**Unit Overview**

**Title of PBL Unit**

Target Grade Level(s): Middle School

Subject(s): Math, Science, CTE

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**Problem Statement:**

**The state has called on the help of all families to help stop a potential drought in Washington State. Each family member is to calculate their water use to see which areas of water usage they can reduce through conservation. Students have a chance to earn a scholarship to the school of their choice. They have been given the task of using water conservation as a topic to do 3 things. The first is to identify how much freshwater to saltwater there is on earth and who needs fresh water. The second task is to calculate their water footprint to see which areas they can conserve in areas where their water usage is higher than the national average. Thirdly, students will create a call to action using digital media to help spread the message of awareness and conservation tips.**

* How do we conserve and/or reuse natural resources to ensure future generations will have drinkable water?

**Unit Overview and Table of Contents**

* **PBL Water Conservation: Why is saving water important?**
  + **Saving Water Now: The Water Conservation Problem** 
    - Lesson 1: **Salt vs. Fresh Water**
    - Lesson 2: **Your Water Footprint**
    - Lesson 3: **Plan of Action: Saving Water for the Future**

**Standards (NGSS, CCSS, CTE):**

MP.6 Attend to Precision

**MS-ESS3-3.Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.\***

**Soft Skills:**

**Critical thinking/Creativity: How can we solve the problem?**

* Communication, Collaboration, Critical Thinking, Creativity

**Locally and/or personally relevant for students:**

* The scenario is a local problem and a potential global crisis.

**Connections to career and educational pathways:**

* Utilities, sciences (conservation, water usage), environmental engineering, plumbing and other trades, business management (the owners), economics and ecology, policy makers

**How will students learn about connections to career and educational pathways into the unit?**

There will be a whole class discussion on: specifically defining the problem, how that problem might be solved, and what job could solve the problem. Further discussion could involve determining possible pathways towards getting that job. For example, students determine the problem is a leaky pipe. How could that be fixed and who would do it?

**Accommodations:**

* For ELL and IEP students please use the sentence starters and videos to help students with the lessons. If a student has a math IEP, you may use the watercalculator.com for lesson 3.
* Scaffolded/modified tables, sentence stems and starters, additional visual representations, vocabulary supports
* **Grouping of students for instruction:** Whole class - it is a small class of 15 students, some students are ELL learners and/or have an IEP