Building A Structure : Rainwater Harvesting System Design

Student Name: _____

The System Design

CATEGORY	4	3	2	1
Identifies Criteria	Criteria are concrete and quantified when possible and related to: - Passive rainwater harvesting system. - Provide Shade. - Sustain Plants through efficient use of available water.	Criteria are related to: - Passive rainwater harvesting system. - Provide Shade. - Sustain Plants through efficient use of available water. but one or more are ambiguous	Criteria are identified but do not relate to: - Passive rainwater harvesting system. - Provide Shade. - Sustain Plants through efficient use of available water.	Criteria are not identified
The Design Meets Criteria	The system design meets all of the identified criteria.	The system design meets most of the identified criteria.	The system design meets fewer than half of the identified criteria.	The system design meets none of the identified criteria.
Identifies Constraints	Constraints are concrete quantified when possible and related to: - Use available water. - Infiltrate water in 24 hours. - Ensure the rainwater harvesting system is safe.	Constraints are related to: - Use available water. - Infiltrate water in 24 hours. - Ensure the rainwater harvesting system is safe.but are not concrete	Constraints are identified but do not relate to: - Use as little drinking water as possible - Restrict impact to the project site - Other identified constraints	No realistic constraint is identified
The Design Accomodates Constraints	The system design accomodates all identified constraints.	The system design accomodates most of the identified constraints.	The system design accomodates fewer than half of the identified constraints.	The system design does not meet identified constraints.
Functionality	Captures and contains runoff from harvesting surface.	----	----	Does not capture and contain runoff from harvesting surface.

The Design Presentation

CATEGORY	4	3	2	1
The system is mapped	Map is neat with clear measurements and labeling for all components.	Map is neat with clear measurements and labeling for most components.	Map is challenging to read and/or provides clear measurements and labeling for less than half of the components.	Map is very challenging to read and does not show measurements clearly or is otherwise inadequately labeled.
Documentation of the Problem Solution	Use data & evidence to describe how the design will solve the problem and meet criteria and constraints:	Most but not all of the data and evidence are used to describe how the design will solve the problem and meet criteria and constraints:	The solution is described, but no data or evidence is used to support the claim that it will solve the problem and meet criteria and constraints.	There is no written description of the problem solution.
Story of how a decision was made to improve the design or solve a problem	The story is well-written and free of errors. It captures the struggle and resolution of the situation. It is interesting to the audience.	The story has many errors OR it does not relate to an improvement or problem solving situation OR it is boring.	The story has many errors in spelling and/or grammar. It doesn't relate to a turning point in the desgin process. AND it's not interesting.	There is no story.

Design Process

CATEGORY	4	3	2	1
Evidence that the design process was put to good use	Four of the following happened.	Two or three of the following happened.	One of the following happened.	None of the following happened.
	◻ design improvement were made in response to peer feedback ◻ design changes were made due to testing or reasoning ◻ multiple solution ideas were compared and a selection was made before whole-system design began ◻ criteria and constraints were made concrete before whole-system design took place			