This teacher's guide supports the SWFWMD video podcast episode *Alternative Water Supply*, available at <u>WaterMatters.org/Podcasts</u>. This guide includes Florida standards, Common Core Standards, vocabulary, suggested activities, and links to additional resources.

Lesson Time: Approximately 1.5–2 hours (divided among class periods)

**Objectives:** Students will learn water is a limited resource and identify alternative water sources.

## Vocabulary:

Aquifer:	A spongelike layer of underground limestone and rocks that can hold and release water
Desalinization:	The process of converting salt water into fresh water
Reclaimed water:	Highly treated wastewater that can be used for irrigation and other uses to extend water supplies
Surface water:	Water that can be seen on the earth's surface (including rivers, lakes, streams, ponds, oceans and wetlands)
Water conservation	Practicing habits that use less water and avoid wasting water
Well:	A hole drilled into the aquifer so that ground water can be brought to the surface

## <u>Lesson</u>

## Engage:

(15 minutes) Prior to watching the podcast, pose the following essential questions to your students: <u>Does all the water we use come from the same source? Why is it important to have different sources of water?</u>

Watch the podcast. Review the vocabulary terms and ask aloud the following questions to activate prior knowledge:

What are some alternative water sources? Is it easier to use alternative water sources or water from the aquifer? How can you conserve water?

## **Explore/Explain**:

(45–75 minutes) After the *Engage* activities, divide students into groups. Tell students that each group is a news crew and should create a news broadcast to educate others about the sources of Florida's water supply, types of alternative water supplies and why alternative water supplies are needed.

For the remainder of the first class period, students will plan their broadcast. Encourage groups to recall information from the podcast and conduct other research using the Internet, books and other available resources. Instruct groups to write a news broadcast script that clearly conveys the topic to their audience.

During the second class period, each group will find images and create a visual display to support information in its news broadcast — refer to the *ClipPix* and *ClipVideo* websites under *Additional Links* below. If the appropriate equipment is available, groups can record their news report and add graphics and voiceovers to the recording. If equipment is not available, groups will present their news broadcasts live.

#### **Extend and Evaluate**:

(30 minutes) Ask each group to present its pre-recorded or live news broadcast to the class. Assess each group for organized delivery of information and proper content.

# Additional Links

WaterMatters.org/Education/Splash/ WaterMatters.org/Conservation/Reclaimed/ http://etc.usf.edu/clippix/pictures/alternative-water/ http://etc.usf.edu/clipvideo/galleries/alternative-water/

## <u>Standards</u>

#### Next Generation Sunshine State Standards:

SC.4.E.6.3: Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable.

## **Common Core State Standards:**

<u>CCSS.ELA-Literacy.SL.4.1</u> Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.

<u>CCSS.ELA-Literacy.SL.4.2</u> Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

<u>CCSS.ELA-Literacy.SL.4.4</u> Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

<u>CCSS.ELA-Literacy.SL.4.5</u> Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.

<u>CCSS.ELA-Literacy.RI.4.4</u> Determine the meaning of general academic and domainspecific words or phrases in a text relevant to a *grade 4 topic or subject area*.

<u>CCSS.ELA-Literacy.RI.4.7</u> Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.

<u>CCSS.ELA-Literacy.W.4.2</u> Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

<u>CCSS.ELA-Literacy.W.4.6</u> With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

<u>CCSS.ELA-Literacy.W.4.7</u> Conduct short research projects that build knowledge through investigation of different aspects of a topic.

<u>CCSS.ELA-Literacy.W.4.8</u> Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.

<u>CCSS.ELA-Literacy.W.4.9</u> Draw evidence from literary or informational texts to support analysis, reflection, and research.