



# Handbook Contents

## CalWater H<sub>2</sub>O Classroom Challenge Outline

### Introduction

### Goals of the CalWater H<sub>2</sub>O Design Challenge

1. Student Starters
2. Curriculum Integration
3. Brainstorm
  - a. Sample Topic List
  - b. Brainstorming Handout
4. Select a Topic
  - a. Selecting Questions Handout
5. Start Your Portfolio
6. Create an Action Plan
  - a. Planning Pages
7. Research and Implement the Project
  - a. Activity Record Log
  - b. Observations
8. Illustrate Your Design
9. Finish and Submit

Cover sheet

T-Shirts

Student Reflections

Teacher Reflection

Portfolio Checklist





# Introduction

Welcome to the Cal Water H<sub>2</sub>O Classroom Challenge!

This is an excellent way to bring a relevant, meaningful, project based learning opportunity to your students that transcends distance learning. Our expert Teacher Ambassadors and advisors have developed a clear pathway to engage your students in real-world inquiry while helping you meet your curriculum goals. And we're here for you!

This handbook was designed as one of multiple options to provide you with a personal anchor chart for every step of the Cal Water H<sub>2</sub>O Classroom Challenge. Other options include the PDF handbook found on the Classroom Challenge [Resources Page](#), and the Canvas course for your Grade Level.

Gather your students, engage them with phenomenon, and let them take the lead conducting research, looking around the community, ultimately designing a solution that cares for water. Perhaps your design will be a way to keep garbage out of the storm drains and prevent it from traveling to the ocean. Maybe your students will design a way to clean up a local creek or waterway. Your students may even create an engineering design for testing or cleaning water on campus.

Whatever your students choose to do, know that you are supported here, and by our amazing Teacher Ambassadors. Click or read through for clear directions, Common Core and Next Generation Science Standards inspiration, practical tips from winning Cal Water H<sub>2</sub>O Classroom Challenge teachers and Teacher Ambassadors, and resources to make this your best year yet!

For more, why not hear what our teacher ambassadors have to say:

<https://youtu.be/vKX-RPbwFcl>

[Next Section](#)





# Goals

The Cal Water H<sub>2</sub>O Classroom Challenge has three student goals; for students to:

1. **Identify and focus on one water issue in their local area**, learn about and investigate ways to address the issue, and develop and design a solution to improve the issue. This water issue must focus on caring for water (water conservation, water quality, protecting the water supply, etc.) in the local context.
2. **Develop content understanding**, through project-based learning, that align with CaCCSS in English-language arts, mathematics (and literacy in science and history/social science), science in the California Next Generation Science Standards (CaNGSS), and visual and performing arts.
3. **Develop confidence and self-esteem** in designing and completing a long-term project as informed problem-solvers and decision-makers.

The following CaCCSS, CaNGSS, and Visual and Performing Arts standards are suggested as a starting point for identifying grade 4-6 student learning goals for Cal Water H<sub>2</sub>O Classroom Challenge:

- **Science:** Life, Earth, and space, physical science, and engineering performance expectations
- **Mathematics:** mathematical practices, number, and quantity, statistics and probability, represent and interpret data, graphing
- **English-Language Arts:** writing, reading, speaking, and listening • Visual and Performing Arts--creative expression and web-based technology
- **Some examples** of Cal Water H<sub>2</sub>O Classroom Challenges design ideas include:
  - Design a water conservation program, which will continue in the future.
  - Design a plan to protect the water quality in the community, your school, or in your local area.
  - Design a water conservation program for families to use at home.
  - Design native plant garden plan, focused on drought resistance, at your school to encourage schools, families and businesses to plant drought resistant plants.

[Previous Section](#)

[Next Section](#)





# Step 1: Student Starters

## Student Starters Overview

Choose an engaging way to introduce the challenge to your students and get them excited to start planning their design. Phenomenon is an excellent way to draw students in to an issue and encourage deeper exploration. Here you will find phenomenon resources as well as a short video that you can share with your students to get the conversation started. You can also peak your students' interest by asking critical and relevant questions about water in their own lives such as how much water they think they use each day, ways they conserve water everyday, how they see water being used in the community, or what water problems they are familiar with.

## Engaging Water Videos

This 15 minute video from the Department of Water Resources explores the history of water in California, modern day water issues, and shares ideas for conservation. An excellent resource for History Social Science.

<https://www.youtube.com/watch?v=Ozle7tS1SgQ>

This three minute video introduces the concept of rainwater harvesting.

<https://www.youtube.com/watch?v=axTei0glOdU>

### Water Related Phenomenon

- [Changing Rivers](#) Source: [www.ngsspheomena.com](http://www.ngsspheomena.com)
- [Ocean Acidification](#) Source: [pmel.noaa.gov](http://pmel.noaa.gov)
- [Water Storylines](#) Source: [nextgenstorylines.org](http://nextgenstorylines.org)
- [Glacier Park Melting](#) Source: [thewonderofscience.com](http://thewonderofscience.com)
- [Role of Water in Earth Surface Processes](#) Source: [thewonderofscience.com](http://thewonderofscience.com)
- [Wave Properties](#) Source: [thewonderofscience.com](http://thewonderofscience.com)

You can also visit the Cal Water H<sub>2</sub>O Challenge [website](#) for more water links

[Previous Section](#)

[Next Section](#)





# Step 2: Curriculum Integration

## Curriculum Integration Overview

No matter what standards you are planning to teach for the school year, the Cal Water H<sub>2</sub>O Classroom Challenge can help bring them to life. Our Classroom Challenge offers the very best in project based learning, helping you meet your curriculum goals. Check out our curriculum integration videos to see, and map out, how you will use the challenge to make the program a fun and engaging part of a successful school year.

## Opportunities to Incorporate Common Core and NGSS Standards into Your Classroom Challenge

### Grade 4 Curriculum Integration

View our 4th grade curriculum integration video here: <https://youtu.be/H8S5ssyOjYg>

### Grade 4 Water Related NGSS Standards

- PS4.A: Wave Properties
- ESS2.A: Earth Materials and Systems

#### *Engineering design fits for the Cal Water H<sub>2</sub>O Design Challenge*

- ETS1.A: Defining and Delimiting Engineering Problems
- ETS1.B: Developing Possible Solutions
- ETS1.C: Optimizing the Design Solution

### Grade 4 Common Core Applicable Standards

#### **Design Challenge Related Reading Standards**

*Reading informational text will be helpful when students conduct research and consult expert writing for their design ideas.*





## Step 2: Curriculum Integration

[CCSS.ELA-LITERACY.RI.4.7](#)

[CCSS.ELA-LITERACY.RI.4.8](#)

[CCSS.ELA-LITERACY.RI.4.9](#)

### **Design Challenge Related Writing Standards**

*As students begin to form their ideas about what type of water solution they will design, they will have opportunities to write about their topics, include facts and details, and state their opinions.*

[CCSS.ELA-LITERACY.W.4.1.A](#)

[CCSS.ELA-LITERACY.W.4.1.B](#)

[CCSS.ELA-LITERACY.W.4.1.C](#)

[CCSS.ELA-LITERACY.W.4.1.D](#)

## Grade 5 Curriculum Integration

View our 5th grade curriculum integration video here: <https://youtu.be/IS7qr8Gsllc>

## Grade 5 Water Related NGSS Standards

*Natural water fits with NGSS.*

- LS1.C: Organization for Matter and Energy Flow in Organisms
- ESS2.A: Earth Materials and Systems
- ESS2.C: The Roles of Water in Earth's Surface Processes
- ESS3.C: Human Impacts on Earth Systems

*Engineering design fits for the Cal Water H<sub>2</sub>O Design Challenge.*

- ETS1.A: Defining and Delimiting Engineering Problems
- ETS1.B: Developing Possible Solutions
- ETS1.C: Optimizing the Design Solution





# Step 2: Curriculum Integration

## Grade 5 Common Core Applicable Standards

*Reading informational text will be helpful when students conduct research and consult expert writing for their design ideas.*

- [CCSS.ELA-LITERACY.RI.5.1](#)
- [CCSS.ELA-LITERACY.RI.5.2](#)
- [CCSS.ELA-LITERACY.RI.5.3](#)
- [CCSS.ELA-LITERACY.RI.5.4](#)
- [CCSS.ELA-LITERACY.RI.5.5](#)
- [CCSS.ELA-LITERACY.RI.5.7](#)
- [CCSS.ELA-LITERACY.RI.5.8](#)
- [CCSS.ELA-LITERACY.RI.5.9](#)

*As students begin to form their ideas about what type of water solution they will design, they will have opportunities to write about their topics, include facts and details, and state their opinions.*

- [CCSS.ELA-LITERACY.W.5.4](#)
- [CCSS.ELA-LITERACY.W.5.5](#)

## Grade 6 Curriculum Integration

View our 6th grade curriculum integration video here: <https://youtu.be/j3EbYOCwYKU>

## Grade 6 Water Related NGSS Standards

*Natural water fits with NGSS.*

- ESS2.C: The Roles of Water in Earth's Surface Processes
- ESS3.A: Natural Resources
- ESS3.C: Human Impact Earth Systems

*Engineering design fits for the Cal Water H<sub>2</sub>O Design Challenge.*

- ETS1.A: Defining and Delimiting Engineering Problems
- ETS1.B. Developing Possible Solutions
- ETS1.C. Optimizing the Design Solution





# Step 2: Curriculum Integration

## Grade 6 Common Core Applicable Standards

*Reading informational text will be helpful when students conduct research and consult expert writing for their design ideas.*

[CCSS.ELA-LITERACY.RI.6.1](#)

[CCSS.ELA-LITERACY.RI.6.2](#)

[CCSS.ELA-LITERACY.RI.6.3](#)

*As students begin to form their ideas about what type of water solution they will design, they will have opportunities to write about their topics, include facts and details, and state their opinions.*

[CCSS.ELA-LITERACY.W.6.1.A](#)

[CCSS.ELA-LITERACY.W.6.1.B](#)

[CCSS.ELA-LITERACY.W.6.1.C](#)

[CCSS.ELA-LITERACY.W.6.7](#)

[CCSS.ELA-LITERACY.W.6.8](#)

[Previous Section](#)

[Next Section](#)







## Step 3: Brainstorming

**Teachers:** Facilitate student brainstorm of local water environmental issues (e.g., water usage, water conservation) as possible topics to research for the Cal Water H<sub>2</sub>O Classroom Challenge.

Check out our Teacher Ambassador videos for more Cal Water H<sub>2</sub>O Classroom Challenge related classroom management tips including doing the Challenge with students with special needs.

[Classroom Management Tips](#)

[Students with Special Needs](#)

**Time:** 40-60 minutes

**Advance Preparation:** Have students gather information about **local** water issues

**Students:** Select a preliminary topic to research for the Cal Water H<sub>2</sub>O Classroom Challenge then discuss how they might gather more information about the topic.

### Outline

- Explain the Cal Water H<sub>2</sub>O Classroom Challenge.
- Ask students to discuss what is meant by an environmental issue, and then think about environmental issues that involve water.
- Divide the class into small working groups. Use the [Brainstorming Handout](#) for students to brainstorm their ideas and then star their top two choices. Ask groups to share their top two choices with the whole class. Tally student choices.
- Tally choices and have class vote for their top choice.
- Discuss how class might gather more information about the topic:
  - Who can be called to give a virtual or in-person talk?
  - What local agencies should be contacted?
  - Who might be an expert in this area?
  - What books might be helpful?
- Make a list of the class suggestions

[Previous Section](#)

[Next Section](#)





# Sample Topic List

When choosing a topic for your Cal Water H<sub>2</sub>O Classroom Challenge, you may decide on any local issue for your class project, focusing around caring for water and studying water as a local and global resource. To help you brainstorm ideas, you can find a list of possible topics with sample project ideas below. You are by no means limited to this list, and may choose to tackle any local water issue even if it is not listed below.

## **Water Conservation**

- Design of School / Community Wide Water Conservation Practices

## **Water Quality**

- Drafting A Community Action Plan Around Safe Oil Disposal
- Designing A Waste Reduction Campaign for Your School (Composting Instead of Garbage Disposals, etc.)
- Drafting A Water Quality Testing Plan to Research the Reclamation of a Local Body of Water

## **Water Reliability**

- Designing a School/Community Water Preservation Plan and Strategy for Implementation

## **Alternative Water Sources**

- Designing Drought Tolerant / Native Garden Replacements for Traditional Gardens

## **Water Cleanup**

- Designing Water Gardens for Wetlands
- Planning Shore Clean Ups
- Drafting Community Outreach Plans Around Drain Water

## **Protecting the Watershed**

- Education and Outreach on Watershed Issues

[Previous Section](#)

[Next Section](#)





# Brainstorming Your Cal Water H<sub>2</sub>O Classroom Challenge

What water topics would you like to investigate? In a brainstorm, list all your ideas.

Remember, in brainstorming, all ideas are IMPORTANT.

Think of as many as you can...

\*STAR your top 2 ideas to share with the class!

[Previous Section](#)

[Next Section](#)





## Step 4: Select Topic and Refine Questions

**Teachers:** Using student knowledge of science and their ideas, facilitate students' discussions to refine their topic and the Cal Water H<sub>2</sub>O Classroom Challenge's investigation questions.

**Students:** Students will select a topic to research for the Cal Water H<sub>2</sub>O Classroom Challenge

**Time:** 40-60 minutes

### Outline

- Have students refer to the [topics that were brainstormed](#)
- Of those topics, which ones might be useful or helpful for the community or school?
- Facilitate a discussion with the following questions:
  - What could be the goal of the design project?
  - How might the project as designed, impact the community or school if implemented?
- Choose the topic for the Cal Water H<sub>2</sub>O Classroom Challenge.
- Make a KWL chart and have students discuss what they know about the selected topic.
- Have groups research and report on possible questions they could address in the Cal Water H<sub>2</sub>O Classroom Challenge.
- If desired, have students record class questions on the [Selecting Questions Handout](#).
- Share questions and select the most appropriate questions for the Cal Water H<sub>2</sub>O Classroom Challenge. Write the questions in the "W" part of the KWL chart.
- Have students record the final goals (Use the [Selecting Questions Handout](#) if you like).
- Have speakers address the students' questions in the KWL chart.
- Have students research questions generated in the "W" part of the KWL chart and share their findings. Fill in the "L" part of the KWL chart.
- Findings may be recorded in the [Selecting Questions Handout](#).

[Previous Section](#)

[Next Section](#)





# Selecting Questions For Your Cal Water H<sub>2</sub>O Classroom Challenge

Do your RESEARCH and use your imagination to determine questions that you would like to INVESTIGATE.

Here are our questions:

These are the questions that our class decided to investigate:

Here is what we found out:

[Previous Section](#)

[Next Section](#)





## Step 5: Start Your Portfolio

**Teachers:** It's never too early to [start putting together your portfolio](#). Explain to students how they can get started on their portfolio. Begin to [identify students who will write the student reflection sections](#) and begin to [write your own teacher reflection](#).

**Students:** Have students photograph their work, take screenshots of their meetings, or drawings of their plans. They could create a website of work in committees on the portfolio as they work through the project. No matter what they do, have them start early.

**Time:** Multiple Class Periods Throughout the Project

**Advance Preparation:** Gather any work that has already been done. If committees have been formed, keep that information at hand. If the portfolio is being created physically, gather supplies. If it is being created digitally, prepare the digital space for the portfolio - choose a program and develop a plan for how students will access the creation tools and save their work.

### Outline:

- Explain the portfolio process to your students.
- Share the rubric with them, so they understand what they are communicating to the judges and how their project/portfolio is being weighed.
- Help the students determine a method for their portfolio creation, and work with them to set up a process that allows the entire class to participate. Perhaps they form committees and each works on one part of the portfolio. Perhaps some students capture photography, some work on design layouts, and some write particular sections. Perhaps each section is created by a different group. Work together to come up with a plan, and begin instituting throughout your project. Right now you are setting the baseline before the final portfolio work.
- If ready, have students write their [student reflections](#).

[Previous Section](#)

[Next Section](#)





## Step 6: Create an Action Plan

**Teachers:** With a refined topic and questions, facilitate students to determine the actual goal(s) of their Cal Water H<sub>2</sub>O Classroom Challenge, develop an action plan and a timeline that includes sustainability beyond the school year.

Check out our video featuring [Teacher Ambassadors speaking about top tips](#) for classroom and time management for more ideas on how to organize your students to begin working on the challenge.

**Students:** Students take the lead and begin to shape the project, determining goals and developing an action plan.

**Time:** 40-60 minutes

**Advance Preparation:** Determine resources necessary for doing the challenge and secure those resources and materials; pre-think some specific project goals to help guide the students (if necessary), consider ways to share the Cal Water H<sub>2</sub>O Classroom Challenge with the community, plan for student reflections throughout the Cal Water H<sub>2</sub>O Classroom Challenge.

### Outline

- Help students determine the design goal(s) for the challenge. Make sure the goal is realistic and meaningful to the students.
- Facilitate discussion to determine goal(s).
- Have students record the goal(s). Optionally, they can record these goals under number one on the first page of the [Planner Pages](#).
- Determine ways to analyze the impact of their design.
  - How will we know our project did what we intended?
  - How will this project impact the issue we selected?
- Have students record the evidence they will use to see if their design is successful. This can be done under number two on the Our Goal section of the [Planner Pages](#).
- If desired, students may complete prompt 3 under Our Goal in the [Planner Pages](#).
- Provide tools and resources for students to plan and design their project. Facilitate a discussion of needs for completion of the design and use the Project Needs section of the [Planner pages](#) to help facilitate the discussion and have students record ideas.





## Step 6: Create an Action Plan

- Form student action committees such as publicity, funding, research, historian, materials and artwork.
- Help students develop an action plan (who / does what / by when): things to do, resources to use, people to contact, other actions to take. Use the Action Plan section of the [Planner pages](#) and have students fill in as discussion proceeds.
- As a class, determine what needs to be done and by when.

[Previous Section](#)

[Next Section](#)









# Planning Your Cal Water H<sub>2</sub>O Classroom Challenge

## Project Needs

Things to do:

Resources to use:

Equipment:

People to Contact:

Other:





# Planning Your Cal Water H<sub>2</sub>O Classroom Challenge

## Action Plan

Activity	Person(s) Responsible	Material(s) Needed	Due Date

[Previous Section](#)

[Next Section](#)





## Step 7: Research and Implement the Project

**Teachers:** This is where the magic happens. Facilitate students conducting additional research on the selected topic/issue. Students will use everything they have done so far and work hands-on, either individually or as a team to research various design options and pick the design they think works the best. Students will have a chance to model different designs, refine the design, and communicate their work to a wider audience. Ask your School Board, your County Board of Supervisors, and parents to come to a remote meeting. Tell everyone what great designers you have become. Explain how your design can help.

**Students:** Research different design options. Which works best and why? Conduct experiments, create models, and/or use math and engineering to illustrate how and why your final design is the best solution to the problem. Test each design and adjust and redesign as needed. Finalize your design and communicate your work to your school and community. Have a giant remote meeting and take the lead. This step is where your work on the Cal Water H<sub>2</sub>O Classroom Challenge shines. Let the world know what you have designed.

**Time:** Over multiple class periods

**Advance Preparation:** Help students gather reliable sources (e.g., books, Internet, newspapers/magazines, field trips, interviews, local, state, and federal agencies). Consider having different groups monitor different activities, or completing a large class chart of the activities. Gather your notes and ideas from past lessons. If needed, ask parents for help gathering materials you might need to design models. Plan a time to showcase your design to your school and community.

**Make sure to take pictures or videos that you can use with your portfolio.**

### Outline:

- Review goals and action plan and remind students to record activities as they do them on the [Activity Record Log](#).
- Explain that students will be spending several class periods conducting additional research on their Cal Water H<sub>2</sub>O Classroom Challenge project design and implementing their action plan.





## Step 7: Research and Implement the Project

- Have students conduct a pre-project observation to collect base-line data. Encourage students to sketch/write about the issue before it is addressed in the Cal Water H<sub>2</sub>O Classroom Challenge. If desired, have students record on the [Observations Page](#).
- Display collected resources for students to use, determine the best ways to divide the information for students to research and have students record their notes on the [Observations Page](#) for information you may want to remember.
- Help students decide on work groups (e.g. tour leaders, publicity committee, letter writing)
- Periodically provide time for students or groups to share information with the class.
- Display information for others to see and to have available during the course of implementing the Cal Water H<sub>2</sub>O Classroom Challenge.
- Based on the research, facilitate the design process with students to address their selected topic. Allow students to attempt models (virtual, physical, mathematical, etc.) and test their designs. Lead students in refining designs based off of their tests, and help facilitate their choice of a final design solution.
- Provide, or help your students to seek, opportunities for the class to communicate their work to a larger audience (the school, school board, family, etc.).

[Previous Section](#)

[Next Section](#)





# Activity Record Log

Activity	Projected Outcome	Actual Outcome

[Previous Section](#)

[Next Section](#)





# Observations

## Pre-project observations (include sketches)

Explain the problem and use diagrams with your explanation.

[Previous Section](#)

[Next Section](#)





# Observations

## Information You Want to Remember

This is a place to keep your notes from your Cal Water H<sub>2</sub>O Classroom Challenge: Research, Notes, Surveys, etc.

[Previous Section](#)

[Next Section](#)







## Step 8: Illustrate Your Design

**Teachers:** Now that your students have identified a water-related problem, researched it, and worked together to design and test a solution, guide them through a final illustration process. Be sure that your students clearly illustrate their solution and communicate it for the judges.

**Students:** Create one final illustration of the design for their topic's solution. This design should focus on clarity of communication to express their idea to the judges. This could take the form of a drawing, blueprint, photograph, computer animated graphic, or even a spreadsheet. Whatever they choose to create, make sure that the problem and solution are clear, and that the judges can see how the solution will work.

**Time:** Multiple Class Periods

**Advance Preparation:** Gather your designs from Step 7, along with records of any design tests and their outcomes. In particular, gather together the class conclusions and/or final decisions on their design.

### Outline:

- Review the outcomes of the design process from Step 7 with your students.
- Allow students to articulate their final design solution based on the results of their previous research and work.
- Guide the students, helping them to create an illustration of their final design.
- Ensure that they communicate their concept clearly.
- Record it for the portfolio (photograph it, scan it, etc.).

[Previous Section](#)

[Next Section](#)





## Step 9: Finish and Submit

**Teachers:** Congratulations! You have successfully used project based learning to give your students relevant, real-world experiences that have taught them how to think and synthesize information, and how to engineer a viable solution. Tell us all about it. Continue to facilitate and guide your students in putting the class portfolio together. Keep in mind that you and your students know your work best. Help your students tell their story clearly and concisely by making sure all information included in the portfolio is linked to the Challenge's goals and action plan. Check the resources below to be sure to submit everything that you need in order to have a competitive portfolio.

- [Cover sheet](#)
- [T-Shirts](#)
- [Student Reflections](#)
- [Teacher Reflection](#)
- [Portfolio Checklist](#)

**REMEMBER:** Portfolios and all accompanying materials must be submitted or postmarked by February 28, 2023.

Digital portfolios may be submitted here: [CalWaterChallenge@gmail.com](mailto:CalWaterChallenge@gmail.com)

Hard copy portfolios should be mailed to:

Cal Water H<sub>2</sub>O Classroom Challenge  
ATTN: Conservation Department  
2632 West 237th Street  
Torrance, CA 90505

**Students:** Students will compile artifacts and information to produce a completed portfolio.

**Time:** 4-6 class periods over several weeks. This includes the time already spent on your class portfolio.

**Advance Preparation:** Collect all pictures and artifacts taken/created during the Cal Water H<sub>2</sub>O Classroom Challenge. Complete [student](#) and [teacher reflections](#). Make copies of the rubric for each working group of students.





## Step 9: Finish and Submit

**Teacher Note:** The Cal Water H<sub>2</sub>O Classroom Challenge judges are classroom teachers, selected individuals from different environmental agencies, and science professional development providers. They are trained to use the rubric objectively to score the Cal Water H<sub>2</sub>O Classroom Challenge projects. Thus it is important to help your students follow the rubric.

### Outline:

- Explain to students that it is time for the whole class to finish putting together their portfolio illustrating the work that has been accomplished and explaining their design solution.
- If it has not already happened, facilitate students in selecting a working group: Who will do the “write-up” and explanation of how the Cal Water H<sub>2</sub>O Classroom Challenge was selected? Who will do the goal and what did the class hope to accomplish? Who will summarize the findings? Etc.
- Review the [portfolio checklist](#).
- Distribute the copy of the rubric to each work group. Ask students to review and discuss in their group what they think needs to be included for a high score. Make sure their discussion includes what photos, articles, and student communications would be important to include?
- As students work, make sure students are aware of the guiding questions for their portion and make sure those questions are addressed in their information.
- Have each work group share the information they have gathered and explain how each piece is important to be included in the portfolio.
- Ask students how they want to address the rubric for the portfolio presentation. Chart students’ ideas and have them decide how the portfolio is going to be finalized.
- Have work groups work on their portion of the portfolio and then assemble the whole portfolio. As a class, re-check the checklist to make sure that the portfolio is complete.
- Make copies. Hard copy portfolios will not be returned. Scan or take photographs of your portfolio for your records.
- Submit your portfolio to Cal Water by the deadline.

[Previous Section](#)

[Next Section](#)





# Cover Sheet

School Name: \_\_\_\_\_

District: \_\_\_\_\_ County: \_\_\_\_\_

School Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_ Phone: \_\_\_\_\_

Teacher's Name: \_\_\_\_\_ Best Time to Call: \_\_\_\_\_

Teacher's Email: \_\_\_\_\_ Class Grade Level: \_\_\_\_\_

Number of Students in Class: \_\_\_\_\_ Last Day of School: \_\_\_\_\_

Principal's Name: \_\_\_\_\_ Spring Break Dates: \_\_\_\_\_

Did you reach out to your entire school?            Yes            No

If yes, how many students attend your school? \_\_\_\_\_ If no, how many students did you reach? \_\_\_\_\_

Number of Community members reached by the Cal Water H<sub>2</sub>O Classroom Challenge: \_\_\_\_\_

Cal Water H<sub>2</sub>O Classroom Challenge Title: \_\_\_\_\_

Cal Water H<sub>2</sub>O Classroom Challenge Summary:



# Cover Sheet

Project Goal(s):

Explain the significance, impact, or benefit of your Cal Water H<sub>2</sub>O Classroom Challenge:

Unique School Characteristics:





# Class Roster

If selected as the grand prize winner, t-shirts may be printed for your class. In case of that scenario, we ask that you please list your class roster below with t-shirt sizes for yourself and each student.



# Student Reflection

**Student Name:**

**School:**

**Note to Teachers:** Your students may continue their comments on a new page, if necessary.

1. List at least 2 activities you did to understand the water issue. What did you learn from those activities?
  
  
  
  
  
  
  
  
  
  
2. What things did you do to participate in the Cal Water H<sub>2</sub>O Classroom Challenge project?
  
  
  
  
  
  
  
  
  
  
3. What are the major accomplishments of your Cal Water H<sub>2</sub>O Classroom Challenge project?
  
  
  
  
  
  
  
  
  
  
4. What did you learn from designing an engineering solution to your water issue?
  
  
  
  
  
  
  
  
  
  
5. What did you learn that you think others should know?
  
  
  
  
  
  
  
  
  
  
6. What personal actions will you change or will you take as a result of this Cal Water H<sub>2</sub>O Classroom Challenge?





# Teacher Reflection

Teachers, please write a 1-2 page reflection on the project. Include the following:

- Describe the Cal Water H<sub>2</sub>O Classroom Challenge project goal(s) and the overall EFFECTS.
- What were some of the CHALLENGES and SUCCESSES that you observed through your project?
- What were the educational benefits of the Cal Water H<sub>2</sub>O Classroom Challenge for the students?
- What are some possible “next steps” for the continuation of the Cal Water H<sub>2</sub>O Classroom Challenge project?
- How has your Cal Water H<sub>2</sub>O Classroom Challenge project impacted your targeted audience?







# Portfolio Checklist

Be sure to review this list prior to submitting your portfolio to Cal Water H<sub>2</sub>O Classroom Challenge. Projects must be submitted or postmarked by – **Tuesday, February 28, 2023**

## Portfolio Basics

Every project concludes with the creation and submission of a portfolio. In that portfolio the competing classroom's students must explain the following:

- The Goals of Cal Water H<sub>2</sub>O Classroom Challenge Project
- Their Research
- Their Science and/or Engineering Experimentation/Application
- Their Actions to Solve a Local Water Issue
- Their Public/Community Outreach Efforts

## Cal Water H<sub>2</sub>O Classroom Challenge Portfolio Specifications

- Digital Portfolio must be no more than 16 pages
- Digital Pages must be at PowerPoint standard 10" x 7.5" in dimension.
- Hard Copy Portfolio may be no more than 16 pages, 8 pages front and back.
- Hard Copy pages may be no larger than 11" x17".
- Must include 5-10 student reflections and a teacher reflection (student and teacher reflections are not counted as part of the 16 pages).
- The cover pages must be included and are not counted as part of the 16 pages. (Points will be docked if any of the documentation is missing).
- May include no more than 5 minutes of video.
- May include links, but to no more than one class-created website.
- May include as many photographs as fit within the page constraints.

Your classroom portfolio should provide a clear description of your Cal Water H<sub>2</sub>O Classroom Challenge. When creating your portfolio, be sure to think through the following criteria our judges will be looking for:

- How was your Cal Water H<sub>2</sub>O Classroom Challenge project selected?
- What was the project goal and what did the class hope to accomplish?
- How was the Cal Water H<sub>2</sub>O Classroom Challenge project implemented?
- Why was this Cal Water H<sub>2</sub>O Classroom Challenge important?
- Evaluation of the Cal Water H<sub>2</sub>O Classroom Challenge's impact?





# Portfolio Checklist

Be sure to review the scoring rubric and judging criteria for detailed information on how your Cal Water H<sub>2</sub>O Classroom Challenge portfolio will be evaluated and to understand the scoring process. The rubric can be found on the Cal Water H<sub>2</sub>O Classroom Challenge website.

Email Portfolios or Fileshare links to your portfolio to [CalWaterChallenge@gmail.com](mailto:CalWaterChallenge@gmail.com)

Hard Copy Portfolios can be mailed to:

Cal Water H<sub>2</sub>O Classroom Challenge  
ATTN: Conservation Department  
2632 West 237th Street  
Torrance, CA 90505

