



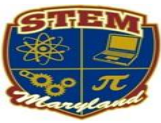
# Elementary STEM Centric Planning Guide



<b>Title:</b> Water, Water Everywhere And Not a Drop To Drink				<b>Teacher:</b>		
<b>Overview:</b> STEM Proficient students will engage in logical reasoning to answer complex questions, to investigate global issues, and to develop solutions for challenges, and real world problems.				<b>Grade:</b> 5		
<b>STEM Standards of Practices:</b> Engage in <u>meaningful, purposeful and relevant</u> STEM activities using the Stem Standards of Practice Frameworks; student skills and knowledge indicators, instructional examples, resources, and glossary.						
<p><i>STEM proficient students will be able to apply all seven Standards of Practice when demonstrating how to answer complex questions, to investigate global issues, and to develop solutions for challenges, and real world problems.</i></p>				<p><b>Real World Problem-</b></p> <p>The world’s water supplies are facing new threats; affordable, advanced technologies could make a difference for millions of people around the world. Can you devise a simple method that can be used for large quantities of water that can be safe and accessible?</p> <p><b>Product/Prototype/Process-</b></p> <p>Create a water desalination and purification system that is safe and accessible.</p>		
Content Standards						
<b>Science</b>	<b>Technology</b>	<b>Engineering Design Process</b>	<b>CCSS Mathematics/ Practices</b>	<b>CCSS ELA</b>	<b>Social Studies</b>	<b>Fine Arts</b>
Desalination	Research			Write to persuade either affirmative or negative	Geography	Aesthetic appeal
Reverse Osmosis	Resources	Design	Measurement		Cultures	Materials for construction
Water purification		Construct	Graphing			
Water process		Build				
		Test				
		Modify				
		Water desalination/ purification system				

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<p><b>Transdisciplinary Connections:</b></p> <p>Students will create a distillation unit that will provide safe and accessible water to countries around the world.</p> <p>Students will conduct research of opposing views about this issue, and students either choose to debate for the affirmative or the negative to that issue.</p>	<p><b>Enduring Understanding:</b></p> <p>The world's water supplies are facing new threats; affordable advanced technologies could make a difference for millions of people around the world. By far most of the world's water is in the oceans, and therefore salty and not useable for most purposes without desalination.</p>
<p><b>Connection to STEM Careers:</b></p> <p>Nanotechnology Process Pipe Designers Electricians Helicopter pilots Cost Engineers Environmental Impact Specialists Hydro-test Engineers Community Outreach Specialists Chemists</p>	<p><b>Essential Questions:</b></p> <p>In what ways might you compare the elements of change in a system and determine its positive and negative factors?</p> <p>In what ways might we compare desalination techniques and determine both the positive and negative factors?</p> <p>Can you devise a simple method that can be used for large quantities of water that can be safe and accessible?</p>