

Clean the Dirty Water Teacher Rubric

Section and Criteria	Exemplary	Proficient	Developing	Beginning	Points Earned
Brainstorm Activity (10 pts): Identifies contaminants and removal methods; connects to engineering.	Identifies several contaminants with detailed removal ideas; strong real-world connection.	Identifies some contaminants with clear removal ideas; basic engineering connection.	Lists few contaminants with limited removal ideas; minimal connection.	Little to no effort; vague or incomplete ideas.	/10
Step 1: Observation (10 pts): Qualitative observations (sight, sound, smell, touch).	Uses rich, specific descriptive language in all four senses.	Provides clear descriptions for three senses.	Provides minimal or general descriptions.	Missing or incomplete observations.	/10
Step 2: Design Your Filtration System (15 pts): Selection of materials, rationale, and design reasoning.	Materials are well chosen and justified scientifically; thoughtful design plan.	Materials appropriate with basic reasoning.	Materials somewhat appropriate; limited reasoning.	Poor or missing material choices; little reasoning.	/15
Step 3: Draw Your Filtration System (10 pts): Labeled and accurate drawing.	Detailed, neatly labeled drawing showing clear layer order and structure.	Mostly clear and labeled drawing.	Incomplete or unclear drawing.	Missing drawing or layers not identified.	/10
Step 4: Testing & Data Collection (20 pts): Procedure, accuracy, and recorded data (pH, volume, observations).	Data complete, accurate, and well-organized; detailed observations.	Data mostly complete; clear observations.	Some data is missing or unclear.	Data is missing or inaccurate.	/20
Step 5: Reflection (20 pts): Analysis of materials, effectiveness, and improvements.	Thoughtful analysis; clear understanding of engineering design; creative improvements.	Good analysis; identifies improvements.	Limited analysis; few connections made.	Little or no reflection.	/20
Extension (10 pts): Real-world connections to chemical/environmental engineering.	Deep, accurate, and relevant connections to real-world systems.	Appropriate real-world connections.	General or vague real-world examples.	Missing or incorrect real-world applications.	/10
Organization & Presentation (5 pts): Neatness, clarity, and completion.	Exceptionally organized, complete, and neat.	Mostly complete and organized.	Some sections are incomplete or unclear.	Disorganized or incomplete.	/5

Total Score: _____ /100

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