

# MSP Pathways Project 2012 Teacher Survey

## I. Introduction and Background Questions

Welcome to the MSP Pathways Project 2012 Teacher Survey. This survey should be completed by all teachers in the project once each year at the end of the school year but before the start of professional development workshops for the next school year.

**THANK YOU for completing the survey.** It provides us with essential information to help maximize the value of the MSP Pathways Project to students and teachers.

**\*1. Please write your full name. Only project researchers have access to your names, and we will only use your name to track who has (or hasn't) taken the survey. Your name will be detached from your responses prior to data analysis and will not be used in our reports.**

**\*2. Where do/did you teach?**

- California
- Colorado
- Maryland
- Michigan
- New York
- Other

If other State, please specify:

**\*3. Please indicate which category you fit in:**

- a) Ending Teacher – participated in the 2011-2012 school year but will not be continuing with professional development activities in summer 2012 or the 2012-2013 school year.
- b) Continuing Teacher – participated in the 2011-2012 school year and will be continuing with professional development activities in summer 2012 and the 2012-2013 school year.
- c) New Teacher – joining the MSP Pathways Project in the summer of 2012 and continuing in the 2012-2013 school year.
- d) Returning Teacher - participated in the MSP Pathways Project in 2009-2010 or 2010-2011, but not in 2011-2012, and returning in 2012-2013.

If Other, please specify:

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## II. Knowledge and Skills of Teachers

**The MSP Pathways Project focuses on these large topics within environmental science:**

**Carbon** - carbon cycling in the environment; photosynthesis, respiration, storage; climate change

**Water** - Water cycling in the environment; moving water pathways and processes; substances in water

**Biodiversity** – Species populations and communities in the environment; evolution and adaptations; food and interaction webs

**1. Please explain how think Carbon, Water and Biodiversity relate to each other and to environmental science literacy as a whole?**

**2. To focus your answers to the following questions, bring to mind the class you have taught recently that includes the most environmental science.**

**Write the name of the class:**

Please answer each of the following with the class you identified above in mind.

**3. Which topic do you emphasize the most in your teaching?**

- Carbon
- Water
- Biodiversity

**4. In 50 words or less, write ONE important understanding for this topic that you think students in this particular class should master by the end of your instruction. Be as specific as possible, considering the grade, students, and context of your class.**

**5. If you had to convince students in the class that the understanding you listed above was important for/ applies to his or her everyday life, what would your argument be?**

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The MSP Pathways Project focuses on developing and using Learning Progressions (LPs) in teaching environmental science. Please tell us about your understanding of Learning Progressions.

## 6. NEW TEACHERS ONLY: I think Learning Progressions are

## 7. CONTINUING, ENDING, or RETURNING TEACHERS ONLY:

a. I used to think Learning Progressions were

b. Now I think Learning Progressions are

**8. CONTINUING, ENDING, or RETURNING TEACHERS ONLY: Please describe how you used Learning Progressions in your science teaching over the past year (or the year/s that you participated in the project) AND how your participation in the MSP Pathways Project influenced your use of Learning Progressions, if at all.**

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## III. Curriculum Implementation

This section is for **CONTINUING, ENDING, OR RETURNING TEACHERS ONLY**. **NEW** teachers skip to Section IV.

Please tell us about your implementation of the Teaching Experiments (TE) and other teaching you've done as a result of your participation in the project.

### 1. Please indicate the extent to which you taught the Carbon Teaching Experiment (TE).

I didn't teach it at all    I taught a small part of it    I taught much or all of it

Carbon TE           

If you answered "not at all" or "small part", please explain why you didn't teach more of the TE.

### 2. Please indicate the extent to which you taught the Water Teaching Experiment (TE).

I didn't teach it at all    I taught a small part of it    I taught much or all of it

Water TE           

If you answered "not at all" or "small part", please explain why you didn't teach more of the TE.

### 3. Please indicate the extent to which you taught the Biodiversity Teaching Experiment (TE).

I didn't teach it at all    I taught a small part of it    I taught much or all of it

Biodiversity TE           

If you answered "not at all" or "small part", please explain why you didn't teach more of the TE.

We are very interested in knowing if your participation in the MSP Pathways Project Professional Development influenced your teaching beyond implementation of the Teaching Experiments.

### 4. Please describe new topics, concepts or content, if any, that you taught based on what you learned in the MSP Pathways Project.

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**5. Please describe any new teaching techniques that you used based on the MSP Pathways Project Professional Development. Think about whether you used Learning Progressions in teaching besides in the Teaching Experiments.**

**6. Please describe any new assessment techniques that you used, if at all, based on the MSP Pathways Professional Development.**

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## IV. Teaching Practices

**This section is for ALL TEACHERS. We would like to find out how you teach environmental science (including ecology, evolution, biology of whole organisms, earth science topics, etc.). Please think about the class you teach that includes the most environmental science when answering the questions in this section.**

**1. What is the title of the class in which you teach the most environmental science?**

**2. For each of the following teaching practices in the class you named and taught most recently, please indicate your level of use of the practice using the scale**

**1 = never**

**2 = very rarely or only a little**

**3 = somewhat or occasionally – two or three times a month**

**4 = frequently – almost every week, a very important practice**

**5 = essential practice, used very frequently - almost every day or two**

	1 - never	2 - rare	3 - some	4 - frequent	5 - essential
a) When preparing to teach a topic or unit, I try to identify a few big ideas based on my own understanding of the subject.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) When teaching a topic or unit, I focus on basic principles, theories and/or ways of thinking rather than on vocabulary or facts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I plan my instruction based on what I expect my students already know and where they are in a path towards more sophisticated understanding of the topic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I use pre-assessments of my students at the beginning and/or during my units to guide my selection of instructional strategies and sequences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I provide my students with chances to think aloud about key ideas in a unit and then respond right away or through subsequent instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) I use homework and/or quizzes to gauge student understanding and then adjust my teaching accordingly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) I provide my students with opportunities to ask their own questions and then investigate them through first hand inquiry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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h) I provide my students with opportunities to learn from authentic phenomena outside - in the schoolyard, neighborhood or in the field.

i) I provide my students with opportunities to learn from authentic phenomena in the lab (inside).

j) I link environmental science to real problems.

k) I link environmental science to students' culture and place.

l) I engage students in articulating and defending claims using evidence-based reasoning.

m) I engage students in using scientific explanations and evidence to make predictions about impacts of human actions on environmental systems.

n) I engage students in evaluating credibility of non-scientific arguments (e.g., articles about environmental issues in the media and online).

o) I engage students in evaluating credibility of scientific arguments using criteria of the scientific community (e.g., replication, peer review, experimental design, etc.).

p) I engage students in distinguishing between questions that can be addressed by science, and those that cannot.

q) engage students in supporting their scientific arguments using quantitative reasoning.

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**3. CONTINUING, ENDING, or RETURNING TEACHERS ONLY: To what extent has the MSP Pathways Project INFLUENCED your use of the teaching practices described in each statement in the class you named and most recently taught? Please use this scale:**

- 1 - not at all**
- 2 - somewhat**
- 3 - moderately**
- 4 - a great deal**

	1 - not at all	2 - somewhat	3 - moderately	4 - a great deal
a) When preparing to teach a topic or unit, I try to identify a few big ideas based on my own understanding of the subject.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) When teaching a topic or unit, I focus on basic principles, theories and/or ways of thinking rather than on vocabulary or facts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I plan my instruction based on what I expect my students already know and where they are in a path towards more sophisticated understanding of the topic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I use pre-assessments of my students at the beginning and/or during my units to guide my selection of instructional strategies and sequences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I provide my students with chances to think aloud about key ideas in a unit and then respond right away or through subsequent instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) I use homework and/or quizzes to gauge student understanding and then adjust my teaching accordingly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) I provide my students with opportunities to ask their own questions and then investigate them through first hand inquiry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) I provide my students with opportunities to learn from authentic phenomena outside - in the schoolyard, neighborhood or in the field.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) I provide my students with opportunities to learn from authentic phenomena in the lab (inside).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) I link environmental science to real problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) I link environmental science to students' culture and place.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l) I engage students in articulating and defending claims using evidence-based reasoning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m) I engage students in making data-based predictions or decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



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informed by quantitative reasoning about impacts of human actions on environmental systems.

n) I engage students in evaluating credibility of non-scientific arguments (e.g., articles about environmental issues in the media and online).

o) I engage students in evaluating credibility of scientific arguments using criteria of the scientific community (e.g., replication, peer review, experimental design, etc.).

p) I engage students in distinguishing between questions that can be addressed by science, and those that cannot.

q) I engage students in supporting their scientific arguments using quantitative reasoning.

**4. CONTINUING, ENDING, or RETURNING TEACHERS ONLY: Please describe how specific aspects of the MSP Pathways Project Professional Development have positively influenced, if at all, your use of these practices.**

**5. CONTINUING, ENDING, or RETURNING TEACHERS ONLY: If you had to convince your principal to support your continued involvement in the MSP Pathways Project using evidence of student learning or your growth as a teacher, what would you include in your argument? Please be specific.**

## V. Constraints and Supports For Environmental Science Teaching

**This section is for ALL TEACHERS. Here we ask about factors that limit and support your use of the following instructional practices in your teaching of environmental science. In particular, we are interested in your experiences as you have worked to implement these instructional practices:**

- a) pre-assessing students' prior learning about key ideas in the subject
- b) focusing instruction on a few key ideas, principles or thinking skills
- c) teaching about environmental science through hands-on and outdoor experiences
- d) linking environmental science to real problems in the local, nearby environment.

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**1. For these instructional practices, please rate each of the factors below using the scale:**

**1 = Limits or Constrains**

**2 = No Impact**

**3 = Promotes or Supports**

**N/A = Not Applicable**

	1 - Constrains	2 - No impact	3 - Supports	N/A
a) the availability of organisms and habitats to study at or near my school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) the availability of funds to take students on field trips or to buy supplies and equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) support from school administrators, principals, department chairs, and other teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) the curriculum and/or state standards I am required to teach by my district	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) my environmental science knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) my personal commitment to the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) my understanding of student thinking or learning in environmental science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) my ability to teach with hands-on and outdoor approaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) adequate time for preparation and planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) adequate time for using the practices listed (pre-assessing students, focusing on key ideas, hands-on and outdoor teaching, linking to real problems)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) my ability to differentiate instruction in response to my assessment of students' thinking or learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l) my motivation to teach the subject using the four practices (pre-assessing students, focusing on key ideas, hands-on and outdoor teaching, linking to real problems)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m) my confidence that students will learn and succeed if taught using the four practices (pre-assessing students, focusing on key ideas, hands-on and outdoor teaching, linking to real problems)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n) the training I have received from professional development experiences within the MSP Pathways Project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o) the training I received in college and the practical wisdom and skills from my teaching experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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**2. CONTINUING, ENDING, or RETURNING TEACHERS ONLY: Please describe briefly how your experience in the MSP Pathways Project Professional Development program influenced the factors that limit or support your environmental science teaching.**

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## THANK YOU!

**THANK YOU for completing the survey.** We really appreciate your help. If you have any questions, please do not hesitate to contact your site's MSP Pathways Project Professional Development leaders or providers.

KBS (Michigan): Sara Syswerda, parrsar1@msu.edu, 616-322-3632

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