Rubric: Guidelines of the project

Our city is a dump (Poor)	Our city has caring citizens (Proficient)	Our city is the best in the nation (Exemplary)
The Oral Presentation: • Not all group members participate. • The speech is inaudible at times. • The thoughts are not well organized. • There is evidence that the group has not practiced. • The presenters cannot answer any questions the evaluators have. • The display board is not used as part of the presentation.	**The Oral Presentation:** • All group members participate. • The speech is articulate and audible. • The thoughts are well organized and the audience can understand the speakers. • The presenters have command of the audience's attention. • The presenters answer the evaluators' questions sufficiently. • The presentation includes use of the display board.	**The Oral Presentation:** • The presenters answer evaluators' questions with finesse. • The presenters elevate the presentation's content from factual to interesting. • The presentation shows a unique or particularly effective level of organization.
The Display Board: • The board merely repeats what is being said in the speech. • It does not provide information that would be useful for the audience. • It lacks organization, with a several spelling and grammar errors.	**The Display Board:** • The board illustrates what is being presented in the speech. • It provides useful information to add to audience's understanding. • It is professional, organized, and has few if any spelling and grammar errors.	**The Display Board:** • The board is designed to be both informative and engaging. • It has no spelling or grammatical errors.
The Science Content: • The issue of solid waste (SW) is mentioned but not explained. • Insufficient suggestions are given for	**The Science Content:** • The issue of SW is addressed briefly. • Some suggestions are given for handling issue of SW.	**The Science Content:** • The issue of SW and how it is created is described in depth. • Detailed suggestions are proposed for

solving problem of SW. • None of the processes included in the suggestions are explained. • Data on the display board is not explained/supported by pictures, drawings, or alternative ways.	• Some processes included in the suggestions are explained. • Some content of display board is supported by data.	managing the issue of SW. • The processes included in the suggestions are well explained (e.g., What is composting? Why is it important?). • All the data are supported by pictures or alternative ways.
The Math Content: • The content distracts from supporting the presentation. • Labels are used inappropriately or are absent. • The calculations are unreasonable or only include raw data. • The graphs are difficult to read or the colors "blend." • No variables are present in the graph.	**The Math Content:** • The content supports the oral presentation by choosing an appropriate graph to present data. • The graph is titled appropriately. All the labels are correct and properly placed. • The content illustrates waste consumption using percentages, fractions, and measurement calculations. • The graph displays the appropriate use of color or patterns and labels. It is very neat in appearance. • Two variables are present in the graph.	**The Math Content:** • More than one graph is used to effectively display findings. • Three variables are present in the graph. • The content shows how ignorance to solid waste management can affect our community.

Project Calendar showing when we addressed various questions raised by students.
(According to Elstgeest's five categories of productive questions: focusing, measuring and counting, comparison, action, and problem solving)

What is solid waste and how is it created?
• What is our problem or driving question? (Focusing) • How is the driving question relevant to me? (Focusing) • What do I need to do to complete the project in the time frame and how? (Problem solving) • What is expected of me and my group?
Recycling
• How are recyclable and non-recyclable items similar and different from each other? (Comparison question) • How do we make sure we are safe when we sort and weight trash? (Problem solving) • How can I sort this trash? (Problem solving) • How do we weigh and record the trash in our journals? (Measuring and counting) • How does collecting all this information help us answer the driving question?
Calculating Recycled Items
• Are there different kinds of recyclable items? What are these types? How does this affect my community? (Focusing) • How do we continue to weigh and record the trash in our journals? (Problem solving; measuring and counting) • What will happen if we keep on accumulating trash in same manner for next 10 years and what can be done to help our community from this solid waste accumulation? (Action; problem solving)
Types of Solid Waste Materials
• What are different ways to reduce trash? (Focusing; problem solving) • What are different kinds of solid waste creators and how can we reduce them? (Problem solving)
Graphing
• How do we represent our recorded data in graphical form effectively? (Problem solving) • How do we present to our data to the audience? (Action)

Example of data organization

Day	Recycle (kg)				Total (kg)	Non-recycled (kg)	Total (kg)
1							
2							
3	Glass (kg)	Plastic (kg)	Metal (kg)	Paper (kg)			
4	Glass (kg)	Plastic (kg)	Metal (kg)	Paper (kg)			

Rubric for Presentations

	Poor	Proficient	Exemplary
The display board	• The board merely repeats what is being said in the speech. • It does not provide information that would be useful for the audience. • It lacks organization, with a several spelling and grammar errors. (1–3 Points)	• The board illustrates what is being presented in the speech. • It provides useful information to add to audience's understanding. • It is professional, organized, and has few if any spelling and grammar errors. (4–6 Points)	In addition to the proficient requirements: • The board is designed to be both informative and engaging. • It has no spelling or grammatical errors. (7 Points)
Oral presentation	• Not all group members participate. • There are times when the speech is inaudible.	• All group members participate. • The presentation is articulate and audible.	• The presenters answer the evaluators' questions with finesse. • The presenters elevate the

• The thoughts are not well organized. • The presentation shows that the group has not practiced. • The presenters cannot answer any questions evaluators have. • The display board is not part of the presentation. (1–6 Points)	• The thoughts are well organized and the audience can understand the speakers. • The presenters have command of the audience's attention. • The presenters answer the evaluators' questions sufficiently. • The presentation includes the use of the display board. (7–12 Points)	presentation's content from factual to interesting. • The presentation shows a unique or particularly effective level of organization. (13–15 Points)

Self and Group Assessment Rubric

Traits	Group member's name	Group member's name	Group member's name	Your contribution
Initiative **(0-3 points)** How much responsibility did you take in the group work? Did you set the goals? Did you guide your group members? When and how?				
Contribution to Group **(0-3 points)** How did you contribute in the group work? I attended all the meetings, arranged time and place for meetings, found resources and shared, helped design and generated explanations.				
Cooperation with Group **(0-3 points)** How will did you work with your group members? I shared ideas and also accepted group members' ideas, was flexible, did my task, shared responsibility, attempted to understand problems of group members, admired and				

respected other group members' ideas.				