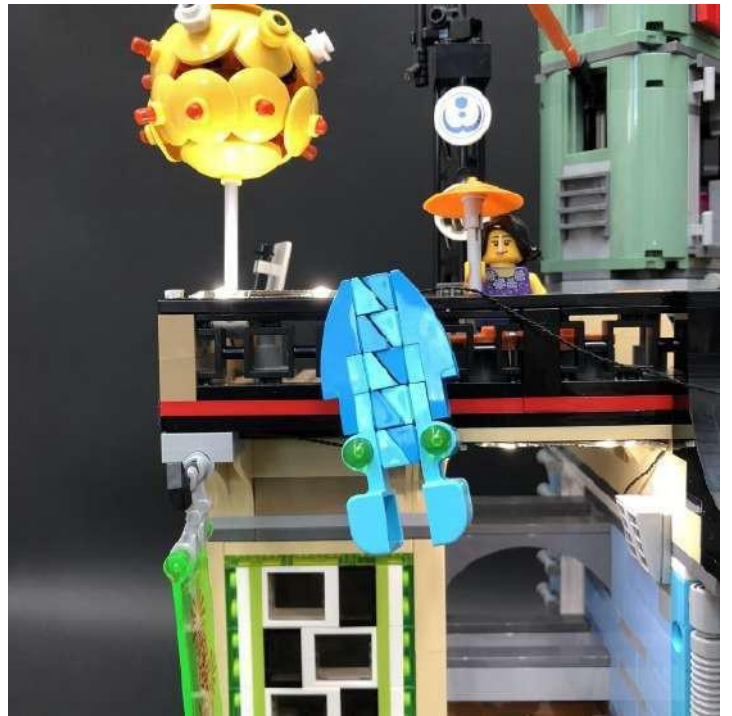
Locate the other end of the 15cm Connecting Cable from strip light 3 in step 50 and connect it to the other side of the strip light then using it's adhesive backing, stick the strip light to the top of the balcony rail as per below:



Eliminate excess cable (15cm cable) by pulling it over the wall and then securing underneath the black tile.

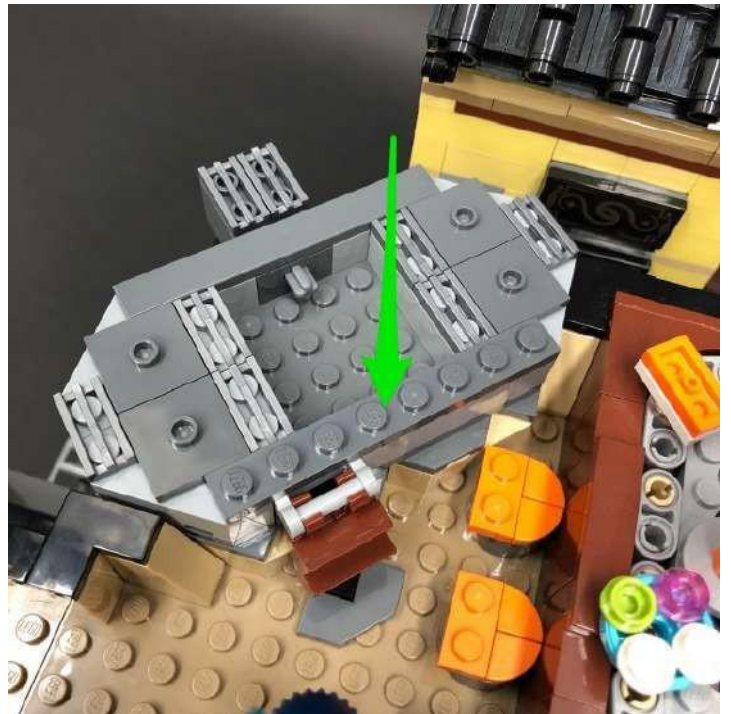


Turn the battery pack on to verify that the strip light is shining directly up underneath the pufferfish.

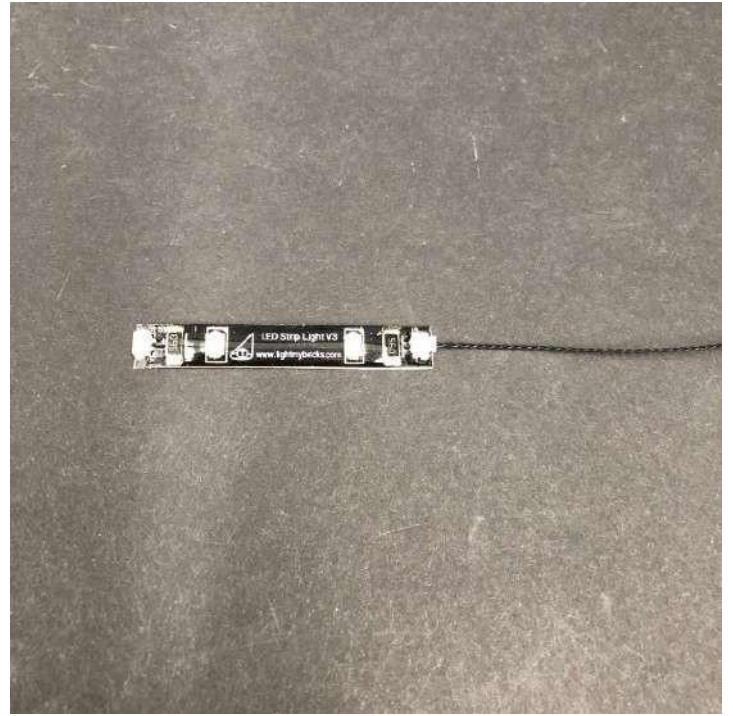


52.) Remove the following tile from the base of the tower and replace it with the provided LEGO 1x7 Dark Grey Plate. This will better secure

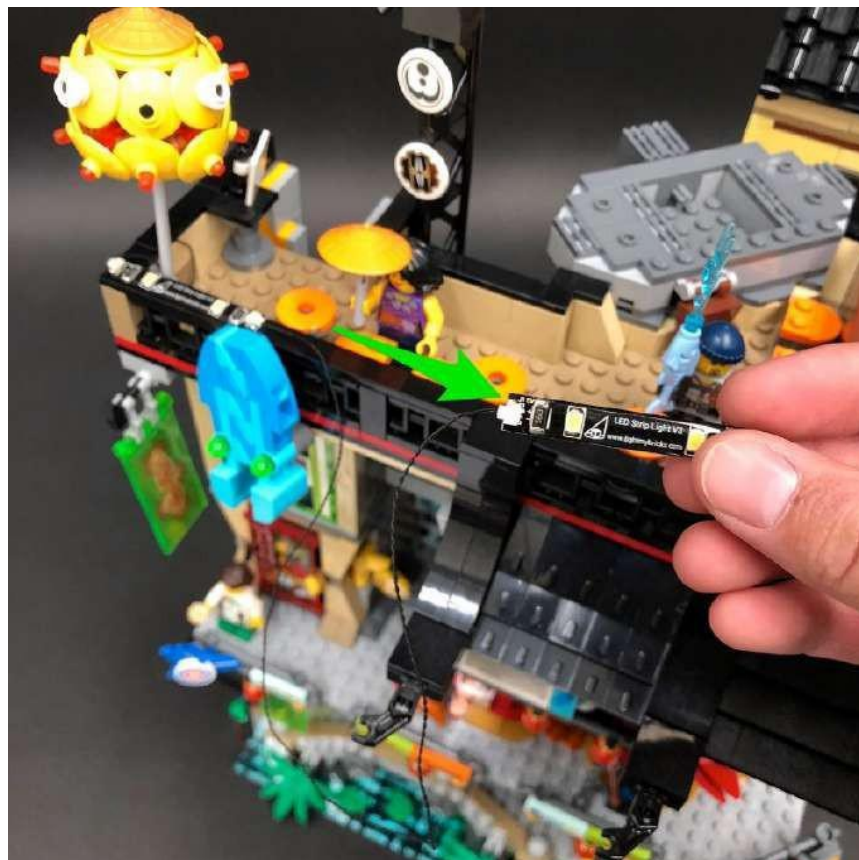
the tower to the roof as we found that it was quite kimsy without the extra studded plate.



53.) Take another White Strip Light and connect another 15cm Connecting Cable to oneside.



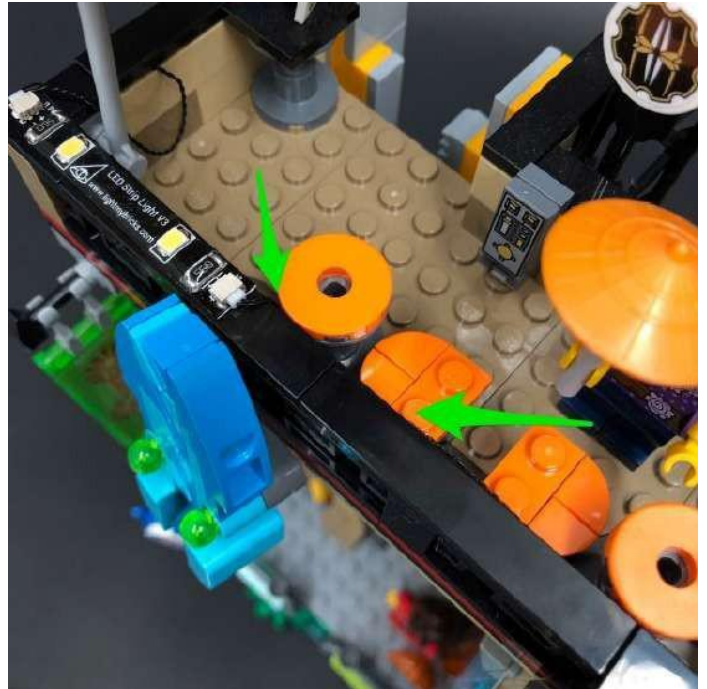
Locate the other end of the 30cm Connecting Cable from the strip light on the rail and then connect this to the other end of the new Strip Light.

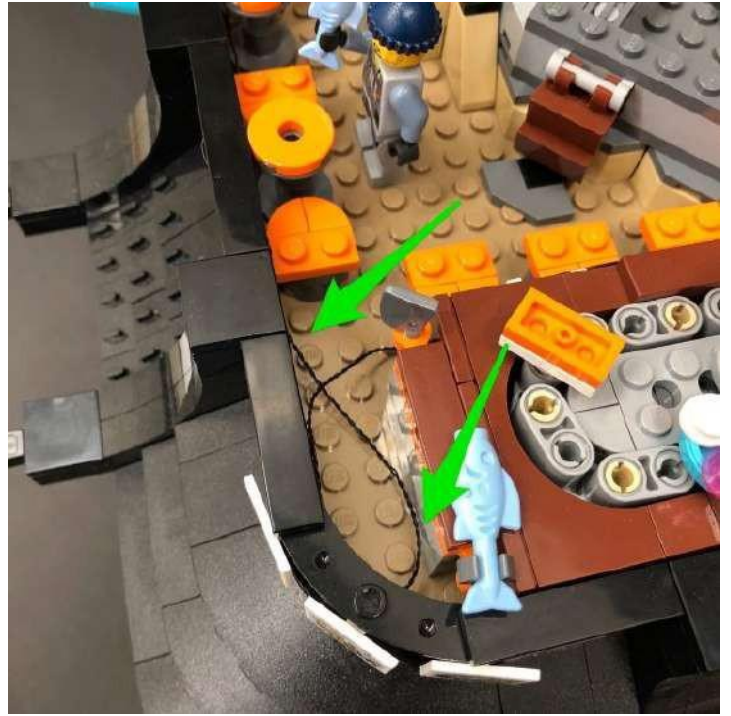
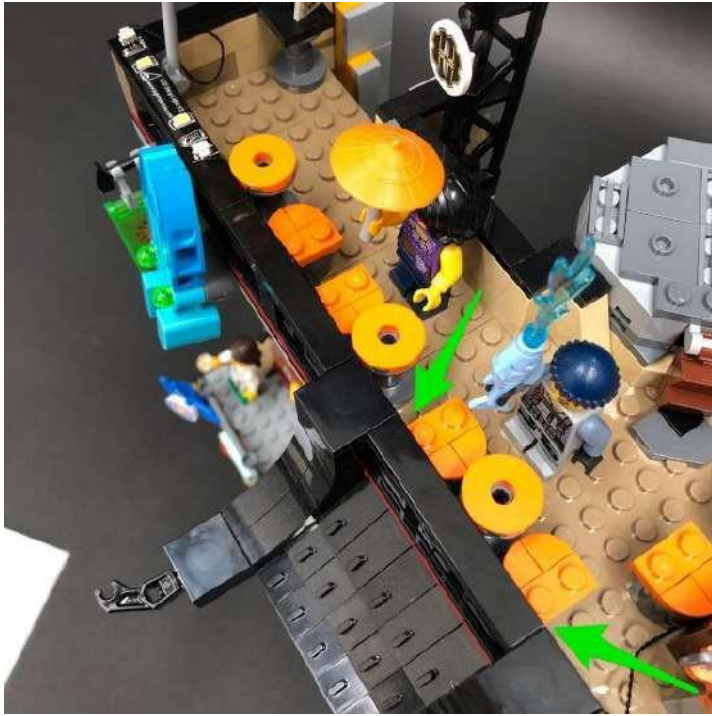


Stick the strip light to the wall underneath the sushi train table as per below



54.) Hide the large 30cm cable by laying it in between the rail tables and chairs on the roof top.

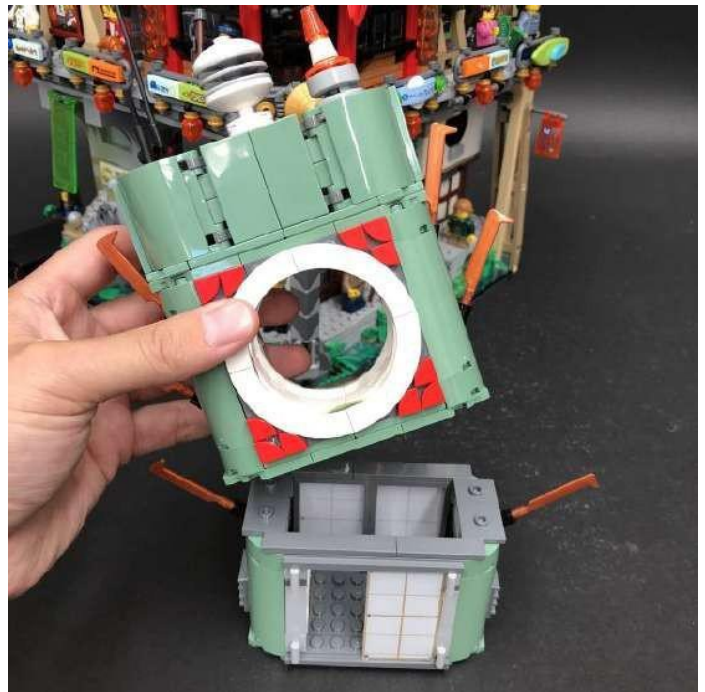




Turn on the battery pack to test the strip lights on the roof top are working OK.



55.) Take the tower and then remove the middle and bottom sections.





Disconnect the trans orange cone piece from the top of the tower and then take a Flashing White 30cm Dot Light and place it over the stud below (with cable facing the back). Secure the light in place by reconnecting the trans orange cone piece.

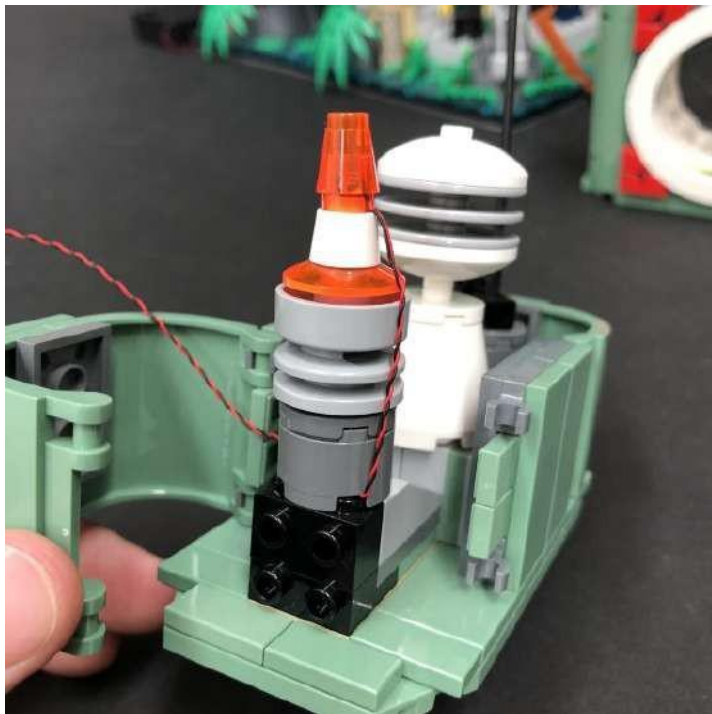
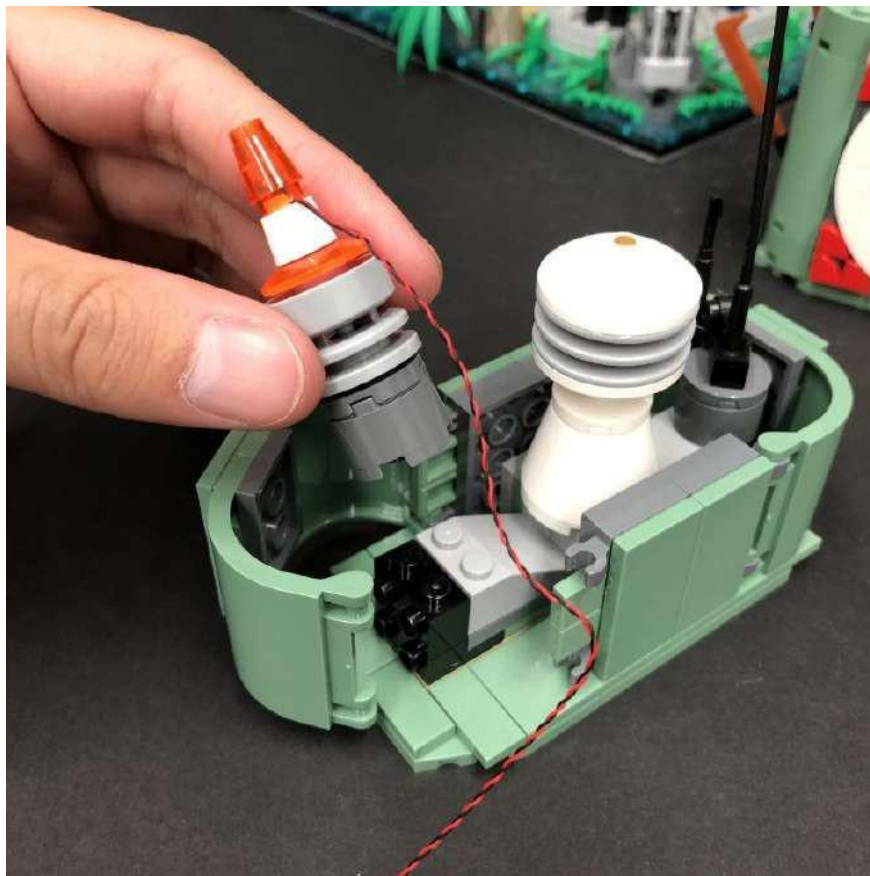




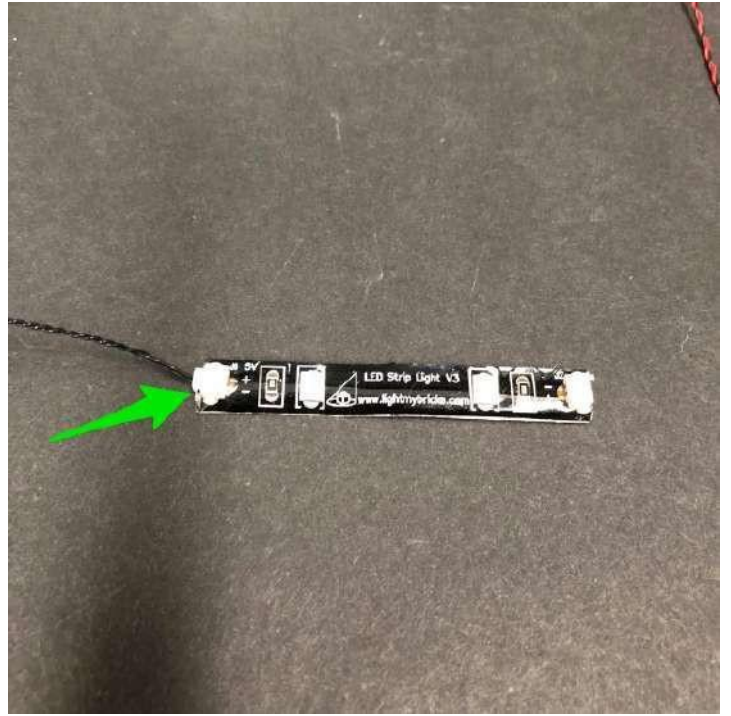
56.) Turn the tower to the back and then disconnect the left wall section



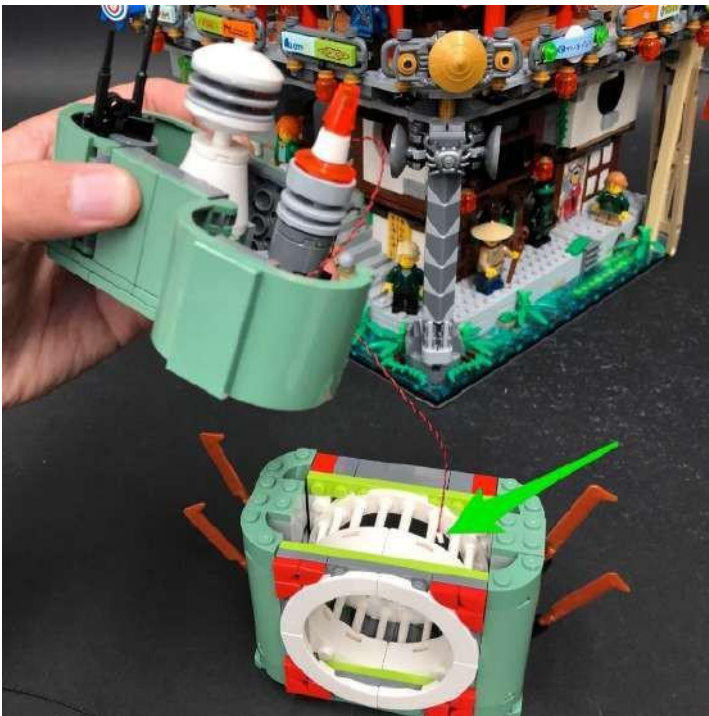
Disconnect the beacon section from the dark grey round brick and then lay the cable underneath it. Reconnect this section to secure the cable.



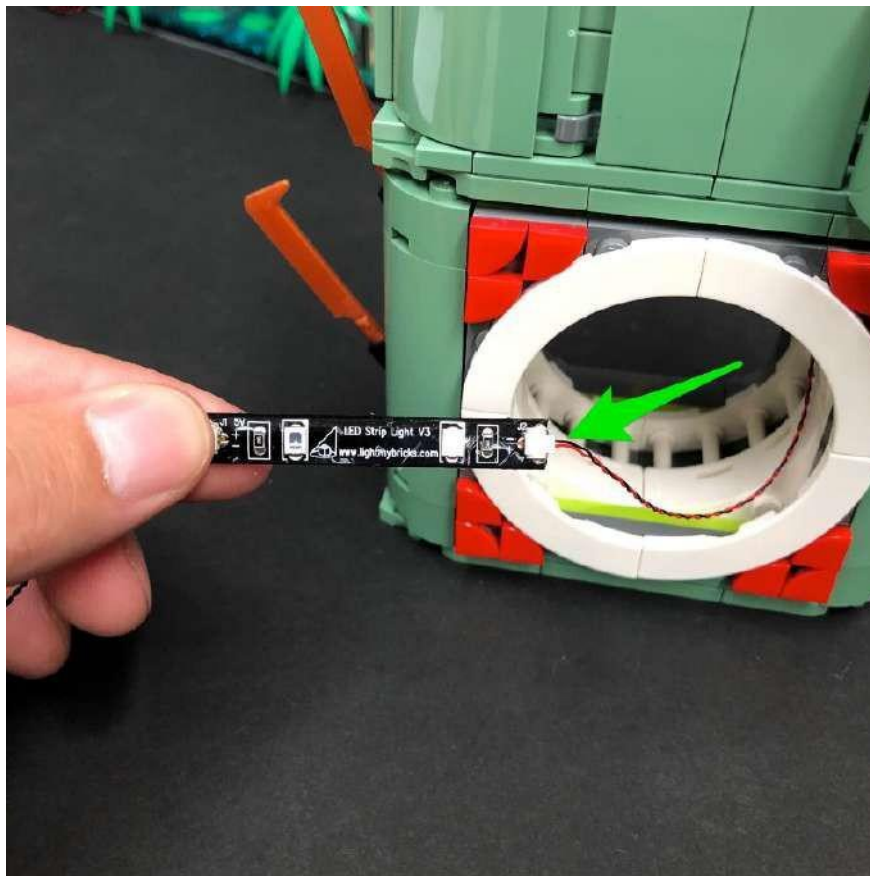
57.) Take a Blue Strip Light and connect the remaining 15cm Connecting Cable to oneside.



Take the top section of the tower above the middle section and then thread the cable from the Flashing White 30cm Dot Light down one of the spaces of the round feature underneath.



Pull the cable down from above and then connect it to the other end of the blue strip light.



58.) Using it's adhesive backing, stick the blue strip light to the center of the roof of the round feature as per below.

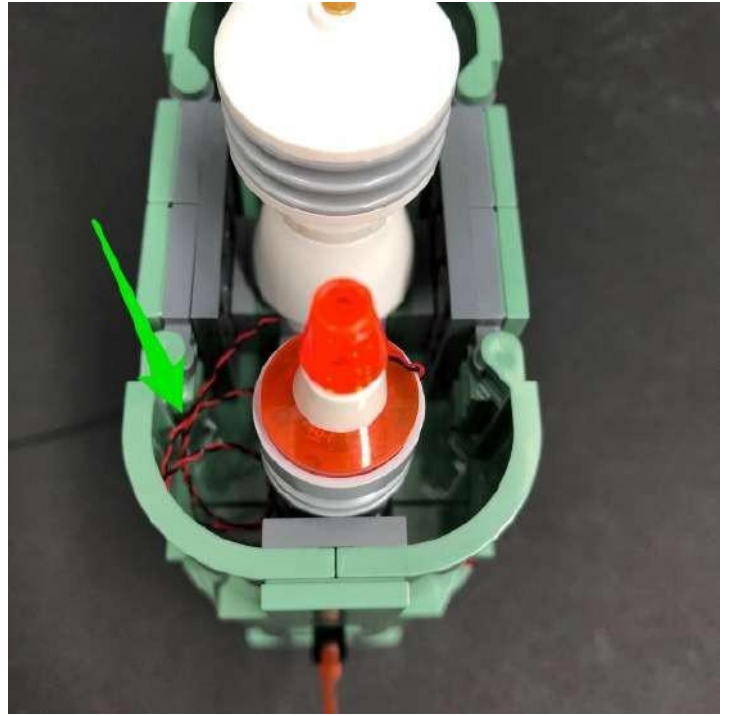
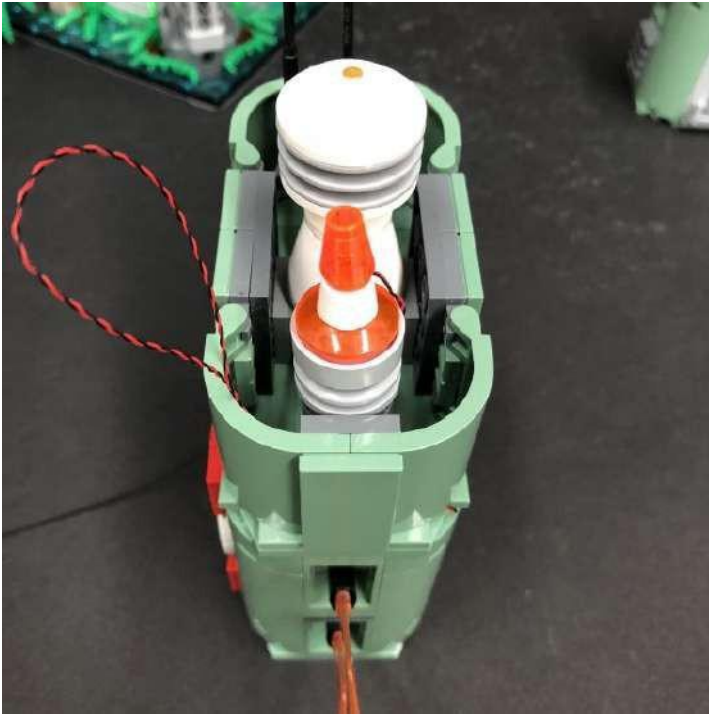


Tuck the excess cable from the kashing white Dot Light up into the space above.

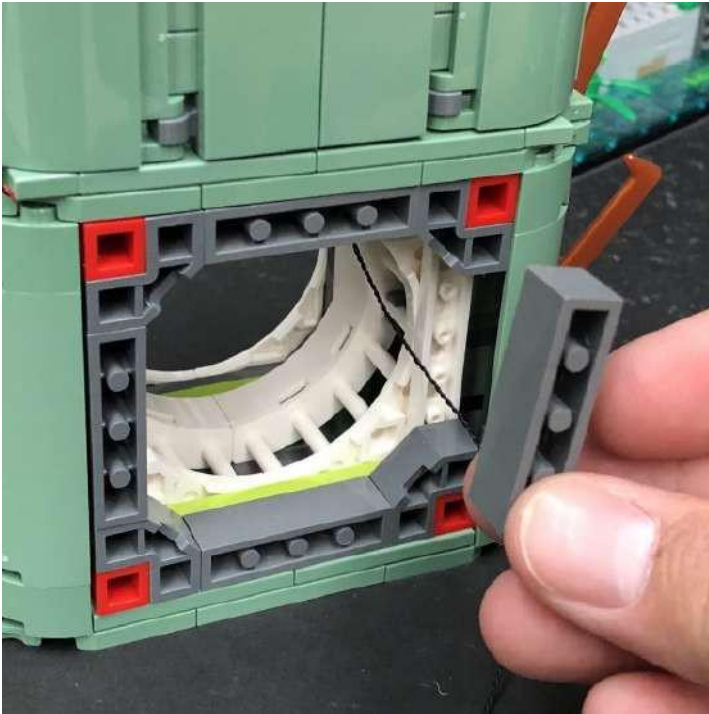
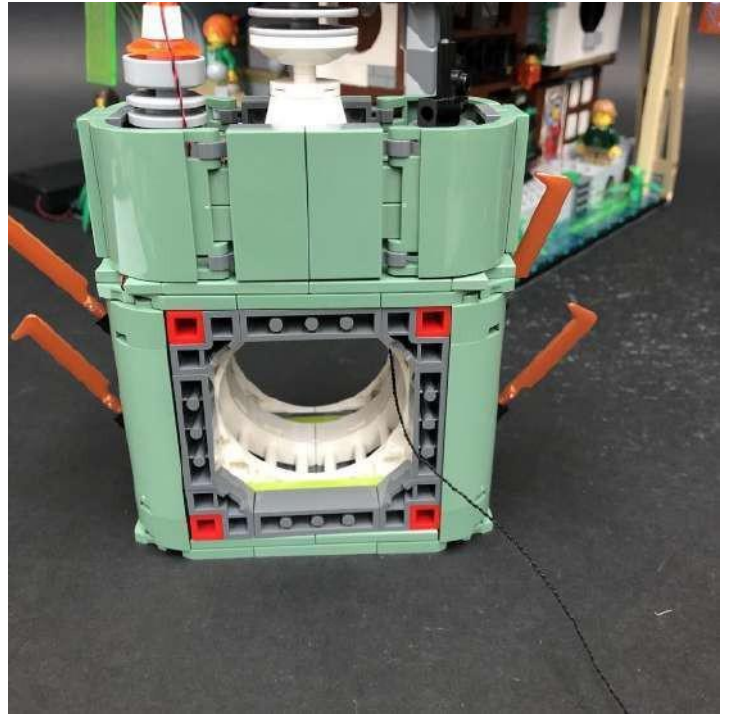
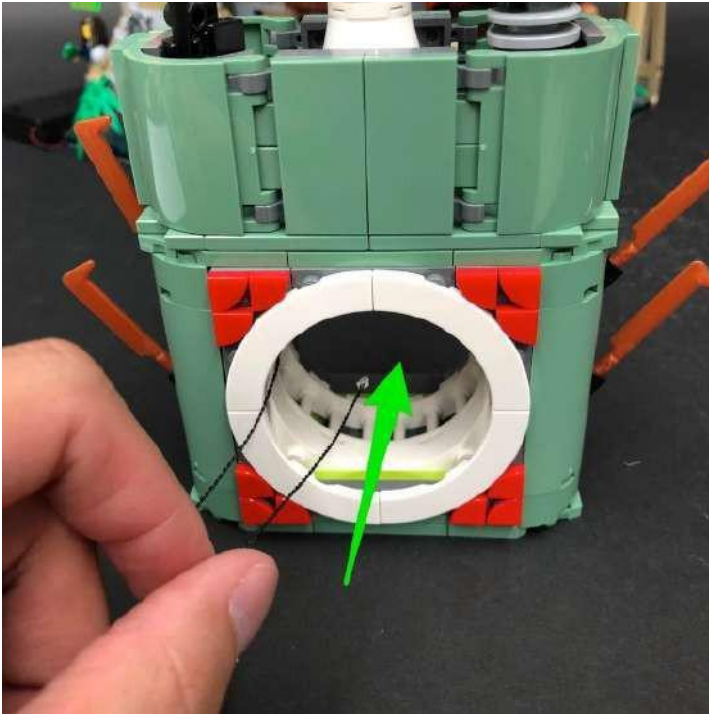


59.) Reconnect the wall section we disconnected on back of the top section of the tower and then eliminate excess cable from the kashing white Dot Light by tucking it down in between wall sections.

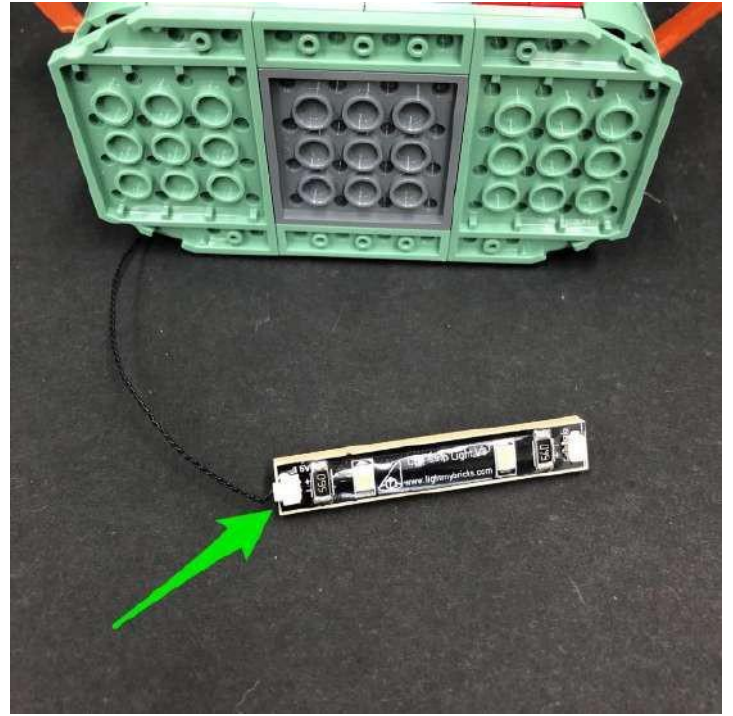




60.) Take the other end of the 15cm connecting cable from the blue strip light and then thread it behind to the back. Secure the cable underneath the dark grey brick on the side.



61.) Take the remaining White Strip Light and stick it onto the LEGO 1x6 plate. Connect the other end of the 15cm connecting cable from the blue strip light to the White Strip Light.

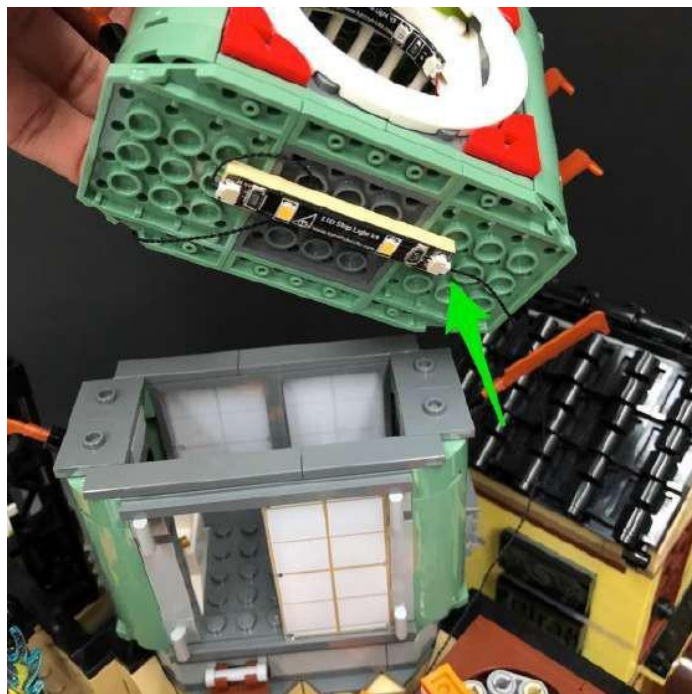


Mount the White Strip Light underneath the middle tower section in the below position. Loop the cable and secure it underneath the plate to eliminate excess cable.



62.) Reconnect the bottom section of the tower and then locate the other end of the 15cm connecting cable from the strip light underneath

the sushi train table and then connect this to the other end of the White Strip Light underneath the middle section of the tower.





63.) Securely reconnect the upper levels of the tower to the bottom section.



Turn on the battery pack and confirm all the lights on the roof top and tower are working OK.



This finally completes installation of the Ninjago City Light Kit. ENJOY!