

## Shade Balls

### Science Grade-Level Expectations

The exercises in this instructional task addresses content related to the following science grade-level expectations:

- PS-E-C2 Describe how light behaves when it strikes objects and materials (e.g., transparent, translucent, opaque) (GLE 24)
- ESS-E-B5 Give examples of how the Sun affects Earth’s processes (e.g., weather, water cycle) (GLE 44)
- SE-E-A3 Describe a variety of activities related to preserving the environment (GLE 48)

### Contents

Teachers may choose to use or modify this tool as part of an instructional lesson or as a formative or summative assessment.

	<b>Objectives</b>
<b>Task</b>	<ul style="list-style-type: none"> <li>- Read and interpret data</li> <li>- Apply knowledge of light reflection and the water cycle to draw conclusions</li> </ul>
<a href="#"><u>Sample Exemplar Student Responses</u></a>	

**Task – Part A**

Look at the map (<http://cdec.water.ca.gov/cgi-progs/products/rescond.pdf>) showing the water levels in lakes around California.

What conclusion can you draw about water levels from the information in the map?

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Read the article from Time for Kids (<http://www.timeforkids.com/news/fines-water-wasters/167311>). Why should the people of California care about how much water is in their lakes?

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**Part B**

One way the people in California are trying to preserve their water is by covering the surface of lakes with shade balls. Look at the pictures (<http://news.nationalgeographic.com/2015/08/150812-shade-balls-los-angeles-California-drought-water-environment/>) and watch a video of the shade balls being put into a lake (<http://www.timeforkids.com/photos-video/video/shade-balls-reservoir-no-2-260606>).

Use your knowledge of the sun, light, and water cycle to describe how the shade balls are expected to work? Draw a picture to support your answer.

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## Sample Exemplar Student Response:

### Part A

The water levels in the lakes around California are low. People are using more water than they get from rain.

Water is needed for people to survive. They have to have clean water to drink and water to grow crops for food. Water is also used for people to have fun and enjoy life. Some people have pools and water their lawn to make it look pretty. If too much water is wasted, people won't be able to use it for survival. California is going through a drought and it is important that all people work together to save the water that is available.

### Part B

The shade balls float on top the water. They keep the water cooler by shading the water. If the water stays cool, it won't evaporate. The black color of the balls helps them absorb more sunlight. This also keeps the water cooler by keeping the sun's rays from hitting the water.

