



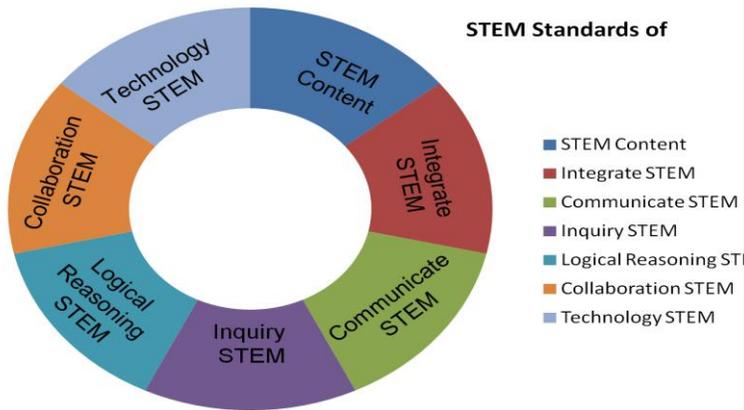
# Elementary STEM Centric Planning Guide



<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

**STEM Standards of Practices:** Engage in meaningful, purposeful and relevant STEM activities using the Stem Standards of Practice Frameworks; student skills and knowledge indicators, instructional examples, resources, and glossary.

*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.*



**Real World Problem-**

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?

**Product/Prototype/Process-**

Create a water desalination and purification system that is safe and accessible.

**Content Standards**

Science	Technology	Engineering Design Process	CCSS Mathematics/ Practices	CCSS ELA	Social Studies	Fine Arts
Desalination	Research	Design Construct Build Test Modify Water desalination/ purification system	Measurement Graphing	Write to persuade either affirmative or negative	Geography Cultures	Aesthetic appeal Materials for construction
Reverse Osmosis	Resources					
Water purification						
Water process						

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<p><b>Transdisciplinary Connections:</b> 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> 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 in 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>