

PROJECT PLANNING FORM

Project title:	<u>Quality of Water</u>
Teacher(s):	<u>Ms Huggins</u>
School:	<u>Baltimore Lab School</u>
Grade level(s):	<u>12th</u>
Subjects:	<u>Environmental Science</u>

Patrick M.
Emily L.

**STANDARDS-FOCUSED
PROJECT BASED LEARNING
Buck Institute for Education**

Find ways to help community with our water problem.

Craft the Driving Question

State the essential question or problem statement for the project. The statement should encompass all project content and outcomes, and provide a central focus for student inquiry.

To see the stream.

What is the water quality in the Jones Falls stream?

• Evaluate the health of the stream.

• Visit Jones Falls Stream

• Look at it

• Change it.

How much water do we use?

Where does it go?

★ Map of watershed

- Have you posed an authentic problem or significant question that engages students and requires core subject knowledge to solve or answer?

Begin with the End in Mind

Summarize the theme for this project. Why do this project?

Evaluate the health of the Jones Falls
• Look at it
• Water Quality Tests

Identify the content standard that students will learn in this project (two to three per subject).

Identify key skills students will learn in this project.
List only those skills you plan to assess (two to four per person).

Sign up for Maryland Stream Waders?
* Safety guide lines
Subwatershed # Map
Site #

Identify the habits of mind that students will practice in this project (one to two per project).

- Does the project meet the criteria for standards-focused PBL?

Plan the Assessment

Step 1: Define the products for the project. What will you assess?

Early in the Project:

Find the stream and watershed
BLS is in
Jones Falls

During the Project:

Look at it:

- Stream buffers
 - amount of impervious surface
 - living organisms
 - flooding
 - bank erosion
 - sediment
 - garbage
- Tests
- water quality (pollutants)
gasoline
fertilizers, oil etc.
 - water temp affects living organisms

End of the Project:

◦ turbidity - how much sun?
collecting aquatic invertebrate samples
send to DNR for "bug identification"

Clean the stream).

get garbage out

report to DNR too > sediment
pollutants

plant trees or buffers

Map the Project

What do students need to know and be able to do to complete the tasks successfully? How and when will they learn the necessary knowledge and skills? Look at one major product for the project and analyze the tasks necessary to produce a high-quality product.

Product: *Clean the Jones Falls*

KNOWLEDGE AND SKILLS NEEDED	ALREADY HAVE LEARNED	TAUGHT BEFORE THE PROJECT	TAUGHT DURING THE PROJECT
1. <i>MIS mapping skills</i>			✓
2. <i>map vocabulary</i>	✓	✓	✓
3. <i>Directions to Jones Falls?</i>			
4. <i>Where will we go?</i>			
5. <i>What will we do?</i>			
6.			
7.			
8.			
9.			
10.			
11.			

- What project tools will you use?
- Know/need to know lists
 - Daily goal sheet
 - Journals
 - Briefs
 - Task lists
 - Problem logs
- _____

- *Do the products and tasks give all students the opportunity to demonstrate what they have learned?*

Map the Project (2)

List the key dates and important milestones for this project.

Date :

April 17
24

Time :

Place :

Use the Tuning Protocol with other teachers or a group of students to refine the project design or guide you further in your planning. What other thoughts do you now have on the project?

- *What challenges or problems might arise in this project?*

Manage the Process

List preparations necessary to address needs for differentiated instruction for ESL students, special-needs students, or students with diverse learning styles.

How will you and your students reflect on and evaluate the project?

- Class discussion
- Fishbowl
- Student-facilitated formal debrief
- Teacher-led formal debrief
- Student-facilitated formal debrief
- Individual evaluations
- Group evaluations
- Other: _____
- _____

- *What do you expect to learn from this project?*

PROJECT CALENDAR

Project:

Clear the Jones Falls

Start Date:

2/21/2013

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

PROJECT WEEK ONE

		<i>Pick stream Jones Falls</i>	<i>To do list: 1. Map of watershed Subwatershed # Set # Where?</i>	<i>2. Check out # Maryland Stream Madena info</i>

PROJECT WEEK TWO

PROJECT WEEK THREE

*3. What will
we do?*

Zimbra**child@labschool.org**

From : Patricia Child <patricia.child@labschool.org>

Subject : <No Subject>

Thu, Feb 21, 2013 10:41 AM

To : Patricia Child <child@labschool.org>

Safety is important to everyone. To have a successful and safe sampling expedition, caution should be used while sampling your stream site.

Safety Guidelines

Always take a buddy.

Be cautious of fast or deep waters. Do not sample if the water is dangerously fast.

Wear shoes or waders that are in good condition and have traction. Never wear sandals or open-faced shoes. Do not use felt-soled waders. They are banned in Maryland.

ALWAYS OBTAIN PERMISSION TO CROSS PRIVATE PROPERTY TO GET TO A SAMPLING SITE. Be sure that the landowners know exactly when and where you will sample.

Contact your nearest health department or Maryland Department of the Environment

[(410) 537-3000] for specific warnings regarding local streams. Some stretches of streams may be subject to high levels of pollutants. Leave wildlife alone. Do not disturb the vegetation on the streambanks or feed wild animals.

Bring a change of clothes in case you get wet. Stream water is usually quite cold in March and April.

Watch traffic while parking near your sample site and getting in and out of your car. Display your DNR Stream Waders logo prominently on your windshield.

Avoid getting ethanol (the preservative for your samples) on your skin. If you do, wash immediately with plenty of water. Make sure all alcohol containers (carboy and benthic sample buckets) are tightly sealed and stored securely in your car during transport.

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Patti Child

Outdoor Education Coordinator

Master Watershed Steward of the Chesapeake Bay

Swim Coach

<http://www.baltimorelabschool.org>

"Learning disabled youngsters can learn how to learn. They can succeed!"
Sally L. Smith

Zimbra**child@labschool.org****From :** Patricia Child <patricia.child@labschool.org>**Subject :** <No Subject>

Thu, Feb 21, 2013 10:43 AM

To : Patricia Child <child@labschool.org>

Each team of Stream Waders volunteers will be provided with the following equipment and supplies at the training sessions:

- D net (1)
 - Sieve bucket (1)
 - Benthic sample buckets with lids (*)
 - Paper labels for benthic sample buckets (*)
 - Carboy with about 5 gallons of alcohol (1*)
 - Waterproof Site Survey Form (*)
 - Land owner permission letter (*)
 - Letter for landowners interested in more information (*)
 - Laminated map of sampling subwatershed (*)
 - Photocopy of street maps of sampling subwatershed area (*)
 - Round color stickers for labeling sites on laminated maps (*)
 - Pencil for labeling benthic samples (1)
 - Clipboard (1)
 - Site Survey Form (*)
 - Chain of Custody Form(*)
 - Stream Waders hat (1 per person)
 - Windshield sign (1)
 - Rubber Gloves (1)
 - Bleach spray bottle (1)
 - Bottle of bleach to mix to 10% in spray bottle (1)
- (*) Indicates number of item will vary according to the number of sites sampled.

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Zimbra

child@labschool.org

From : Patricia Child <patricia.child@labschool.org>
Subject : <No Subject>

Thu, Feb 21, 2013 10:45 AM

To : Patricia Child <child@labschool.org>

Contact DNR Stream Waders
Use the following information to contact DNR Stream Waders staff or to get periodic updates on the Stream Waders program.
Stream Waders telephone hotline:
410-260-8623 (Annapolis local number)
1-877-620-8DNR [extension 8623] (toll free in Maryland)
email: streamwaders@dnr.state.md.us
World Wide Web:

For general information on the Stream Waders Program, go to: http://www.dnr.state.md.us/streams/mbss/mbss_volun.html
To check out the Stream Waders searchable database, go to: <http://mddnr.chesapeakebay.net/mbss/streamwaders.cfm>
Like us on Facebook!

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