

# CS Wolves Checkers

By LMZ™

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and Zoe

# Our Mission

Our mission at LMZ is to engage kids and adults in learning by playing with our family-friendly games. We will achieve our mission by marketing our toy at STEM night to sell to families who want to support our school.



# Description and Model

The checkerboard will be made on a white chipboard measuring 12in by 12in. We will have 12 blue checkers each measuring 2cm by 2cm. We will also have 12 white checkers each measuring 3cm by 3cm. The blue squares will be made from blue duct tape squares measuring 1.5in by 1.5in.



White Checker  
3cm by 3cm



Blue Checker  
2cm by 2cm



White Chipboard  
12in by 12in



Blue Duck Tape



Blue and white  
filament for the  
checkers

# Design Process

To build our toy product will be 3D printing 12 blue wolf checkers and 12 white wolf checkers on the 3D printer using blue and white filament. For 12 blue wolf checkers there is a 67 minute print time. For 12 white wolf checkers there is a 156 minute print time. To make the actual checkerboard we will be using 12in by 12in white chipboard with blue duct tape to make the squares. The blue and white represents our school colors.

# Building Guide

1. First we will Purchase all materials from materials slide.
2. Using the white chipboard we will add 1.5in by 1.5 in blue squares using duct tape to create a checker pattern.
3. Then we will find the wolf mold checkers on [thingiverse.com](http://thingiverse.com) and upload it to the 3D printers (either the flashforge or makerbot) at school.
4. After that we will be 3d printing the 12 blue wolf checkers taking 67 minutes and 12 white wolf checkers taking 156 minutes totaling to 223 minutes for each checker set.
5. Finally we will add the checkers to our completed chessboard, ready to sell at stem night.

# Materials-list

- 25 White Chipboards-\$13.19
- (2)Blue Duct tape-\$8.54
- 2.2 pounds of Blue filament for FLASHFORGE-\$29.00
- White filament for makerbot-\$18.00

# Cost

The total cost for 25 checker boards will be \$71.49 plus shipping. It will cost \$8.54 for 2 rolls of blue duct tape, \$13.19 for 25 white chipboards, \$18.00 for white filament, and \$29.00 for a roll of blue filament. The cost to make one toy will be \$2.72. We will be selling this product for \$10.00 each at stem night for families to buy.



# C.S. Wolves Checkers

A fun Canyon Springs  
twist on a classic  
game the whole family  
can play



# Our Grant Proposal

We need the money to buy 2 rolls of blue duct tape, one 25 pack of white chipboard, and one roll of blue filament for flashforge. We will be using these supplies to create our blue and white checker board. We will also be 3D printing the checkers using makerbot and flashforge. It will cost \$29 for blue filament for the flashforge 3D printer. For the white filament it will cost \$18.00. We are expecting to sell our product at \$8. After we have sold our product we will donate the money to the Canyon Springs Renaissance program. We are buying our products for our checker board at [www.amazon.com](http://www.amazon.com) and [www.flashforge-usa.com](http://www.flashforge-usa.com).



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Duck Brand 1304959 Color Duct Tape, Blue, 1.88 Inches x 20 Yards, Single Roll

Add-on Items ship with orders that contain \$25 of items shipped by Amazon. Your Cart currently contains \$21.73 of items shipped by Amazon. If you check out now, your Add-on Items will be saved for later. [Details](#)

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	Price	Quantity
 <p><b>Duck Brand 1304959 Color Duct Tape, Blue, 1.88 Inches x 20 Yards, Single Roll</b> by Duck In Stock <a href="#">Add-on Item</a> Eligible for FREE Shipping <input type="checkbox"/> This is a gift <a href="#">Learn more</a> <a href="#">Delete</a>   <a href="#">Save for later</a></p>	<b>\$4.27</b>	2
 <p><b>Grafix Medium Weight 12-Inch-by-12-Inch Chipboard-Sheets, White 25-Pack</b> by Grafix In Stock Eligible for FREE Shipping <input type="checkbox"/> This is a gift <a href="#">Learn more</a> <a href="#">Delete</a>   <a href="#">Save for later</a></p>	<b>\$13.19</b>	1

**Subtotal (3 items): \$21.73**



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	Product Name	Unit Price	Qty	Subtotal
	FLASHFORGE PLA Filament for Creator and Creator Pro Color Blue	Edit \$29.00	1	\$29.00

Continue Shopping Update Shopping Cart Clear Shopping Cart

**Discount Codes**  
Enter your coupon code if you have one.  
  
**Apply Coupon**

**Estimate Shipping and Tax**  
Enter your destination to get a shipping estimate.  
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Subtotal \$29.00  
Grand Total Excl. Tax \$29.00  
Tax \$2.76  
Grand Total Incl. Tax \$31.76

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3. Checkout, submit shipping and payment information.

### YOUR SELECTIONS

True White PLA Small Spool / 1.75mm / 1.8mm Filament		X
	Unit Price	\$18.00
	Quantity	1
	Item Total	\$18.00

### ORDER SUMMARY

Subtotal	\$18.00
Shipping & Handling	Added at checkout
Tax	Added at checkout
<b>Grand Total</b>	<b>\$18.00</b>
<i>Unless otherwise noted, all products ship with a 2-3 day lead time.</i>	

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