Hydrate California

8th Grade Science	
Standard	**MS-ESS2-4 Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity. Emphasis is on the ways water changes its state as it moves through the multiple pathways of the hydrologic cycle.**
Objective	SWBAT apply their understanding of the water cycle to explain the importance of water. Understanding the properties of water, students will explain why water is so essential for life.
Key Terms	water cycle precipitation water vapor solar energy universal solvent condensation evaporation runoff infiltration
Assessment	Students will present their local water cycle visuals and their proposed plan to advocate for a strong emphasis on clean water during a drought.
Introduction	Review the vocabulary key terms. Think-Pair- Share: Look at your glass of water. Take a good long look at the water. Now, with your group, discuss how old it is? Why is water so essential for life? Students will engage in a discussion about the different uses of water.
Teamwork	Students will work in groups of 4 to complete the following tasks: ● Students will look at http://www.nature.org/ourinitiatives/habitats/riverslakes/placesweprotect/where-does-your-water-come-from.xml to locate and discuss from which water sources their Los Angeles household water comes from. ● Watch Adaptive Curriculum Animation video of the Water Cycle to understand how their local water sources cycle water. ● Draw a visual for their local water cycle ● Read the article: "Helping Nature Protect Us From Drought" http://www.nature.org/ourinitiatives/habitats/riverslakes/explore/helping-nature-protect-us-from-drought.xml ● Complete Thinking Map Chart explaining where water comes from and brainstorming an effective conservation plan to help keep clean fresh water flowing especially during droughts.
Independent Practice	Students will complete their thinking maps that explain the where their water comes from and the ways and importance of keeping water clean during droughts.
Planned Questions/ Checking for Understanding	How old is water? Where does water come from? Where does water go? Why is water important?

	What are the uses of water? Why do we need to advocate for clean water during a drought? What causes a drought in California?
Planned Accommodation for IEP and ELL	

8th Grade Math	
Standard	8.8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally. CCSS.MATH.PRACTICE.MP4 Model with mathematics.
Objective	SWBAT apply their understanding of tables, graphs and functions to real-life situations. Using different data sets, students will compare the annual rainfall for Los Angeles, California to Seattle, Washington.
Key Terms	x-axis independent variable rate of change increasing function y-axis dependent variable slope decreasing units of measure
Assessment	Students will present the graph of annual rainfall of Los Angeles and compare it to the annual rainfall of Seattle. Students will identify positive and negative slopes and explain what their steepness means.
Introduction	Review the key terms. Discuss how to compare two sets of data with common units. Explain what a function is and how to graph a function when given a data table.
Teamwork	Students will look at two different data sets: one for Los Angeles' annual rainfall and one for Seattle's annual rainfall. Students will look for patterns and compare the two data sets. Los Angeles data values Seattle bar graph

Independent Practice	Given the table of rainfall data, students will graph the average rainfall for Los Angeles. Students will analyze the graph and explain what the information means. Students will compare the graph of rainfall of Los Angeles and Seattle. Students will relate this information to the water cycle and how this data supports the fact that California is in a drought. Students will use the data from the table and graphs to support their argument on possible solutions people can do to *hydrate California*.
Planned Questions/ Checking for Understanding	When graphing the average rainfall for Los Angeles, what is the independent variable? When graphing the average rainfall for Los Angeles, what is the dependent variable? How do you know what to label the x and y axis? Is the graph of rainfall a linear equation? Explain how you know. What causes a drought in California? How long has the drought been in California? How much rain do we need to end the drought in California?

8th Grade ELA	
Standard	2.0: **Reading Comprehension (Focus on Informational Materials)** Students read and understand grade-level-appropriate material. They describe and connect the essential ideas, arguments, and perspectives of the text by using their knowledge of text structure, organization, and purpose. The selections in Recommended Readings in Literature, Kindergarten Through Grade Eight illustrate the quality and complexity of the materials to be read by students. In addition, students read one million words annually on their own, including a good representation of narrative and expository text (e.g., classic and contemporary literature, magazines, newspapers, online information).
Objective	Students will be able to: analyze informational articles to determine the best possible solution to California's water drought.
Key Terms	Drought, Desalination, Water Cycle, Sewage System, Catchment
Assessment	Group Presentation - teams will create a persuasive presentation to convince the class to vote on their possible solution to solving California's drought. The presentation will be based on using evidence from their reading to persuade their audience to agree with their proposed solution to the drought.

Introduction	Think-Pair-Share Students will be introduced to California's drought by having a short discussion about the drought. They will use examples from personal experiences, observations, and references from readings/news to share with a partner. After discussing with their partner, students will be randomly selected to share highlights from their discussion with the class.
Guided Practice ***(Teamwork)***	Students will be placed in groups of 4. Teams will read one of the following articles: ● Looking for Water ● The Water Cops ● Clean Enough to Drink ● Saving for a (less) rainy day ● No Water? No Problem As students read, they will make note of the solutions that are being proposed in their assigned article and students will prepare a poster to present to the class. Students will present the proposed solution to the drought to the rest of the class. After all proposed solutions have been presented, the class will vote to promote one of the possible solutions to the rest of the school.
Independent Practice	Students will write short reflections about their experience analyzing the proposed solutions. In their reflection, students will answer the following questions: 1. Which proposed solution did you read about? 2. Do you agree or disagree with the proposed solution? 3. Do you think it is a solution that can be effective? 4. Would you be willing to try out the proposed solutions? Why or why not?
Planned Questions/ Checking for Understanding	What is the California drought? How is the drought affecting us? What are possible causes of the drought? What are possible consequences if the drought continues? Are there any ways to fix, or help alleviate, the drought?
Planned Accommodation for IEP and ELL	Visuals/illustrations thinking maps Articles modified based on student lexile levels