

10th Grade Geometry - Capstone Unit: Design

Bronx Early College Academy

Christopher J. Huson PhD

13 May 2019

Capstone.1 Introduction & draft design Monday 13 May

Capstone.2 Design drawing (Geogebra) Tuesday 14 May

Capstone.3 Complete writeup (Geogebra) Wednesday 15 May

Capstone.4 Complete writeup (Geogebra) Thursday 16 May

GQ: How do we design a household lamp?

CCSS: MP.4 Modeling with mathematics

Capstone.1 Monday 13 May

Do Now: Solids handout

1. Simplify compound object into basic shapes
2. Use formulas to calculate volume
3. Convert to weight using density and cost using price

Lesson: Steps in design, manufacture, & sale of consumer goods

Capstone paper: Geogebra diagram (optional hand drawing), text description, volume, weight, & cost calculations. (MLA format)

Outline & sketch due today in notebook

Homework: Problem set handout, test corrections due Wednesday

Capstone inspiration image & reflection (email to husonbeca@gmail.com)

GQ: How do we write up the design of a consumer item?

CCSS: MP5 Use appropriate tools strategically: dynamic geometry software **Capstone.2**

Tuesday 14 May

Project: Design a household lamp fixture

1. Write up the design and specifications of a household lamp
2. Keep it simple: leave out the shade and electrical parts
3. Estimate its volume, weight, and materials cost
4. Draw in Geogebra, compile in Word: add heading & title, text, and formulas using Microsoft's equation editor
5. Email me: Last-Title.pdf, with subject line & message
6. Rubric: correct, aesthetics, MLA & email standards

Task: Draw in Geogebra (spicy: use 3-D). Email .png file to me.
Write dimensions in notebook. (draft calculations for homework)
Homework: Problem set handout, test corrections due tomorrow

GQ: How do we complete a professional design proposal?

CCSS: MP5 Use appropriate tools strategically: Microsoft Word wordprocessor and equation editor

Capstone.3 Wednesday 15 May

Project: Largely complete write up of lamp design

1. Header, title, MLA formatting in Microsoft Word. (pdf final)
2. Simple text description of lamp (optional: sales language)
3. Design drawing, clear dimensions
4. Show calculations of volume, weight, and materials cost using Microsoft's equation editor
5. Email me: Last-Title.pdf, with subject line & message
6. Rubric: correct, aesthetics, MLA & email standards

Notebook check: dimensions and volume, weight, & cost calcs

Task: Print draft of paper. Should be almost complete.

Homework: Problem set handout

GQ: How do we complete a professional design proposal?

CCSS: MP5 Use appropriate tools strategically: Microsoft Word wordprocessor and equation editor

Capstone.4 Thursday 16 May

Project: Complete write up of lamp design

1. Header, title, MLA formatting in Microsoft Word. (pdf final)
2. Simple text description of lamp (optional: sales language)
3. Design drawing, clear dimensions
4. Show calculations of volume, weight, and materials cost using Microsoft's equation editor
5. Email me: Last-Title.pdf, with subject line & message
6. Rubric: correct, aesthetics, MLA & email standards

Peer review

Task: Final paper due by 10:00 tonight, to husonbeca@gmail.com

Homework: Problem set handout