Day of Science and Service
May 8, 2014

On May 8, 2014, be a scientist for the day! Create a buzz. Get outside, record your observations, share your pictures and tell us what's happening in your community. Join the University of California in a one-day statewide science project and tell us what you see. Your answers will help build a healthier future for you and your community. Explore further at **beascientist.ucanr.edu**

How are you conserving water?

People, animals and plants all need water to survive, yet we have less than 1% of the earth's water available for our use. And our water supply is diminishing. This year's record California drought conditions mean that now, more than ever, every drop counts.

The average household uses 30% of its water outdoors for landscaping and gardening. Inside the home, the majority is used in the bathroom. Just shortening your daily shower by a minute or two can save as much as 700 gallons of water every month!

Pool your knowledge.

On May 8, 2014, we're asking you to tell us what you are doing to conserve water.

Have you started to take shorter showers? Invested in low-flow faucets and toilets? Let your grass go brown or swapped it for drought-tolerant landscaping? If you're a farmer, do you use new, higher-efficiency irrigation technology?

Visit **beascientist.ucanr.edu** to learn more about this project and record your observations.

The Facts

- **2013 was the driest year in California's recorded history.**
- **Californians currently use an average of 196 gallons of water per person per day, including all business operations other than agriculture.**
- **The average bath uses 40 to 50 gallons of water, whereas a 10-minute shower with a low-flow showerhead uses only 15 gallons.**
- **A single drippy faucet wastes more than 20 gallons of water per day!**
- **If everyone in the state reduced her or his water consumption by 10 gallons a month, California would save a total of 4.56 billion gallons every year.**

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How are you conserving water?

On May 8, 2014, be a scientist for the day!

Maybe you already are conserving water; maybe you aren't. Either way, we want to know about it—and remember, in a survey like this there's no wrong answer. Your answers will help create a clearer picture of what all of us are doing—and can do—to protect our water resources.

Build a more secure future for *you* and *your community* in five simple steps:

STEP 1
On May 8, 2014, go online and visit the map at **beascientist.ucanr.edu/water**.

STEP 2
Enter your ZIP Code or zoom to your current location on the map.

STEP 3
Click on your location.

STEP 4
Use the online checklist to select all of the ways you are conserving water.

STEP 5
Attach a photo showing how you're conserving water!

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Sample web form

Your email (optional):

Age:

- ☐ Under 13
- ☐ 13-17
- ☐ 18-29
- ☐ 30-59
- ☐ 60 or over
- ☐ Decline to state

How are you conserving water in your…

Household

- ☐ Shorter showers
- ☐ Shutting off water while brushing teeth
- ☐ Using water-saving appliances
- ☐ Fixing leaky appliances and fixtures
- ☐ Other _____

Garden

- ☐ Applying mulch
- ☐ Using drought-tolerant plants
- ☐ Collecting rainwater
- ☐ Using compost
- ☐ Watering efficiently
- ☐ Other _____

Landscape

- ☐ Watering less
- ☐ Planting drought-tolerant plants
- ☐ Aerating lawns
- ☐ Capturing and reusing runoff
- ☐ Using greywater
- ☐ Collecting rainwater
- ☐ Watering efficiently
- ☐ Other _____

Farm

- ☐ Using drip/micro irrigation
- ☐ Scheduling irrigations for water efficiency
- ☐ Changing to drought-tolerant crops
- ☐ Deficit irrigation
- ☐ Managing soil
- ☐ Other _____

- ☐ I'm not conserving water.
- ☐ I want to conserve but I don't know how.

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Day of Science and Service on May 8, 2014

How do you conserve water?

Activity: A Day in the Life of a Rain Drop

Learning Objective: Help youth understand that water is a precious resource and must be conserved. **Service Objective:** Invite youth to develop and implement a concrete plan for conserving water in the home.

Activity Instructions

1. Opening prompts: Ask youth to think about all the places they use and see water.
2. Either individually, in pairs, or small groups (of 3 to 4), have youth think about what it would be like to live a day in the life of a rain drop.
3. Invite youth to use their imagination and create a story about their rain drop. Storytelling comes in many forms and youth can select which they want to use! Some include: short story, poem, song, drawing, story board, poster, speech, film, or dance.

   Imagine you are a raindrop, ask yourself:
   - Where are you going? What will you encounter on the way?
   - What do you see, hear, and feel? Where do you want to go?
   - What do you want to be when you grow up?
4. Ask youth to share their story with the class.
5. As a class, have youth process and generalize what they've learned. For example, in small groups, have youth discuss how they conserve water at home and in their life. Have groups report findings to the entire class.

Taking it Further

- **For young youth:** Invite children to share their story with their families.
- **For older youth:** Ask each group to discuss how water relates to California. For example, the science of water (chemical, physical, biological), water on the earth (watersheds, water cycle, bodies of water), human history of water (water use around the world, transportation, culture, philosophy), the human impacts on water quality and quantity (conservation).
- Link this activity to the food and pollinator activities. Invite small groups to discuss connections between water, pollinators, and food. Have groups present to the class.

Time: 20-30 minutes

Materials

- Paper
- Writing utensils
- Any other materials to aid in the creative process; for example:
  - Construction paper
  - Markers
  - Poster board or flip chart paper
  - Music
- A picture of the water cycle may be helpful, available from water.usgs.gov/edu/watercycle.html

Preparation

None

Connections to the Next Generation Science Standards: LS2.A: Interdependent relationships in ecosystems. ESS2.C: The roles of water in Earth's surface processes. ESS3.C: Human impacts on Earth systems.

On May 8: Be a Scientist!

Ask youth to identify all of the ways they conserve water. Record answers from youth and submit using the on-line map at beascientist.ucanr.edu. Share with youth what others are reporting from across the entire state!

"Day in the Life" idea adapted from *Serving Up MyPlate, USDA 2012.*

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Day of Science and Service on May 8, 2014

How do you conserve water?

Activity: How Much Water Do You Use?

Learning Objective: Help youth understand that water is a precious resource and must be conserved. **Service Objective:** Invite youth to develop and implement a concrete plan for conserving water in the home.

Time: 20-30 minutes

Materials

- Copy of the worksheet "Water Usage Assessment Tool"
- Writing utensils

Preparation

Copy the worksheet for each youth.

Connections to the Next Generation Science Standards: ESS3.C: Human impacts on Earth systems.

Activity Instructions

1. Opening prompts: Ask youth to discuss ways they use water. Explain what water conservation means to them. And why they think it is important to conserve water.
2. Have each youth complete the worksheet, "Water Usage Assessment Tool". In each row, ask youth to check-off the column that best represents what they do most often.
3. In small groups (3-4), have youth discuss with each other ways they use water. What surprised them?
4. Ask each youth or small group to come up with a water conservation plan.
5. Ask youth to share their water conservation plans. Discuss any new ideas that they had not thought of before.
6. As a class, have youth process and generalize what they've learned. For example, ask youth to identify other places they use water outside the home. Are there ways they can conserve water here too?

Taking it Further

- **For young youth:** Take the worksheet home and share it with their families.
- **For older youth:** Ask each group to discuss how water relates to California. For example, the science of water (chemical, physical, biological), water on the earth (watersheds, water cycle, bodies of water), human history of water (water use around the world, transportation, culture, philosophy), the human impacts on water quality and quantity (conservation).
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Adapted from *There's No New Water!, National 4-H Council and UCCE, 2010.*

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How do you conserve water?

Activity: How Much Water Do You Use?

Name: _____ Date:_____

Water Usage Assessment Tool*

Activity	*Low*	✓	Medium	✓	High	✓
Brushing Teeth (one time)	Always turn faucet off. [less than 1 gallon]		Sometimes leave faucet running. [3 gallon]		Always leave faucet running. [5 gallons]	
Washing Hands (one time)	Always turn faucet off. [less than 1 gallon]		Sometimes leave faucet running. [1 gallon]		Always leave faucet running. [2 gallons]	
Taking a Shower (one shower)	Showers are 10 minutes. [50 gallons]		Showers are 20 minutes. [100 gallons]		Showers are 30 minutes. [150 gallons]	
Taking a Bath	1 bath/week. [40 gallons]		4 baths/week [160 gallons]		7 baths/week [280 gallons]	
Washing Dishes by Hand	Wash each load of dishes with water on low. [10 gallons per load]		Wash each load of dishes with water running on medium. [20 gallons per load]		Wash each load of dishes with faucet running on high. [30 gallons per load]	
Dishwasher**	Dishwasher is always full. Run 1 time. [15 gallons]		Dishwasher is about half full when run. Run 2 times. [30 gallons]		Dishwasher is less than half full when run. Run three times. [60 gallons]	

*Water usage averaged from five sources and may vary depending on household.

**Running the dishwasher will use the same amount of water each cycle. However, this assessment tool assumes that if the machine is not full, it will need to be run more times to clean the same amount of dishes.