

# Global Water Crisis

A Multicultural Lesson Plan

# Introduction

- Use lesson plan on water availability and pollution to teach global awareness
- Encourage group participation and cooperation
- Use a variety of teaching methods and mediums
- Develop sense of social responsibility and action

# Classroom Details and Demographics

- 9<sup>th</sup> grade integrated science classroom
- 24 students from varying cultural and SES backgrounds
- 12.5% ESL, 40% below grade level in reading and writing
- 29% Black, 8% Hispanic, 5% Asian

# Essential Questions

- Want students thinking about these two questions during the entire lesson plan
  - What role does water play in our lives?
  - How would life be different without access to clean, drinkable water?

A bathtub holds 151 L of water.  
Someone in a slum may only get  
30 L for all their daily needs.



# Goals and Rationale

- Use water as a conduit to increase students' global awareness and understanding of other cultures
- Compare United States water usage with other countries
- Understand role of water pollution and how lack of access to clean water impacts human life
- Learn about water filtration systems
- Develop student advocates for clean water

# Objectives

- Students will:
  - Understand the importance of water to human survival
  - Learn how water pollution and purification impact human life
  - Investigate and analyze access to drinkable water across the world
  - Predict the impact of worldwide water pollution
  - Create action plans to raise awareness about the global water crisis



More people in the world have cell phones than access to a toilet.

# Lesson Plan: Day 1

- Water Awareness
  - Whole Group Discussion
    - Role of water in every day life?
    - How would life be different without access to clean water?
  - Lecture
    - Discuss the role of water and its importance to life. Review a brief history of how different societies developed around water sources.
  - Project
    - Water Awareness Portfolio

Thousands of sixth graders will drop out this year because of water insecurity



# Water Awareness Portfolio

- Materials- notebook, computer
- Procedures
  - Students record learning, notes, observations and labs
- Group Activity
  - Heterogeneous groups of 4
  - Research websites from Global Water Awareness curriculum from [water.org](http://water.org)
  - Focus notes on Essential Questions and 1<sup>st</sup> 3 objectives
- Homework
  - Self audit of water usage



# Lesson Plan: Day 2



- “Mock Muck” from water.org
  - Lecture/Whole Group Discussion- Review water filtration systems
  - Lab- Groups of 4 complete “Mock Muck” lab from water.com
    - Materials- polluted water samples, coffee filters, sand, charcoal rock, 3-cup plastic containers, Water Awareness Portfolio
    - Procedures- students record color, clarity, odor, presence of oil and solid matter and volume of water at pre-treatment, after 1 treatment, after 2 treatment and after final treatment. Experiment using materials given to clean water while maintaining volume.

# Lesson Plan: Day 2 (cont.)

- Lab (cont.)
  - Assessment-Findings from lab are recorded, and students work together to draw conclusions about the most effective way to filter the water and maintain volume. Graded based on completion of lab and conclusions using a rubric.
- Homework
  - Read “Blue Planet Blues” and “Dangerous Waters” from the water.org curriculum and answer reading comprehension questions in the Water Awareness Portfolio

# Lesson Plan: Day 3

- Fresh Water Access
  - Lecture/Whole Group Discussion- Review lack of access to fresh water across the world and discuss implications
  - Video- watch Liquid Assets: The Big Business of Water from CNBC
  - Small Group Discussions- Divide students into groups of 4 and provide them with guiding questions to lead their group discussion



# Lesson Plan: Day 3 (cont.)

- Activity- Action Plan for World Water Day
  - Procedure- students work in their groups of 4 to create an action plan to build school and community awareness about the global water crisis for World Water Day. Each group presents their idea and the two most feasible idea is chosen to execute during World Water Day.
  - Assessment- all plans will be assessed using a rubric to judge completeness.

# Final Assessments

- Water Awareness Portfolio- Graded based on completion of assignments using a rubric for each activity including a final activity where students record their top three biggest takeaways from the unit.
- Summative Assessment- Students design a water awareness plan to educate their family and friends about the global water crisis and should focus on local and international issues. Plan will be graded using a rubric for specific tasks to complete.

# Conclusion

- Lesson Plan successfully
  - Increases awareness of global issues
  - Encourages social action
  - Uses group work strategically in order to
    - Promote a respectful environment
    - Build student rapport and respect
    - Allow greater teacher support where necessary
    - Strong classroom management
    - Student self-monitoring and regulation
  - Varies modes of delivery and assessment to accommodate diversity in learning and culture



# References

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