Teacher/Grade: Hart/Kinder.	Topic: Stream	Month/Time span: October – November/6 wks.

EIC Curriculum Map

Pennsylvania Academic Standards: **NOTE – KINDERGARTEN STANDARDS ARE ITALICIZED**

Environment & Ecology 4.1 Watersheds and Wetlands ▪ Identify the lotic system ▪ Explain why water moves or does not move ▪ Identify things found in water environments 4.6 Ecosystems and Their Interactions ▪ Categorize living and non living things 4.7 Threatened, Endangered and Extinct Species ▪ Four elements in a habitat is essential ▪ Why plants and animals are different colors, etc. and how it relates to survival	*Reading, Writing, Speaking & Listening* *1.1: LEARNING TO READ INDEPENDENTLY* *M. Listen to new vocabulary in multiple contexts in order to understand new words and concepts* *N. Discuss unknown words and word meanings* *O. Use an increasingly complex and varied spoken vocabulary* *P. Demonstrate an increasing understanding of new vocabulary introduced in conversations, activities, stories or books* *1.4: TYPES OF WRITING* *D. Draw or write informational sentences (letters, descriptions, definitions, collections of facts simple instructions) using illustrations when relevant* *1.5: QUALITY OF WRITING* *B. Create a focus for the 'piece' of writing* *C . Retell about specific experiences, people, objects, events, or stories with a focused topic* *D. Use appropriate content for the topic* *E. Organize words into a complete thought* *F. Use a variety of pictures or words to express a thought* *G. Revise writing or illustrations to sequence events and add detail* *H. Publish or present writing*
Science & Technology • N/A	*Math* *2.4: MATHEMATICAL REASONING AND CONNECTIONS* *A. Use math vocabulary comparison terms when making predictions regarding the quantity, size, and shape of objects* *B. Identify the use of measurement in everyday situations*

Civics & Government • N/A	Geography • N/A	Arts and Humanities • N/A
History • N/A	Career Education and Work • N/A	Economics • N/A
Health Safety and Physical Education • N/A	Family and Consumer Science • N/A	World Languages • N/A

Goals and Objectives:

Students will be able to:
- Identify difference between lotic and lentic systems
- Describe a dam, and its purposes
- Differentiate between man-made, nature-made and animal-made dams
- Experience the use of a dichotomous key to identify macro invertebrates
- Look for macro invertebrates under rocks in flowing water
- Identify the needs of all living things and where they can be found in a stream.

Overview of Integrated Activities:

- Hikes to stream

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- Introduce vocabulary words (lotic, living and nonliving, dam, food, water, shelter, space, macro invertebrate)
- Identify living and nonliving things
- Observe how a stream provides for living things
- Observe variances in streams (different stream bottoms, flows, and depths)
- Find macro invertebrates by turning over rocks and using paint brushes to transfer them into buckets and tubs
- Create a leaf pack and leave it in the stream for 2 – 3 weeks to attract macro invertebrates
- Observe natural dams, as well as create and disassemble a dam

- Identify macro invertebrates using a dichotomous key both in pictures and at the stream
- Identify and apply rules for living versus nonliving things (does it grow, make more of itself, react to changes in the environment)
- Play games to categorize living and non living things
- Create a "class written" book that summarizes our stream study. Individually illustrate the book.
- Invite parents to come for an end of unit share
- Read alouds:
  - Water, Susan Canizares – Identifying different properties of water, describing words
  - The River, Nik Pollard – How a stream becomes a river, uses of a river
  - If You Find A Rock, Peggy Christian – Similarities and differences in surfaces
  - What's Alive, Lisa Trumbauer – Living and non living things
- Art Activities –

Assessment

- Living/nonliving worksheet
- Examples of how stream provides food, water, shelter and space (drawn by students)
- Classification game (anecdotal records)
- Dams worksheet
- Journal Entry
- Stream Study Summary book
- Anecdotal records
- Observations of students on hikes and at stream

Resources

Macroinvertebrate dichotomous key and flash cards
Leaf pack bags

Books:
Animal Babies in Ponds and Rivers, Jennifer Schofield
Animal Tracks, Arthur Dorros
Big Al, Andrew Clements
Fish is Fish, Leo Leonni
I Am Water, Jean Marzollo
If You Find A Rock, Peggy Christian
River
What's Alive, Lisa Trumbauer
Water, Susan Canizares
The River, Nik Pollard