



# The Art of Sculpture

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# The Art of Sculpture

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- Choosing a topic
- Creating design plans
- Basic construction techniques
- Building a sphere
- Modeling complex shapes
- Internal supports
- Transportation



# The Art of Mosaics

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- The Basics
- Studs up or Studs out?
- Creating design plans
- Basic construction techniques
- Building Big
- Mounting sculptures on the wall



## What makes a good subject?

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- Basic colors are best
- Cartoon characters make great subjects





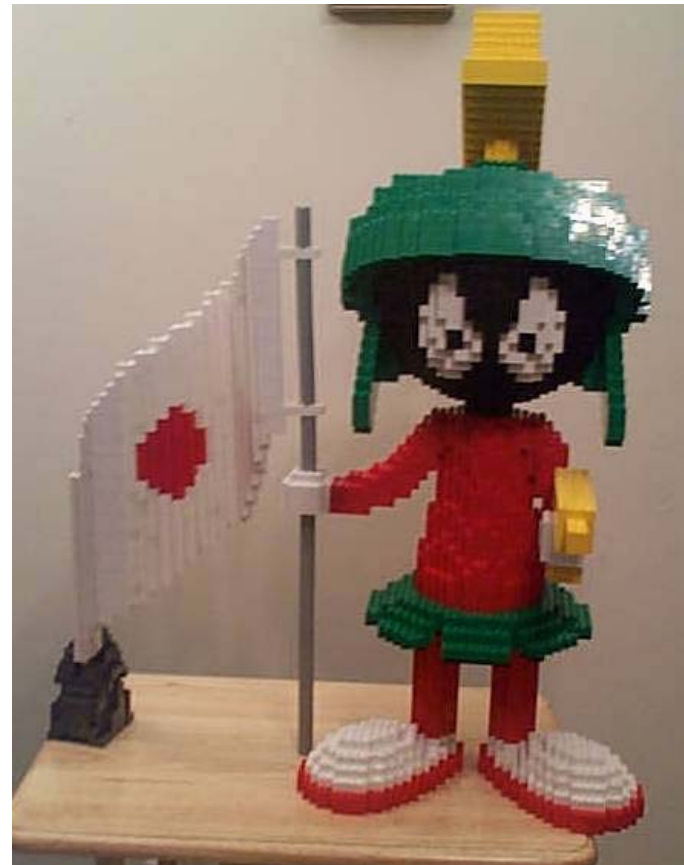
## Planning the Design

- Colorize your starter image to match basic Lego colors
- This basic image will act as a dimensional blueprint for the model
- Determine your scale from the size of the image when printed and go to town



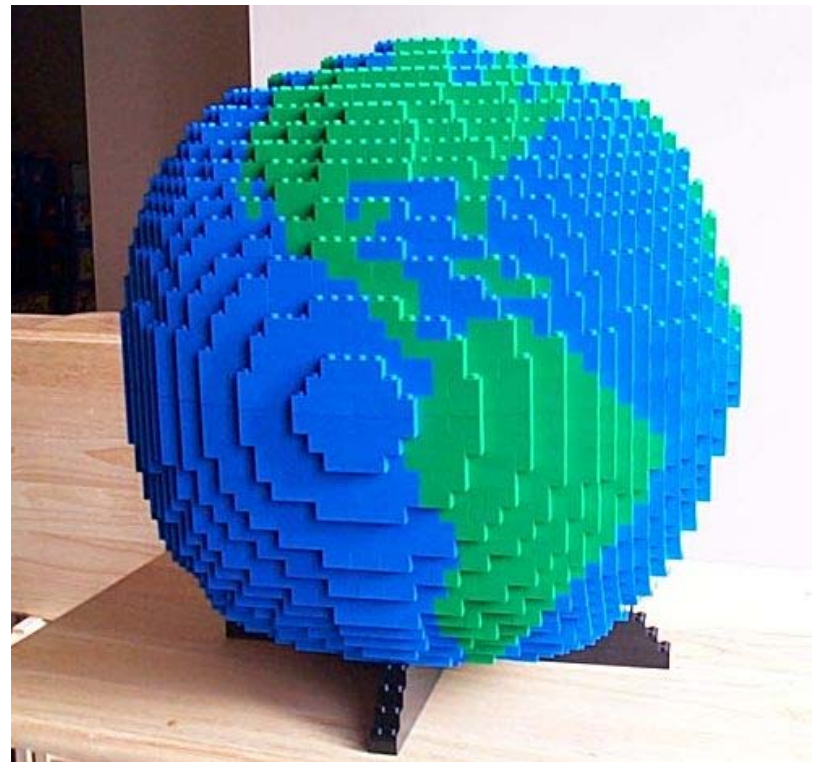
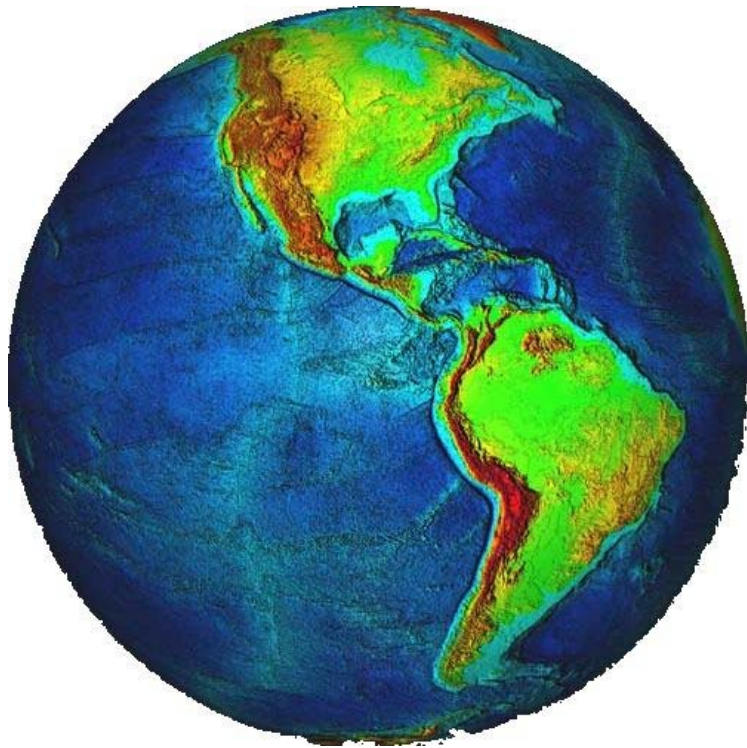


# Before and After





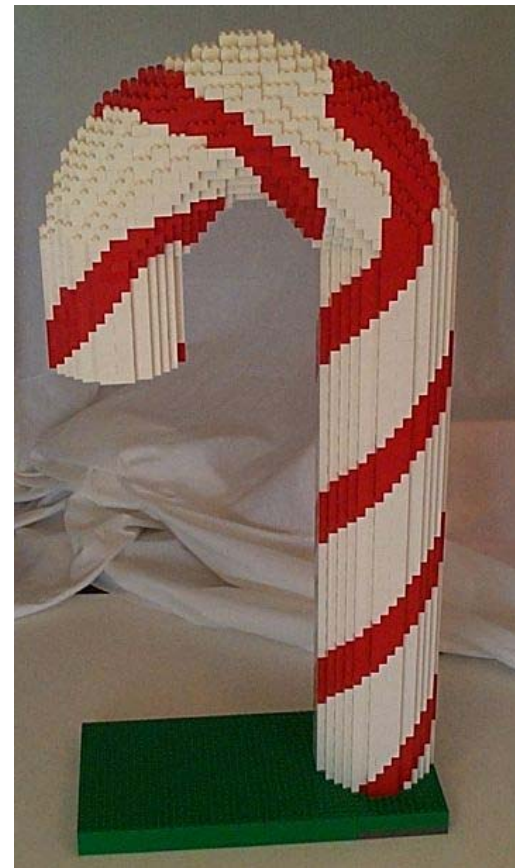
# Before and After





## Freestyle Sculptures

- You don't need a plan to do a sculpture, just an idea





## Basic Construction Techniques

- Use staggered seams, like a brick wall
- Keep in mind your brick quantities and use smaller bricks when possible
- Shift orientation of each layer for structural strength





## Basic Construction Techniques

- Don't be afraid to tear apart and start again
- Try asymmetry as it adds nice details to a model





# Basic Construction Techniques

- Try building on a 45 degree angle or something else similarly offbeat
- Image copyright 2001 Eric Harshbarger





## Basic Construction Techniques

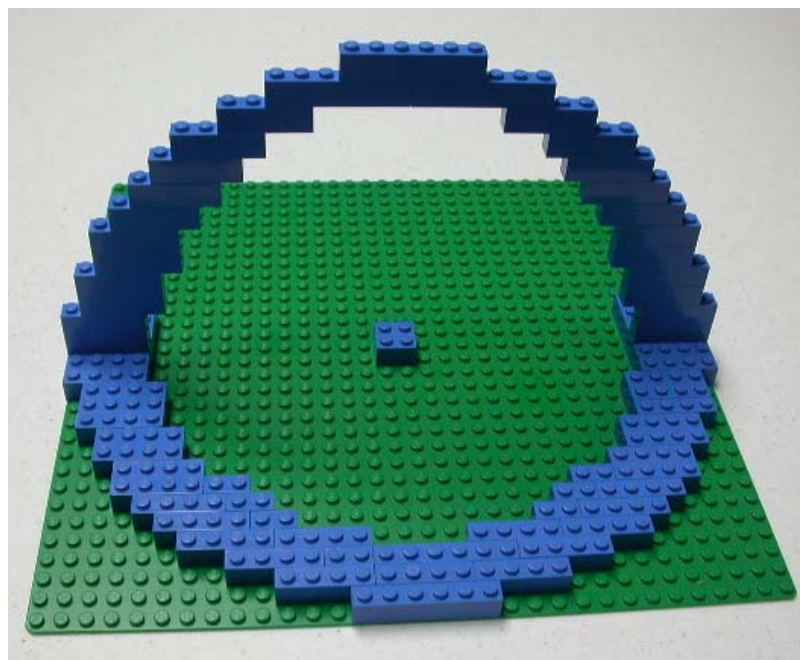
- For a challenge, build an odd number of studs wide. You'll wish LEGO made more 1x3's and 2x3's





## Building a Sphere

- Think in 3 dimensions
- Use a circular template to help you visualize what you need to build





# Modeling Complex Shapes

- Use a profile template, similar to a circular template, to help capture the shape





## Modeling Complex Shapes

- When doing a character, it's best to first model the most important feature, the face, and build from there.





## Wall Thickness

- Wall thickness of two studs are sufficient for simple shapes
- Spherical surfaces or complex shapes may require 4 stud thickness





## Internal Support

- An internal crossbrace support will be necessary to hold large shapes in place, or if heavy load is required
- 1x4 and 2x2 bricks are good for this, as there are (were) plenty of them in the 3033 bulk tub





# Internal Support

- 1x8's and 2x2's in a matrix get the job done too.





## Planning Ahead For Transport

- Build solidly if you expect to have to transport the model
- Make it possible to disassemble easily if model is very large





## To Glue or Not To Glue

- Will the model be a permanent display model?
- Is it a gift?





## The Basics of Mosaics

- They are a good place to start if you want to understand curved shapes with Lego in 2D
- Much simpler to build than sculptures, but require more upfront design time
- Very tough to do without a plan





## Studs Up or Studs Out?

### Studs Out

- Has square pixels, so it doesn't require extra software other than a paint program
- Is easier to fix if you built the wrong pieces
- Requires baseplate backing





## Studs Up or Studs Out?

### Studs Up

- Has a smooth surface which looks cleaner
- If a large hanging mosaic is built, will require glue or extra bracing
- Great for irregular shapes





## The Plan

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- Start with a good image
- Lego.com's Mosaic Maker is good for smaller, black and white mosaics
- Lugnet's mosaic maker is good for any size image
- Take an image and manually manipulate the pixels, good for when you know what you're doing





## The Plan

- Once the image is pixelated and colorized correctly, lay in grid lines to aid in counting bricks
- This is a labor intensive process. The alternative is to write a custom program like Eric Harshbarger's Pixelego or go freestyle and not worry about counting





## Basic Construction Techniques

- For studs up, start on the bottom row and work your way up
- For studs out, start wherever you want
- One brick at a time, don't lose count, and keep that brick separator handy





## Building Big

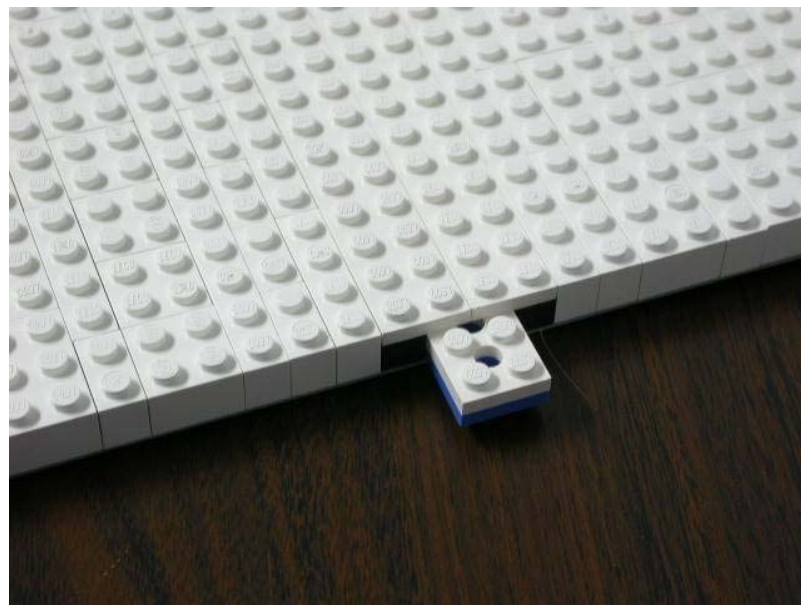
- Break the plan into baseplate sized pieces
- Make sure the baseplates interlock
- Large scale studs up mosaics will require glue. Studs out mosaics will not if the baseplates fit together strongly enough





## Mounting

- Technic plates work best to support heavy weights
- This piece will work for smaller models





## Resources

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- <http://www.brickfrenzy.com/sculpture.html>
- <http://www.wards.net/~bill/lego/sculpture/>
- <http://www.ericharshbarger.org/lego/>
- <http://www.henrylim.org/LEGOSculptures.html>
- <http://www.lipsons.pwp.blueyonder.co.uk/lego.htm>
  
- <http://www.lugnet.com/cad/mosaic/>
- Lego Mosaic @ <http://shop.lego.com>



# That's All Folks!

