



Cal Water H2O Challenge Rubric



School Name	School District	Grade Level	Evaluator Name and Number
Teacher Name	Cal WaterH2O Challenge Project Name	Total Score	

	POSSIBLE POINTS	SCORE
1. Cal Water H2O Challenge Impact (40 Points)		
A. Importance of Cal Water H2O Challenge Topic	15	
B. Design Plan	10	
C. Prediction of Long Term Environmental Impact	15	
2. Impact ON STUDENT Learning (45 Points)		
A. Integral to Student Learning	15	
B. Student Participation	15	
C. Student Reflection	15	
3. Presentation (10 Points)		
A. Overall Quality of the Presentation of the Portfolio	10	
4. Impact ON Teacher Practice (5 Points)		
A. Teacher Reflection	5	
Grand Total		





COMPONENT #1: Cal Water H2O Challenge Impact

(Total possible points: 40)

A. Importance of Cal Water H2O Challenge Topic

(Total possible points: 15)



Guiding Questions:

- ◆ Why did the class or school-based club choose to do this Cal Water H2O Challenge?
- ◆ Why would this Cal Water H2O Challenge be important to the school and community?

15 Points

Cal Water H2O Challenge **FULLY DEMONSTRATES** student understanding of **ONE** key water issue or concern in the school AND local community based on science concepts with evidence that the topic of the Cal Water H2O Challenge is important to the community and school and addresses California's water supply

AND

Demonstrates understanding of how design contributes to problem solving.

10 Points

Cal Water H2O Challenge **FULLY DEMONSTRATES** student understanding of **ONE** key water issue or concern in school OR local community based on science concepts with limited evidence that the topic of the Cal Water H2O Challenge is important to the community OR school and addresses California's water supply

AND

Demonstrates how design contributes to problem solving.

5 Points

Cal Water H2O Challenge **DEMONSTRATES LIMITED** student understanding of **ONE** key water issue or concern in school and/or local community based on science concepts with some or little evidence that the topic of the Cal Water H2O Challenge is important to the community/school and may or may not address California's water supply or design.

1 Point

Cal Water H2O Challenge includes **MORE THAN ONE** key water issue with multiple activities that may or may not connect to one another with some or little evidence that the topic of the Cal Water H2O Challenge is important to the community/school and may or may not address California's water supply or design.

Use specific evidence from the portfolio to support your score.

POINTS





COMPONENT #1: Cal Water H2O Challenge Impact

(Total possible points: 40)

B. Design Plan

(Total possible points: 10)



Guiding Questions:

- ♦ What is the relationship between the goals, design plan and outcomes?
- ♦ How were results communicated to the school and community?

10 Points

There is a **Clear LINK** from the goals to the design plan and to the outcomes to address the identified water issue

AND

Actions/activities of the Cal Water H2O Challenge **Are Based** on sound scientific principles related to the topic

AND

A plan exists to communicate findings and applications from the design plan with school **and** community

5 Points

There is a **Clear OR Moderate LINK** from the goals to the design plan and to the outcomes to address the identified water issue

AND

Actions/activities of the Cal Water H2O Challenge **Are Based** on sound scientific principles related to the topic

AND

Findings and applications from the design plan **May or May NOT BE Communicated** to school and/or community

1 Point

There is a **Moderate OR NO LINK** from the goals to the design plan and to the outcomes to address the identified water issue

AND

Actions/activities of Cal Water H2O Challenge **May OR May NOT BE Based** on sound scientific principles related to the topic

AND

Findings and applications from the design plan **May OR May NOT BE Communicated** to school and/or community

Use specific evidence from the portfolio to support your score.

POINTS





COMPONENT #1: Cal Water H2O Challenge Impact

(Total possible points: 40)

C. Potential of Long Term Environmental Impact

(Total possible points: 15)



Guiding Questions:

- ♦ How was this Cal Water H2O Challenge important to students, the school and/or community?
- ♦ Will we see the effects of this Challenge in 5 years? What is (are) the enduring aspect(s) of this Cal Water H2O Challenge?

15 Points

There is **Clear EVIDENCE** that the Cal Water H2O Challenge resulted in a change in student thinking about short- and long-term responsible actions related to the goal(s) of the Cal Water H2O Challenge.

AND

Potential LONG-TERM impact of the Cal Water H2O Challenge on water conservation within the school AND community are **Clearly PREDICTED.**

10 Points

There is **Clear EVIDENCE** that the Cal Water H2O Challenge resulted in a change in student thinking about short- and long-term responsible actions related to the goal(s) of the Cal Water H2O Challenge.

AND

Potential LONG-TERM impact of the Cal Water H2O Challenge on water conservation within the school OR community is **Clearly PREDICTED.**

5 Points

There is **Clear OR SOME EVIDENCE** that the Cal Water H2O Challenge resulted in a change in student thinking about short- and long-term responsible actions related to the goal(s) of the Cal Water H2O Challenge

AND

Potential LONG-TERM impact of the Cal Water H2O Challenge on water conservation within the school or community is **Somewhat PREDICTED.**

1 Point

A change in student thinking that may lead to short- and long-term responsible actions related to the goal(s) of the Cal Water H2O Challenge **IS NOT PREDICTED**

OR

Only **SHORT-TERM** impact is **PREDICTED.**

Use specific evidence from the portfolio to support your score.

POINTS





COMPONENT #2: Impact on Student Learning

(Total possible points: 45)

A. Integral to Student Learning

(Total possible points: 15)



Guiding Questions:

- ◆ How did this Cal Water H₂O Challenge improve upon or enhance student learning beyond the regular classroom curriculum?
- ◆ In what ways did the Cal Water H₂O Challenge help students use science and engineering practices, mathematical practices and English language arts skills to understand the issues and work collaboratively to address the issues?

15 Points

Student work from the Cal Water H₂O Challenge Clearly Demonstrates it is an integral part of the regular classroom or club curriculum as defined by the NGSS and CCSS with an emphasis on students using the practices to build understanding.

AND

CLEARLY connects classroom or after school learning with real world applications

10 Points

Student work from the Cal Water H₂O Challenge Clearly Demonstrates it is an integral part of the regular classroom or club curriculum as defined by the NGSS and CCSS with an emphasis on students using the practices to build understanding.

AND

SOMEWHAT connects classroom/club learning with real world applications

5 Points

Student work from the Cal Water H₂O Challenge Clearly Demonstrates it is an integral part of the regular classroom or club curriculum.

AND

HAS LIMITED OR NO connections with real world applications

1 Point

Student work from the Cal Water H₂O Challenge DOES NOT Indicate That IT IS an Integral Part of the regular classroom or club curriculum.

AND

HAS LIMITED OR NO connections with real world applications

Use specific evidence from the portfolio to support your score.

POINTS





COMPONENT #2: Impact on Student Learning

(Total possible points: 45)

B. Student Participation

(Total possible points: 15)



Guiding Questions:

- In what ways were students actively involved in the selection, research, investigation and evaluation of the Cal Water H₂O Challenge?
- In what ways did student thinking change because of their direct involvement in the Cal Water H₂O Challenge?

15 Points

Student work from the Cal Water H₂O Challenge demonstrates **Clear EVIDENCE** that students were involved in **all** of the following: inquiry, design, research, implementation, evaluation and documentation. There is a documented evolution of the design plan over time.

10 Points

Student work from the Cal Water H₂O Challenge demonstrates **SOME EVIDENCE** that students were involved in **all** of the following: inquiry, design, research, implementation, evaluation and documentation and some documentation of the evolution of the design plan over time.

5 Points

Student work from the Cal Water H₂O Challenge demonstrates **Clear OR SOME EVIDENCE** that students were involved in **SOME** of the following: inquiry, design, research, implementation, evaluation and documentation of the evolution of the design plan.

1 Point

Student work from the Cal Water H₂O Challenge demonstrates that students were involved in **FEW OR NONE** of the following: inquiry, design, research, implementation, evaluation and documentation of the evolution of the design plan.

Use specific evidence from the portfolio to support your score.

POINTS





COMPONENT #2: Impact on Student Learning

(Total possible points: 45)

C. Student Reflection

(Total possible points: 15)



Guiding Questions:

- ◆ What evidence of student learning do I have? How will that learning be sustained?
- ◆ How did students move from awareness, to stewardship and possible long-term, responsible action?
- ◆ In what ways did the Cal Water H₂O Challenge help students use critical thinking skills to evaluate water issues and make informed decisions to address those issues through their design solution?

15 Points

Student reflection indicates:

Quality Learning (i.e., multiple opportunities to develop and demonstrate critical thinking to evaluate WATER ISSUES and design solutions addressed in the Cal Water H₂O Challenge and make informed decisions)

AND

Quality Learning (i.e., multiple opportunities to develop and demonstrate skills and knowledge) **about OTHER aspects** of the Cal Water H₂O Challenge (e.g., using technology, writing, art, working as a team, etc.)

AND

Identifies appropriate personal action to sustain **BOTH** learnings.

10 Points

Student reflection indicates:

Quality Learning (i.e., multiple opportunities to develop and demonstrate critical thinking to evaluate WATER ISSUES and design solutions addressed in the Cal Water H₂O Challenge and make informed decisions)

AND

Quality Learning (i.e., multiple opportunities to develop and demonstrate skills and knowledge) **about OTHER aspects** of the Cal Water H₂O Challenge (e.g., using technology, writing, art, working as a team, etc.)

AND

Identifies appropriate personal action to sustain **EITHER** learning.

5 Points

Student reflection indicates:

Quality Learning (i.e., multiple opportunities to develop and demonstrate critical thinking to evaluate WATER ISSUES and design solutions addressed in the Cal Water H₂O Challenge and make informed decisions)

OR

Quality Learning (i.e., multiple opportunities to develop and demonstrate skills and knowledge) **about OTHER aspects** of the Cal Water H₂O Challenge (e.g., using technology, writing, art, working as a team, etc.)

AND

May OR May NOT identify appropriate personal action to sustain **EITHER** learning.

1 Point

Student reflection indicates **LITTLE OR NO** meaningful learning or personal action.

Use specific evidence from the portfolio to support your score.

POINTS





COMPONENT #3: Presentation

(Total possible points: 10)

A. Overall Quality of the Presentation of the Portfolio

(Total possible points: 10)



Guiding Questions:

- Can the reader understand the goals and outcomes of Cal Water H2O Challenge from the presentation?
- How does the presentation demonstrate originality and creative efforts by the students and teacher?
- How were students involved in completing the presentation of the Challenge?

10 Points

Portfolio **IS COMPLETE** and displays all Challenge components, linking goals with Cal Water H2O Challenge activities.

AND

Overall presentation of Cal Water H2O Challenge is original, creative, and artistic, showing **Sustained EFFORT** and **Quality attention** to detail.

AND

There is **Clear EVIDENCE** that students were involved in the preparation of the portfolio.

5 Points

Portfolio **IS COMPLETE** and displays all Cal Water H2O Challenge components, linking goals with Cal Water H2O Challenge activities.

AND

Overall presentation of Cal Water H2O Challenge is **Moderately creative**, showing **SOME EFFORT** and attention to detail.

AND

There is **Clear EVIDENCE** that students were involved in the preparation of the portfolio.

1 Point

Portfolio **IS NOT COMPLETE**.

AND/OR

Overall presentation of Cal Water H2O Challenge shows **LITTLE EFFORT** and attention to detail.

AND/OR

There is **SOME OR LITTLE EVIDENCE** that students were involved in the preparation of the portfolio.

Use specific evidence from the portfolio to support your score.

POINTS





COMPONENT #4: Impact On Teacher Practice

(Total possible points: 5)

A. Teacher Reflection

(Total possible points: 5)



Guiding Questions:

- ◆ How do I know this Cal Water H₂O Challenge was successful and is making a difference?
- ◆ What evidence of student learning do I have? How will that learning be sustained?
- ◆ How did this Cal Water H₂O Challenge change my teaching practices to engage all students in meaningful learning experiences?
- ◆ How did this Cal Water H₂O Challenge improve upon or enhance student learning beyond the regular classroom curriculum?
- ◆ How did having to design a solution to a real-world problem challenge your students to think differently?

5 Points

Teacher Reflection indicates **IN DEPTH REFLECTION** on topics such as: challenges and success; educational benefits such as changes in student learning (including engineering), interactions, and classroom culture; next steps for sustainability; social responsibility for water conservation. How did students understand the engineering process and the role of design to developing a solution to a real-world problem?

1 Point

No teacher reflection included with Cal Water H₂O Challenge.

OR

Teacher Reflection **Overall Lacks DEPTH** of reflection on topics such as: challenges and success; educational benefits such as changes in student learning (including engineering), interactions, and classroom culture; next steps for sustainability; social responsibility for water conservation.

Use specific evidence from the portfolio to support your score.

POINTS

