

LIGHT MY WAY

By Ada and
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Ages 6+

1-3 players

15 mins per board

Introduction

For centuries, humans have yearned to light up the night.

They used fire, torches, gas lights, and eventually electricity to scare away the demons of the shadows. But soon we learned that there are no demons. Instead we have become the evil that permeates the night. Our lights attract birds and bugs, taking them away from their natural habitats. They disrupt our sleep patterns, leading to depression and heart disease. They distract our drivers, making our streets unsafe.

But fret not, now YOU have the chance to make a change and save the night. In Light My Way, you will design a nighttime lighting environment that will bring back natural habitats, be healthier for humans, and make our neighborhoods safer than ever. Go forth! And bring back the night!



"Quick Fact"

"90% of amphibians, 69% of mammals, 60% of invertebrates, and 30% of birds are active at night. Skyglow makes it almost impossible for them to navigate." — Stephen Quick

Contents



Bottle Bar



Disaster Deck (each card x6)



Money:
\$1 x10
\$5 x20
\$10 x30



LED



Sodium



Lights (each piece x20)



Calculator



5 min Timer

Helper Deck (each x6)

Set up

Level 1: Clutter

Bottle 9 max
May lose two regions
Budget: \$100

Level 2: Skyglow

Bottle 7 max
May lose one region
Budget: \$150

Level 3: Light Trespass and Glare

Bottle 6 max
May lose zero regions
Budget: \$280

1

Choose one player to be the banker
(to calculate the budget)

2

Choose another player calculate the
points

3

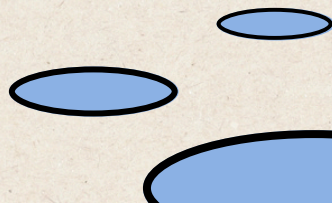
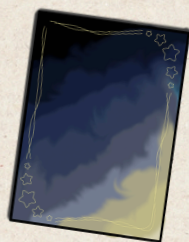
Spit cards into two decks : disaster
deck and helper deck

4

Draw two helper cards, you can look
at them, but don't share with
teammates, you may play these
whenever

5

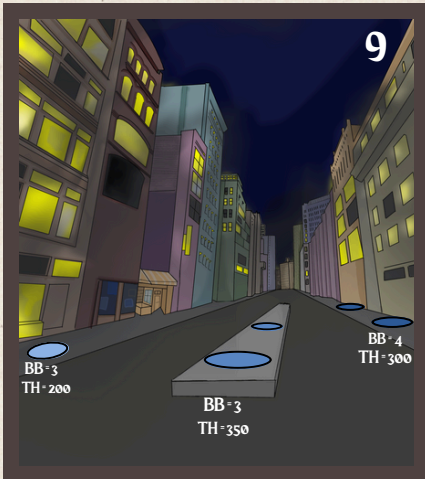
Start on region with the lightest blue
circles on the left most side of the
board



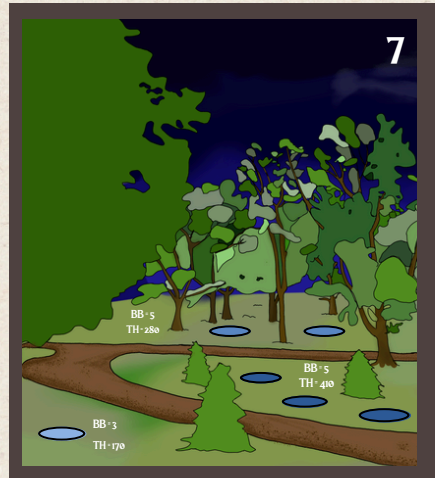
How to play

- 1 Pick a board (city is easiest suburb is hardest)
- 2 You have five minutes to decide how to light each region
- 3 At the beginning of each region, draw a card from the disaster deck, the bulbs at the bottom of the card indicate how many more lights to add to your region
- 4 Use the flow chart to chose your lighting design. Make sure that your light choices don't go over the region's light pollution threshold.
- 5 If you run out of money, you lose the game
- 6 If you go over the threshold set at the bottom of each region, you have lost that region, and you must move your Bortle bar tracker up the number indicated at the top of the region
- 7 If you run out of time before lighting the region, you lose the region as well, and must move the Bortle Bar up
- 8 If you are not in debt and your Bortle bar is less than the Bortle bar of the same board at the end of the game, you have won!
- 9 Move onto the next level

Level 1: Clutter



Level 2: Skyglow



Level 3: Light Trespass and Glare



6

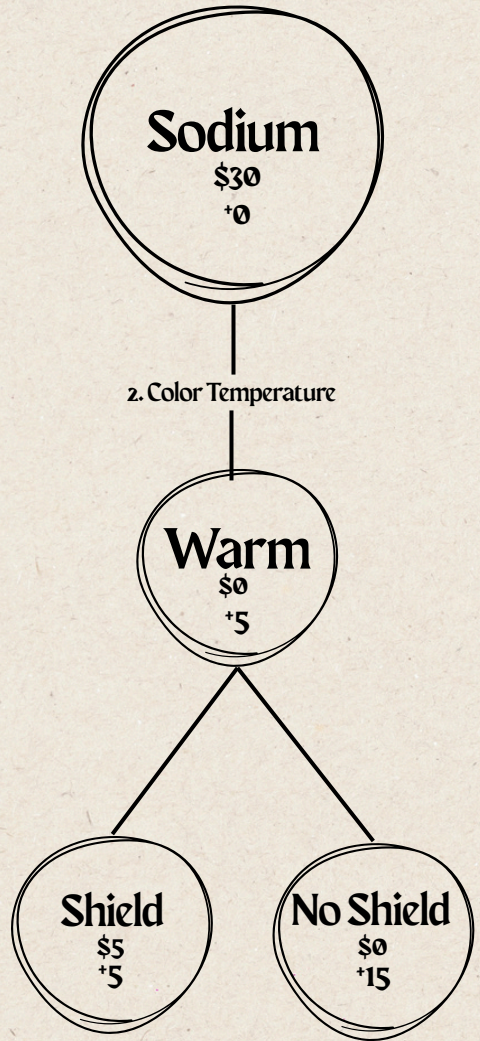
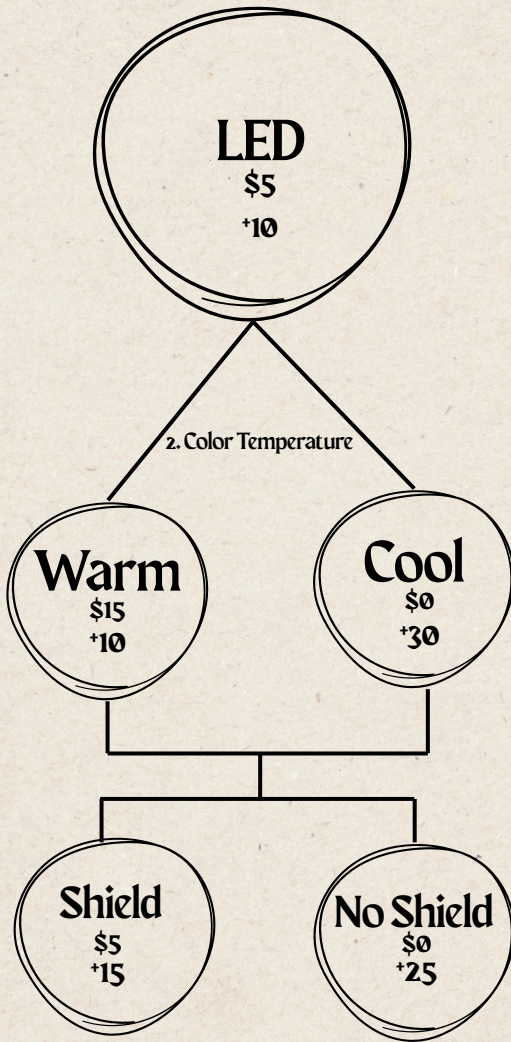
Max Bortle for level
(Get less than 6 on Bortle Bar)

Region's Bortle Bar (BB)

Region 1

Regions threshold (TH)

Build a Light



Optional Motion Sensor:

\$30

+10

Terms and Definitions

Light pollution: the excessive or inappropriate use of artificial light at night.

Skyglow: the general brightening of the night sky due to light scattering in the atmosphere. Caused by light directed upward or reflected off of the ground.

Glare: a form of light pollution that causes visual discomfort from excessive brightness. Usually caused by unshielded or poorly shielded lighting

Light trespass: a form of light pollution that occurs when artificial light falls where it is unwanted or unneeded. For example: a streetlight shining into someone's bedroom window.

Clutter: a form of light pollution consisting of bright, excessively dense groupings of lights that make it hard to see. Clutter is usually found on busy city streets.

LED lights: Light Emitting Diodes. LED street lights are currently the most energy efficient outdoor light source available and we are able to adjust their brightness and temperature.

Sodium-Vapor lamps: previously the most popular form of street lighting. Creates a warm orange glow, but not adjustable and not as energy efficient as LED lights.

Color temperature: a way to describe the warmth or coolness of a light source. Warmer lights appear more orangish yellow and contribute to less skyglow, cooler lights are bluer and contribute to more skyglow.

Shield: a structure installed on a light that prevents excess light from being directed upwards, thereby reducing skyglow.

Motion sensor: a device installed on a light that detects when there is someone walking underneath it and makes the light turn on. Useful for making sure the light is only on when needed.

Bortle Scale: a nine-level numeric scale that measures the sky's brightness. A one on the Bortle Scale indicates no light pollution whereas a nine indicates an inner city sky where only a few of the brightest stars are visible.