

Water Teaching Experiment Teacher Feedback Form

Feedback form where MS/HS teachers gave information about their implementation of the water teaching experiment



Written by *Water Working group*

Culturally relevant ecology, learning progressions and environmental literacy Long Term Ecological Research Math Science Partnership

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Teacher Name:

Email Address:

School:

Primary Research Contact(s):

Grade:

Start Date:

End Date:

Form Completion Date:

Thank you for doing our teaching experiment (TE) this year. Your participation is incredibly important to our research because without you and your classes, we wouldn't be able to investigate student learning about water. We understand that a classroom is not a laboratory, and it won't always be appropriate for your class to implement the TE exactly as we've written. That's why this form is so vital; the information you record here will help us to understand and differentiate patterns we see between classrooms.

The following table lists the activities included in the unit. It is important that we know what happened in your classroom during and between lessons. In particular, we need to know when you did each activity, how much time elapsed between doing assessments and doing the TE, and what other content you taught during that time.

School Yard Pathways Activities

Activity	Date performed	Did you have in-class support? If so, who?	What happened in your classroom? <ul style="list-style-type: none"> • List specifically which parts of the activity were performed • List all worksheets completed by students • Did the students work in groups or individually? • Was the activity a teacher-led demonstration? • What type of technology was used (internet, powerpoint, document projector, lab equipment, other electronics)? 	Did you modify the lesson? <ul style="list-style-type: none"> • How did you modify the activity? • Why did you feel these modifications were necessary?
Pre-Assessment				
Engage: Introduction of research question and drawing of water cycle (page 15)				
Introductory Power Point Presentation (page 15)				

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<p>Exploration #1.1: Determining Proportions of Different Surface Types (page 16)</p>				
<p>Exploration #1.2: Testing Fundamental Processes: Runoff (page 27)</p>				
<p>Exploration #2: Testing Fundamental Processes: Evaporation (page 35)</p>				
<p>Exploration #3: Testing Fundamental Processes: Transpiration (page 40)</p>				
<p>Exploration #4: Testing Fundamental Processes: Infiltration (page 46)</p>				
<p>Class Wide Compilation of Infiltration Data</p>				
<p>Explaining: Water flow chart diagram (please indicate Relative or Absolute Amounts) (pages 58 and 59)</p>				

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<p>Elaborate: New Research Questions (page 60)</p>				
<p>Elaborate: Annual Precipitation vs. School Water Use (page 61)</p>				
<p>Evaluate: Drawing a new water cycle (page 62)</p>				
<p>Post-assessment</p>				

Do you think your students achieved understanding of the learning goals? How do you know?

Learning Goal	Was Goal Achieved						How do you Know?
	Not at All	Only a little	Some-what	Moder-ately	A lot	Almost Entirely	
1. Water that falls on the surface of the Earth is driven by gravity and may follow multiple pathways governed by multiple processes.							
2. The processes and pathways that water follows depend on many factors, including: surface material, topography, gravity, built environmental features, temperature, relative humidity, permeability, and vegetation							
3. The volume of water that follows all pathways is equal to the volume of water that falls on a set area.							
4. The water cycle is taking place all around us and we are part of it.							

Substances in Water Activities

Activity	Date performed	Did you have in-class support? If so, who?	What happened in your classroom? <ul style="list-style-type: none"> •List specifically which parts of the activity were performed •List all worksheets completed by students •Did the students work in groups or individually? •Was the activity a teacher-led demonstration? •What type of technology was used (internet, powerpoint, document projector, lab equipment, other electronics)? 	Did you modify the lesson? <ul style="list-style-type: none"> • Did you modify the activity? • Why did you feel these modifications were necessary?
Exploring possible substances in the schoolyard (page 1)				
Completing Schoolyard Substances Chart (pages 3-5)				
Group discussion of schoolyard substances (page 6)				
Substances jars (page 6)				
Evaporation with a solar still (page 8)				

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Activity	Date performed	Did you have in-class support? If so, who?	What happened in your classroom? <ul style="list-style-type: none"> •List specifically which parts of the activity were performed •List all worksheets completed by students •Did the students work in groups or individually? •Was the activity a teacher-led demonstration? •What type of technology was used (internet, powerpoint, document projector, lab equipment, other electronics)? 	Did you modify the lesson? <ul style="list-style-type: none"> • How did you modify the activity? • Why did you feel these modifications were necessary?
Effects of a light beam (page 9)				
Celery Stalk (page 9)				
Soil Column (page 9)				
Surface water chute (page 10)				
Completion of Lab Sheet (pages 11-12)				

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Presentation on Molecular Properties (page 13)				
Substances Discussion Questions (page 16)				

Do you think your students achieved understanding of the learning goals? How do you know?

Learning Goal	Was Goal Achieved						How do you Know?
	Not at all	Only a little	Some-what	Moder-ately	A lot	Almost Entirely	
Trace substances in water through connected systems and recognize when substances will mix and unmix from the water.							
Distinguish between solutions and suspensions at the macroscopic and atomic-molecular scale. This includes recognizing that oil and water form a suspension called an emulsion.							

Formative Assessments

Formative Assessments and Tools for Reasoning	Did you use it?	What did you learn about your students' thinking?	How did you use these results to inform your instruction?
Pathways Tools for Reasoning	Yes No		
Drivers and Constraints Tools for Reasoning	Yes No		
Scale Tool for Reasoning (Substances Activities)	Yes No		
Tracing Mixtures with Water Tool for Reasoning (Substances Activities)	Yes No		
School Map Formative Assessment	Yes No		
Runoff Formative Assessment	Yes No		
Transpiration Formative Assessment	Yes No		
Infiltration Formative Assessment	Yes No		
Construction Site Formative Assessment (Substances Activities)	Yes No		
Fertilizer Formative Assessment (Substances Activities)	Yes No		

The rest of the form should be filled out after you have finished the teaching the unit.

Overall Impression of the TE

Please indicate with an "x" to what extent you agree or disagree with the statements.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Additional comments
1. The sequence of activities seemed adequate to me for meeting the learning goals						
2. I found the teacher guide helpful						
3. The worksheets were useful for my students						
4. The activities were appropriate for my students						
5. The formative assessments helped me understand my students' thinking.						
6. The formative assessments helped me target my instruction for my students' learning.						
7. The TE fit with current state standards for my grade						
8. I would be able to do the TE without extra assistance						
9. I would teach these lessons in the future						

Please explain your responses where you disagree.

Record of Teaching Activities

1. Did you teach any water content besides the TE content between the pre- and post-assessments? Yes No
If Yes, please briefly describe this content.

2. Did you take your students outside as part of your teaching of the TE? Yes No
If Yes, please briefly describe.

3. Did you connect the TE to a local environmental issue? Yes No
If Yes, please briefly describe the issue and how you connected to it.

4. Did you look at the pre-test data before you taught your lessons? Yes No
If Yes, please briefly describe how you used it.

5. How did you obtain supplies and equipment? How easy was it to get the equipment you used?

Please share your overall impressions of the TE. Do you think it advanced your students' performance? Why or why not? Can you suggest any additional improvements or modifications to the TE that would make it more valuable to you and your students?