Community Based Engineering Rubric			
	Level of Mastery		
Student Work Element	**2**	**1**	**0**
Problem Unpacking	Several community problems clearly described; one problem selected and justified as important community need; criteria and constraints identified	At least one community problem clearly described and justified as important; at least one criterion or constraint identified	No justification for choice of community problem or no description of criteria or constraints
Design Plans	Resources used to research possible solutions; several solutions proposed; one solution clearly diagrammed and explained in writing; full materials list created	One solution diagrammed or explained in writing; partial materials list created	Vague plans for a solution and non feasible materials list
Peer Feedback	Written and oral feedback provided respectfully to peers on the strengths and drawbacks of their designs; clear suggestions provided	Written or oral feedback provided however weaknesses not noted or suggestions not provided	No feedback provided to peers
Physical Prototypes	Prototype built and tested; room for improvement noted during testing; revisions made according to peer feedback and testing results	Prototype built and tested but meaningful revisions not made	Prototype incomplete or not tested according to criteria for solving problem
Final Documentation	Clearly labeled diagram and written description of final design with enough detail for another person to re-create prototype	Diagram and written description of final design, but insufficient detail for another person to re-create prototype	Incomplete diagram or incomplete written description of final design

SAFETY PRACTICES FOR OUT-OF-DOORS:

1. Teachers should always visit out-of-doors areas to review potential safety hazards prior to students carrying out activities.
2. Keep clear of out-of-doors areas when may have been treated with pesticides, fungicides and other hazardous chemicals.
3. When working out-of-doors, students should use appropriate personal protective equipment or PPE including safety glasses or safety goggles (when working with hazardous chemical), gloves, close toed shoes, hat, long sleeve shirt and pants, sunglasses and sun screen protection. When working near deep water, use life preservers or other floatation devices.
4. Caution students relative to poisonous plants (ivy, sumac, etc.), insects (bees, wasps, ticks, mosquitoes, etc.) and hazardous debris (broken glass, other sharps, etc.).
5. Caution students about trip/fall hazards like rocks, string/rope, etc. when walking out-of-doors.
6. Teachers need to inform parents in writing of on-site field trips relative to potential hazards and safety precautions being taken.
7. Teachers need to check with school nurse relative to student medical issues; e.g., allergies, asthma, etc. Be prepared for medical emergencies.
8. Teachers need to have a form of communications available such as a cell phone or two-way radio in case of emergencies.
9. Wash hands with soap and water after doing activities dealing with hazardous chemicals, soil, biologicals (insects, leaves, etc.) or other materials.
10. Be certain to contact be main office prior to bringing classes out of the building for science activities.
11. Wash hands with soap and water after returning to the classroom from out-of-doors activities.