Unit Plan

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# BACKGROUND:

**Lesson Background:**

This integrated and thematic unit of study is rooted in place and community, specifically rooted in the Koʻolaupoko region on the island of Oʻahu. This unit is adaptable for other places with Hawaiian fishponds (loko iʻa). In strengthening our sense of place, this unit focuses on Na Hopena Aʻo values, senses, and ways of being. This unit builds and connects to previously taught units of study, as well as future units of study that focus on strengthening a sense of place in Koʻolaupoko. Other units also work in partnership with community partners and places in Koʻolaupoko, such as Hoʻokuaʻāina kalo farm, ʻŪlupo Heiau, cultural practitioners in Waimanalo, Kaiona Beach, Kaupō Beach, and Kaʻohao. Mālama Koʻolaupoko, Mālama Honua!

This unit contains 13 lessons. Four of the lessons are learning journeys or “field trips” to fishpond sites. You will have to arrange for your learning journeys ahead of time and you may have to revise the order of the lessons to accommodate your learning journey schedule. For an overview of Hawaiian fishponds, or “loko iʻa,” check out the Maui Fishpond website at <http://mauifishpond.com/koieie/fishpond-basics/>.

## **Unit Overview:**

The overall purpose of this unit is to strengthen a sense of place in Koʻolaupoko, to raise awareness and gain knowledge about Native Hawaiian fishponds, and to convince others to care about the restoration of Hawaiian fishponds. This is an integrated unit of study that hits on NGSS standards about Earthʻs natural resources, C3 standards about early Hawaiians using natural resources to meet their needs and modify their environment for the ahupuaʻa to thrive, and ELA Common Core standards about integrating information from multiple sources and writing a persuasive piece. Nā Hopena Aʻo values are intentionally embedded throughout the unit, as well as General Learner Outcomes and strengthening a sense of place and community.

# STAGE 1:

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It is important for students to have a basic level of respect and awareness of Hawaiian culture and protocols. Students should also know how to gather up in an Aloha circle and be prepared to share within the circle and agree to co-constructed Aloha circle norms. Students should also know how to ethically and effectively use the internet for research purposes. Finally, students should also have an interest in Native Hawaiian culture, fishing, ahupuaʻa system, and places in Koʻolaupoko.

## **Unit Plan Title:**

Strengthening Our Sense of Place: Loko Iʻa in Koʻolaupoko

## **Essential Question:**

## How might restoring fishponds make Hawaii better and how do we convince people to do so?

## **Enduring Understanding(s):**

* The ahupuaʻa system was essential to the sustainability of Hawaiʻi. Loko iʻa were an essential part of an ahupuaʻa system because they sustainably fed an entire population.
* Fishponds were necessary because Hawaiians could not always rely on fishing alone because ocean conditions, weather, and other factors could hinder the catch.
* The building and management of loko iʻa required a values-based system and a lot of community contributors working together for the life of the community.
* Today people are restoring fishponds to increase Hawaiiʻs awareness of how we need to live more sustainably to prolong the life of our islands.

## **Standard Benchmarks and Values:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Science | Technology | Engineering | Mathematics | Social Science |
| Standards Addressed   * **NGSS 5-ESS3-1.** Obtain and combine information about ways individual communities use science ideas to protect the Earth’s natural resources * **NGSS Practices:** Ask questions & define problems, plan and carry out investigation, construct explanations and designing solutions * **NGSS Cross-cutting Concept:** Influence of STEM on society and the Natural World   + People’s needs and wants change over time, as do their demands for new and improved technologies.   + Engineers improve existing technologies or develop new ones to increase their benefits, decrease known risks, and meet societal demands. * **Inquiry Standard SS.3-5.1.1** Construct compelling questions and explain the importance of the questions to self and others * **Content Standard SS.4.2.14.3** Describe how the original settlers modified their environment (Modifications: building of fishponds, introduction of new plants and animals, redirection of water flow for agriculture) * **Content Standard SS.4.3.10.1** Analyze how early Hawaiians used natural resources to meet their needs * **Content Standard SS.4.4.7.2** Explain how core values of the early Hawaiians are applicable to modern-day Hawaiʻi * **Content Standard SS.4.7.14.1** Use maps and illustrations to explain how Hawaiians used and modified land in the ahupua‘a (• Modifications of the Land: clearing of land for farming, terracing, creating fishponds (loko i‘a), diverting water through canals (ʻauwai) for irrigation of terraced kalo plantings (loʻi) * [**CCSS.ELA-LITERACY.**](http://www.corestandards.org/ELA-Literacy/W/5/1/)**RI.5.7** Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently * [**CCSS.ELA-LITERACY.**](http://www.corestandards.org/ELA-Literacy/W/5/1/)**RI.5.9** Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably * [**CCSS.ELA-LITERACY.**](http://www.corestandards.org/ELA-Literacy/W/5/1/)**W.5.9** Draw evidence from literary or informational texts to support analysis, reflection, and research * [**CCSS.ELA-LITERACY.W.5.1**](http://www.corestandards.org/ELA-Literacy/W/5/1/)Write opinion pieces on topics or texts, supporting a point of view with reasons and information * [**CCSS.ELA-LITERACY.SL.5.1**](http://www.corestandards.org/ELA-Literacy/SL/5/1/)Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. * [**CCSS.ELA-LITERACY.SL.5.4**](http://www.corestandards.org/ELA-Literacy/SL/5/4/)Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.   Standards Assessed   * **Content Standard SS.4.2.14.3** Describe how the original settlers modified their environment (Modifications: building of fishponds, introduction of new plants and animals, redirection of water flow for agriculture) * **Content Standard SS.4.3.10.1** Analyze how early Hawaiians used natural resources to meet their needs * **Content Standard SS.4.4.7.2** Explain how core values of the early Hawaiians are applicable to modern-day Hawaiʻi * **Content Standard SS.4.7.14.1** Use maps and illustrations to explain how Hawaiians used and modified land in the ahupua‘a (• Modifications of the Land: clearing of land for farming, terracing, creating fishponds (loko i‘a), diverting water through canals (ʻauwai) for irrigation of terraced kalo plantings (loʻi) * **NGSS Cross-cutting Concept:** Influence of STEM on society and the Natural World   + People’s needs and wants change over time, as do their demands for new and improved technologies.   + Engineers improve existing technologies or develop new ones to increase their benefits, decrease known risks, and meet societal demands. | | | | |
| Sense of Place (Nā Hopena Aʻo and beyond) | | | | |
| **Strengthened Sense of Excellence:** I believe I can succeed in school and life and am inspired to care about the quality of my work. A sense of Excellence is demonstrated by a love of learning and the pursuit of skills, knowledge and behaviors to reach my potential. I am able to take intellectual risks and strive beyond what is expected.  *a. Define success in a meaningful way*  *b. Know and apply unique gifts and abilities to a purpose*  *c. Prioritize and manage time and energy well*  *d. Take initiative without being asked*  *e. Explore many areas of interests and initiate new ideas*  *f. Utilize creativity and imagination to problem-solve and innovate*  *g. See failure as an opportunity to learn well*  *h. Assess and make improvements to produce quality work*  **Strengthened Sense of Aloha:** I show care and respect for myself, families, and communities. A sense of Aloha is demonstrated through empathy and appreciation for the symbiotic relationship between all. I am able to build trust and lead for the good of the whole.  *d. Communicate effectively to diverse audiences*  *e. Respond mindfully to what is needed*  *h. Spread happiness*  **General Learner Outcomes:**  Community Contributor  Effective Communicator  Effective and ethical user of technology  **Strengthened sense of place** | | | | |

## **Critical Skills and Concepts:**

*Students will be able to…*

* Strengthen their sense of place and personal connection to Koʻolaupoko
* Integrate information from multiple sources in order to write and speak about fishponds and the ahupuaʻa system knowledgeably
* Construct compelling questions about fishponds and explain the importance of the questions to self and others
* Analyze how early Hawaiians used natural resources to meet their needs
* Explain how core values of the early Hawaiians are applicable to modern-day Hawaiʻi
* Co-construct the meaning of the General Learner Outcomes
* Write and present a short persuasive piece, supporting a point of view with reasons and information

# STAGE 2:

**Reflection: What have students learned and how have they grown?**

Students have grown by deepening their connection to Koʻolaupoko. This unit is taught after students have gained a respect and love for the Oahu island eastern region of Koʻolaupoko. Students enjoy experiencing Koʻolaupoko by going on a plethora of learning journeys throughout the region. Students love fishing and have learned that Hawaiian culture focuses on sustainability, caring for natural resources, community contribution, and aloha. Students will bring these learnings to the unit.

## **Authentic Performance Tasks:**

* Write a one-page speech to our school community members that answers the following question:
  + How might restoring fishponds make Hawaii better?
  + Why should we care about restoring fishponds?
  + What can YOU do to help?
* Each student will be recorded reciting their speech. Videos will be shown on our weekly school news broadcast. (Other options: kids can recite speeches in-person, at a special event, written speeches can be posted on a bulletin board, etc)

## **Authentic Audience:**

* School students, staff, and parents
* Fishpond experts from the fishpond sites we journey to
* Audience members at our schoolʻs “Celebration of Learning” event

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## **Other Evidence:**

Other evidence of student growth and mastery of benchmarks can come from teacher observations, class discussions, written reflections throughout the unit, student created ahupuaʻa maps, and graphic organizers completed in the unit.

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# STAGE 3:

Students learn best with hands-on experiences that allow them to then reflect more deeply on the intended concepts and learnings.

## **Learning Plan:**

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| **Learning Plan Snapshot** | | |
| 1 | Huaka’i: Waikalua Loko I’a | Community Partnership: Service learning, fishpond expert teaches  Basics of ahupuaʻa system  Ahupuaʻa models  5 things needed in an ahupuaʻa |
| 2 | What is culture? | opening discussion about culture  Find definitions of culture  personal reflection (written)  Teach: E Hō Mai  Discuss cultural protocol |
| 3 | Building an Understanding of How People Restore Fishponds | close reading with a partner:  [Loko Iʻa- A Manual on Hawaiian Fishpond Management and Restoration](https://www.ctahr.hawaii.edu/oc/freepubs/pdf/Loko%20I'a%20Full%20Publication.pdf)  Protocol: Say Something  Vocabulary: konohiki, kapu, loko i’a |
| 4 | Na Hopena A’o: HĀ  An Introduction | HA videos  Discussion about HA, background, introduction to concepts |
| 5 | Huaka’i: Waikalua Loko I’a | Service learning, docent-led  Water quality testing: What are water quality parameters? How are they important to the health of a fishpond?  Develop compelling questions  Homework: Reflection |
| 6 | Where is HĀ in a loko i’a? | Work with your partner to identify each component of the HA framework existing in the fishpond, fill in template |
| 7 | Huakaʻi: Kaiona Beach Cleanup and Pahonu Pond: How is Pahonu Pond similar to a fishpond? | Service learning  Limu restoration efforts  Limu leis  How does this organization practice malama, STEM, and culture?  Homework: Reflection |
| 8 | Huaka’i: Paepae o He’eia | Service learning, docent-led  Compare and contrast Paepae o Heʻeia to Waikalua Loko Iʻa  Invasives: mangroves (uses, debarking, makaha, hale building)  Community contributors: building and repairing the pā pohaku  Discuss: Kūnihi Ka Mauna, cultural protocol |
| 9 | Mapping an Ahupuaʻa | Each partnership will create a poster map that will be used in their presentation |
| 10 | What have we learned about loko iʻa? | Co-construct criteria for presentations  Review: Design thinking process |
| 11 | Build a Fishpond Model | Use the engineering design process and collaborate with a partner to build a fishpond model |
| 12 | Taking a Stand - How can we convince others to care about fishponds? | Write speeches to convince others to restore Hawaiian fishponds |
| 13 | Sharing Speeches | Students present speeches to school community and public community members |

The complete unit plan which contains detailed lesson plans with interactive hyperlinks to various online resources for the unit can be found at: [***http://tinyurl.com/lokoiainkoolaupokoUNIT***](http://tinyurl.com/lokoiainkoolaupokoUNIT)