

# Light My Bricks : Winter Toy Shop LED Lighting Kit



Here is the instructions document for the Lego Winter Toy Shop LED lighting kit. Please read and follow the steps carefully to ensure this lighting kit is installed properly.

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## Package contents:

- 3x White 30cm Bit Lights
- 3x Multi Colour Changing Light Strings
- 1x White Strip Light
- 1x 8-port Expansion Board
- 1x 15cm Connecting Cable
- 1x Battery Pack (3x AA Batteries Required) • 2x Adhesive squares for mounting the expansion board

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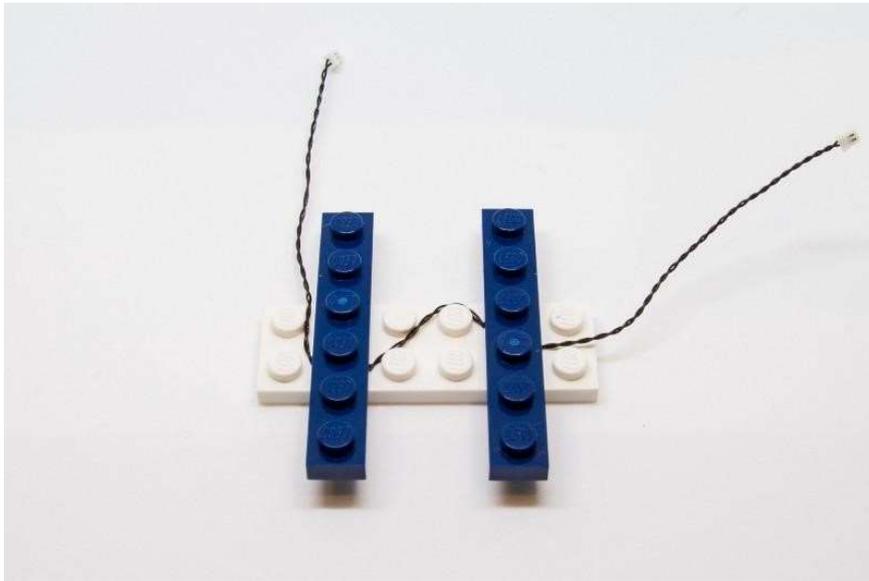
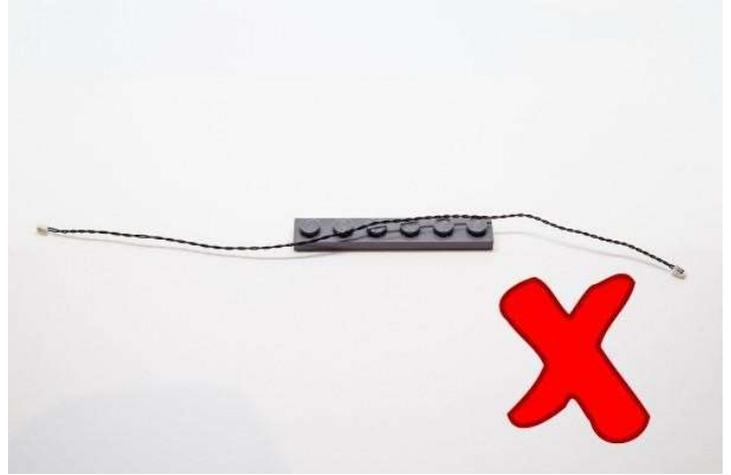
## Important things to note:

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### Laying cables in between and underneath bricks

Cables can't fit in between and underneath LEGO® bricks, plates, and tiles providing they are laid correctly between the LEGO® studs. Do NOT

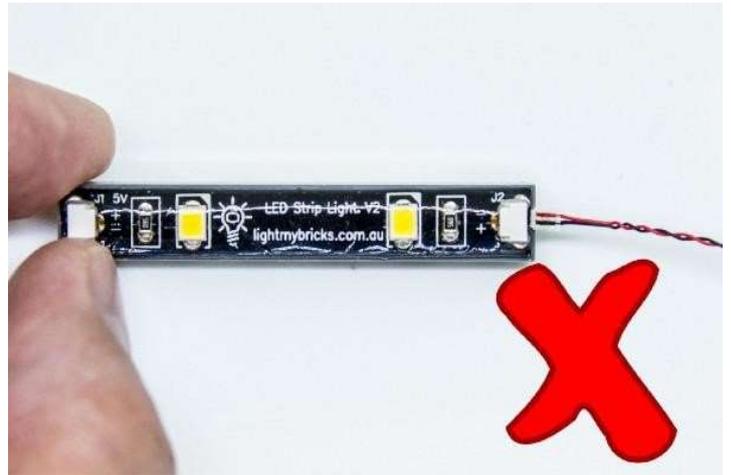
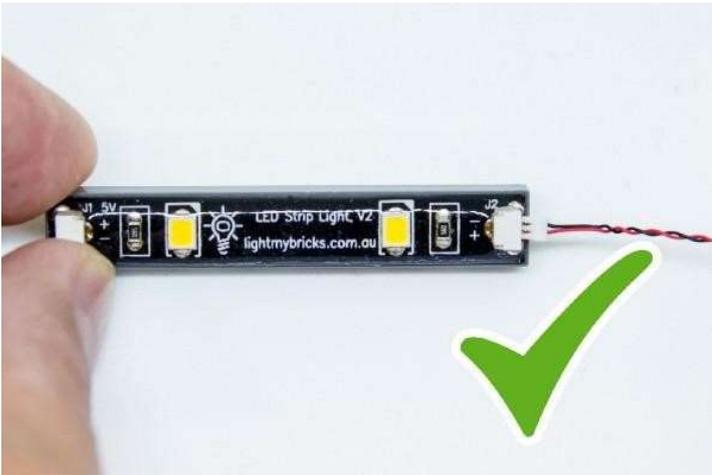
forcefully join LEGO® together around cables; instead ensure they are laying comfortably in between each stud.



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

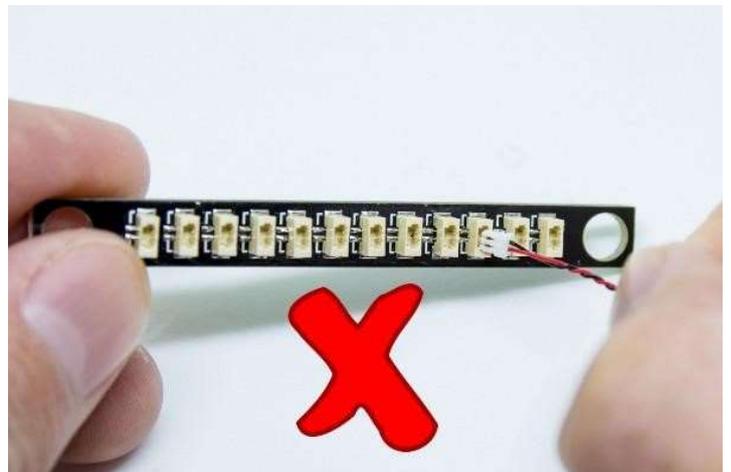
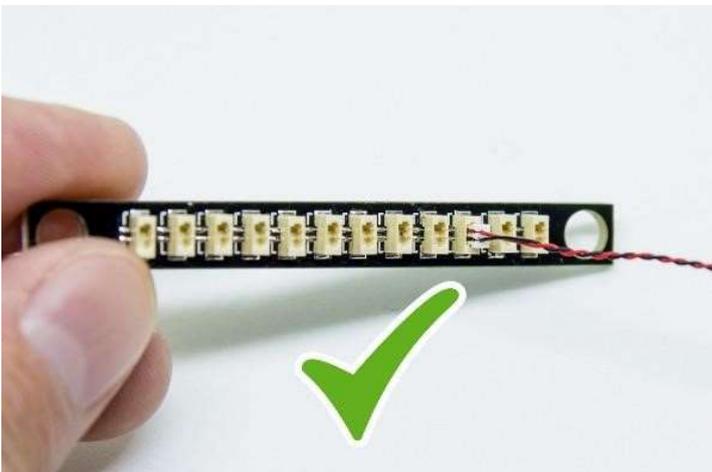
### Connecting cable connectors to Strip Lights

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



### Connecting cable connectors to Expansion Boards

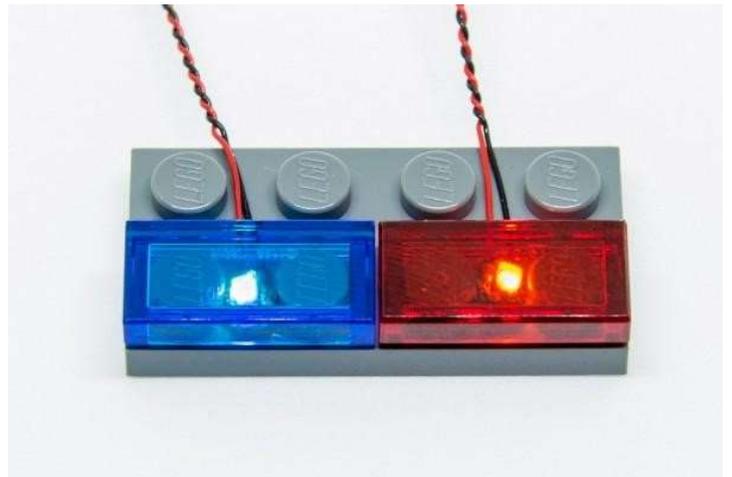
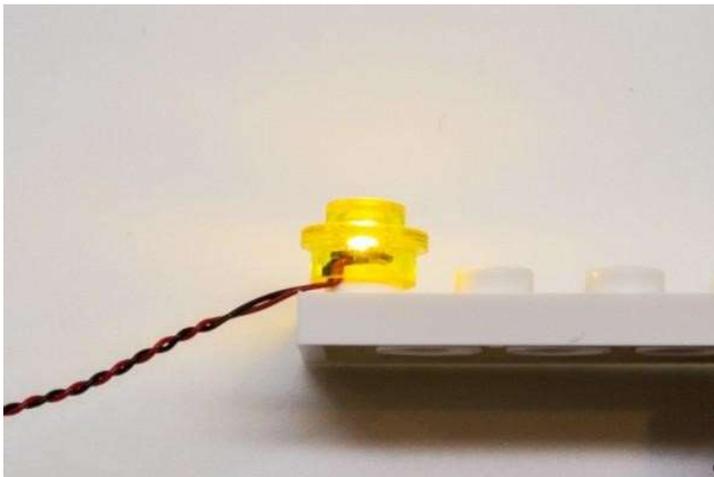
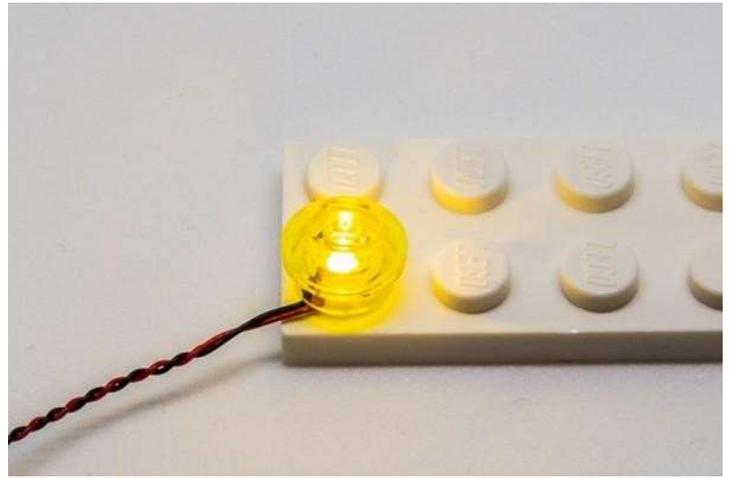
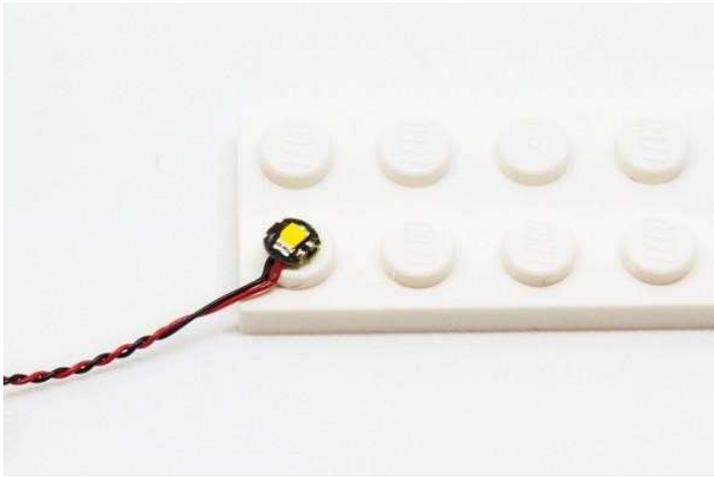
Take extra care when inserting connectors to ports of Expansion Boards. Connectors can be inserted only one way. With the expansion board facing up, look for the soldered “=” symbol on the left side of the port. The connector side with the wires exposed should be facing toward the soldered “=” symbol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



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

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

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



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OK, Let's Begin!

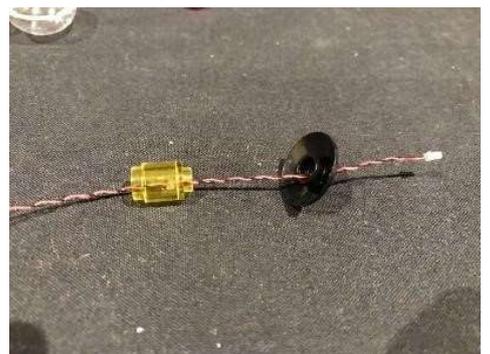
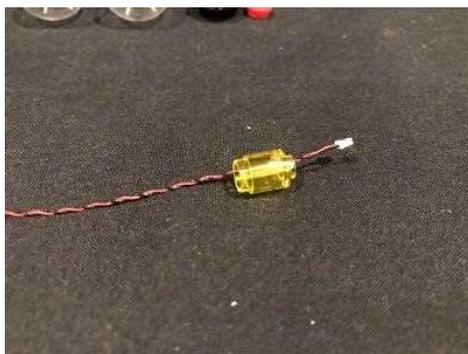
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## Instructions for installing this kit

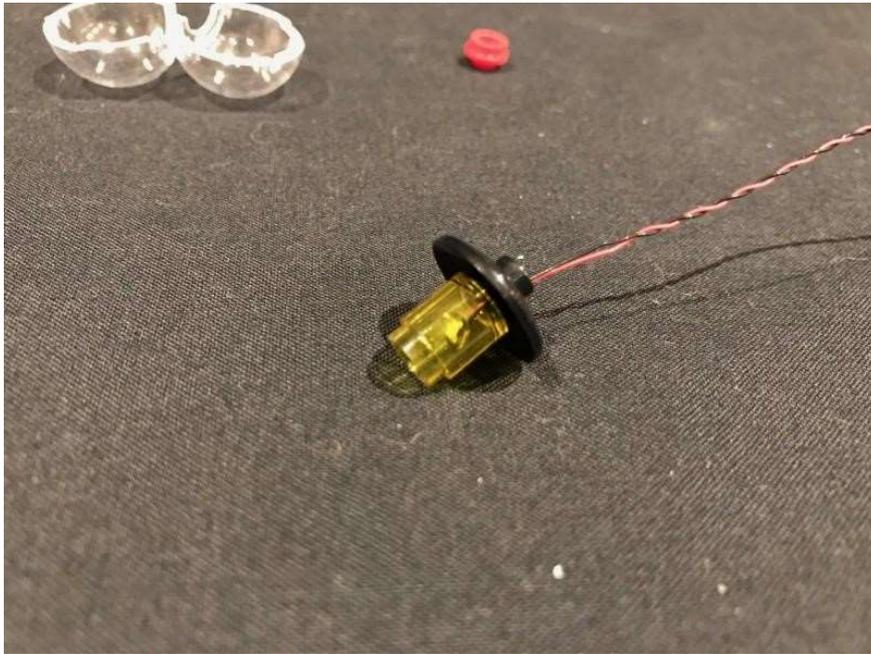
- 1.) We will start with installation of the lights to the street lamps.  
First remove the two round globes from the street lamp and then disassemble pieces as per below:



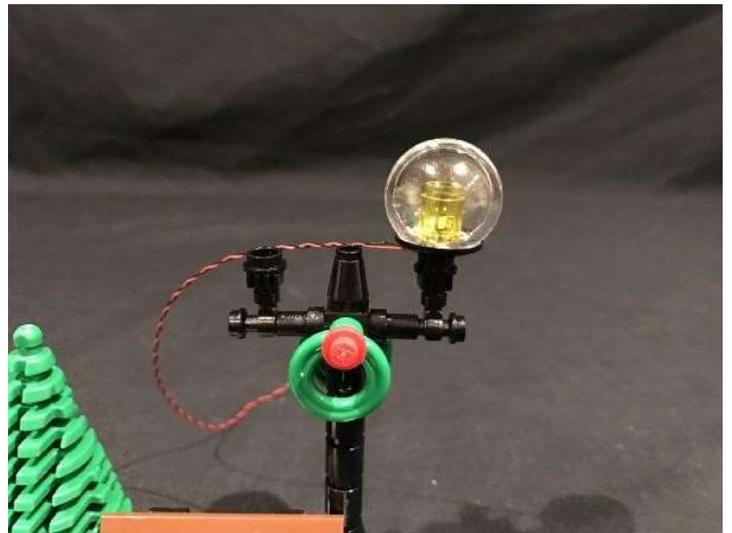
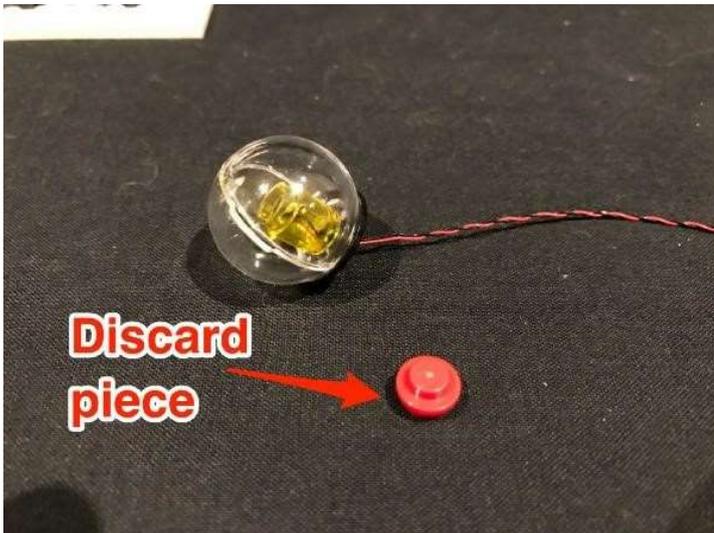
2.) Take one bit light and then thread the connector side of the light through the large hole of the trans yellow round brick. Pull the cable through from the other side and then thread it through the large hole of the black plate.



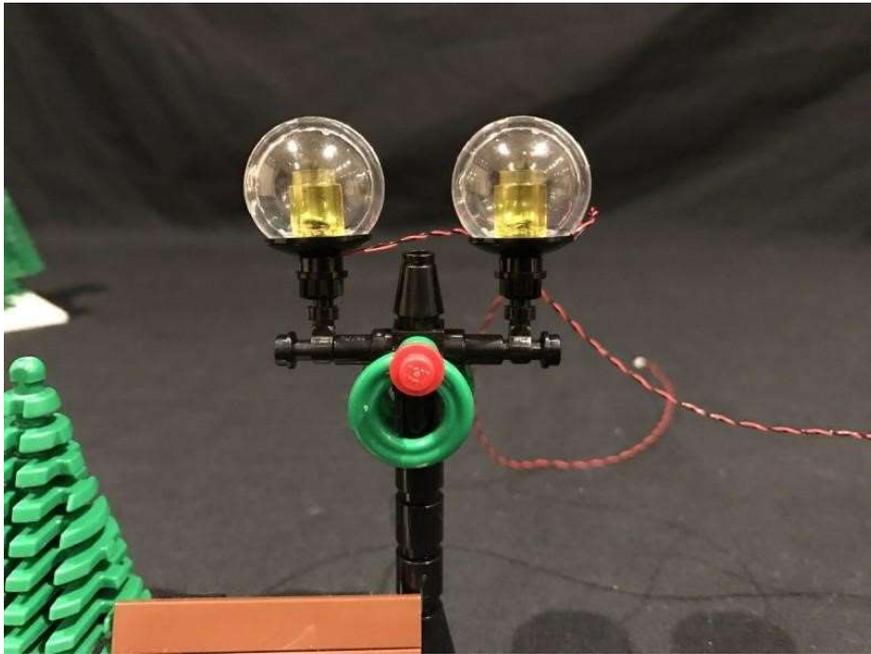
Pull the cable all the way through until the LED component is right up against the inside of the trans yellow brick. Then secure the black plate over the top as shown in example image below.



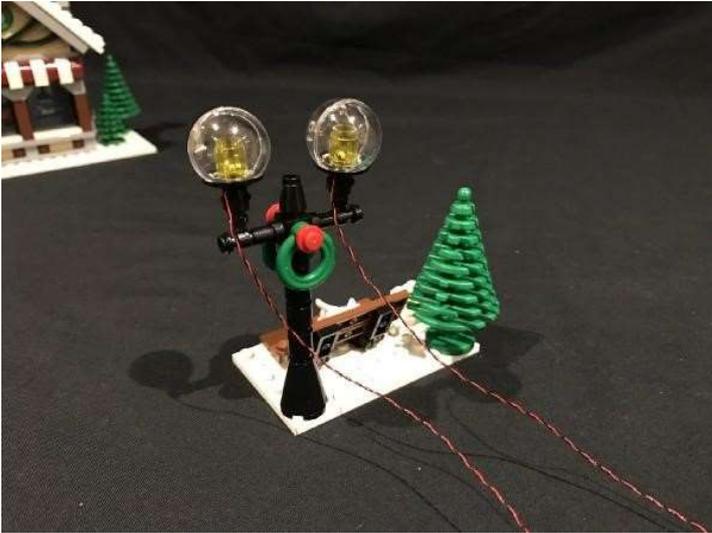
Reconnect the two clear pieces that make up the lamp bulb and discard the round red plate that connects underneath as we will be needing this. Reconnect the lamp bulb with bit light installed back to the lamp pole.



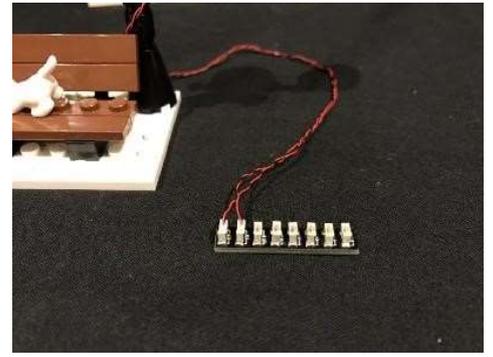
Repeat the above process to install another bit light to the second street lamp.



- 3.) Turn the street lamp to the other side and then take the two cables from the lights and twist them around each other so that the two cables come together forming one large cable.



Tuck the cable behind the decoration and then wind the cables around the street lamp pole before connecting them into the first few ports of the 8-port expansion board.



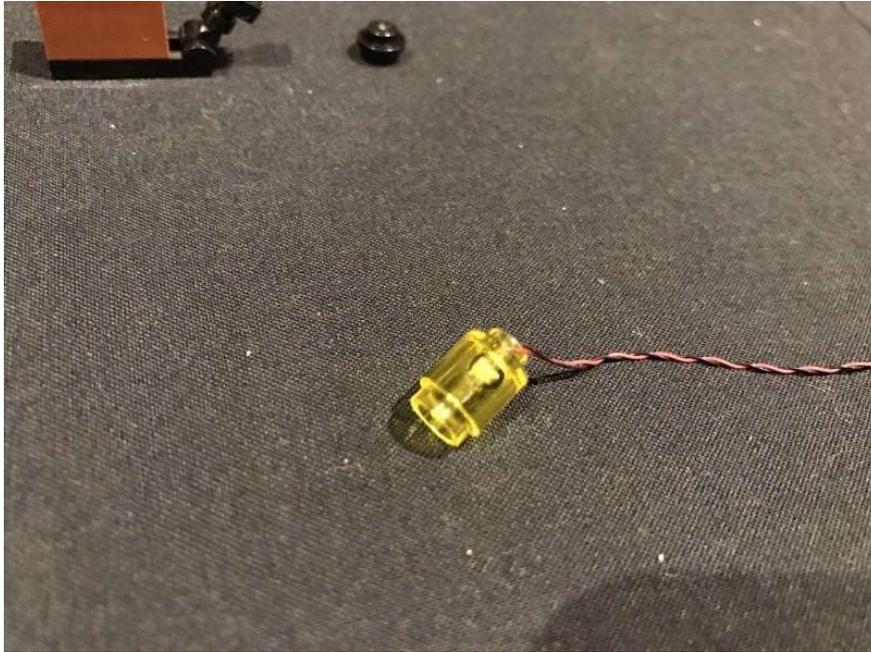
4.) We will now light up the lamp at the front door of the shop. First we need to remove the lamp and black plate underneath it from the shop by carefully lifting up the surrounding bricks above.



Once we have removed this lamp section, disassemble the pieces as per below:

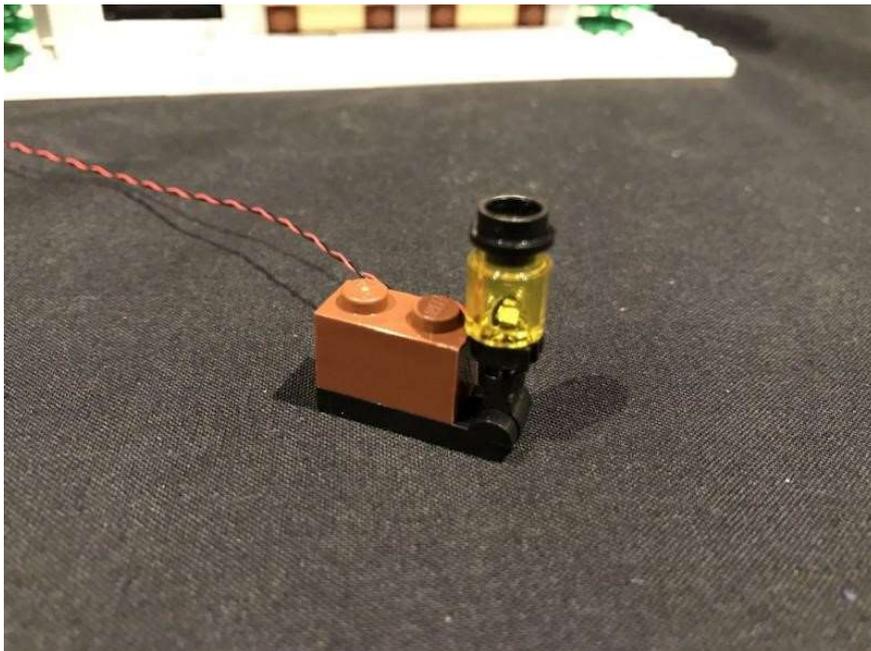


- 5.) Take another bit light and thread the connector side of the light through the large hole of the trans yellow brick (exactly the same way as we did for the street lamps). Pull the cable all the way through from the other side until the LED is right up against the inside of the trans yellow brick.



- 6.) Reconnect the black round plate on the top of the trans yellow brick and then reconnect the trans yellow brick back to the black plate below.

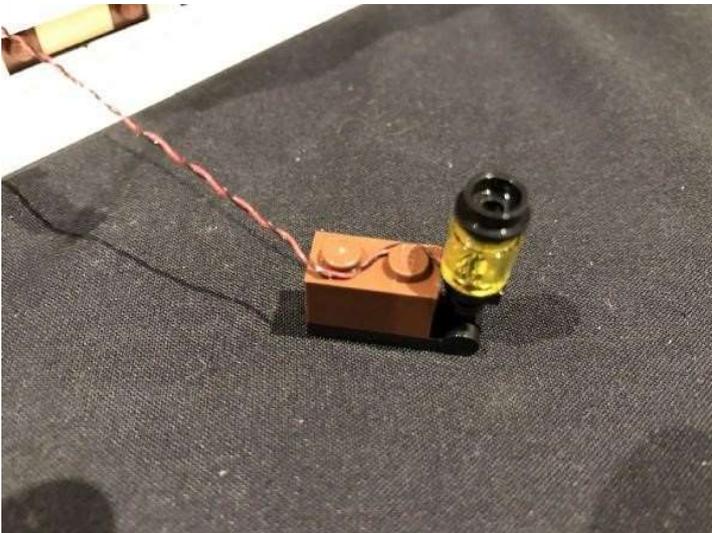
The bit light cable should be facing toward the back as shown below.



- 7.) Reconnect this lamp section with bit light installed back to the shopfront wall ensuring we first thread the connector end of the cable through to the inside of the shop.



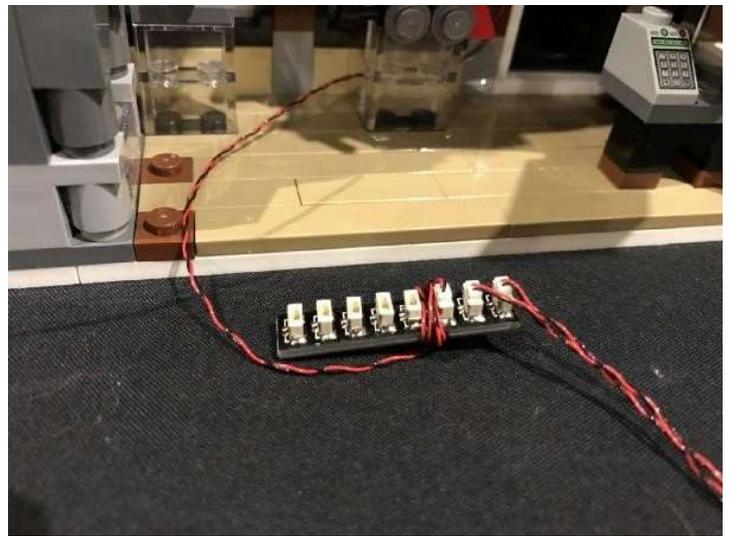
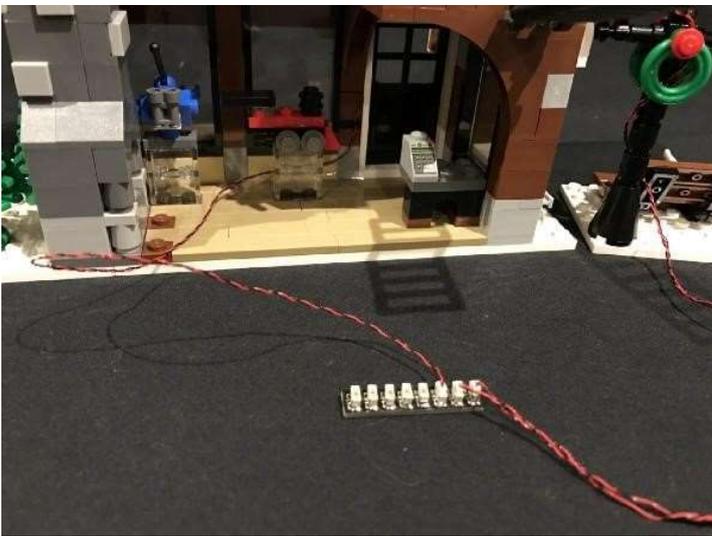
We also need to ensure that the cable is neatly laid in between studs before reconnecting.



- 8.) Pull the cable through from the inside of the shop and then lay it down behind the train as per below. You can use sticky tape, like what I have done, to secure the cable and prevent it from moving around.



Connect this cable into the next available port on the expansion board.  
Then wind excess cable around the expansion board.



9.) Next, take the LED strip light and connect the 15cm connecting cable into the right port. Then mount the strip light to the bottom of the second oor, (either directly or onto a 1x6 plate rst) under the clock.



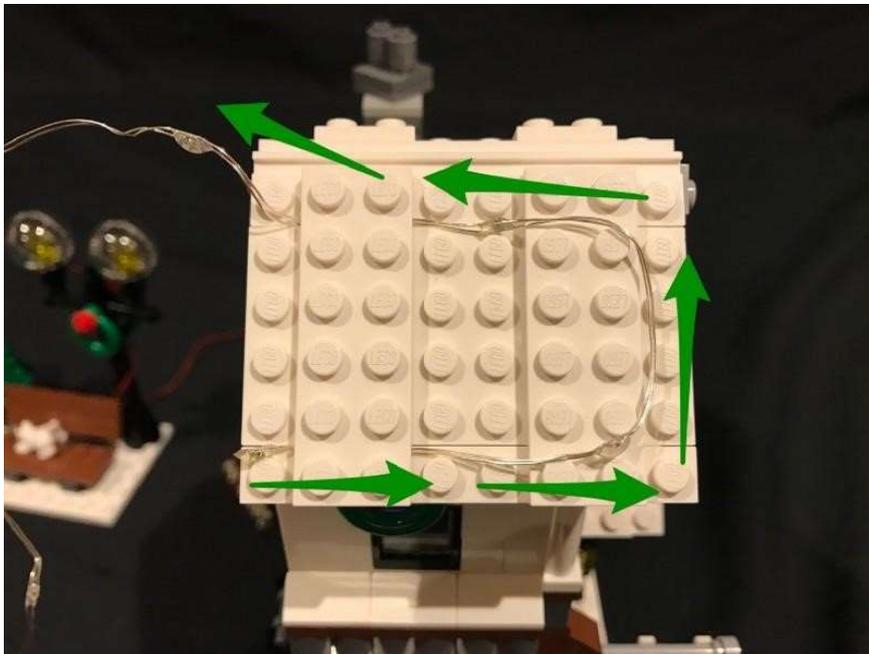
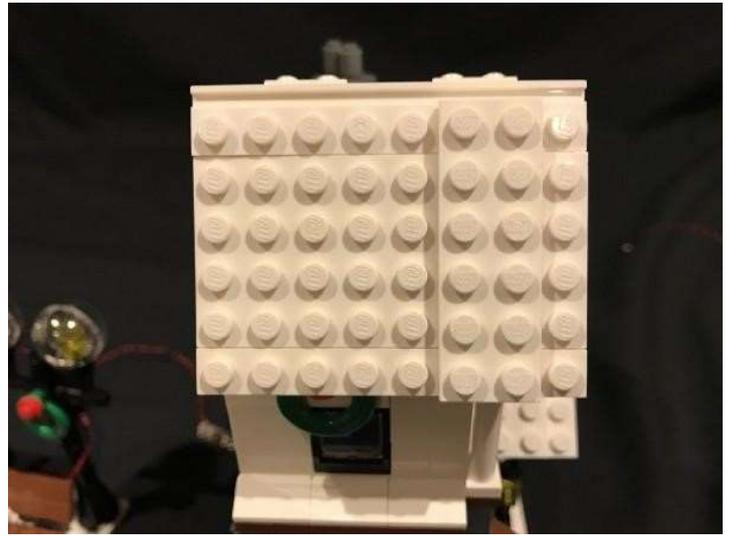
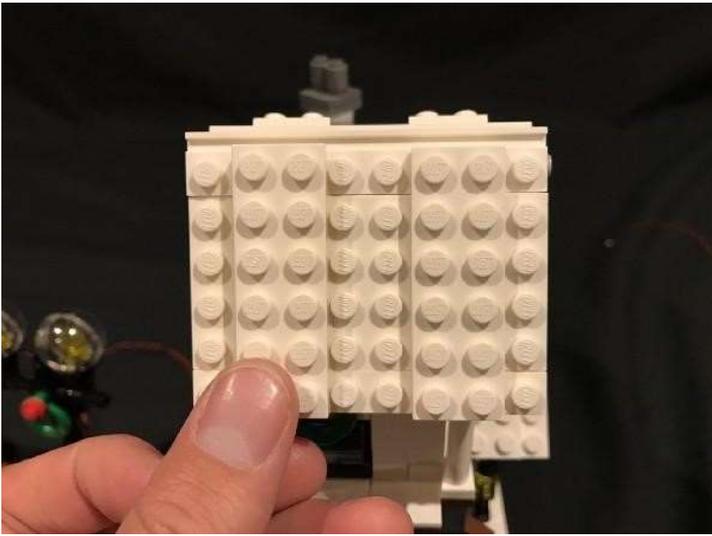
Connect the other end of the 15 cm cable to the next available port on the expansion board.



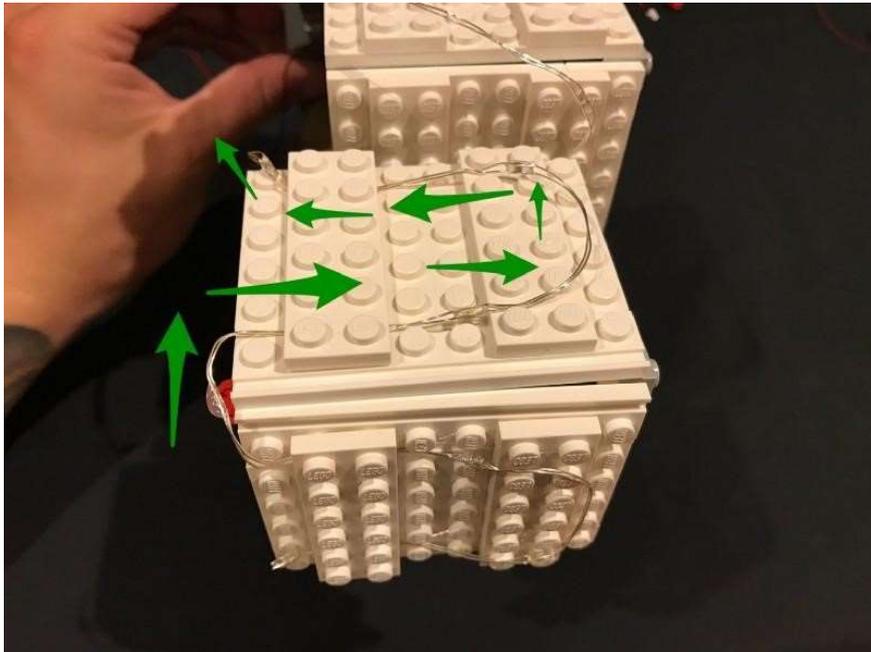
10.) We will now install one of the Multi Colour Changing Light Strings onto the roof, starting with the left side.



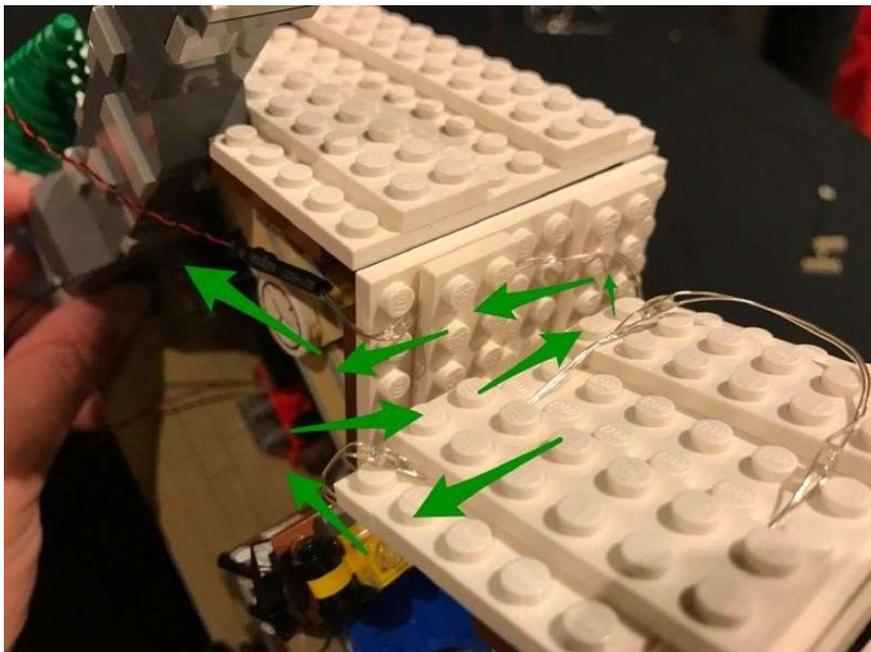
First remove the white 2x6 plate on the left side and then lay down the light string (from the end of the cable) by following the green arrows as shown below. Reconnect the white plate over the top ensuring the cable is laid in between studs. Take caution and ensure that we do not connect the plate directly over each LED.



11.) Lay the rest of the cable down on the other side of this roof (following the green arrows below) and secure down by connecting the 2x6 plate on the other side directly over the top of the light string as shown below.



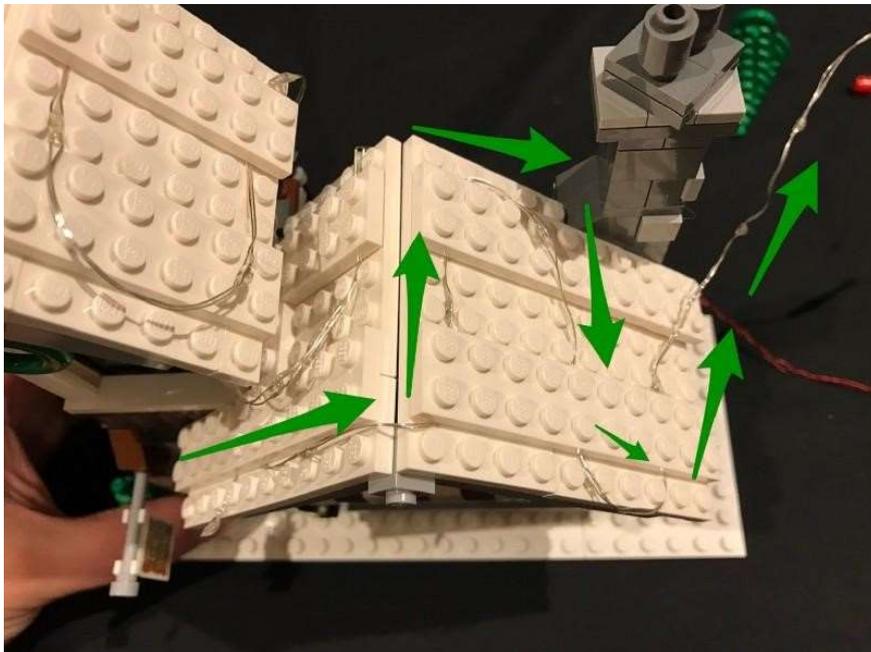
12.) Lay the remaining light string across the roof of the next section and secure it down underneath the 2x4 plate as shown below. The end of the light string cable should now be facing the inside of the Toy Shop.



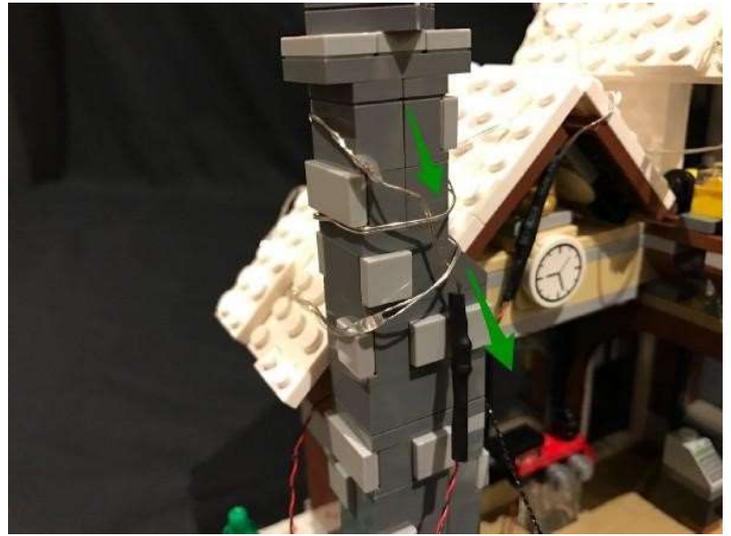
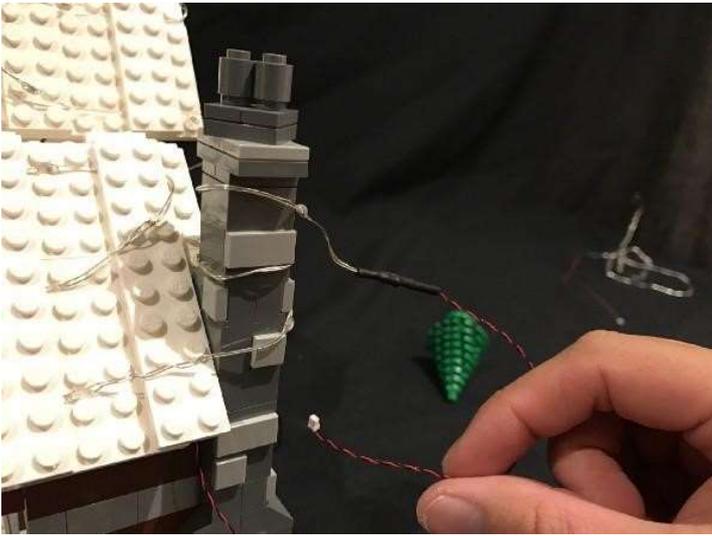
13.) Pull the end of the cable across the back of the Toy Shop and then down the side before connecting it into the next available port of the expansion board.



- 14.) Take another Multi Colour Changing Light String and lay it down on the roof of the right section of the shop starting from the left. Follow the green arrows in the images below to ensure the light string is neatly laid in between studs before reconnecting the white 2x10 plates directly over the top.



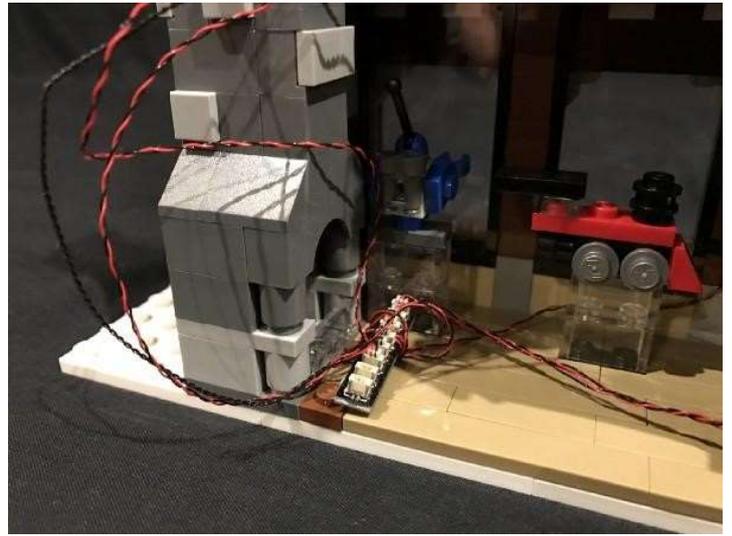
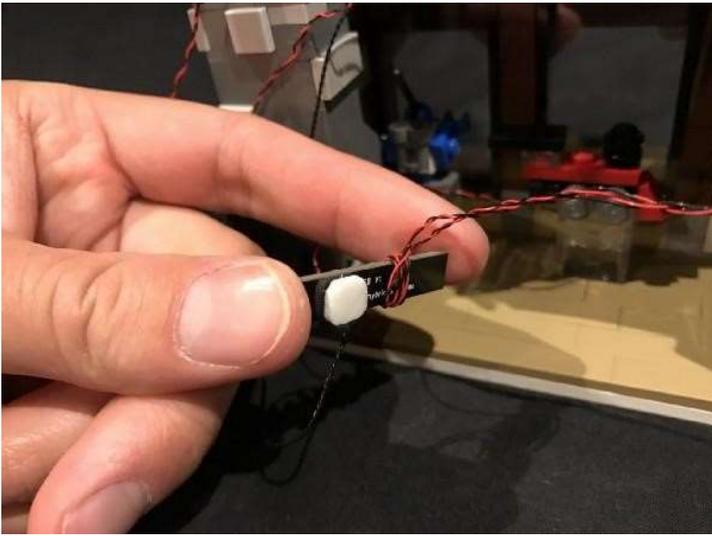
- 15.) Wind the remaining length of the light string around the chimney and then secure it in place by threading the end of the cable down behind the cable we just wound.



Connect this light string into the next available port of the expansion board.



16.) We can now secure the expansion board to the left corner of the inside of the Toy Shop by using the self adhesive squares to mount directly onto the floor. Next, neaten up any excess cabling by tucking them around and behind the expansion board.



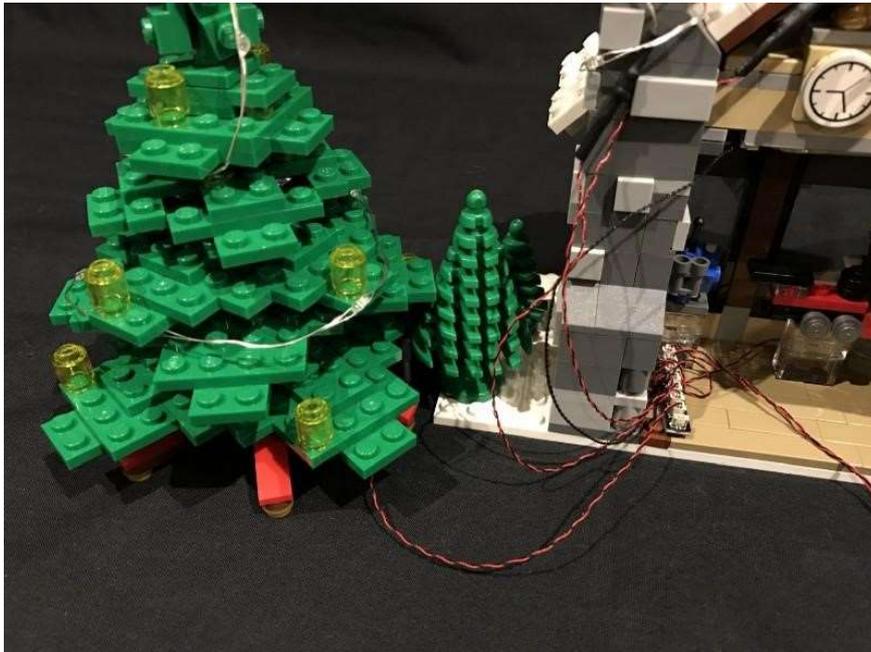
17.) We can now move onto lighting the Christmas tree. Take the Multi Colour Changing Light String and thread the end of the string through the hole in the Christmas tree star. Carefully bend the string down after the first light, to hook it in and prevent it from falling out.



- 18.) Wind the light string evenly around the Christmas tree as perbelow.  
The light string should sit neatly between the trans yellow bricks and green plates of the tree.



- 19.) Once we have wound the light string evenly around the Christmastree, connect it into the next port on the expansion board.



20.) Lastly, take the Battery Pack and insert 3x AA batteries to it before connecting the battery cable into the last remaining port on the expansion board.



This now completes installation of the Winter Toy Shop LED Lighting Kit.

Turn on and ENJOY!

