River as Classroom / iSENSE Teacher Workshop

August 18, 2011

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| **Time** | **Group 1** | **Group 2** |
| 8 a.m. – 8:30 | *Staff arrive / Set up.* | |
| 8:30 – 9:30 | **Teachers Arrive**  **Coffee, Orientation, and Overview**  Introduce Workshop Guiding Questions:  *1. What is a scientist?*  *2. How can data collection help us learn about the present status of the Merrimack River?*  Make sure that the teachers know that we want their feedback throughout the day. | |
| 9:30 - 11 | **Boat**  Guiding Question:  ***How has industrialization in Lowell affected the Merrimack River?***  Activity:  Teachers visit different parts of the river ecosystem; ranger discusses the history of the Merrimack river.  ***What are data?***  Activities:  Teachers are introduced to various data collecting devices and told about how each gives different information about the status of the river. They collect data about the river.  **Feedback about this section of the workshop.** | **Learning Space**  Guiding Question:  ***What are data?***  Activity  • Teachers given a sample of river water and tap water (or they bring it from their school) and are introduced to various data collection devices and told about how each gives us different information about the water.  ***How can data be represented?***  Activities  Teachers are shown how to upload data to iSENSE and are asked to create various representations of the data to share with one another. Discussion about what the data tell us and what questions examining these data bring up.  **Feedback about this section of the workshop.** |
| 11 – 12:30 | **Learning Space**  **Guiding Question:**  ***How can data be represented?***  Activity: Teachers upload river data to iSENSE and are asked to create various representations of the data to share with one another. Discussion about what the data tell us and what questions examining these data bring up.  Activity  • Teachers given a sample of river water and tap water (or they bring it from their school) and are introduced to various data collection devices and told about how each gives us different information about the water.  **Feedback about this section of the workshop.** | **Boat**  Guiding Question:  ***How has industrialization in Lowell affected the Merrimack River?***  Activity:  Teachers visit different parts of the river ecosystem; ranger discusses the history of the Merrimack river.  ***What are data?***  Activities:  Teachers are introduced to various data collecting devices and told about how each gives different information about the status of the river. They collect data about the river.  **Feedback about this section of the workshop.** |
| 12:30 – 1:15 | LUNCH | |
| 1:15 – 1:45 | Guiding Question:  ***How has industrialization in Lowell affected the Merrimack River?***  Outdoor picture activity  **Feedback about this section of the workshop.** | ***Analysis of Data on Boat***  ***What is a scientist?***  Discussion about how they continue their investigation back in their classroom….how they can be scientists.  Suggestions (help teachers generate this list).   1. Log into iSENSE and review the data contributed today. 2. Test more types of tap water (home, school) and add to data pool. 3. Ask more questions about the data and post those on iSENSE. 4. Share what they learned on the iSENSE blog.   **Feedback about this section of the workshop.** |
| 1:45 – 2:15 | ***What is a scientist?***  Discussion about how they continue their investigation back in their classroom….how they can be scientists.  Suggestions (help teachers generate this list).  **Feedback about this section of the workshop.** | Guiding Question:  ***How has industrialization in Lowell affected the Merrimack River?***  Outdoor picture activity  **Feedback about this section of the workshop.** |
| 2:15 – 2:45 | ***Bucket / Watercycle activity & Feedback*** | |
| 2:45 – 3:15 | ***Discussion about fall field trips and Wrap Up*** | |