

Name: _____ Date: _____ Class: _____

Project Overview and Rubrics

For this activity, you apply what you have learned to create a **scale model project** of an object of your choosing. You pick an object and are responsible for creating engineering drawings of the object as well as a scale. Be sure to consider materials and time constraints when deciding on the object and scale. A detailed timeline and project and presentation grading rubrics follow.

Project Timeline

Day 1: Project Introduction Date: _____

Day 2: Bring Object to Class—Project Work Day Date: _____

At home: complete *Choosing a Scale Worksheet*

At home: complete engineering drawings (2+)

At home: 1-2 weeks working on scale model

Day 3: Presentation 1 Date: _____

At home: 2 weeks working on scale model

At home: complete *Area and Volume Worksheet*

Day 4: Final Scale Model Due and Presentation 2 Date: _____

Project Deliverables

Turn in the following items on this date: Date: _____

- Completed scale model of object
- Completed *Choosing a Scale Worksheet*
- Completed engineering drawings (minimum of 2)
- Completed *Area and Volume Worksheet*

Scale Model Grading

Scale model grading is based on the following criteria:

- Project accuracy
- Project completeness
- Challenge level and aesthetics

See the rubric below for more details.

Presentations 1 and 2 Grading

Presentation grading is based on the following criteria:

- Meets time guidelines (each presentation takes 4-6 minutes)
- Content accuracy; correct usage of technical vocabulary
- Explain challenges and successes during project
- Effective presenter
- Use of visual aids

See the rubric below for more details.

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Project Rubric

Category/Points	0	1	2	3	4
Is the scale model project complete?	The project is not turned in or is more than 5 days late.	The project is started, but is not even halfway complete or is turned in 4-5 days late.	The project is halfway complete or is turned in 2-3 days late.	The project is complete, but in class a day late or the project is mostly complete, but some components are missing.	The project is complete and in class on time.
Is the scale model project accurate?	The project was not to scale and all measurements are off.	The project has some aspects that are correctly modeled, but most are not.	About half of the model is accurate.	The model is mostly accurate, but a few dimensions are slightly off.	The project is correctly modeled and the scale is consistent throughout.
Does the scale model project look like you put in a lot of effort?	The project was extremely simple and no attempts were made to add detail or complexity. The project is not aesthetically pleasing and appears as if very little effort was put in.	The project was extremely simple, but one or two elements of detail were added to make it more complex. Some effort was put in to make the project good.	The project was somewhat complex, but no elements of detail were added. Some effort was put in to the project to make it look good.	The project was somewhat complex and elements of detail were added. A good amount of effort was put in to the project to make it look good.	The project was more complex or many details were added to make the project more complex. It is clear that a lot of time and effort were spent on making the project look good.
Is the <i>Choosing a Scale Worksheet</i> complete with drawings attached?	The worksheet is incomplete and no drawings are attached.	The worksheet is mostly complete and one drawing is attached.	The worksheet is complete and one drawing is attached.	The worksheet is complete and two drawings are attached. The drawings are not complete or inaccurate.	The worksheet is complete and two accurate, complete drawings are attached.
Is the <i>Area and Volume Worksheet</i> complete?	The worksheet is not turned in.	The worksheet is turned in, but less than half of it is completed.	The worksheet is turned in half completed.	The worksheet is turned in with three-quarters of it completed.	The worksheet is turned in with everything finished. Even with a few arithmetic errors, it is clear that the concepts are understood.

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Presentation Rubric

Category/Points	0	2	4
Did you meet the time requirements?	The presentation was too long (more than 7 minutes) or too short (less than 3 minutes).	The presentation was 3-4 minutes long or 6-7 minutes long.	The presentation was between 4 and 6 minutes.
Did you mention the challenges you experienced?	No challenges were explained.	Only one challenge was explained.	At least two challenges experienced were explained.
Did you state your scale factor and the dimensions of your original and model?	Scale factor and dimensions of the original object and model were not mentioned.	Either the scale factor or the original and model dimensions were mentioned.	Scale factor and original and model dimensions were stated and accurate.
Were you an effective presenter?	There is no evidence that you practiced. "Um" and "like" were said a lot throughout. You were nervous and unsure of what to say. No visual aids were used for the presentation.	There is evidence of some practice. While you might be nervous, you knew what you wanted to say and used an appropriate volume. Visual aids were used.	It is clear that you practiced the presentation. You were confident and did not use the words "um" or "like" frequently. You used an appropriate volume and used visual aids.