A Vernal Pool’s Story

(every student a scientist…)

- A Harvard Forest Schoolyard LTER Program
- Teacher: Diane Kablik, CPS Elementary Science Curriculum Specialist
- School: Thoreau School
- Grade: 5th grade, Karen Hoyt’s class
- April 11, 2012
Where does the study of Vernal Pools Fit into the Curriculum?

- 4th grade students are introduced to their local watershed (SuAsCo) in the Ecosystems Unit
- 4th graders work with a local biologist in a year long wildlife rehab and conservation project; Head-starting Blanding's Turtles
- 5th grade students focus on the physical and biological characteristics of the SuAsCo Watershed
- By participating in Harvard Forest LTER students can observe changes in local vernal pools and continue to participate in ongoing citizen science project
What is a Vernal Pool?

- Introduction to vernal pools
Mapping Team
Weather Team
Wildlife Team
Matt Burne
Terrestrial Organisms
Red Tail Hawk Stalking Display
Squirrel Scat
Aquatic Organisms
Water sample
Tiny dancers
Ken-a-vision
Student recordings
Student recordings
Guest expert – Matt Burne
Wood frog Eggs
## Harvard LTER Schoolyard - Vernal Pools

<table>
<thead>
<tr>
<th>Date</th>
<th>Julian Date</th>
<th>Max diameter</th>
<th>Diameter 1577cm-current measurement</th>
<th>Depth</th>
<th>Air Temp. C/F</th>
<th>Water Temp. C/F</th>
<th>Terrestrial Organisms</th>
<th>Aquatic Organisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/15/11</td>
<td>258</td>
<td>1577cm</td>
<td>1577cm</td>
<td>dry</td>
<td>20C/68F</td>
<td>no water</td>
<td>Squirrel scat</td>
<td>Copepods, ostracods, daphnia</td>
</tr>
<tr>
<td>11/18/11</td>
<td>322</td>
<td>640cm</td>
<td>937cm</td>
<td>2.5cm</td>
<td>7C/44.6F</td>
<td>7.2C/44.96F</td>
<td>Pillbugs</td>
<td>Spider worm</td>
</tr>
<tr>
<td>2/17/12</td>
<td>48</td>
<td>860cm</td>
<td>717cm</td>
<td>3cm</td>
<td>14C/57.2F</td>
<td>1.5C/34.7F</td>
<td>Squirrel scat</td>
<td>Wood frog eggs</td>
</tr>
<tr>
<td>3/30/12</td>
<td>89</td>
<td>450cm</td>
<td>1127cm</td>
<td>1.2cm</td>
<td>16C/60.8F</td>
<td>7.24C/45F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/30/12</td>
<td></td>
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</tr>
</tbody>
</table>
Data to Date
SAM
Stop Motion Animation

- Desktop software developed at Tufts University. Software is designed to be intuitive, students spend time creating rather than learning the software
  - Motivate and Engage

- Utilizes technology to promote creativity in the classroom = understanding

- Digital flip book

- Teacher testimonial, “When the students use stop motion animation they engage in higher level thinking. Students are motivated to teach others and while they are deconstructing and constructing their content knowledge they are able to clearly demonstrate what they've learned. It's a great culminating experience!”
Lesson Plan

• Research different topics about vernal pools

• Use SAM animation to create a PSA (no more than 2 minutes) about the importance of Vernal Pools
  • Topics include:
    • What is a vernal pool?
    • Life in a vernal pool
    • Importance of vernal pools
    • Human Impact on vernal pools
Utilizes technology to promote creativity in the classroom = understanding Brain frames
SAM Animations

Salamanders
Common Snakes

Vernal Pool Snakes
by:
Benk & Zoe
Vernal Pool Description
Frog Life Cycle
Obligate Species
• Congratulations to the 5th grade students at Thoreau School!

• Karen Hoyt’s 5th grade class at the Thoreau School in Concord, MA have been selected as this month's SAM Superstars!

• Ms. Hoyt’s students participated in the Harvard Forest Schoolyard Ecology citizen science/service learning project. The class collected data on water in the landscape to help researchers answer specific questions about vernal pools such as what seasonal changes take place in the vernal pools and what these changes tell us. As an extension activity, small groups of students used SAM Animation to create public service announcements about vernal pools.

• Laura Johnson

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Questions?