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4th grade

South Bay School

Aug. 16, 2014

**The Decline of the Coho Salmon Population**

**in the Lagunitas (Or Klamath) Watershed**

6 Week Unit Outline

(The lessons typically take place 3 times a week

for 45 minutes for a total of 18 days)

standards:

ESS2.A Earth Materials and Systems: Rainfall helps to shape the land and affects the types of living things found in a region.

LS1.A Structure and Function: Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior and reproduction.

Objectives:

· Understand how the components of a watershed need to be healthy to survive

· Express the interconnectedness of various parts of an ecosystem

· Understand the human impact (both positive and negative) on an ecosystem, including the value of stewardship.

Phase 1: Introducing and reviewing prerequisites (to support integrating multiple ideas)

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|  | activity | resources |
| ongoing | * setup salmon in classroom and spend time every day observing them and finally releasing them * read books about salmon over the course of the unit | * http://www.troutintheclassroom.org/ |
| 9/19/14  Day 1  (all day) | Coastal Cleanup Day:   * Class field trip to local “adopted” beach to collect trash * Sort and analyze trash * Graph data * create Salmon Journal | California Coastal Commission |
| Day 2 | Observation Chart:   * Pictures quotes of local historical salmon populations on paper hung around the room * Students have written conversations about their observations or thoughts on pictures quotes * write in salmon journal | Local website on salmon  Written conversation   * <https://www.facinghistory.org/for-educators/educator-resources/teaching-strategies/big-paper-building-silent-con> * students show learning by drawing what they * use primary sources as well (journals, newspapers, etc) |
| Day 3 | -Media video montage of current situation with written conversations   * written conversation on why think these changes have happened. * write in salmon journal | * various sources |
| Day 4 | guest speaker from Clarke Historical Museum showing   * importance of salmon on local tribes and history of Humboldt County * draw a picture of what learned in nature journal | * <http://www.clarkemuseum.org/> |
| Day 5 | Input Chart of Salmon Life Cycle (structure and Function)   * write in Salmon Journal | * <http://www.pbs.org/wnet/nature/lessons/the-lifecycle-of-salmon/enhanced-video-resource/7395/> |
| Day 6 | Input Chart of Water Cycle   * review basic understanding of water cycle | * Magic School Bus video |
| Day 7 | Hooks and Ladders   * reflect on what learned * draw again what the coho needs in its ecosystem * write in salmon journal | http://www.troutintheclassroom.org/teachers/library/hooks-and-ladders |

Phase 2: Everything is Connected

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| day | Activity | Resources |
| Day 8 | Oh Salmon! game   * discuss basic needs of survival * write about how their own needs are being met * Reflect in Salmon journal if needs of Salmon are being met |  |
| Day 9 | Set up Stream Table   * discuss a watershed * illustrate how a watershed behaves * write in salmon journal | http://urbanext.illinois.edu/rivers/buildst.cfm |
| Day 10 | stream Table (continued)   * create “society” additions, such as farmers, industry, farmers, etc * illustrate the effects on water on stream table * write in salmon journal |  |
| day 11 | Impact of “Human Created Events” on Ecosystems   * students write on their predictions that human events had on the ecosystem. (example: Hiroshima, BP Oil Spill, etc) * Compare predictions to actual effects (written on back on cards) * reflect in salmon journal | * various cards of human created events with environmental consequences on back |
| Day 12 | show Suzuki video on wolves   * small group and then class discussion on what they think on thoughts * draw new salmon ecosystem to add to what they learned | * <http://dailyoftheday.com/wolves-change-rivers/> |
| Day 13 | steam table activity:   * put gummy fish in stream table to replicate the salmon run * discuss observations |  |
| day 14 | Dams   * discuss history * pros and cons * make predictions about what happens when dams in stream table * put some dams in stream table * Write in Salmon Journal | * show various videos on dams |

phase 3: stewardship

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| day | activity | resource |
| Day 15 | Make a Chart of cause of effects |  |
| Day 16 | revisit the data from garbage collected at Beach Clean up Day   * analyze the garbage and the sources of them * Connect it to stream table * write in salmon journal |  |
| Day 17 | * (re)draw the ecosystem of the salmon * Brainstorm ideas on what the class can do to have a positive effect on the ecosystem |  |
| Day 18 | * Write a letter to the our representative (or another class at the school) explaining why a clean healthy watershed is important. It can include one or more of the following:   + water cycle   + salmon life cycle   + impact of humans * Continue discussion on a Project that the class will work on together. |  |
| Day 19 to the rest of our lives | Continue being Stewards of the Earth |  |