

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Block: \_\_\_\_\_

Group Members: \_\_\_\_\_



**CHARLESTON**  
Charter School for Math and Science

Mr. Wolfrey - Physics

## Measuring and Conversion Project

### Designing, Planning, and Converting

#### Description of project:

Design a school garden to be implemented on campus. Your plan **must** be realistic and follow the guidelines below. You will be turning in a variety of individual and partner work for this project.

#### Project Guidelines:

Students must design a garden that is realistic to construct regarding its time, financial, and spacial commitments. No garden be may be wider than 4ft or longer than 12ft. It may not block any personal from walking safely; therefore, should be no less than 3ft from the sidewalk.

#### Procedures for the project:

1. First, as a group, sketch the area that will have the garden. Include the following information in the sketch.
2. Individually, convert the information sketched into formats that provide data in metric and standard units. Provide your data in feet, inches, and meters.
3. Individually, convert the information sketched into a scaled format that fits and fills one sheet of graph paper. Include a scale, title, and all necessary data.
4. Individually, plan gardens within the area that follows the project guidelines.
5. Individually, provide explanation that defends the plan for the area.
6. Individually, self-reflection of the project, provide:
7. Get into groups new groups and review each group member's plan.
  - Allow each member to describe and defend their plan.
  - Provide feedback to improve each member's plan, positive and constructive.
8. As a group, determine the best plan to improve and present to the class.
9. As a group, identify necessary materials to construct the gardens.
10. As a group, complete three blue prints (using different units), a formal (written) defense of the project, and a science report (including an intro, methods, and conclusion) of the task.
11. As a group, present the plan to the class and defend the project as the best option.
12. After presentations the class will vote on the best group's plan. The winning plan will be submitted to administration and the board for approval and development.

#### Checklist and timeline for the project:

- **DUE WEDNESDAY (Sept3):** Checkpoint 1
  - Persuading Presentation
- **DUE THURSDAY (Sept4):** Checkpoint 2
  - One blueprint of plan determined by the group.
  - Rough draft: Formal persuasion letter to a school board member.
- **DUE Sunday (Sept 7) Midnight:** Each group will submit a Final Submission Portfolio
  - 2 Remaining blueprints for group's plan.
  - Individual Plan Packet for EACH member
  - Group Plan Packet

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### Project Requirements per Submission Assignment

- Individual Plan Packet
  - Initial sketch of the area using raw data.
    - Correct area represented.
    - Data represented, including all necessary measurements that describe the area.
    - Label any physical barriers or obstacles in the area.
  - Accurate scale drawings.
    - Three from the following units: feet, inches, and meters.
    - Include an appropriate scale, title, and label infrastructure in the area.
  - Designed plan drawn to scale:
    - Include a title, scale, units, and all infrastructure in the area.
  - Self-reflection on individual plan:
    - Written or typed, at least 1pg
    - Outline:
      - Paragraph 1: What is the purpose of this project?
      - Paragraph 2: A summary of the plan, and why was it designed this way?
      - Paragraph 3: What tasks were completed in order to get to this point? What units were required and/or calculated?
      - Paragraph 4: Why should your design be used?
      - Paragraph 5: What are three concerns that one may have of your plan? Include responses to each concern that defends your plan.
  - Group feedback form.
    - Each student should be fill it out in regards to their own plan, comments should be those given by the remaining members of your team.

Name:
Positive Comments:
Constructive Feedback:
Tentative plan of improvement:

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- Group Plan Packet

- Decision Matrix

- Determine the best plan using the following decision matrix. Identify each group member's score.

<i>Rank 0 (low) to 5 (high)</i>	<b>Meet Criteria</b>	<b>Realistic</b>	<b>Creative</b>	<b>Visually Pleasing</b>	<i>Total</i>
<b>Idea #1</b>					
<b>Idea #2</b>					
<b>Idea #3</b>					
<b>Idea #4</b>					

- Persuasion Presentation printed in slide form

- Tentative plan
  - Dimensions
  - Process
  - Needed Materials
  - Purpose of project
  - Benefits of project
  - Why it should be chosen

- Blueprints of plans

- Three different blueprints, each with different units used.
  - Include full plan
  - Accurate and precise
  - 1 to 2 pages of graph paper per blueprint

- Formal defense of the project

- Format: Letter
  - Audience: School board member
  - Length: 1 pg single spaced typed or written
  - Explains the importance & benefits of the project and plan
  - Detailed description of the plan
  - Areas of concern, but include how to overcome concerns

- Formal Science Report

- Format: Professional, 3<sup>rd</sup> Person, and Informative
  - Length: Minimum 2pg double spaced typed or written
  - Outline
    - Introduction
      - Purpose of the project
      - Goals of the project and group plan
      - Thoughts and observations along the process
    - Methods
      - Steps completed since beginning of the project
      - Summarized in sentence format
    - Results (Proposed Plan)

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## **Measuring and Conversion Project**

- Pictures may be included, but project should be explained in detail.
  - Materials that will be necessary
- Conclusion
  - Summarize project and plan
  - Defend how the project meets all needs.
  - How the project could be improved
  - Possible issues to the plan and possible solutions.