# TOWN_HALL_10224 LED Lighting Kit

Package contents:

- 1x   Lamp Post with 30cm Dot Light installed
- 10x   Warm White Dot Lights 30cm
- 7x   White LED Strip Lights
- 6x   15cm Connecting Cables
- 3x   30cm Connecting Cables
- 10x   Adhesive Squares
- 3x   6-port Expansion Boards
- 6x   LEGO Plates 1x6   for mounting Strip Lights
- 1x   AA Battery Pack   (Requires 3x AA Batteries)

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.
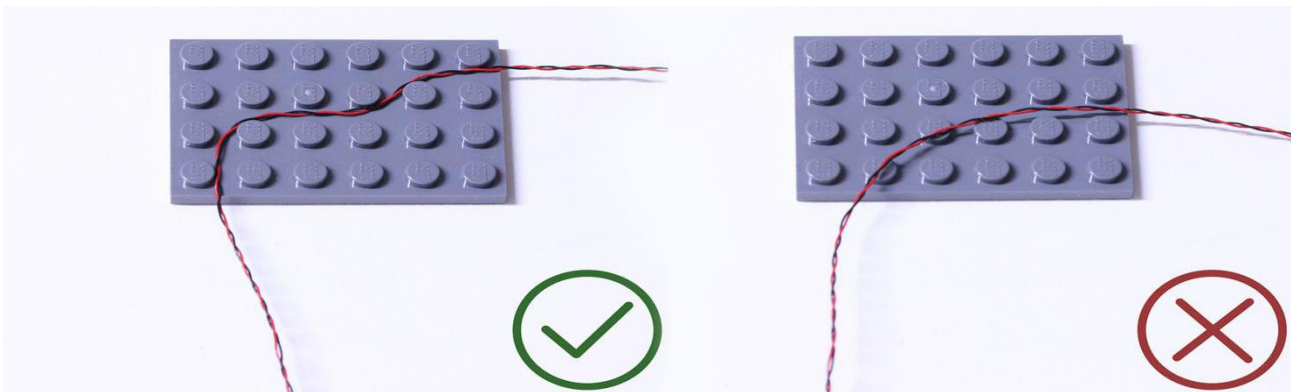

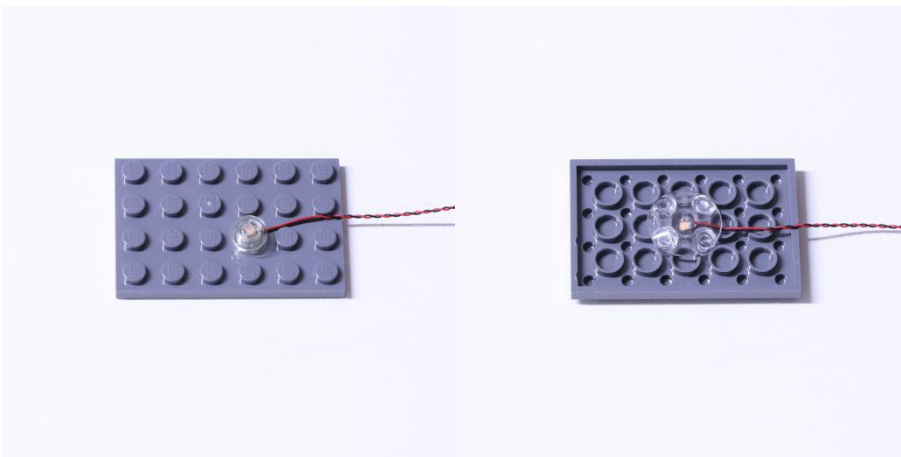
Insert the connectors to the ports.

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.
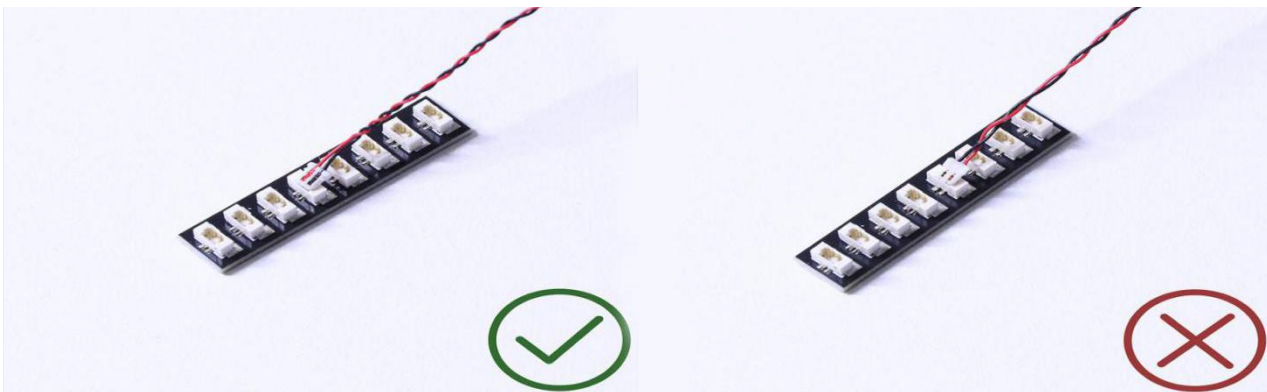
At this point, use the tweezers to straighten the bentpins.
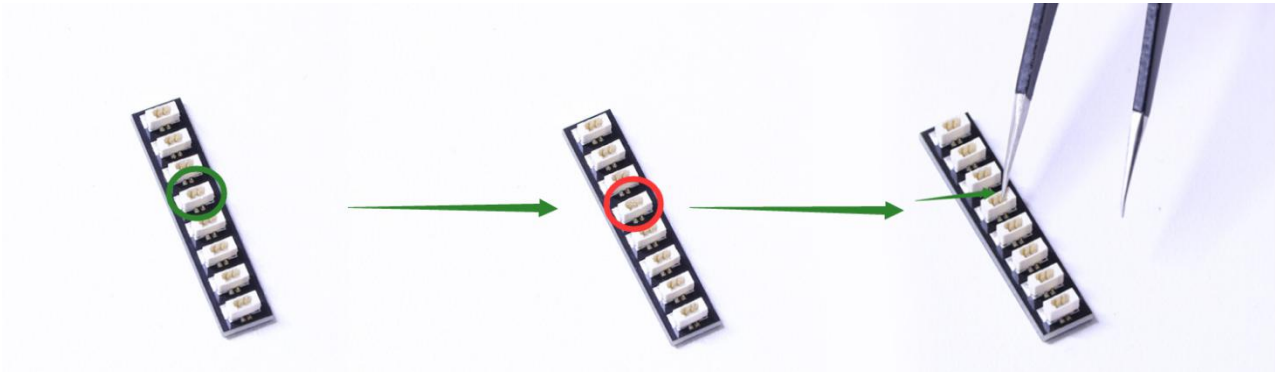
When installing dot lights, make sure they are correctly placed (Yellow LED package is exposed). You can put they either on the top of the studs or between studs.


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.
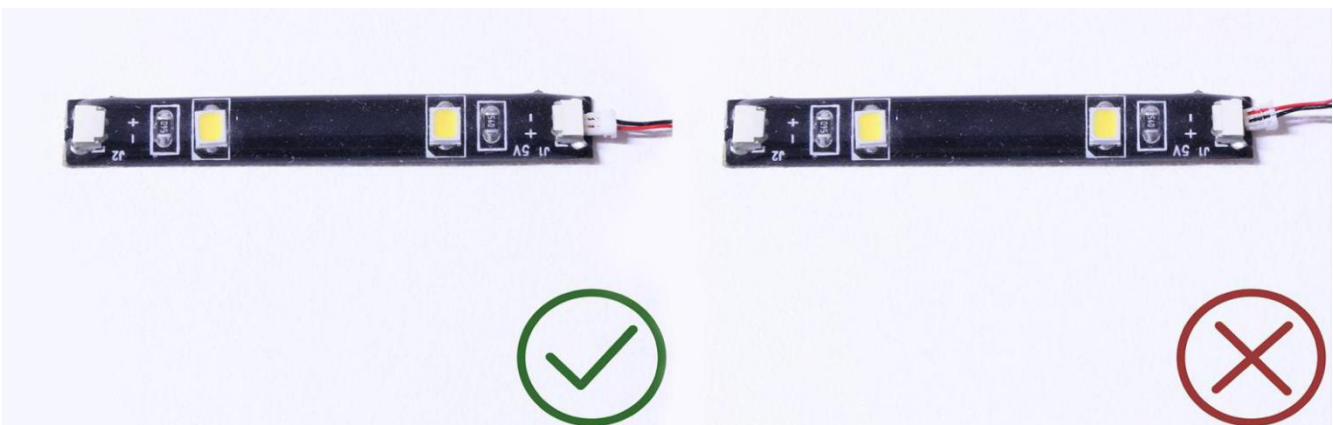
Finally, please pay attention to the positive and negative terminals of the battery when installing the battery case.
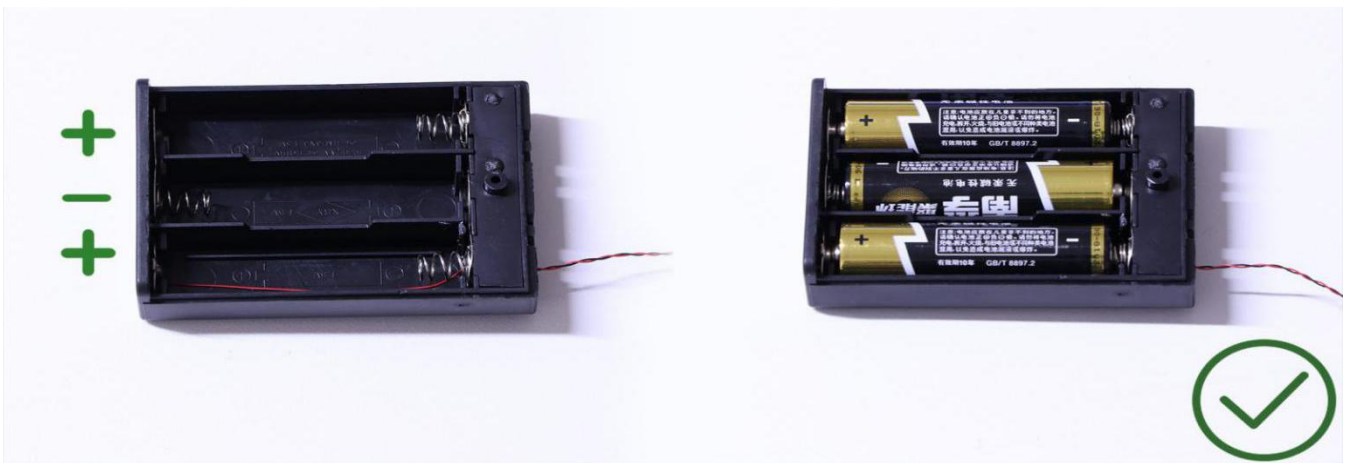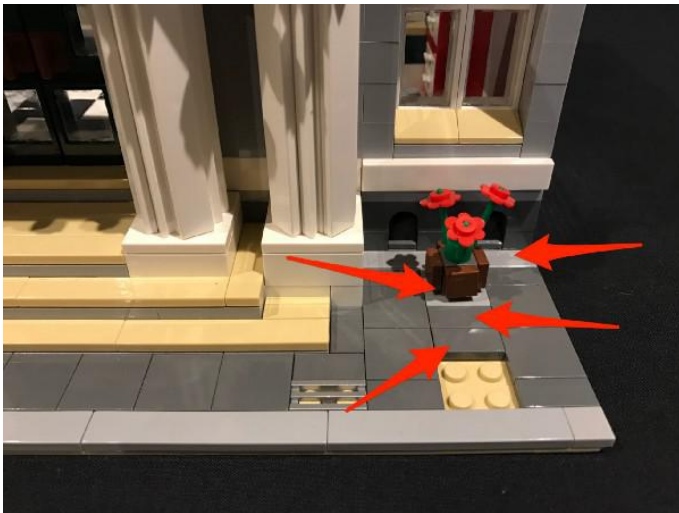
OK, Let's Begin!

Instructions for installing this kit

1.) This lighting kit is installed from ground up so start by removing the second and third floor, followed by the lamp post.

2.) In order to lay the new lamp post cable, we need to remove the following tiles.

3.) Replace the stock lamp post with the   Vonado Lamp Post with Dot Light installed   and ensure the cable is facing toward the building.
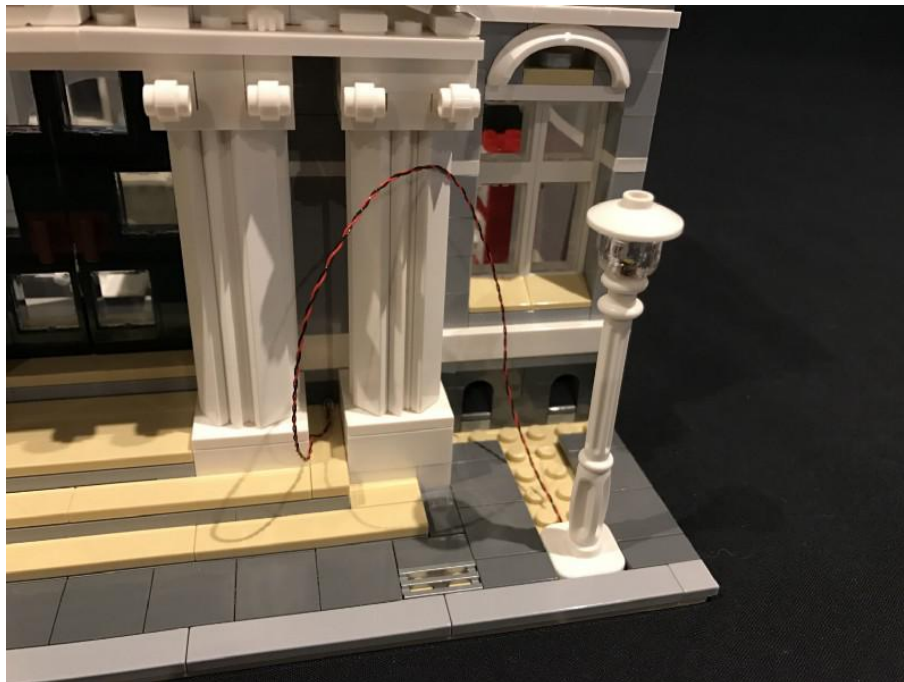
4.) We need to thread the cable behind the first pillar and in through to the building. In order to do this we need to remove the pillar by first removing the following sections of the ground floor.
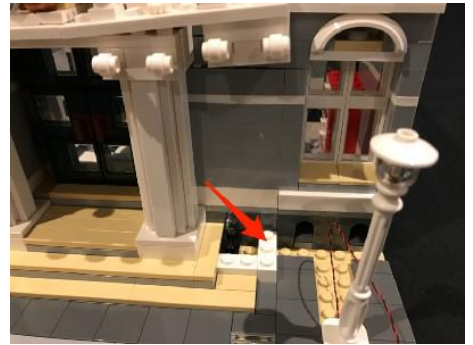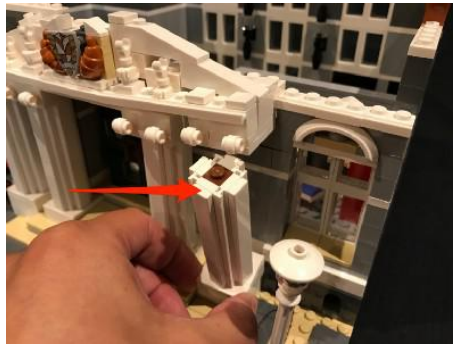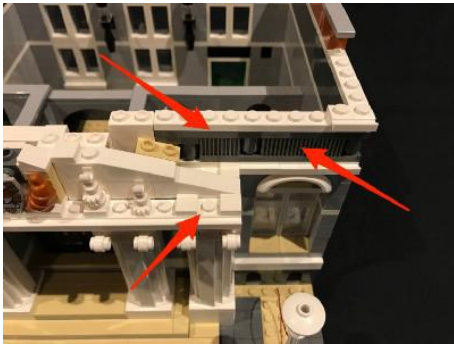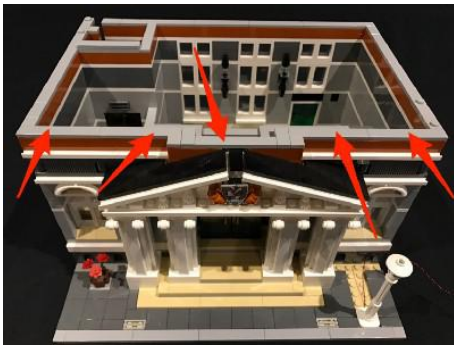
5.) Use the LEGO removal tool to lift and create a gap on the ground floor in so that we can thread the lamp post cable through.

6.) Before we pull the lamp post cable all the way up from the inside of the building, carefully lay the cable out the front in between the following studs leading up to the wall. Reconnect the tiles we removed earlier as you go.

7.) From the inside of the building, pull the lamp post cable up from underneath and then reconnect the wall to the ground to close up the gap. Ensure the cable is laying between the studs before doing so, to avoid damaging the cable.
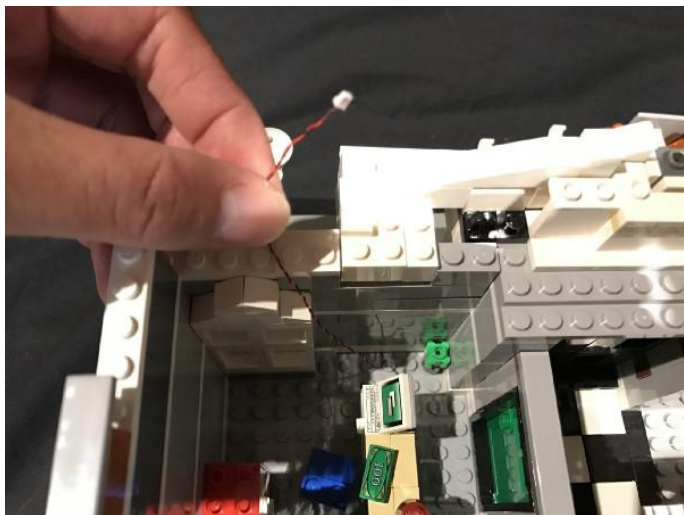
Reconnect the white 1x3 brick before then reconnecting the pillar we removed earlier.


8) We will now install a Dot Light to the top of the window closest to the lamp post. Remove the top section of the window at the white 2x4 plate as per below.

Take one White 30cm Dot Light and place the LED component in the centre of the middle hole. With the cable facing toward the back, place a finger over the Dot Light holding it place. Flip the section over (while holding the Dot Light in place) and reconnect the 2x4 plate back on top of the window.
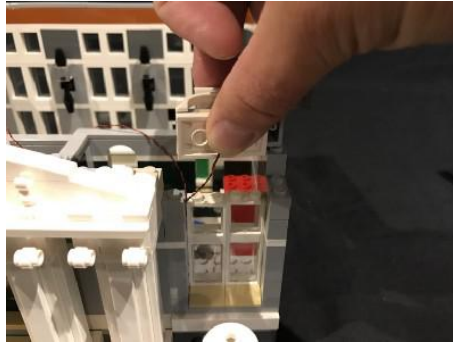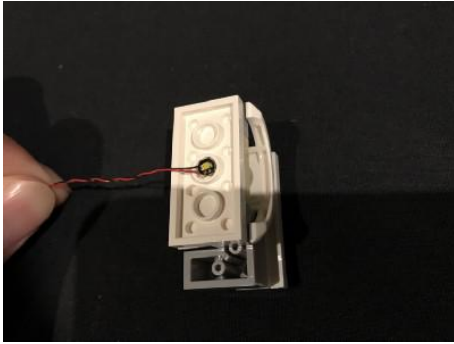
If you look from underneath you should be able to see the LED component peaking out. If you don't then the Dot Light hasn't been installed properly.
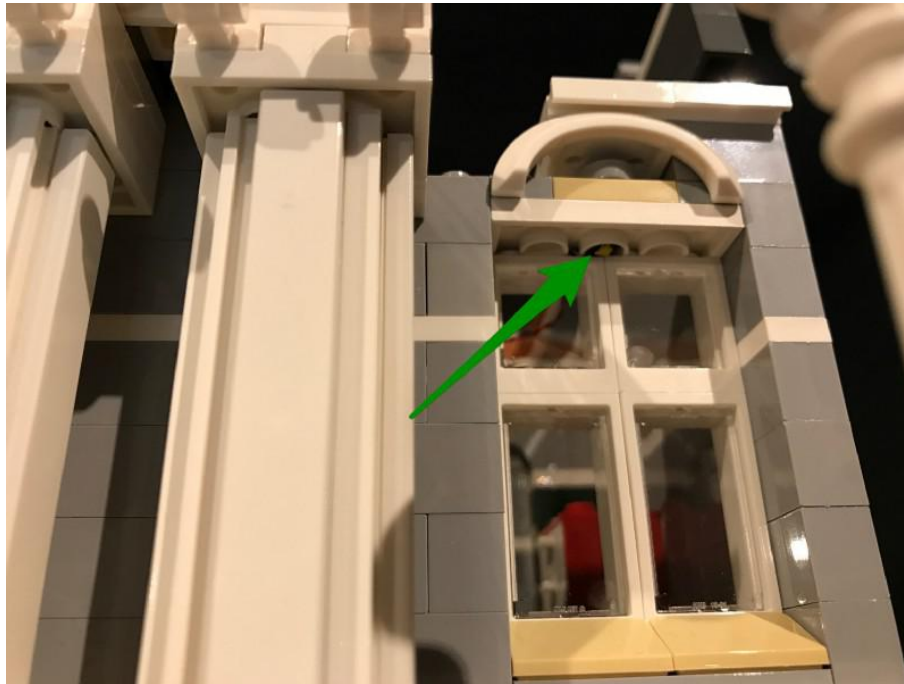

9.) Before we reconnect pieces surrounding the window, we will install a Strip Light above the front doors. To get to this area, remove the following sections of the front of the building in the below order:

10.) Take the main section we removed in the previous step and then turn it over and stick an   LED Strip Light   to the following position. We are using several strip lights for the Town Hall so we will refer to this one as   striplight#1.   Take two   15cm connecting cables   and connect one to each side port on striplight#1
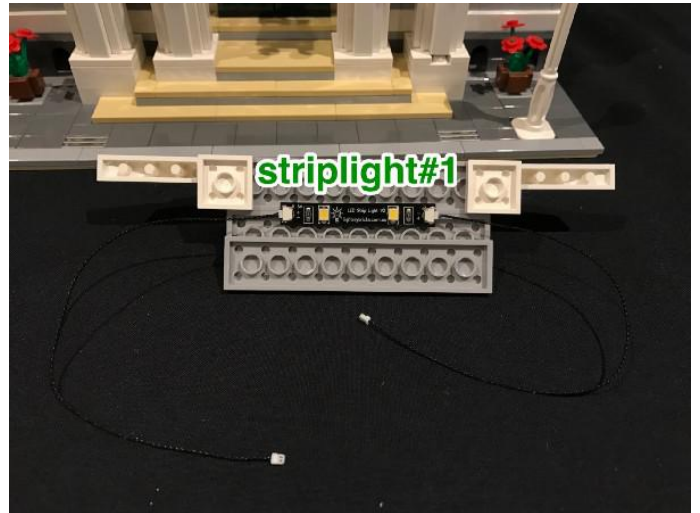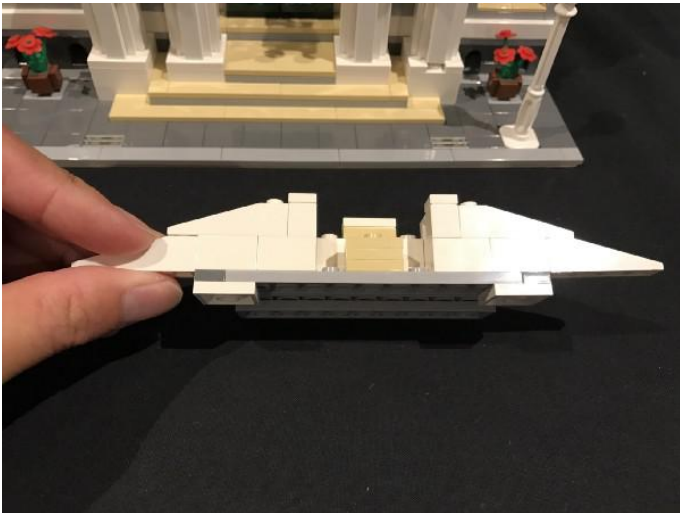
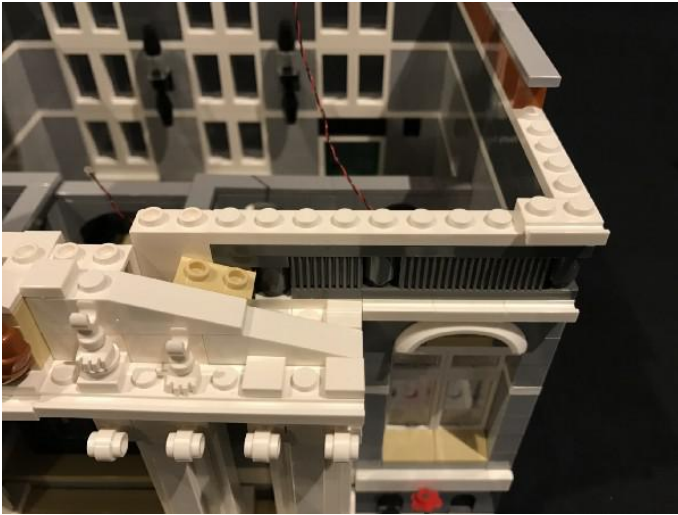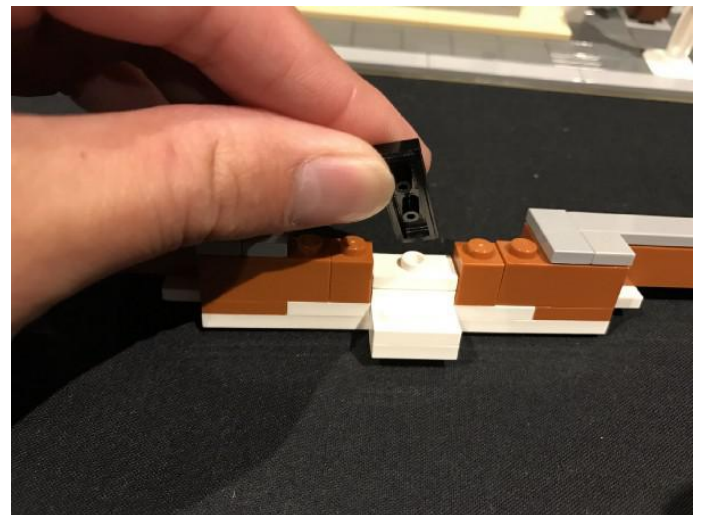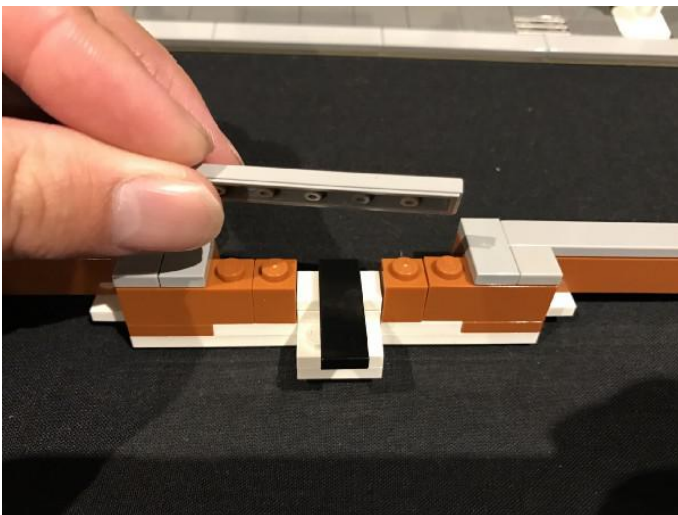With the two cables tucked behind, reconnect this section back to the front of the building followed by the surrounding pieces we removed in step 9.
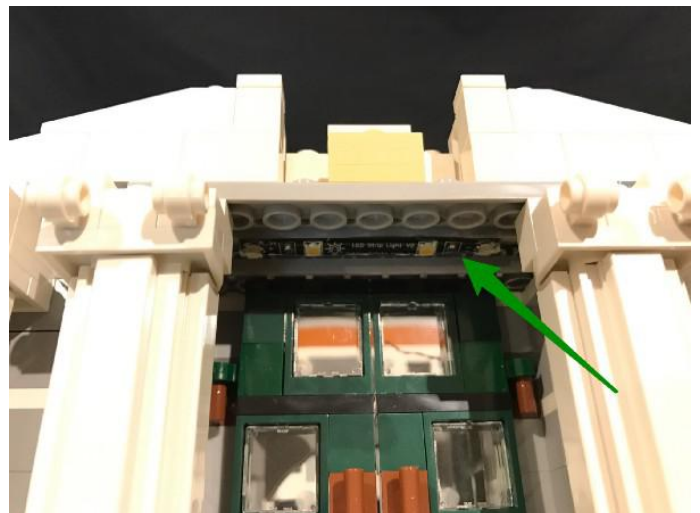
11.) Remove sections surrounding the left window to allow you to install another   White 30cm Dot Light   above the left window, using the same process we used to install the right window light in step 9.
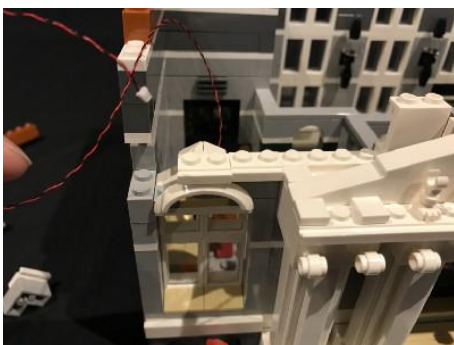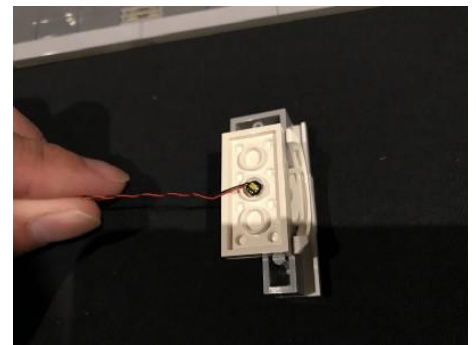

We can now reconnect surrounding pieces for the right window.

12.) Before we reconnect the middle top section on the front, we need to install another Dot Light to the middle so that it shines down on the shield. Take this section and then remove the following pieces.
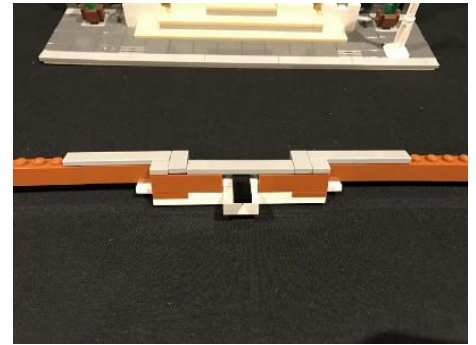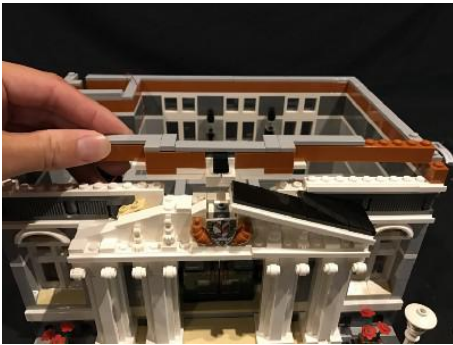
13.) Take another   White 30cm Dot Light   and stick the LED component underneath the black plate using an   adhesive square. Reconnect this plate back to the rest ensuring the cable is laid behind.
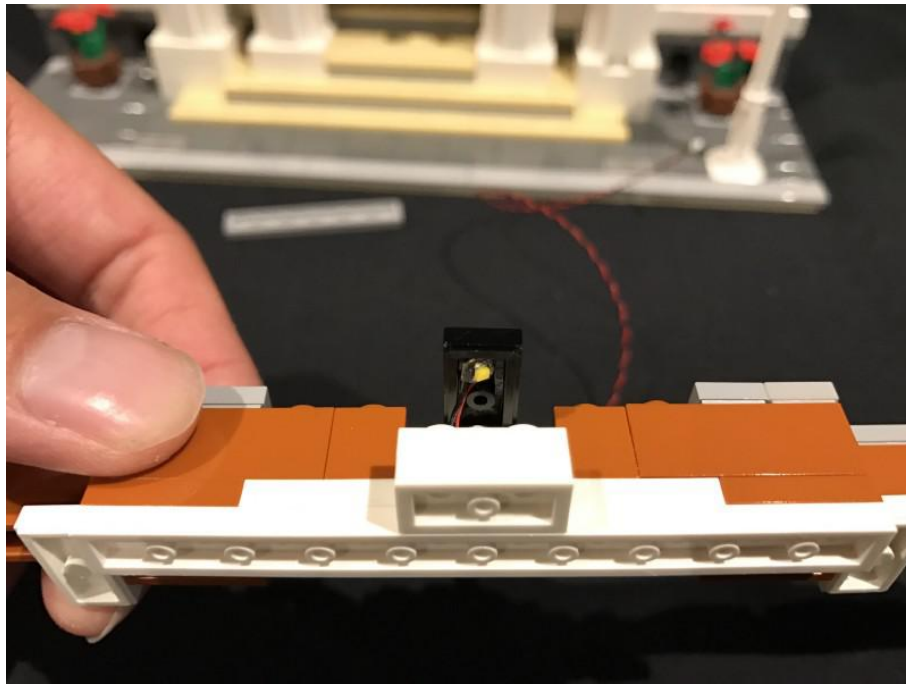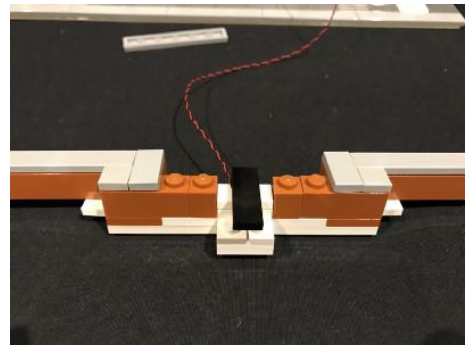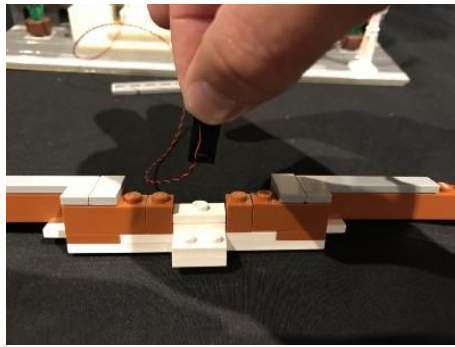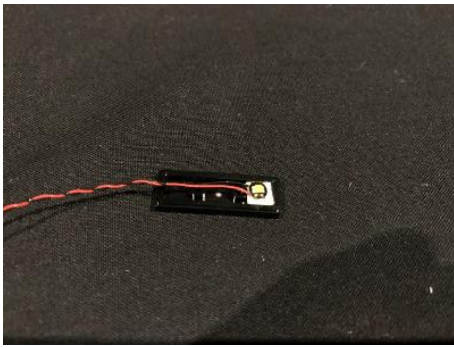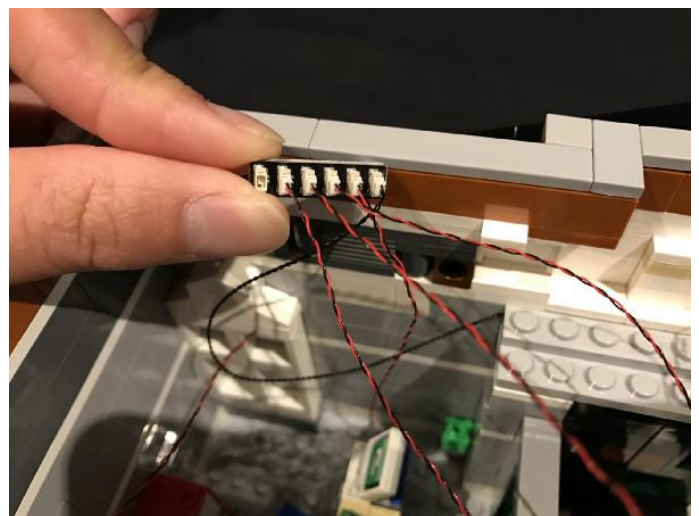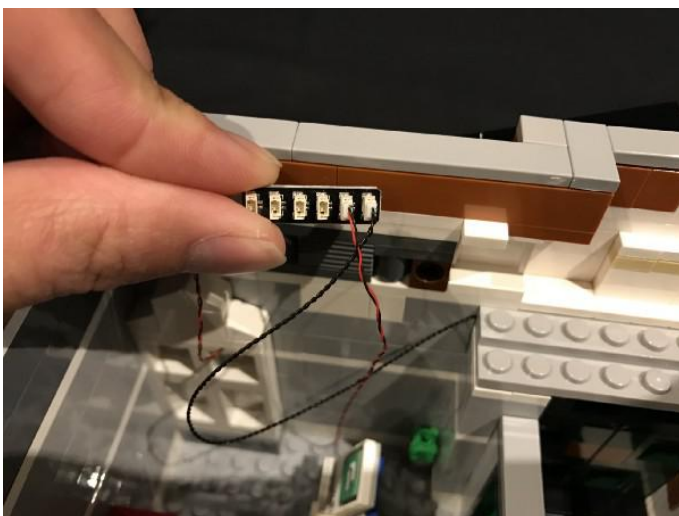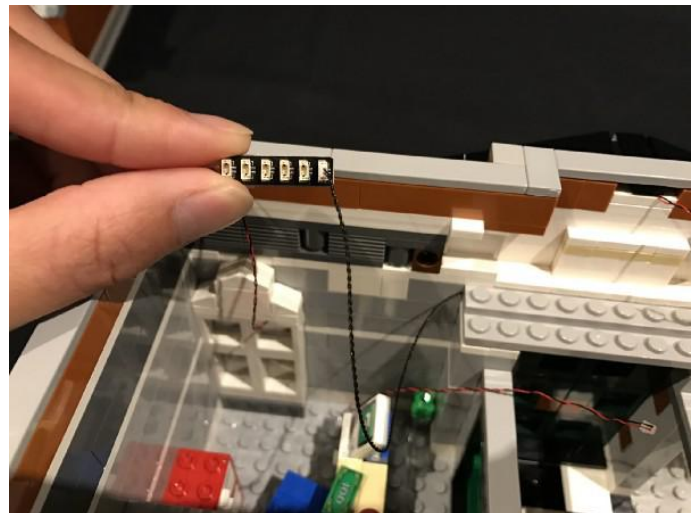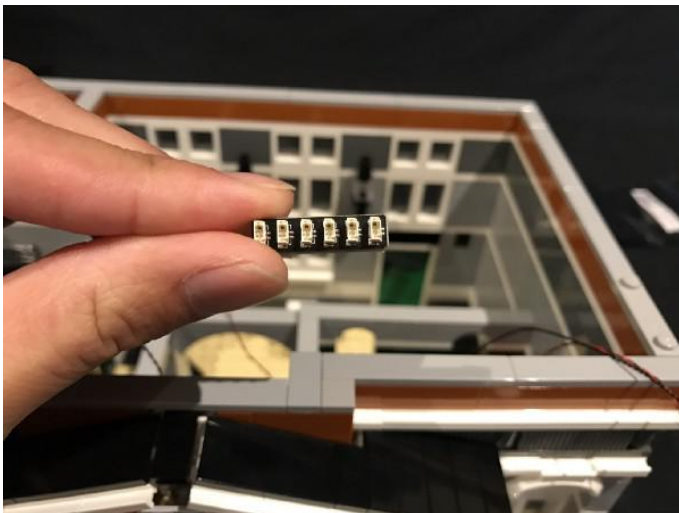
Reconnect this section back to the front of the building, then reconnect all the surrounding pieces we removed in previous steps.
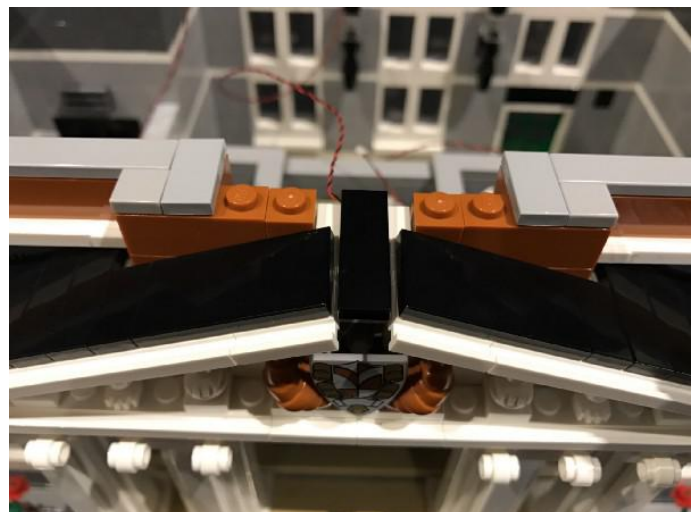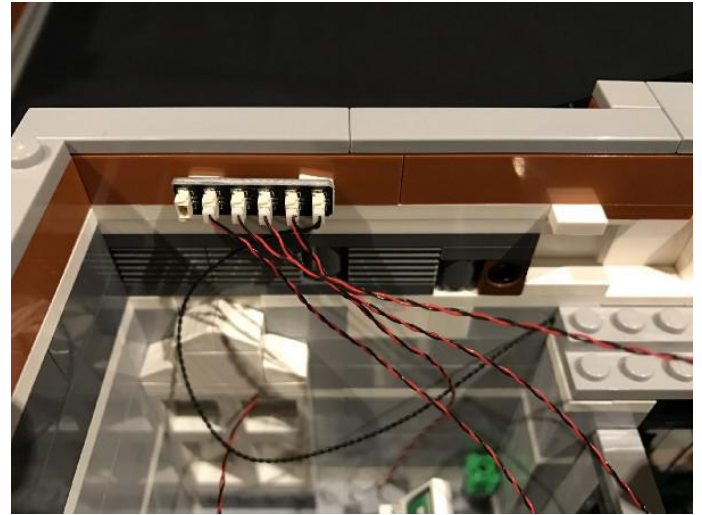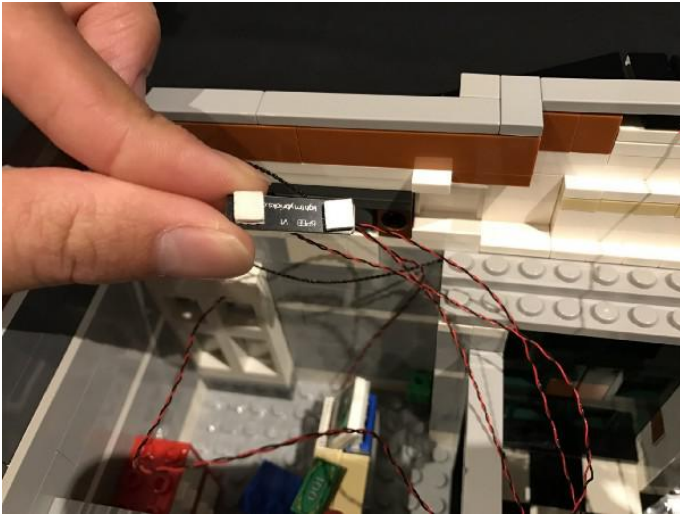
14.) Take one of the 6-port Expansion Boards and connect the 15cm cable from striplight#1 to the first port, followed by the lamp post cable and then 3 cables from the front.


Use 2x adhesive squares to mount the expansion board to the inside of the front of the wall as shown below.

15.) Tidy up excess cables by grouping them together and placing them in the middle. You can secure them and prevent them from dangling down by using tape or a spare LEGO brick to connect over them. The key here is to ensure these cables are not visible from the outside looking in through the front windows.
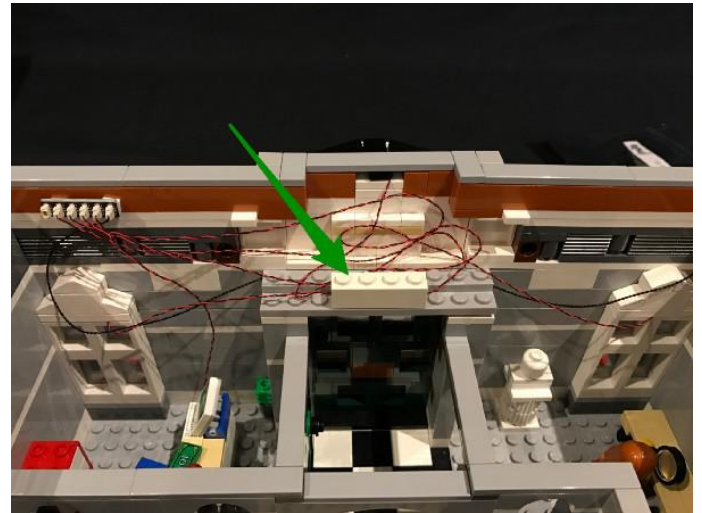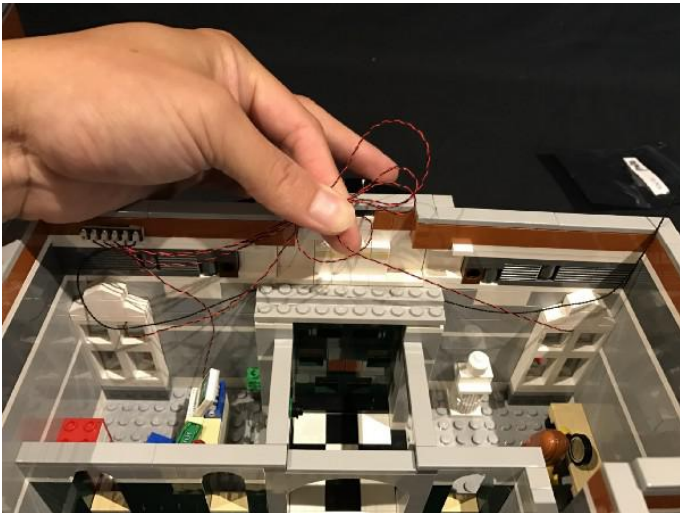

16.) Now is a good time to test our current lights we have installed so far. To do this take the   Battery Pack   and insert 3x AA batteries into it. Plug the battery cable into the spare port on the expansion board and then turn "ON" to verify all the lights at the front are working.
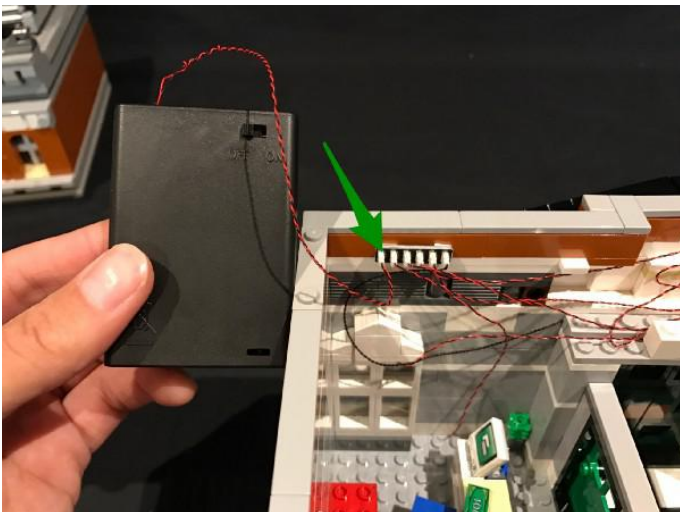
17.) Time to move on to lighting the ground and second floor. We will start with installing lights above each of the 4 windows on this floor. To do this, take the second floor and then remove the following tiles along the top then, remove the top of the 4 window sections as shown below.
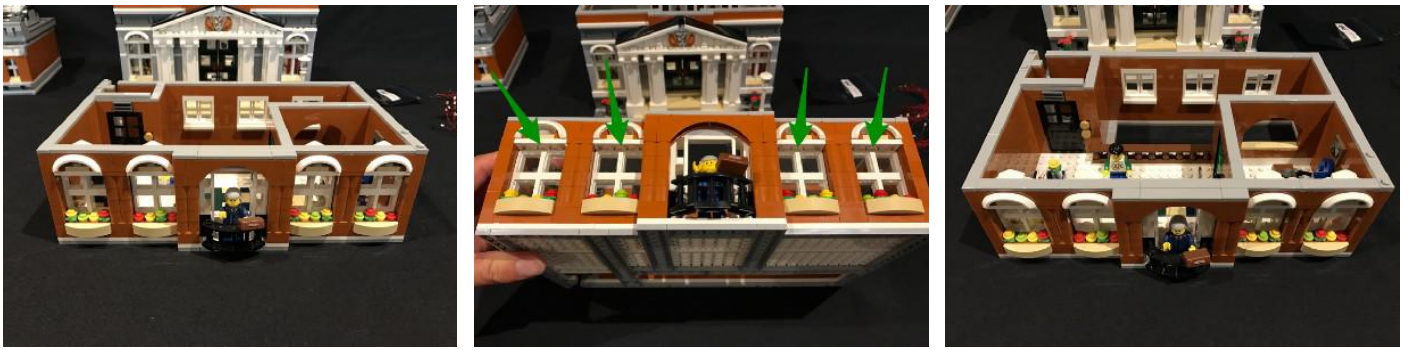

18.) Take a White 30cm Dot Light and place the LED component in the middle hole underneath the white 2x4 plate of the first window. Using your finger to hold the component in place, flip this section over and then reconnect it to the building. Repeat this step to install another 3x White 30cm Dot Lights to the second, third and fourth window.
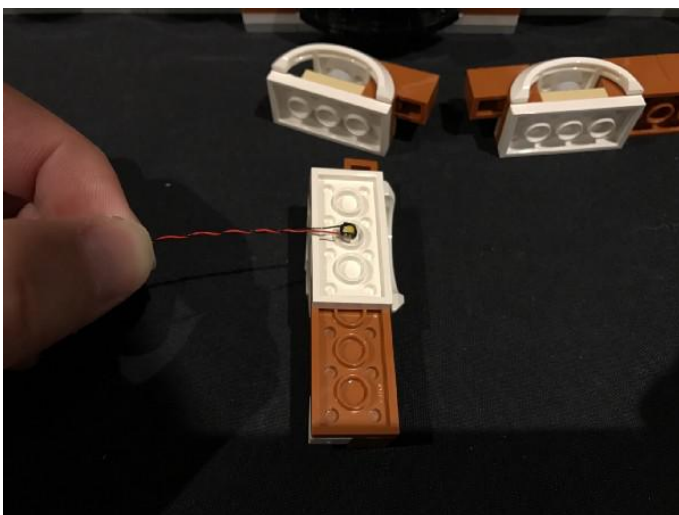

If you look from below up, you should see the LED components peaking out. If they do not look similar to the below examples, you will need reinstall the Dot Light by following the previous steps again.
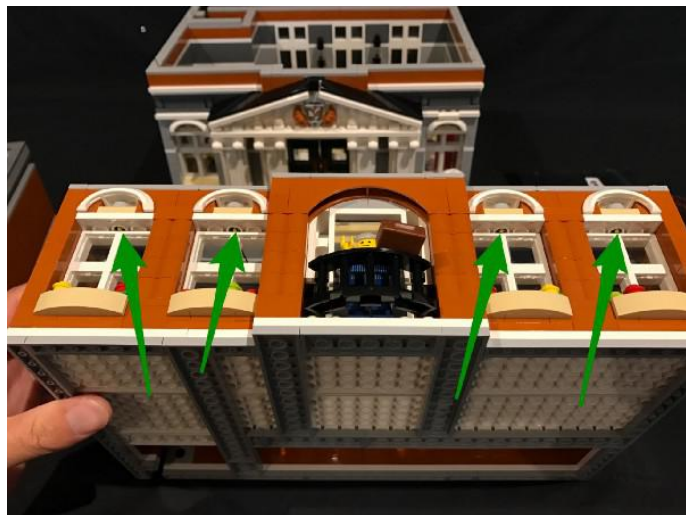
19.) Take another   6-Port Expansion Board   and then connect all 4 Dot Light cables into the available ports.
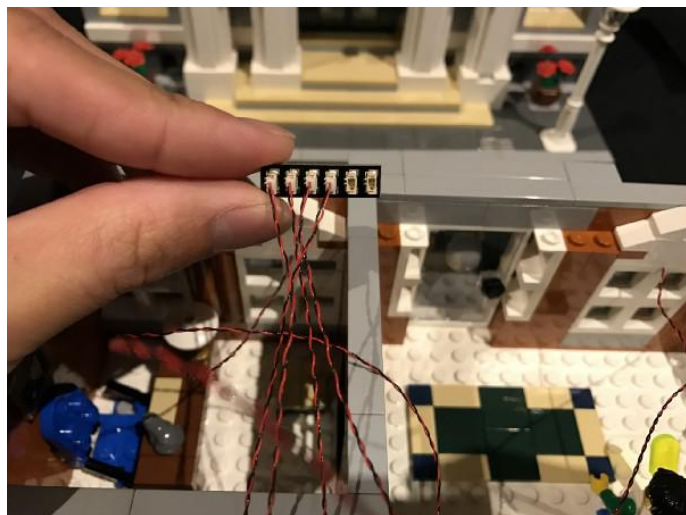

To eliminate excess cabling, wind the cables around the expansion board as shown below and then mount the expansion board to the following position on the wall inside the second floor using   2x adhesive squares.
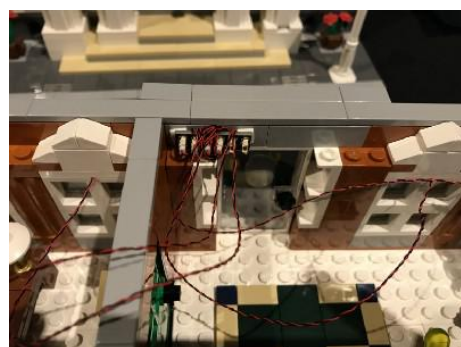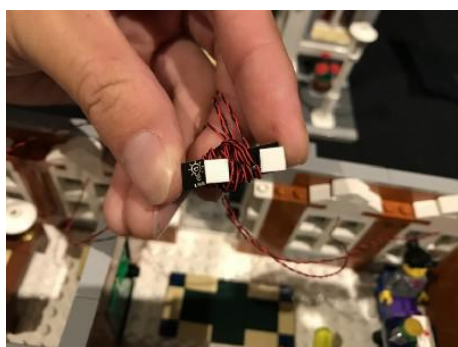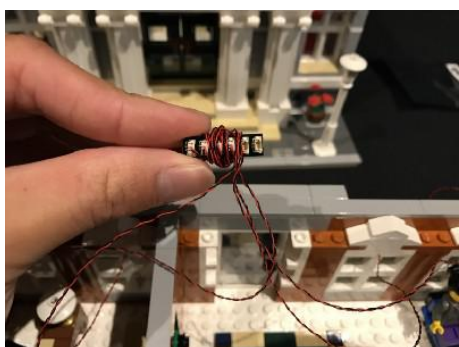

20.) Hide all the excess cabling by looping them around the following sections. You can disconnect and reconnect pieces over the top of the cables to secure them. You can also hide the cables by laying them underneath the flat tiles and in between studs.
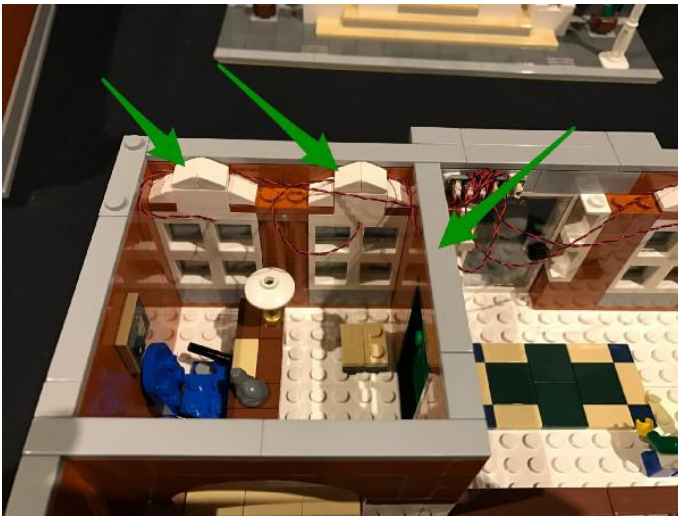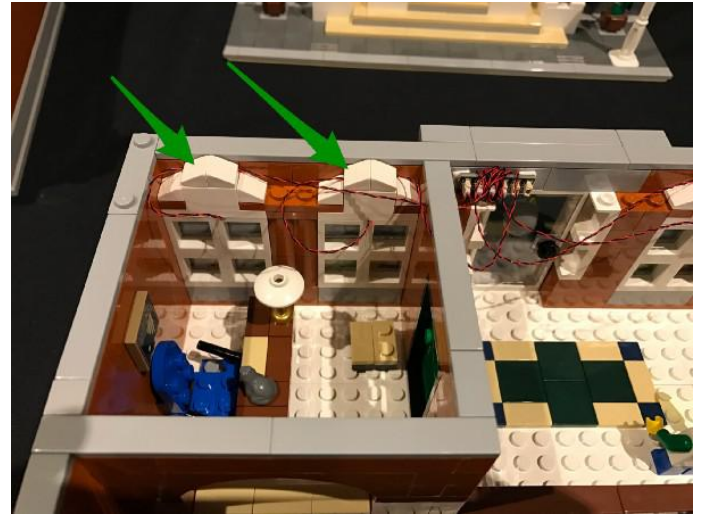
21.) Now that we have finished installing lights to the second floor, we need to install some strip lights underneath to light the ground floor below. Lift the second floor and turn it on its back to allow us to stick/connect (depending on whether or not you are using lego 1x6 plates to mount) two   LED Strip Lightsto the following positions. (striplight#2 and striplight#3). Connect the two strip lights together using a   15cm connecting cable
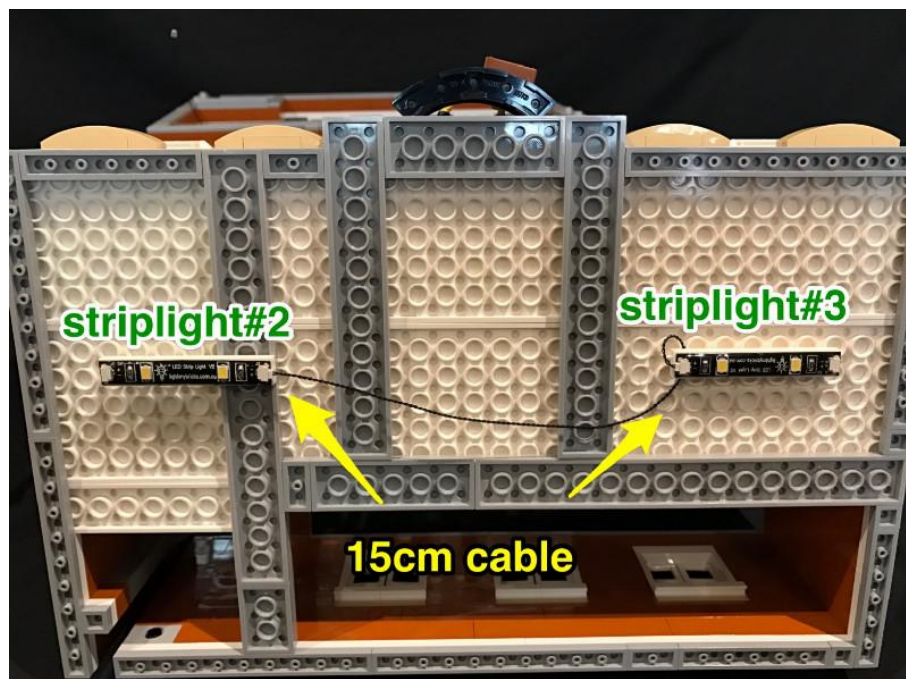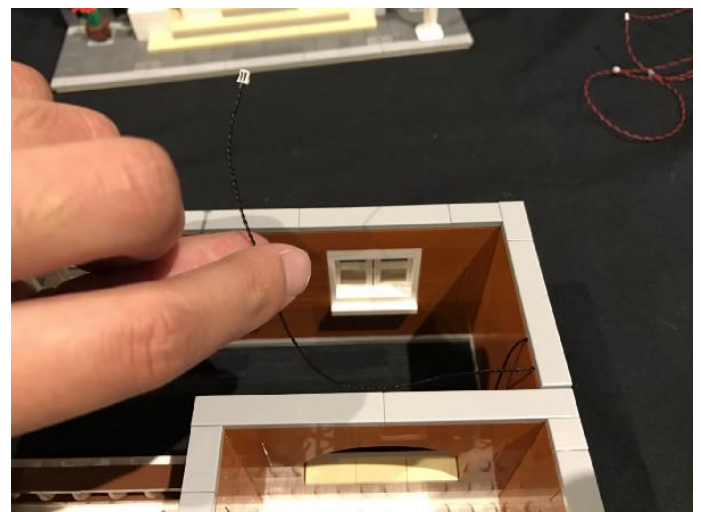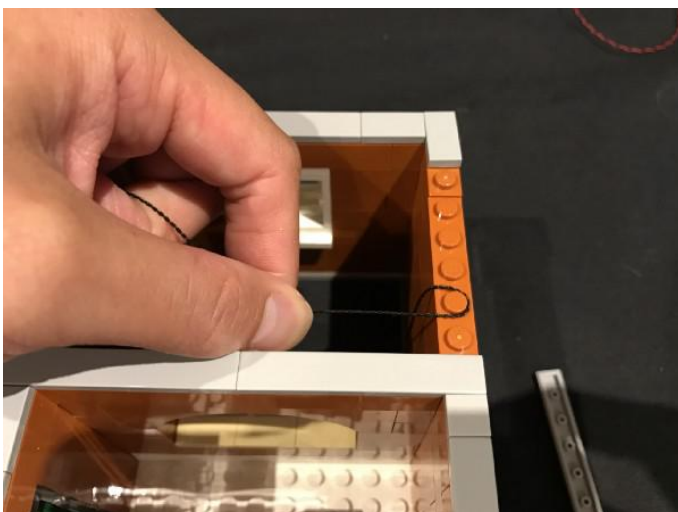
Connect a 30cm connecting cable   to the right port on striplight#3 and then secure it underneath the grey plate as per below.
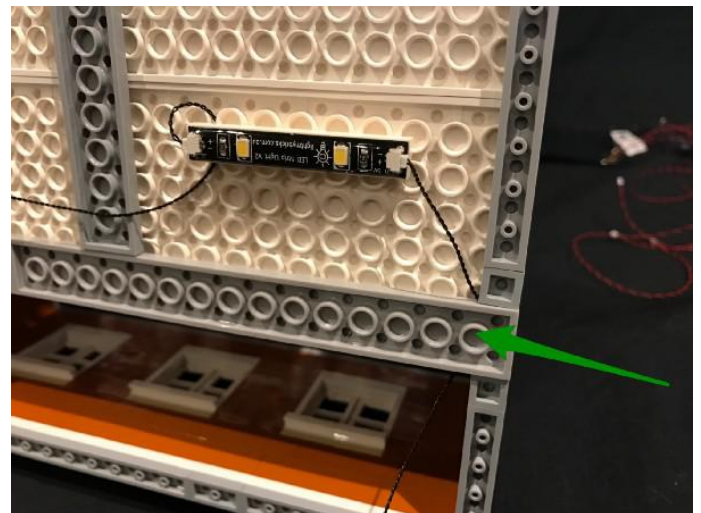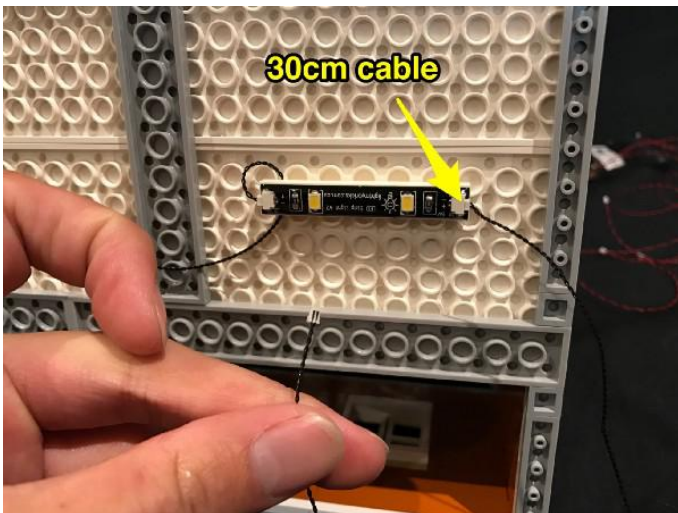
22.) Thread the other end of the 30cm cable into the space that leads above. Turn the second floor over and pull it up from underneath.
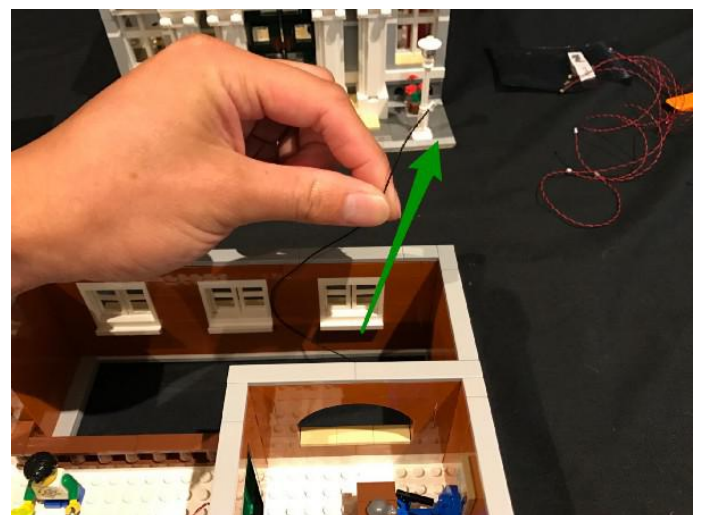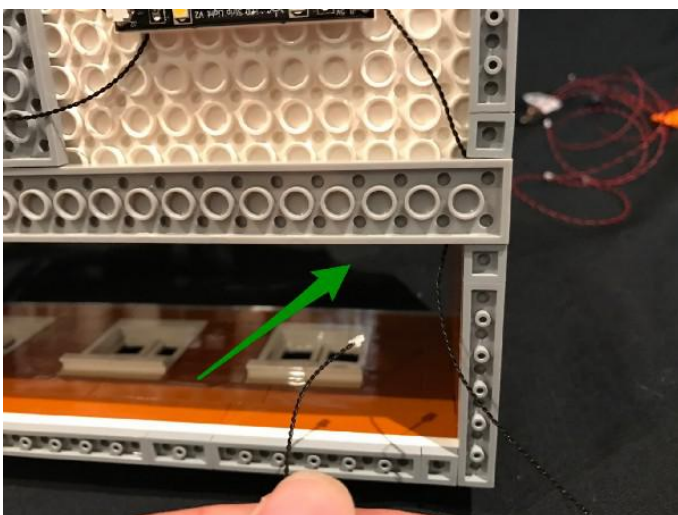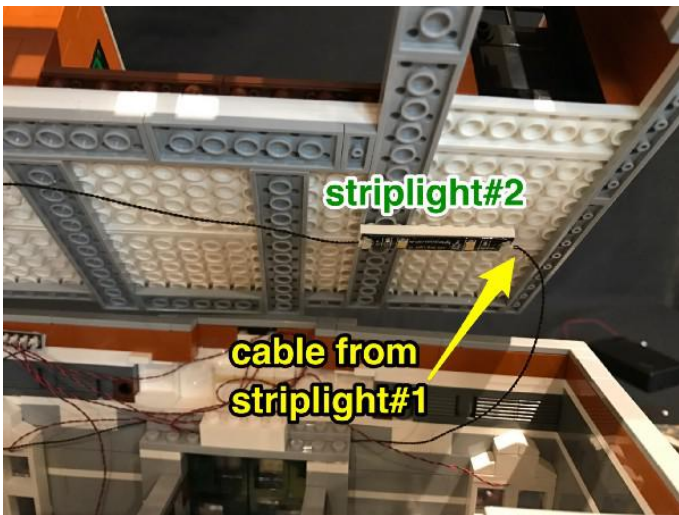

Secure the cable in place by laying it underneath the grey tile on the top and in between studs


23.) Take the second floor above the the ground floor and then connect the loose 15cm cable from

striplight#1 to the spare port on striplight#2. Reconnect the second floor to original position

Locate the 30cm cable we pulled up from the ground floor and then connect it to the next available port on the 6-Port Expansion board on the second floor. Secure the cable underneath the following grey tile.
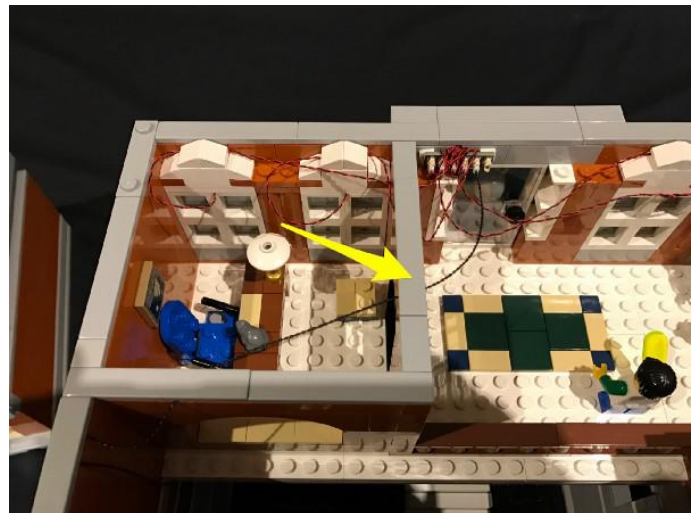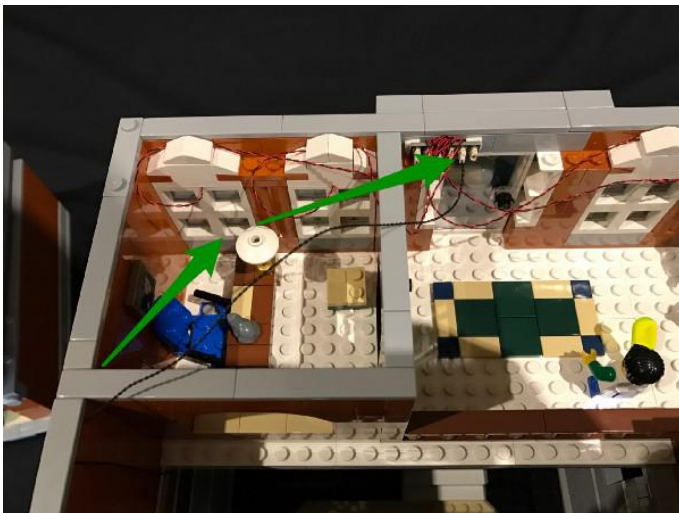
24.) We can now test the lights we have installed so far. Take the battery pack and connect the battery pack cable to the expansion board on the second level. Turn on to verify all is working OK
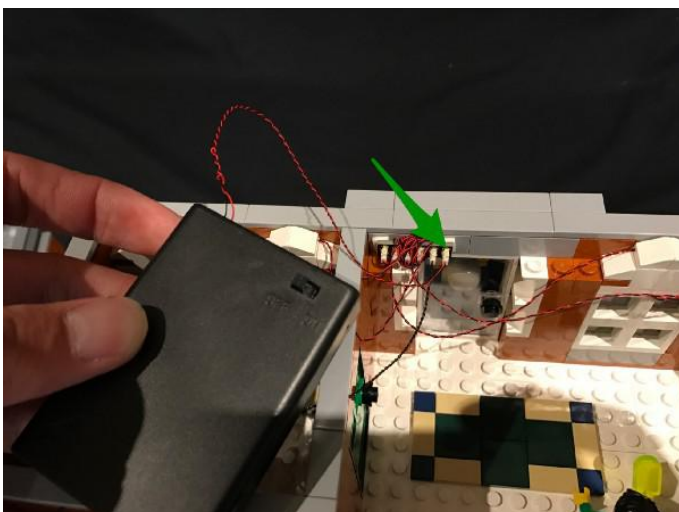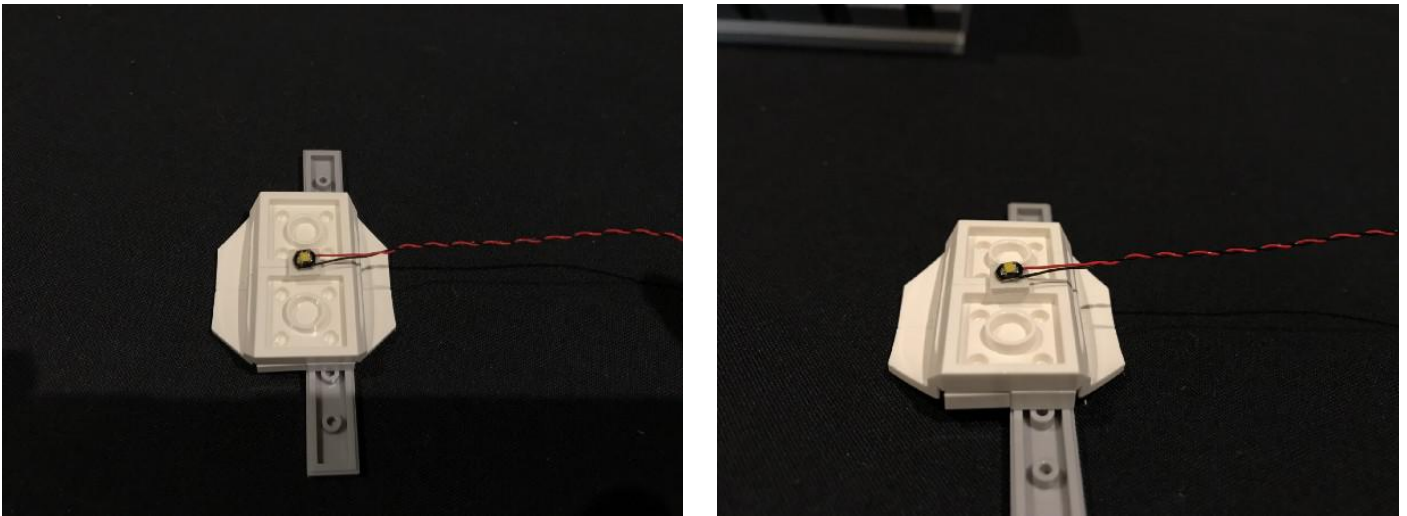

25.) Moving up to the third level··· We will install a light to the top of the middle window. Start by

disconnecting a few pieces to allow us to remove the top section of the window.

Take another   White 30cm Dot Light   and use an   adhesive square   to stick the LED component part underneath the top section of the window in the following position.


Reconnect this section back ensuring the cable is laid behind then reconnect the grey plate we removed earlier. You should be able to see the LED component peaking out if you look from below up.


From the top of the floor, pull the cable (from the Dot Light we just installed) all the way toward the back and then secure underneath the following grey tile. Ensure there is no excess cable hanging down otherwise it will be seen from outside looking in.

26.) Turn this level over and connect/stick another two LED Strip Lights(striplight#4 and striplight#5) to the following positions. Connect them together using another 15cm connecting cable and connect another 15cm connecting cable to the left port on striplight#4
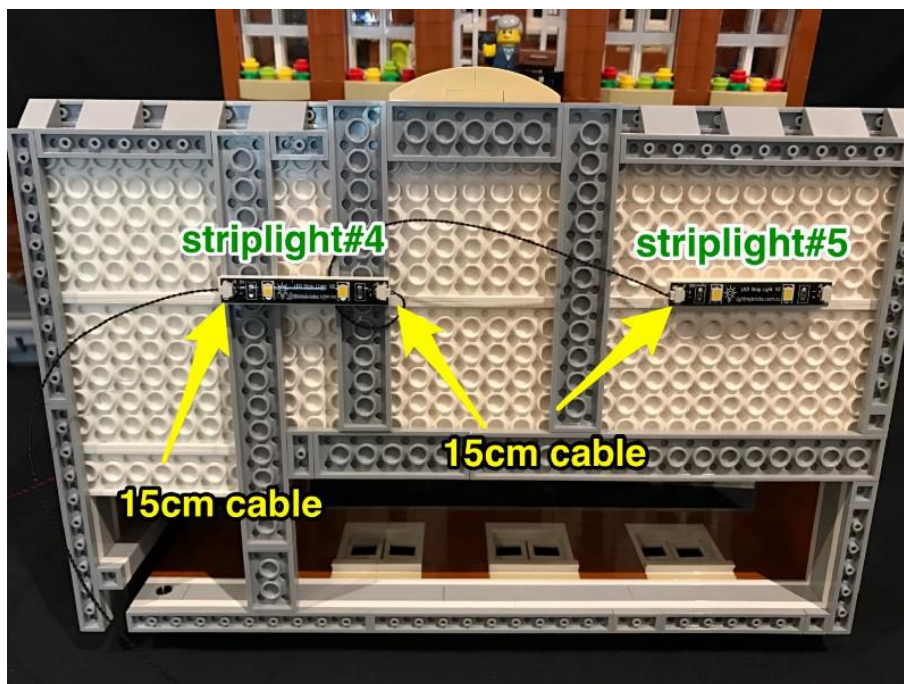
27.) Connect a 30cm connecting cable to the right port on striplight#5 and then thread the cable up into the space which leads above. Ensure you secure this cable underneath the grey plate as shown below:
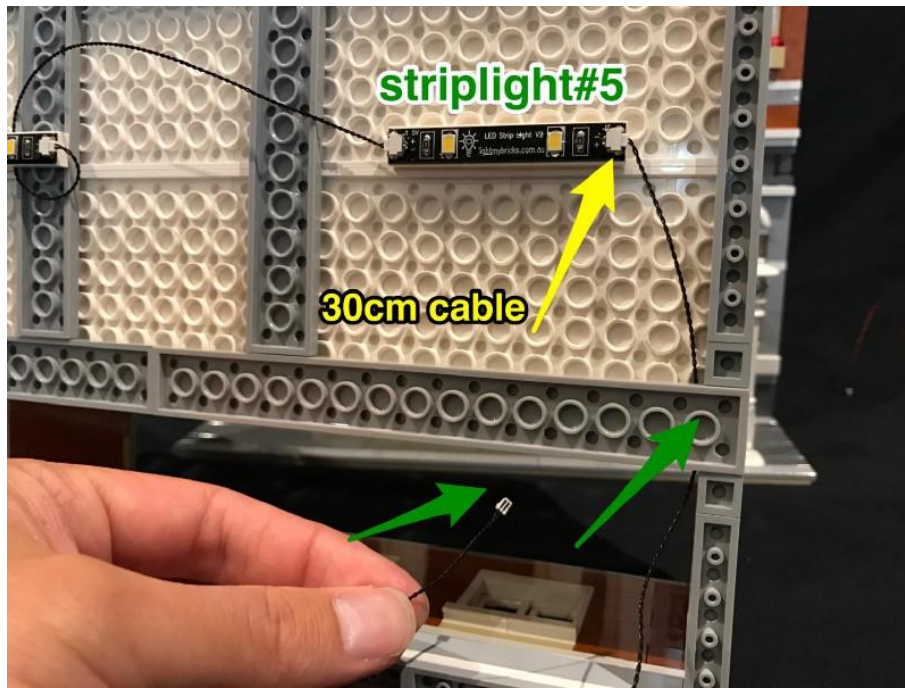
Turn the level over and then pull the cable up from underneath. Secure the cable in place by laying underneath the grey tile and in between studs.


28.) Connect the other end of the 15cm cable from striplight#4 into the spare port on the expansion board on the second floor before reconnecting the third floor back in place.


29.) We will now install lights above the clock and town hall bell on the roof. Remove the following sections to allow us to gain access to the top of the clock.
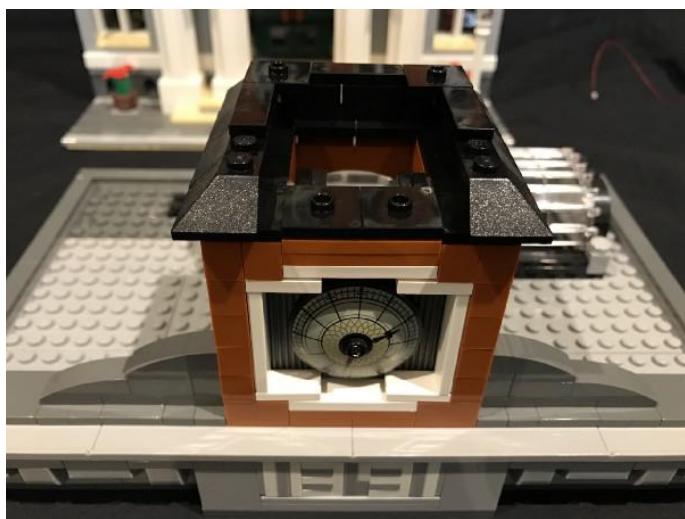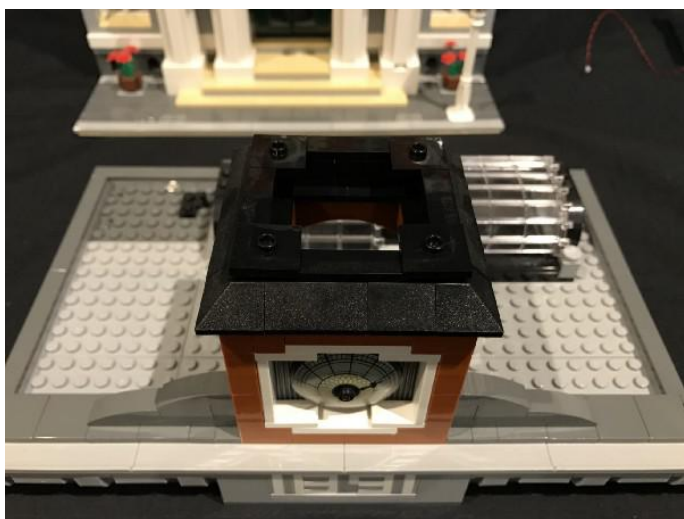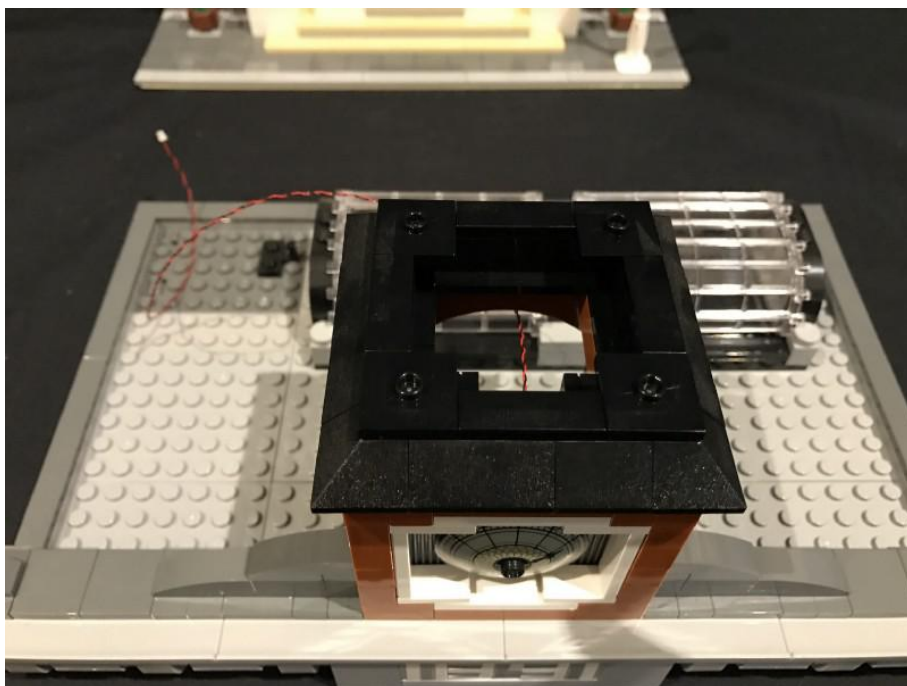
Remove the top section of the clock and then install a White 30cm Dot Lightby placing the LED component in the middle hole underneath the white 2x4 plate. Using your fingers to hold the LED in place, flip it over and reconnect this section back above the clock. The LED component should be visible look from underneath.
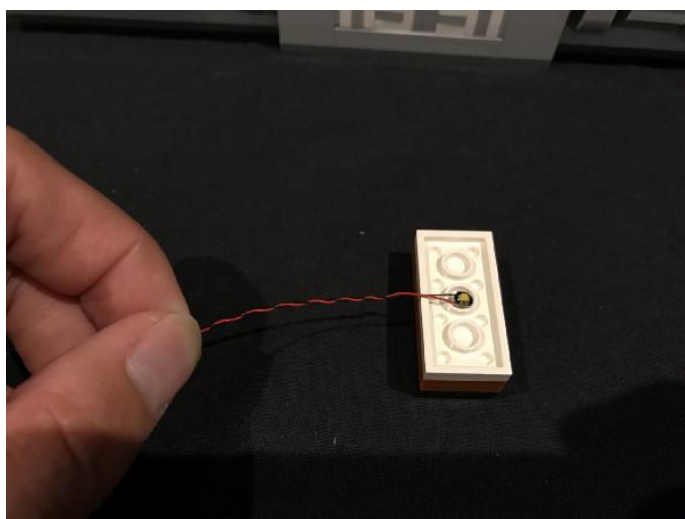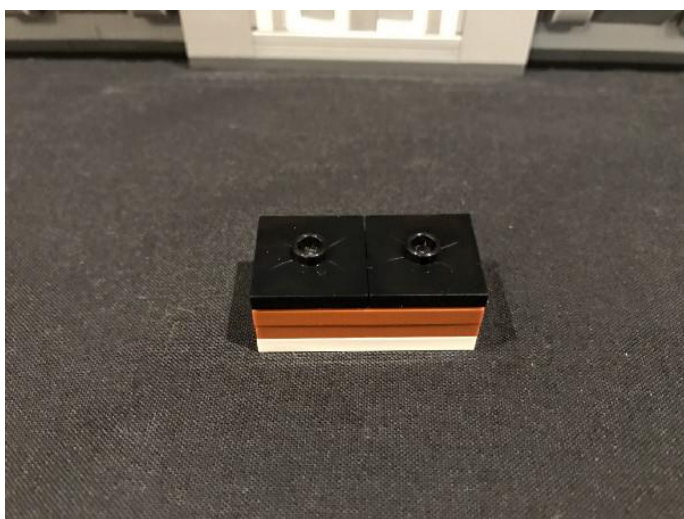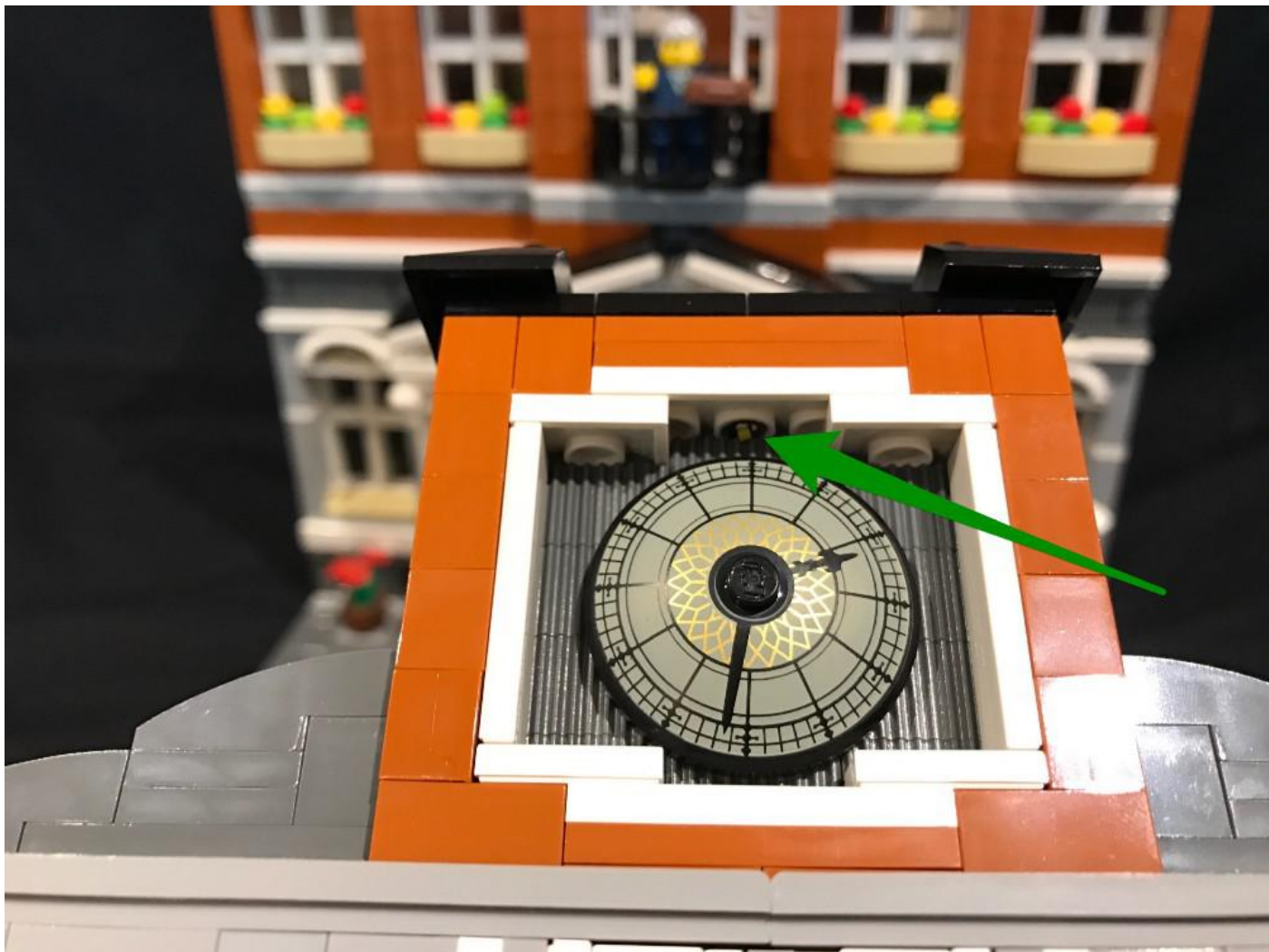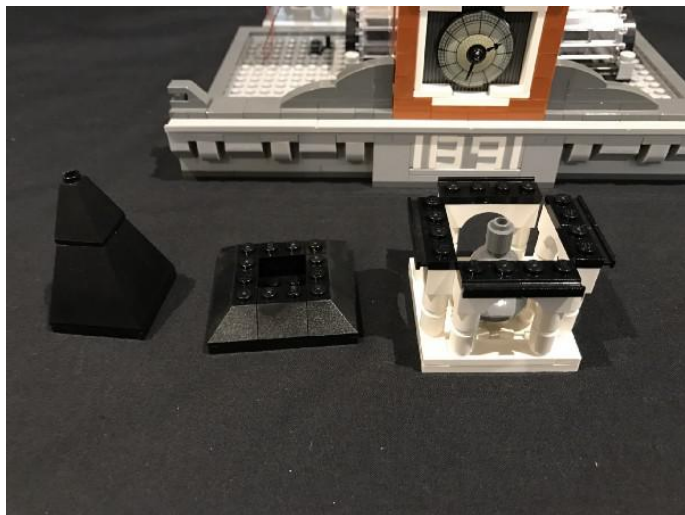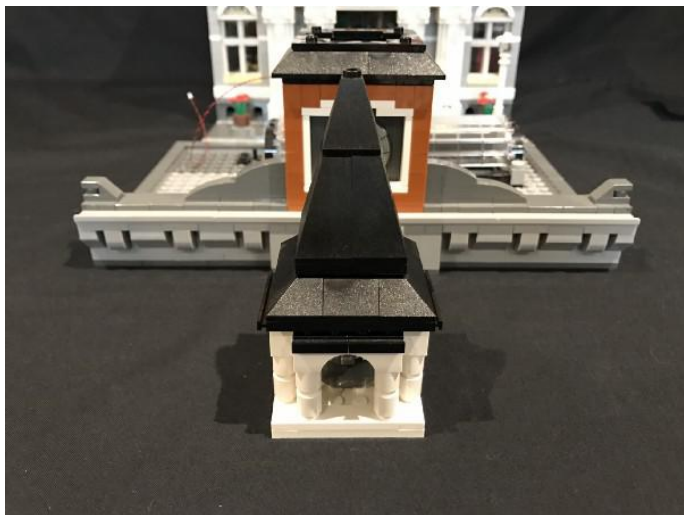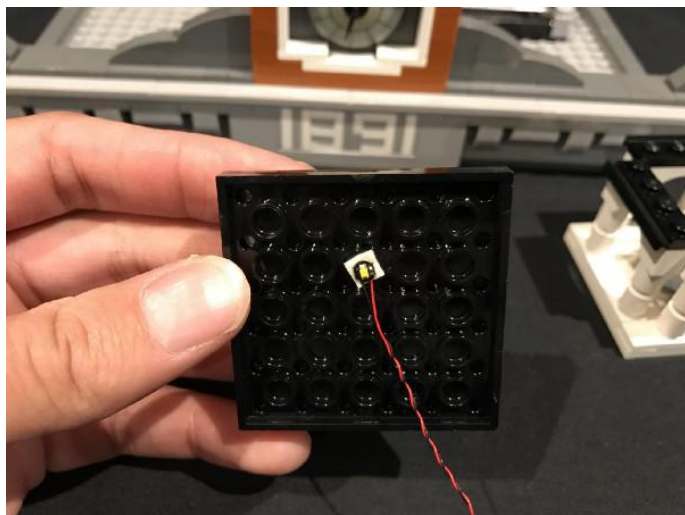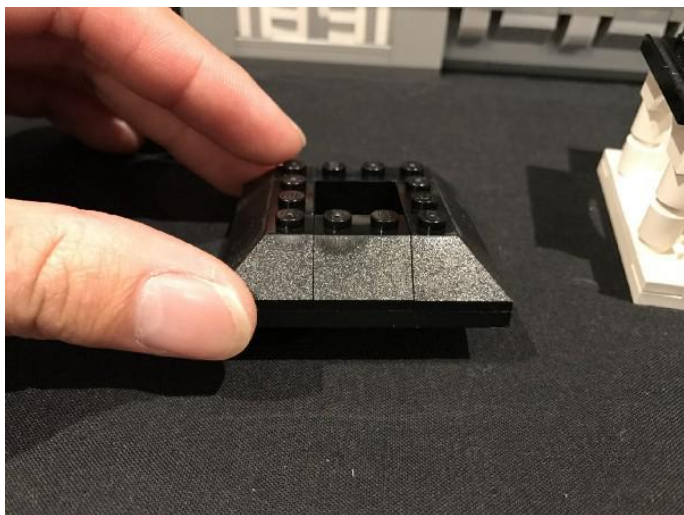
Reconnect pieces above the clock


30.) Take the top section of the roof and disassemble sections as per below.

Take the middle section and install another component to the following position using an White 30cm Dot Light underneath it by sticking the LED adhesive square.
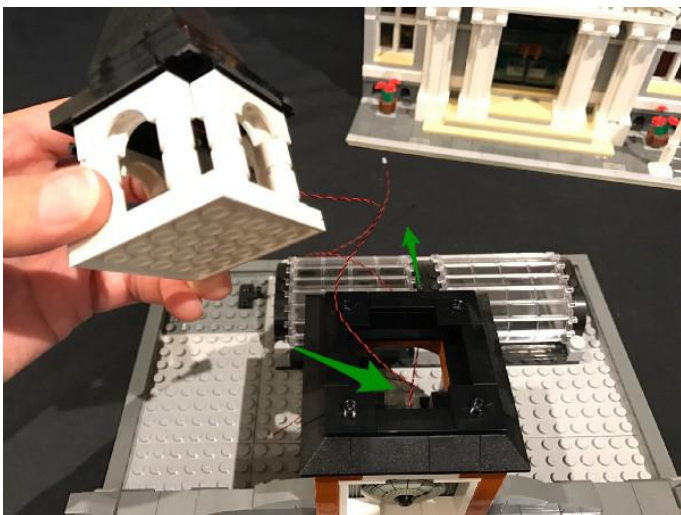

Thread the cable behind and through the hole underneath (or lay in between studs of the black plate) and then reconnect this section back above the bell.
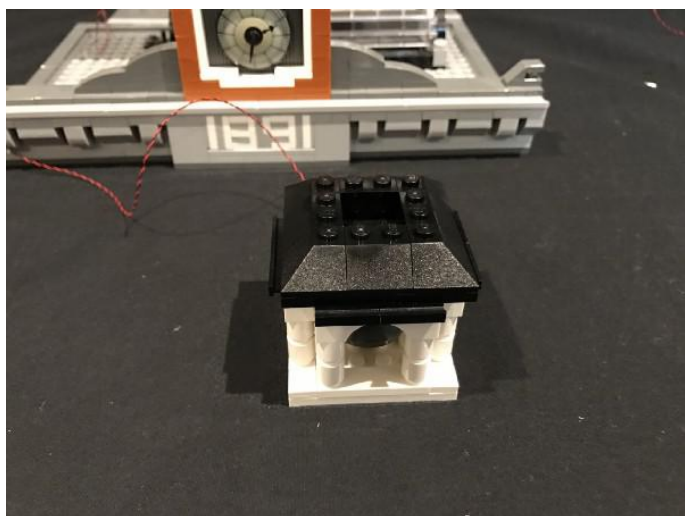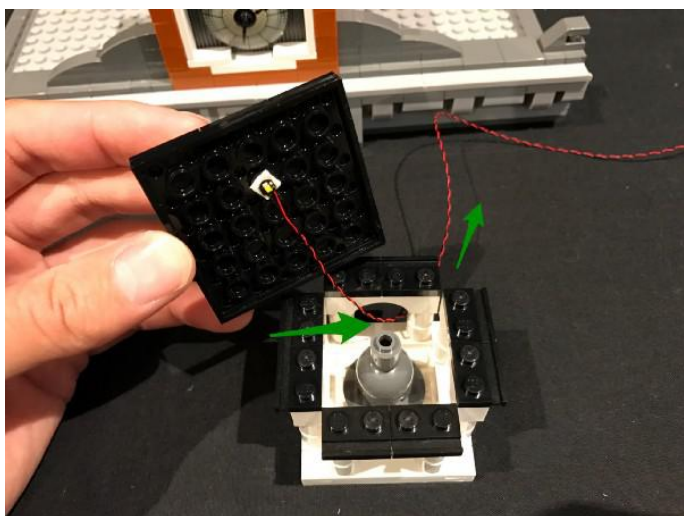


Reconnect the top section.
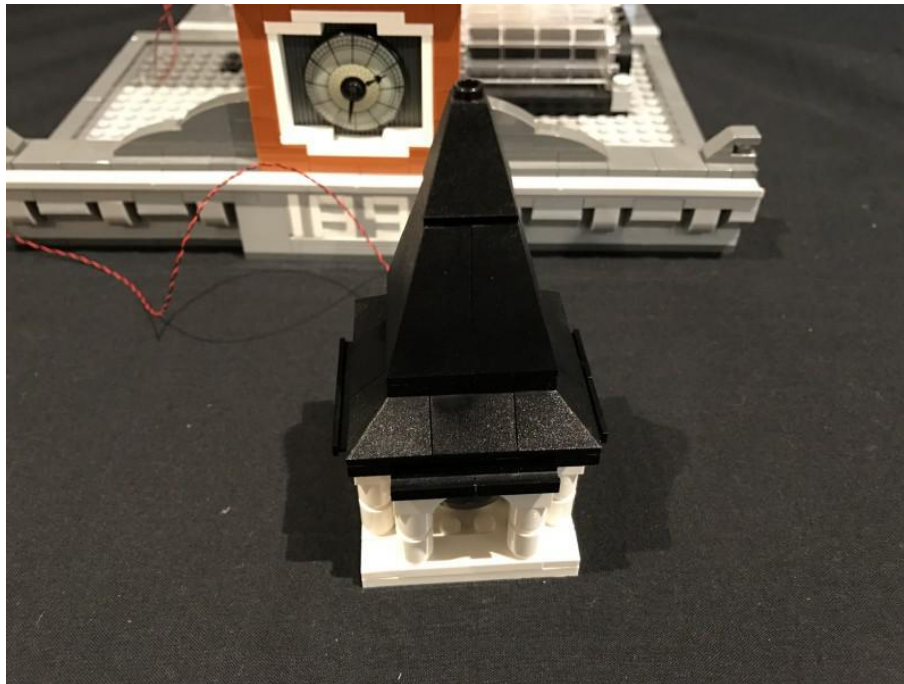
Before we reconnect this section back above the clock, thread the cable underneath through the spacing which leads behind, then reconnect everything back together.


31.) Take the roof and flip it onto its back and then install another two LED Strip Lights underneath by connecting/stick them to the following positions (striplight#6 and striplight#7). Connect them together using a 15cm connecting cable.
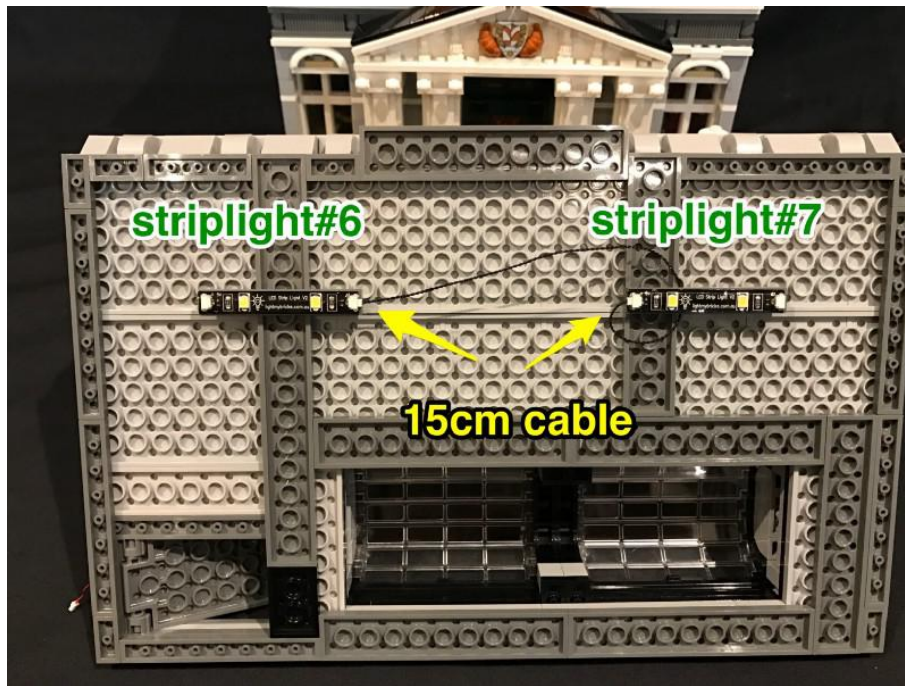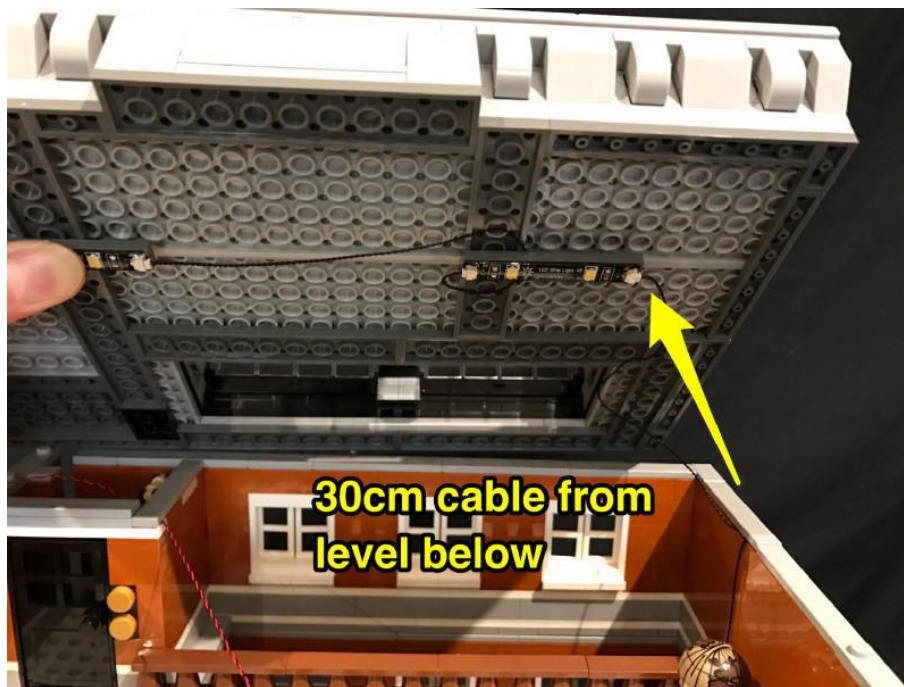
32.) Connect a 30cm connecting cable to the left port on striplight#6 then thread it up through the door way which leads to the top of the roof. Pull it all the way up from the other side.
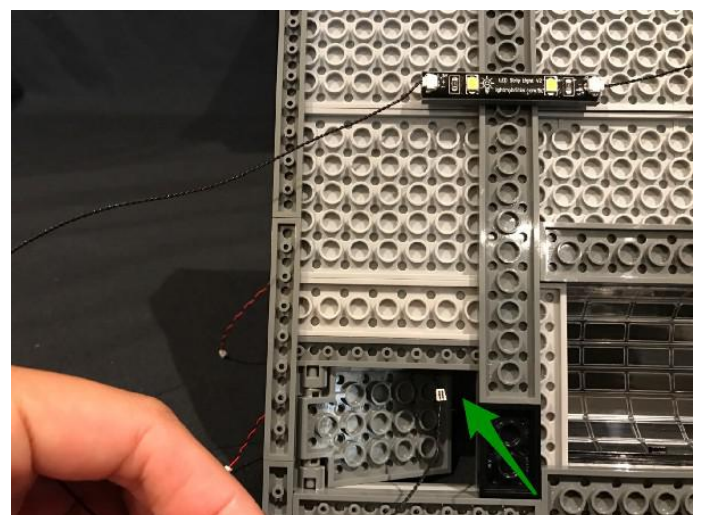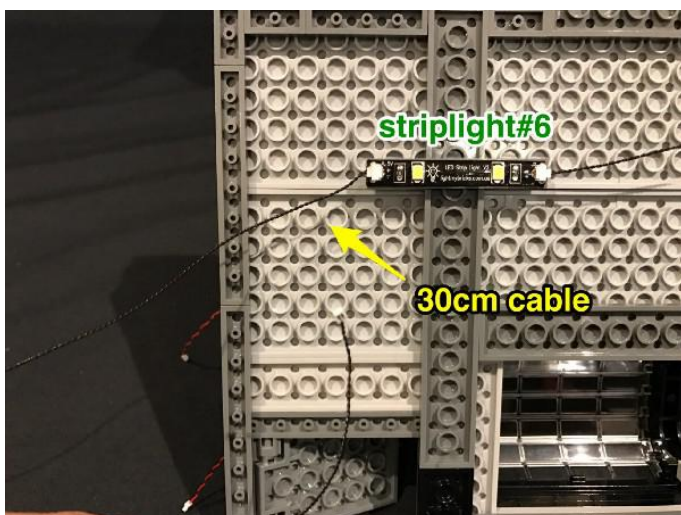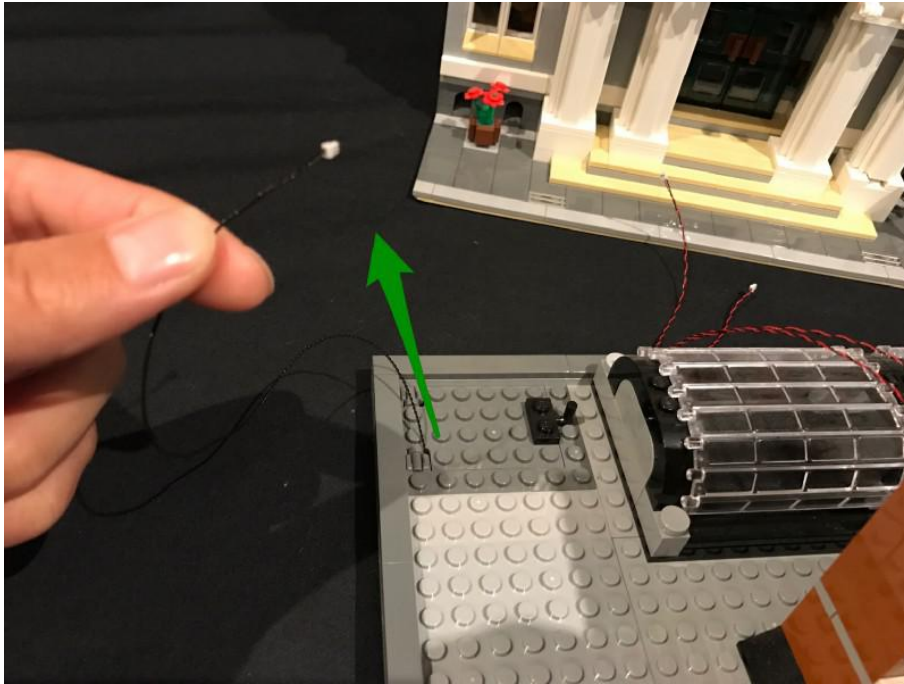
33.) Take the roof above the third floor and then locate the 30cm cable which we pulled up from the lower level. Connect this into the right port on striplight#7.


30cm cable from level below

Thread the other end of the Dot Light cable from the window up the through the doorway (through the same hole as the connecting cable) and then pull it all the way up from the top before closing the door again.
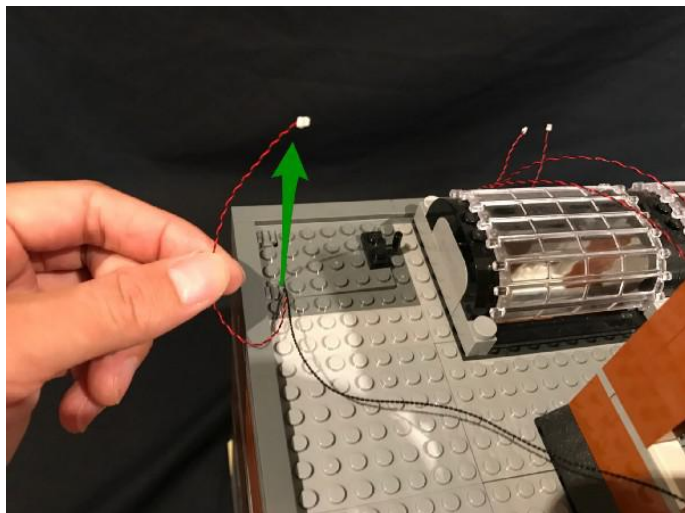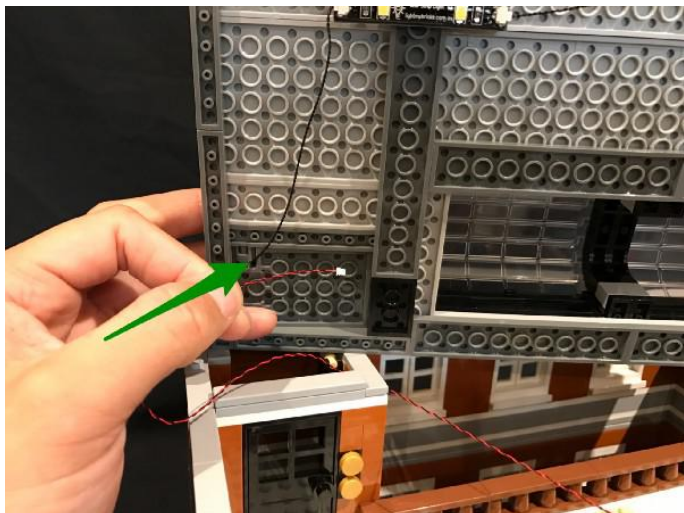
Reconnect the roof securely on top of the third floor.

34.) Take the last 6-Port Expansion Board and connect the 30cm connecting cable from below as well as the Dot Light cables (bell, clock, and from below) into the available ports.
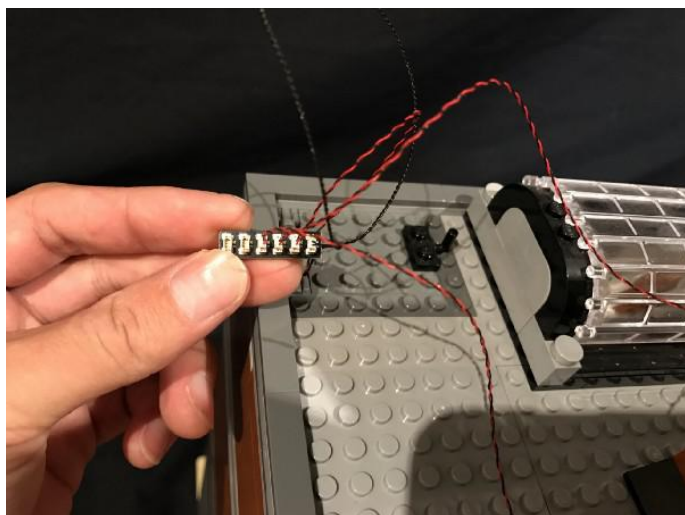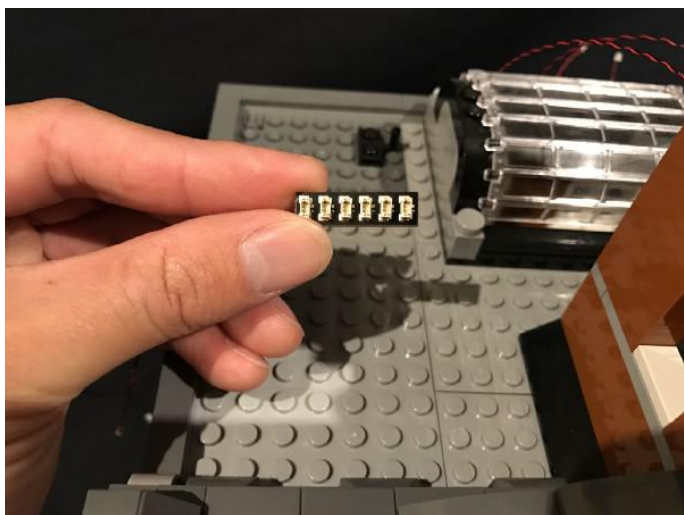
35.) Take the   AA Battery Pack   and place it on the roof and then connect the battery pack cable into one of the available ports on the expansion board.
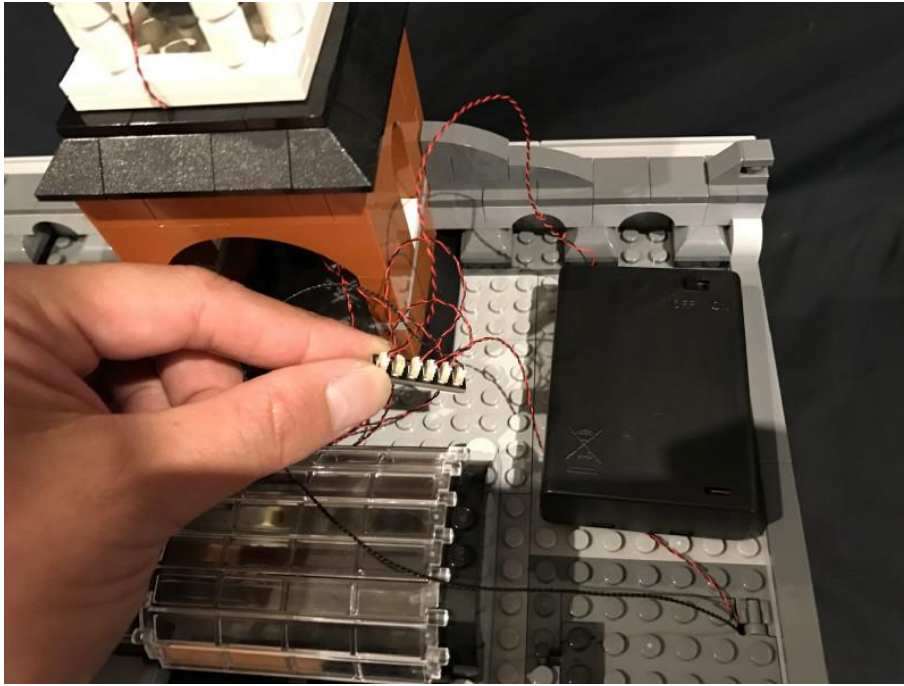

Mount the expansion board to the following position on top of the roof using 2x   adhesive squares.
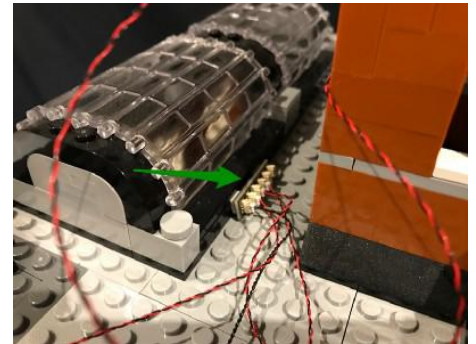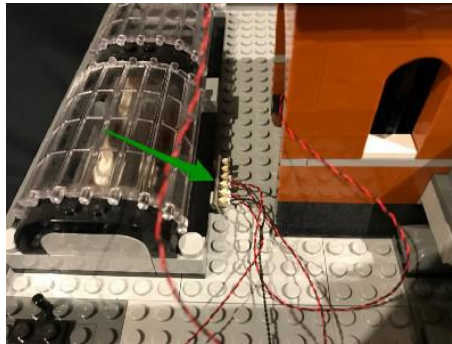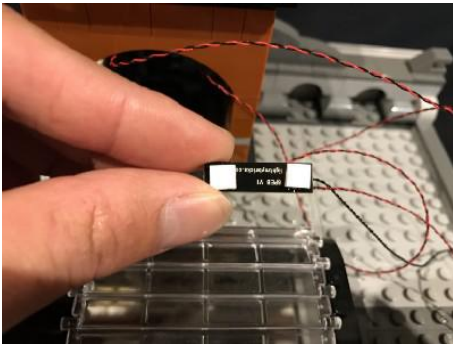
36.) Neaten up the cables by grouping them all together and tucking them under the tower. You can use LEGO bricks to secure the cables down, like what I have done below.
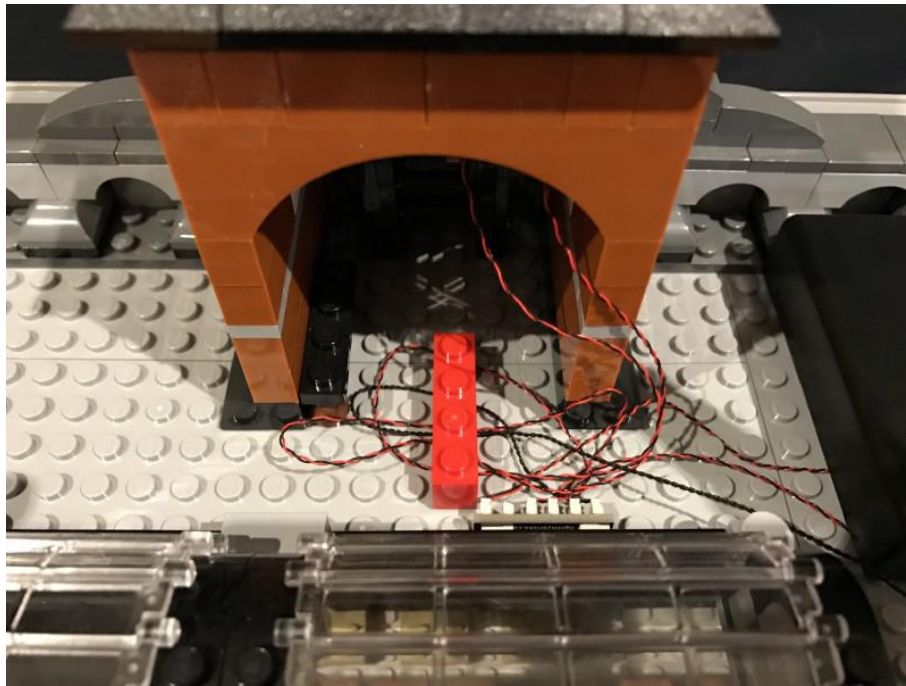
Stick 2x adhesive squares to the bottom of the battery pack and then secure it down in place in the following position.
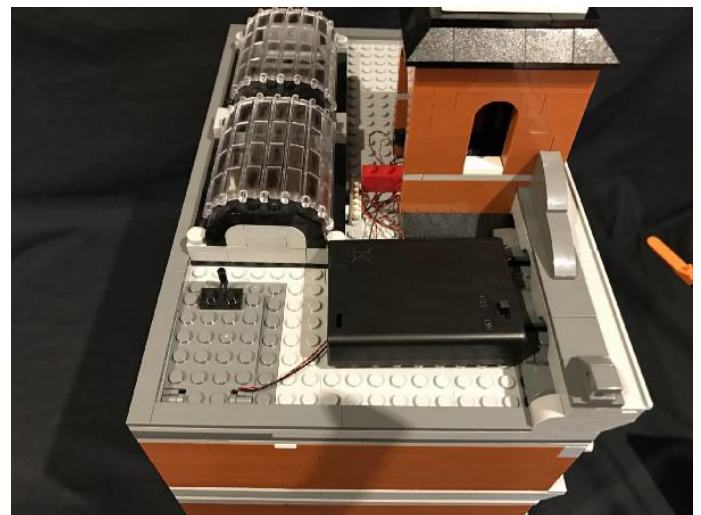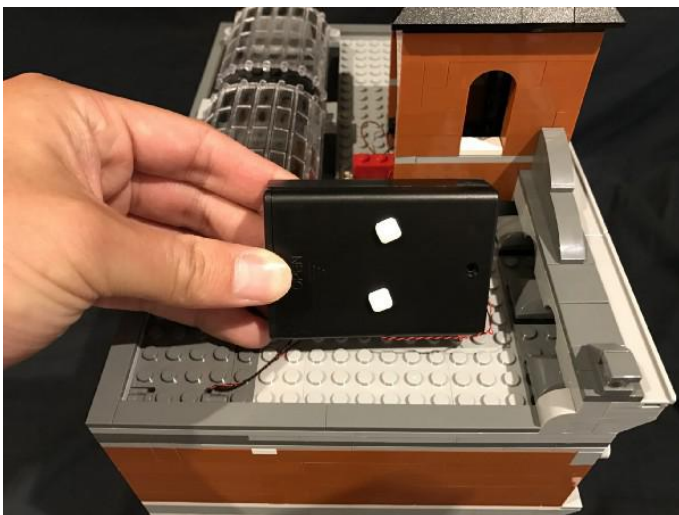
This now completes installation of the Town Hall LED Lighting Kit. Turn it 'ON' and ENJOY!