

# MARVELOUS MACHINES

**PROMPT:** The world is full of amazing machines and technologies. Cars, planes, boats, computers and other machines work together to build a world full of limitless opportunities. Using your imagination and supplies at home, what fun and exciting machine could you come up with? Make sure you remember to give your sculpture a rad paint job to show it off!

## STEP ONE: GATHER YOUR SUPPLIES

For the first step you are going to gather the supplies you need to help build your awesome new sculpture. You will need; cardboard boxes and/or paper, paints, paint brushes, water cup, paper towels, paper plate or something to mix paint on, glue, and scissors.



## STEP TWO: BRAINSTORMING

There is a storm brewing so you better get out your umbrella for this step! Think about what you want your sculpture to do! Will it fly, swim, cook, teleport you to the moon or eat those pesky vegetables so you can go play. The possibilities are endless.



## STEP THREE: BASE CONSTRUCTION

Get out those hardhats and safety goggles! It's time for you to build your sculpture. Find some old cardboard boxes or supplies around the house. If you do not have any at home you can always ask your neighborhood grocery store for extra boxes. Use glue, tape and scissors to build the foundation of shapes for your mechanical sculpture.

Use the basic and advance shapes provided as stencils to add more details to your design.



# COLOR MIXING GUIDE

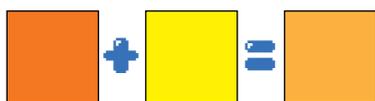
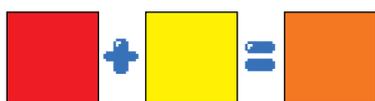


## STEP FOUR: PAINTING

Grab your brushes and favorite paints for this next step. You will now paint your sculptural pieces. Just like there are many combinations for the sculptural pieces to use, there are endless colors out there to mix!

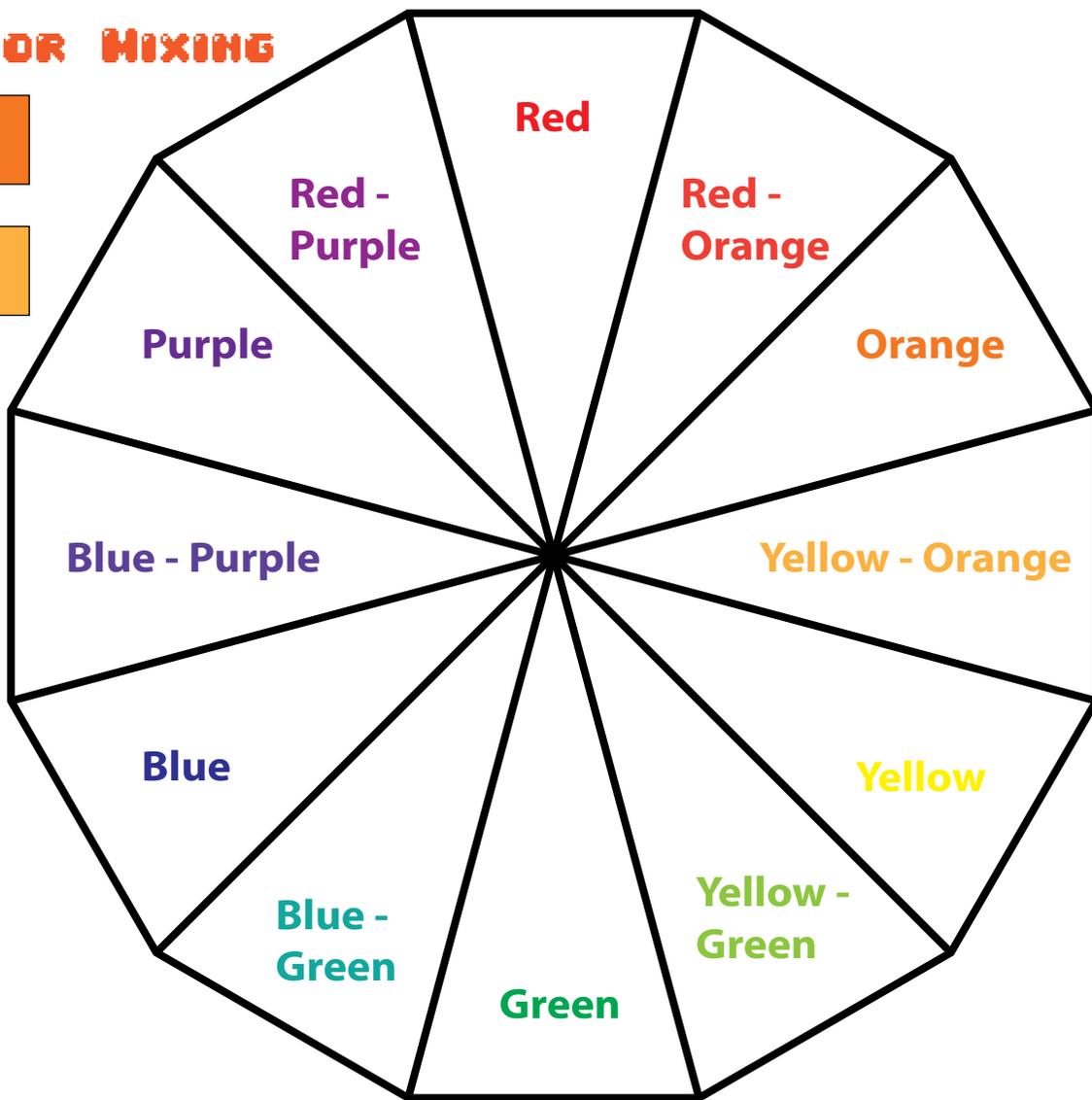
Try mixing red and yellow to make orange! Or you can even mix orange and yellow to make yellow - orange. Coming up with your colors can be just as fun as painting your sculpture. Use the blank color wheel below to practice mixing these colors

## EXAMPLES FOR MIXING



## PRACTICE:

On the bottom you can come up with your own colors and color combination to use for your sculpture!

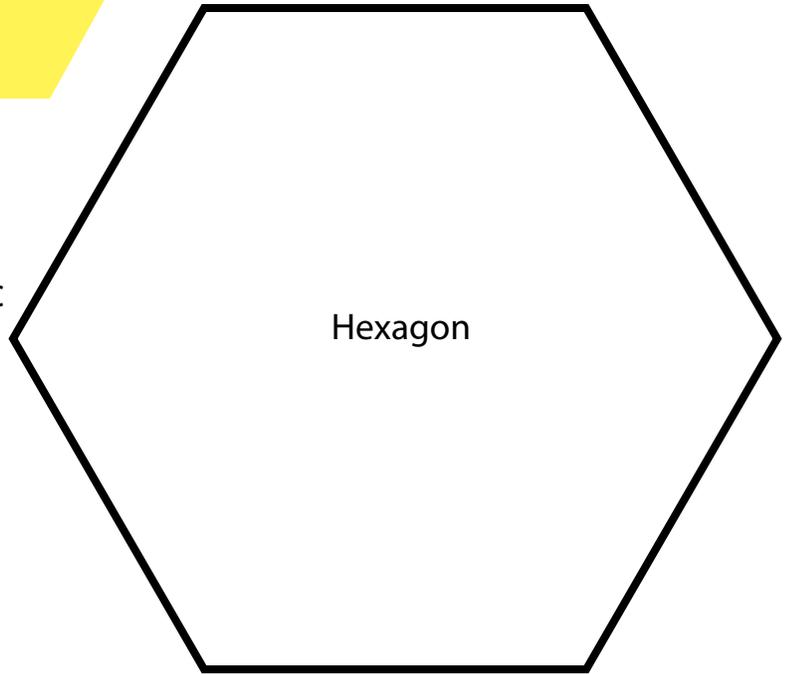


## COLORS FOR SCULPTURE

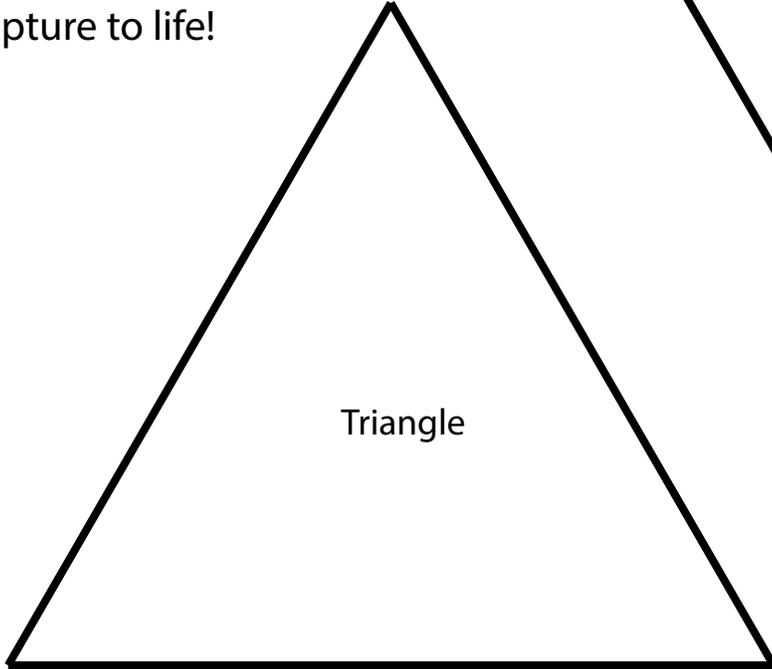
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# BASIC SHAPES

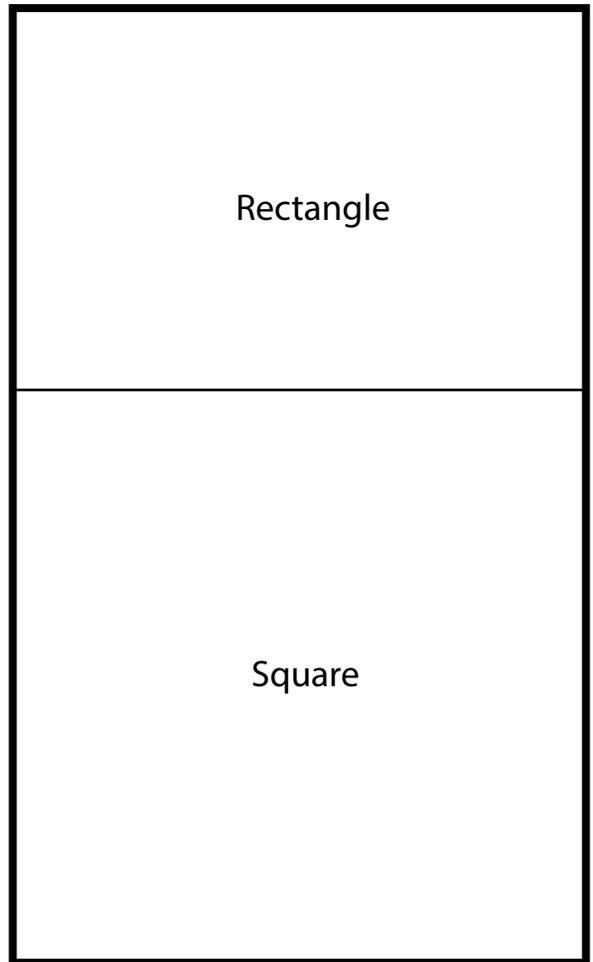
**PRACTICE** Try using these basic shapes to draw on top of your cardboard foundation. You can cut them out and trace them if that would help. These basic shapes can add details to help bring your sculpture to life!



Hexagon

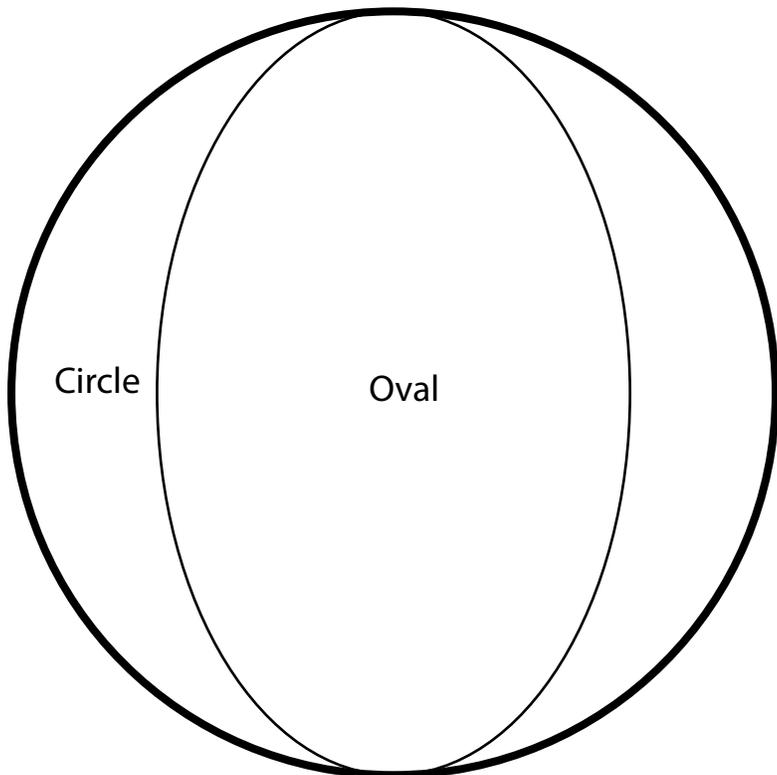


Triangle



Rectangle

Square

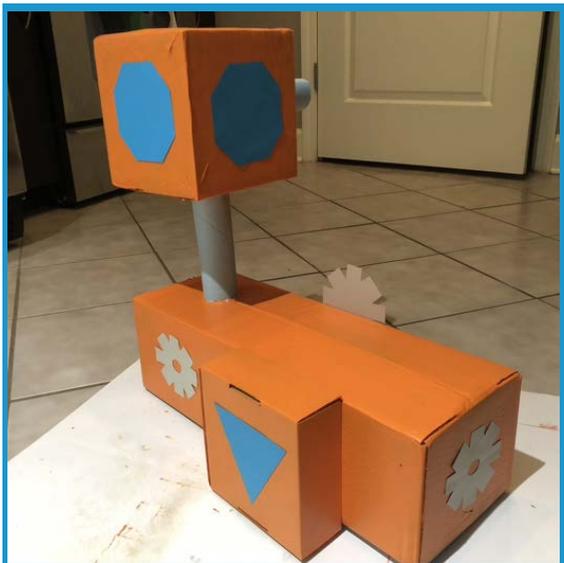
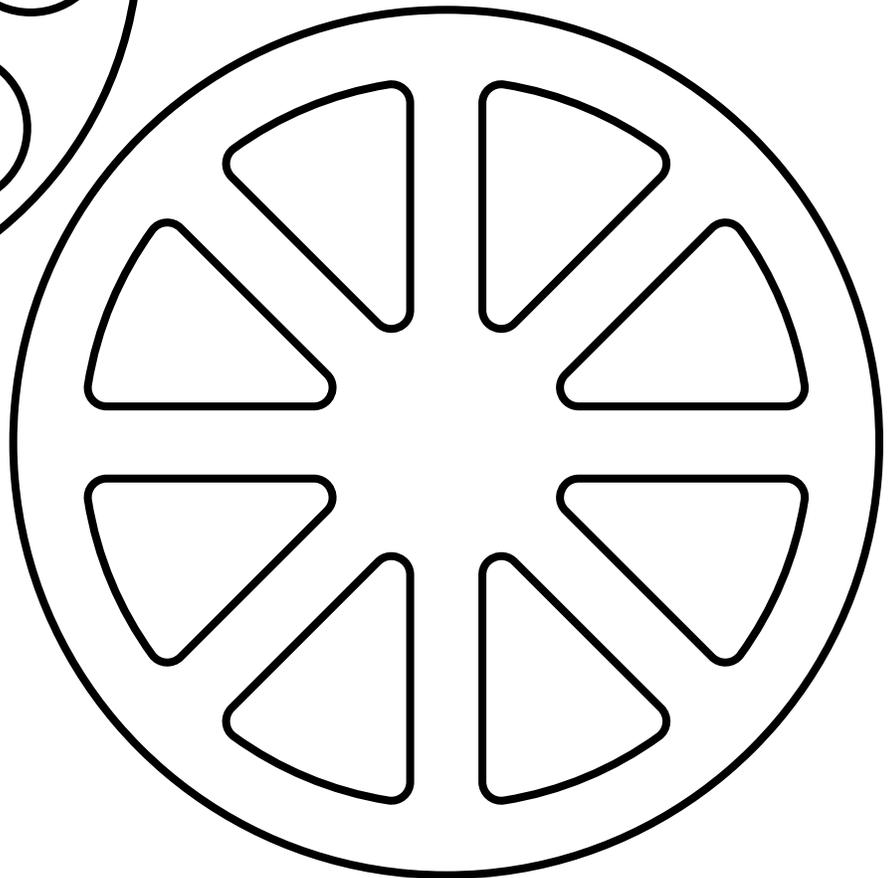
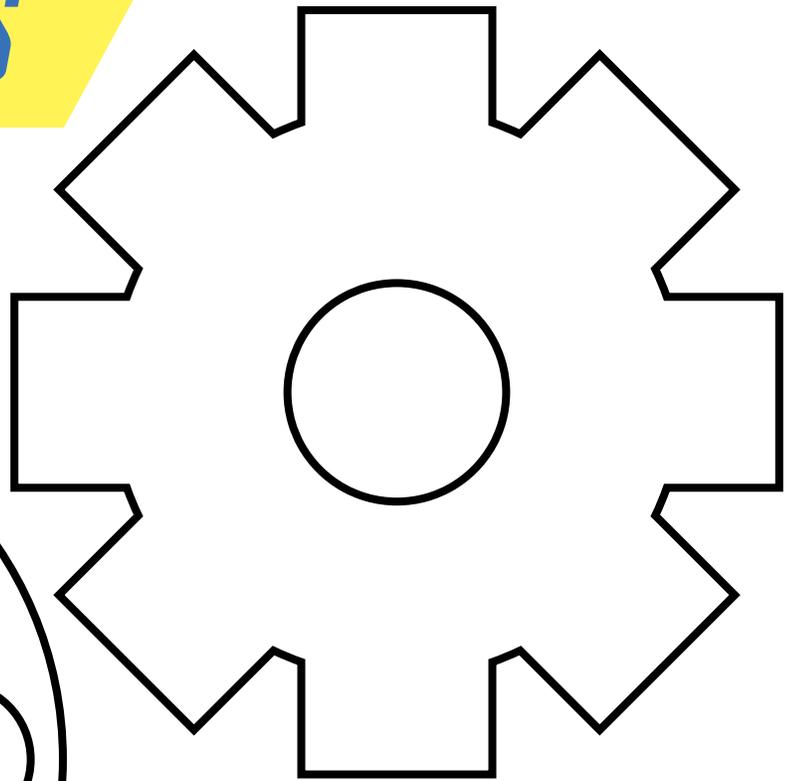
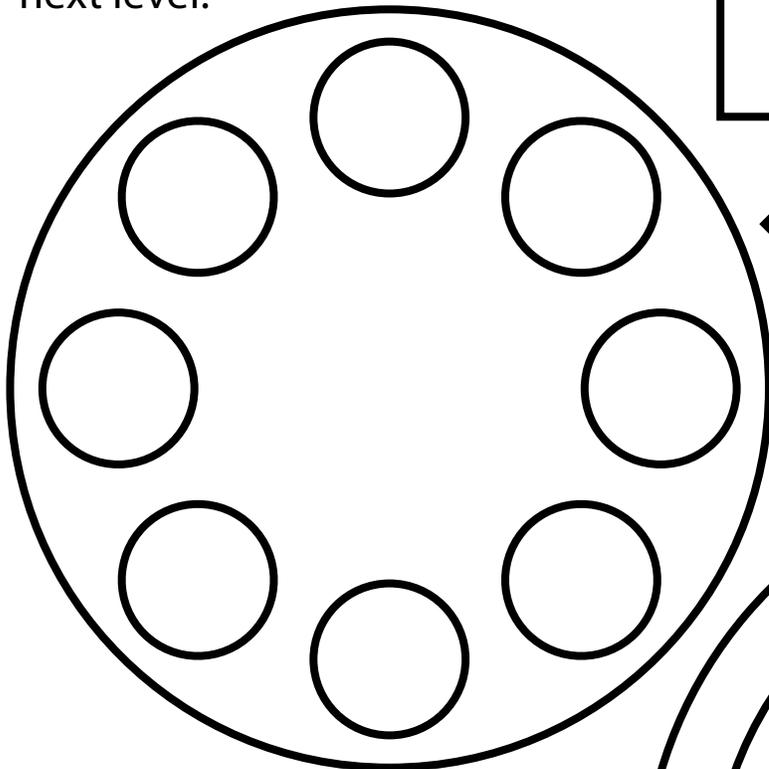


Circle

Oval

# COMPLEX SHAPES

**PRACTICE** These are more advanced shape cutouts you can use to take your machine to the next level!



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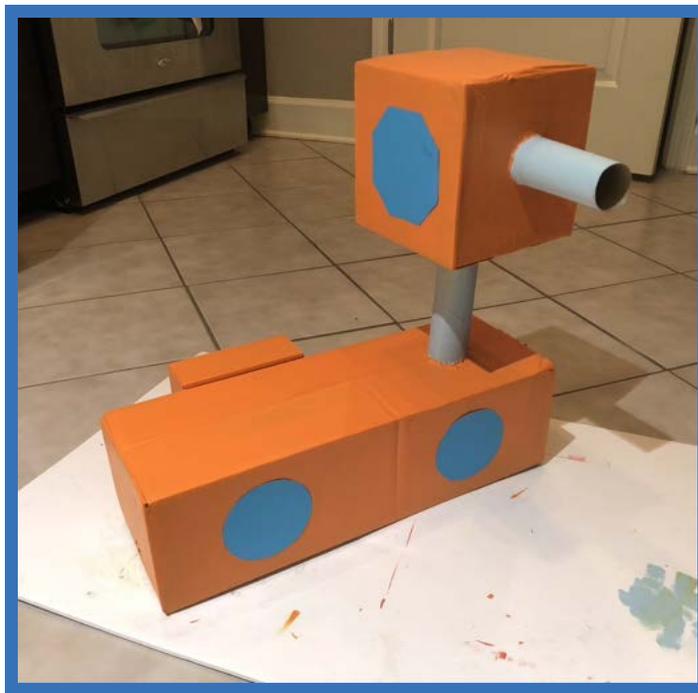
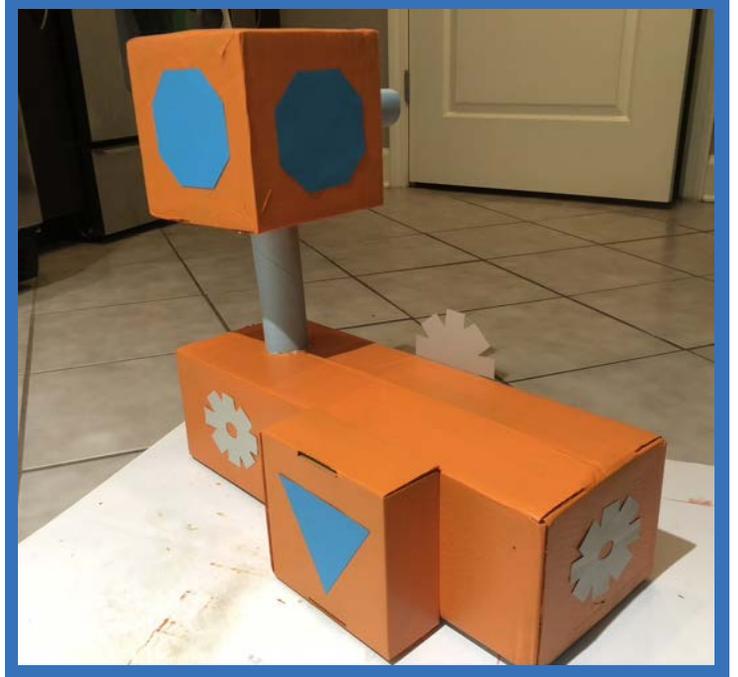
## STEP FIVE: BRING IT TO LIFE

Your sculpture runs on the best fuel out there, your imagination. So, it is up to you to bring it life. Share it with your friends, family and the whole world.

You can post pictures on instagram using the tags:

#toughart@home #pghkids #jeffrepko  
@pghkids @jeff\_repko.

By sharing and bringing your sculptures together with others, you open up countless other possibilities!



# BONUS LEVEL

## BONUS LEVEL!

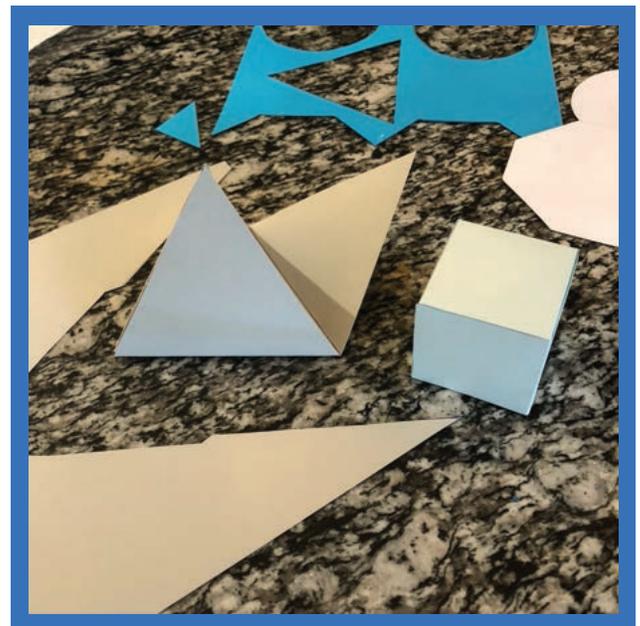
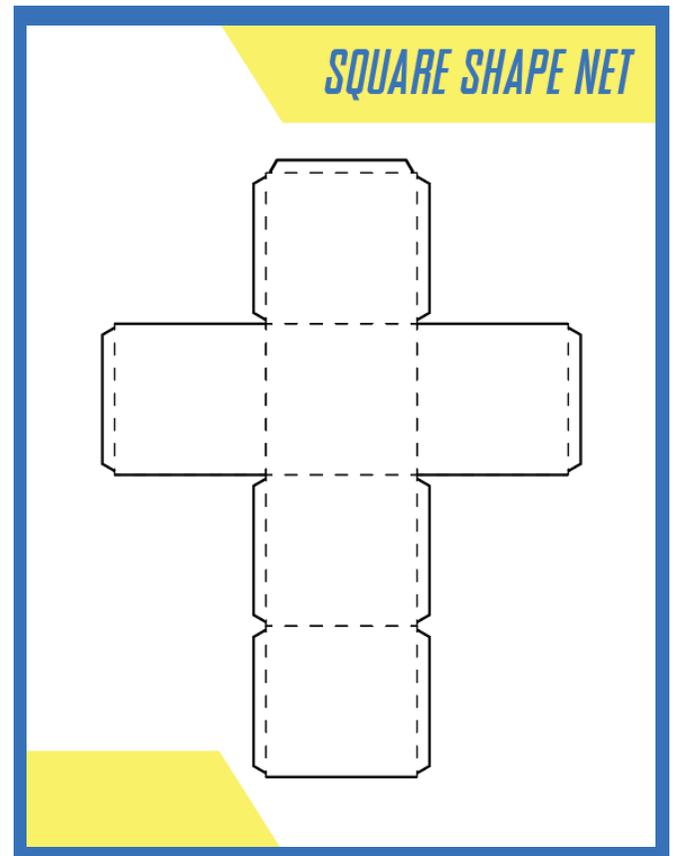
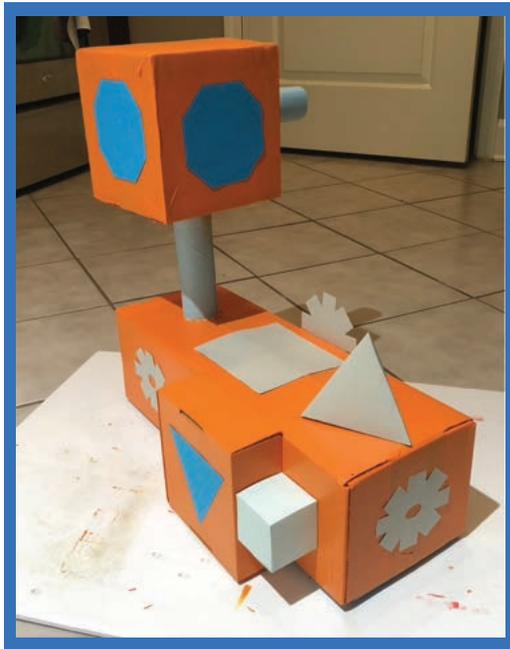
If you want to take your sculpture to the next you can use the shape nets provided here or find more online.

Shape Nets act as a map to help you create 3d dimensional shapes.

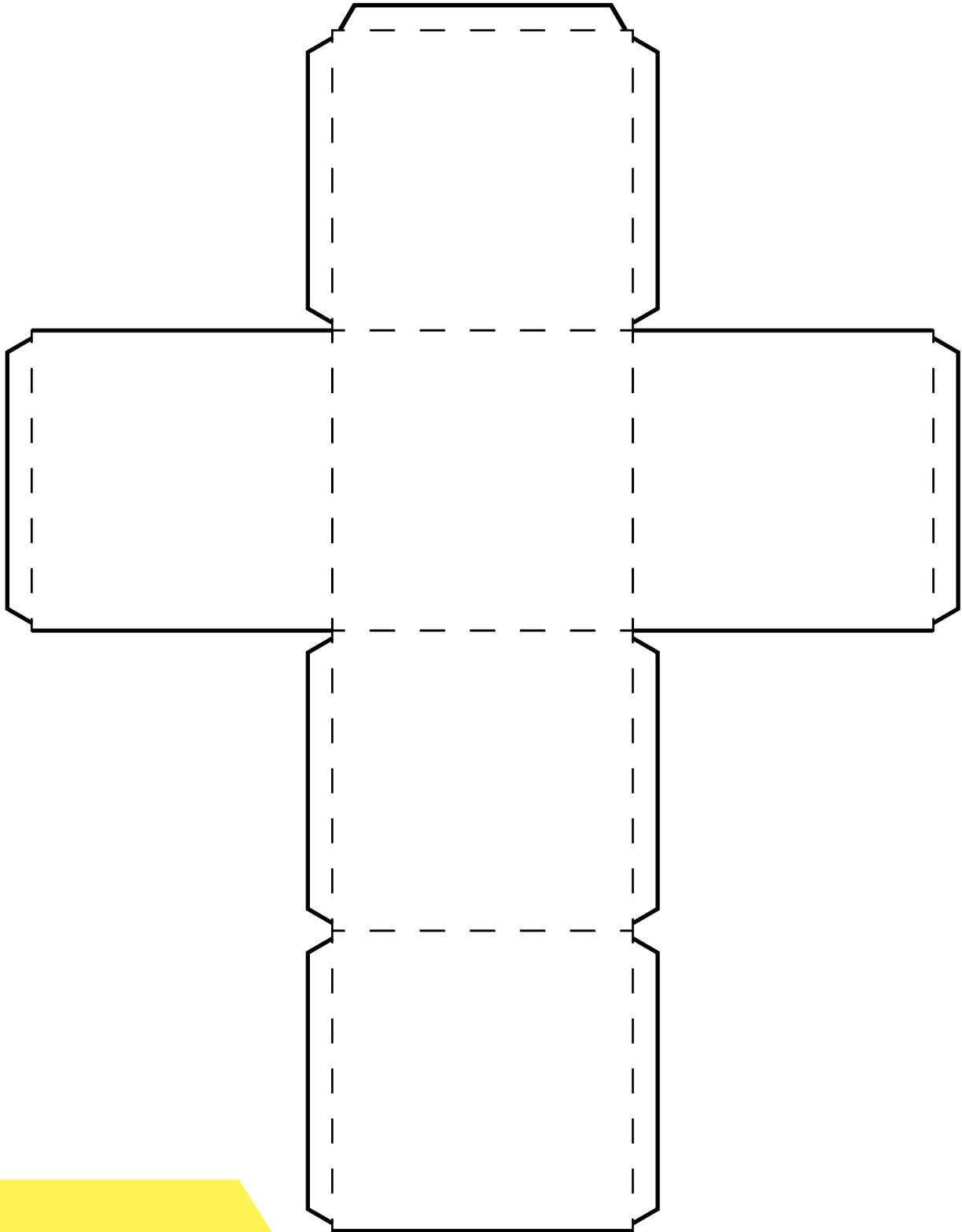
When using this map cut out the form along the dark outlines.

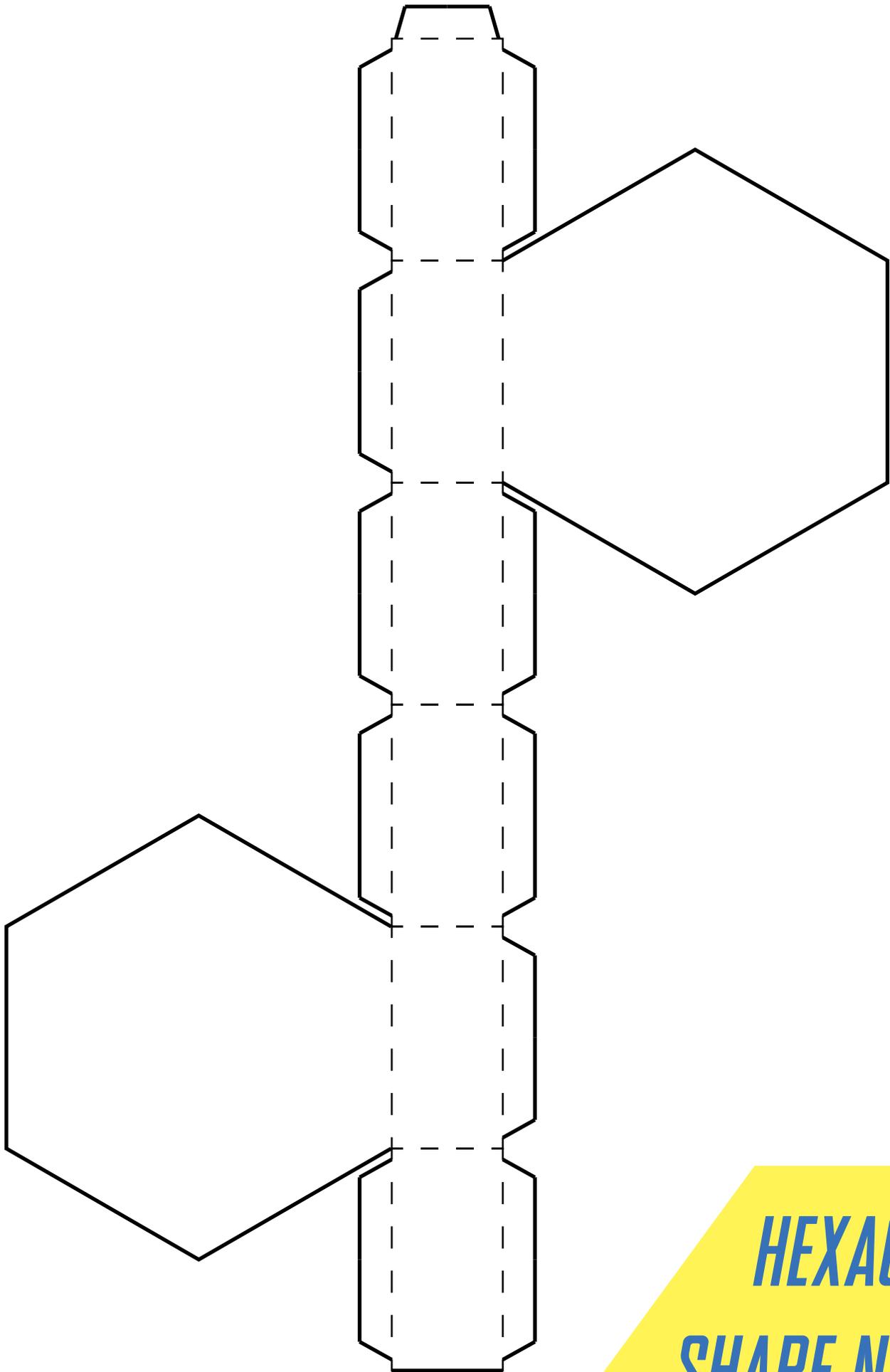
Then use the dashed-lines as guides for folding. The tabs on the edges are there to help you glue the shape together!

These extra shapes can bring new dimensions to your sculpture.



# *SQUARE SHAPE NET*





***HEXAGON  
SHAPE NET***

# *PYRAMID SHAPE NET*

