

DETAILED PROJECT PLAN

The project: In this project, students will create a nature journal that documents their observations of their environment in connection to human behavior and write a short narrative for a younger audience.

TEACHER TIP || Questions to ask when planning to roll-out this project*:

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| | <i>Prior Knowledge: What prior knowledge (if any) do my students have about plastic pollution in Hawaii? What prior experience do my students have with mindfulness and making observations?</i> |
| <i>Authentic Audience: Who is the authentic "younger" audience for your students? Is there a neighboring elementary school you could contact? Do you know an elementary teacher that you could connect with virtually?</i> | |
| | <i>Context in Place: Brainstorm some of the observations that your students might make based on their "place". What kind of nature do they have access to? Can you take your students outside? Is learning happening virtually, and if so, how can you make sure that all students will be able to make insightful observations and connections between nature and climate change?</i> |
| <i>Project Management: Will students work alone or in teams? If students work in teams, how will they be assigned? How will they be assessed individually vs. in a team?</i> | |

***Project-based learning vs. traditional lesson planning:** *In the midst of project-based learning, students are actively doing the work, learning, creating, and inquiring - eventually heading towards their end goal or product. Often misunderstood is that the organized chaos of what you might see in a PBL environment is carefully and intentionally designed by the teacher well before the project begins. The questions above should allow you to set the stage for student learning to unfold in the following project. Anticipating student questions and areas of need will help you to feel planned and ready in advance of a project.*

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| Essential Question: | How can humans live in harmony with the environment? |
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Skills and content needed to answer the Essential Question: *Refine these skills and content standards to the scope and need of your project. This project is designed to be interdisciplinary - but if you don't teach a subject, it doesn't mean that that skill or standard can't still play a role in the experience! - These selected skills and content will be supported throughout the project with activities, formative assessments and additional resources.*

| Skills | Content/Standards |
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| <ul style="list-style-type: none"> ● Reflection ● Mindfulness ● Observation ● Creativity ● <i>*Add other skills to practice in this project</i> | <p>CCSS.ELA-LITERACY.W.7.3 (A-E) Write narrative texts Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.</p> <p>CCSS.ELA-LITERACY.W.7.4 Write Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>CCSS.ELA-LITERACY.W.7.5 Develop and Strengthen Writing With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 7 here.)</p> <p>CCSS.ELA-LITERACY.W.7.7 Research Projects Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.</p> <p>HCPPS III Fine Arts Standards - Visual Arts Understand and apply art materials, techniques, and processes in the creation of works of art and understand how the visual arts communicate a variety of ideas, feelings, and experiences</p> <ul style="list-style-type: none"> ● Benchmark FA.1.1.1 Use various types of art media ● Benchmark FA.1.1.5 Use familiar subjects and experiences to create original works of art <p>MS-ESS3-3. Human Impacts on Earth's Systems Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.</p> <p><i>*Add or remove standards to practice and assess in this project</i></p> |

Activities, Products and Assessments: *Below you will find the proposed activities, student products and assessments for this project. Refine them to match the scope and need of your project, making sure that they align with the skills and content you chose to drive from in the previous section.*

Final project & summative assessments:

Create an ongoing nature journal.
Write a short narrative and present it to a younger audience.

Teacher Tip: Present the project calendar early on to show students where they are headed. *Students should know what is expected at the end from the beginning of the project. Use the templates provided to plan out the scope and sequence of the project. Include students in this process.*

Observation Exercise

What do I notice about my natural surroundings when I take a moment to observe?

Launch the project with the entry event - have students observe their natural surroundings with scientific observation and mindfulness.

1. Choose a location (*preferably a place that can be revisited again and that is accessible to all students*).
2. Using the [Observation Log](#), guide students through the following prompts:
 - a. Listen
 - b. Observe
 - c. Feel
 - d. Question
 - e. Connect
3. Debrief: What did students see? What did students hear? What questions did students have? What connections did students make?
4. Written Reflection

Explore the following questions as you watch the film clip **Albatross and Plastics** from *A Climate for Change*:

- What do the scientists in the film observe about the albatross and their connection to the land?
- How often do you think the scientists must observe the birds to come up with their plan?
- What can we learn from the albatross about living in harmony with our environment?

Launch the project by introducing the essential question, the project calendar, and the final product that students will be working towards. Generate questions that students might have about the project and write them on the board or on chart paper. **Revisit these questions throughout the project.**

What to collect from students:

-[Observation Log](#) & Debrief Reflection

Type of assessment:

-Formative

Skills and content:

-Observation

-Mindfulness

-Reflection

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| <p>*Additional Resources to Deep Dive into the Film Clip*</p> <ul style="list-style-type: none"> • Ka'ena Point Albatross Egg Project (DLNR) • Laysan Albatrosses' Plastic Problem (Smithsonian) • Lessons from the Albatross (life cycles lesson for younger students) | |
| <p>Kilo</p> <p>How did the Native Hawaiians sense and learn from their environment? What can I learn about human impact on the environment by observing nature?</p> <p>Introduce the Native Hawaiian practice of kilo. Unlike in English, in the Hawaiian language, the word <i>kilo</i> can be used as a verb, noun and living practice.</p> <p><i>Kilo were people that made detailed observations of the nuances of their surroundings in relation to their cultural practice and livelihood. They were extremely conscious of the activities of their environment influenced by location, season, and lunar phase. Kilo were residents of the community looked to for advice and direction because of their understanding of cycles, characteristics, and happenings of place" (Na Kilo 'Āina).</i></p> <p><i>Deepen understanding of kilo:</i></p> <ul style="list-style-type: none"> • Watch a video from Ho'okua āina to learn how "Kilo is to observe with our whole selves using our senses" and see an example of how to practice kilo. • Read how kilo is practiced by 'āina stewards and what makes the practice of kilo so different from our traditional idea of "observation: <i>contrary to the Western style of scientific observation, kilo does not start with a hypothesis or a list of questions. Kilo starts with sitting quietly, being patient, and letting the information come to you on its own terms. In the traditional 'ōiwi way of learning, if you ask too many questions then you aren't really listening. By sitting and watching, all the answers to the questions in the back of our minds will already have become apparent"</i> (Villanueva, 2020). • Tools and guidance in practicing kilo <p>-----</p> <p>As a class, brainstorm some examples of what types of patterns <i>kilo</i> may have advised their community on.</p> <ul style="list-style-type: none"> • Some guiding questions might be: <ul style="list-style-type: none"> ○ What types of patterns does nature present us with that <i>kilo</i> may have paid attention to? (i.e. moon cycles, bird migration patterns, seasons, tides, etc.) ○ What are some modern-day examples? ○ How have our observation skills changed or stayed the same? (i.e. | <p>What to collect from students:</p> <ul style="list-style-type: none"> -First Nature Journal entry <p>Type of assessment:</p> <ul style="list-style-type: none"> -Formative (<i>Journal entries are formative but the final journal will be summatively graded</i>) <p>Skills and content:</p> <ul style="list-style-type: none"> -Observation -Creativity -Reflection -Use various types of art media(Benchmark FA.1.1.1) -Use familiar subjects and experiences to create original works of art (Benchmark FA.1.1.5) -Produce clear and coherent writing (CCSS.ELA-LITERACY.W.7.4) -Conduct short research projects to answer a question (CCSS.ELA-LITERACY.W.7.7) -Apply scientific principles to monitor human impact on the environment |

the weatherman tells us the weather but relies on doppler and other technologies, and does not necessarily check the weather him/herself.)

- *How is Western scientific observation different from the practice of kilo? What might be the advantages or disadvantages of each?*

Students will now take on the role of observing and learning from nature in the way that kilo practitioners do. In order to do so, they will need to set up their Nature Journals as a way to record their findings over time.

Understanding different knowledge systems:

In indigenous practice, kilo is a practice of the relationship between person and nature. Documenting and writing down observations is a Western tool applied to this practice over time. Historically, kilo would be recorded by the body and mind of the practitioner.

For example, the feel of the wind passing by might bring to mind the temperature and direction and the recognition that these characteristics may indicate that a plant will fruit or a fish will spawn. It would be a recognition of the complex web of cause and effect encoded into every living thing.

Rather than writing it down in a journal, this “data” may have been held by someone entrusted to set kapu regulations guiding resource management, or communicated and recorded in oral tradition: song, chant, stories, and riddles. In schools today we have adopted the use of writing to record this information.

Imagine how powerful your mind would need to be in order to store all this information! **Therefore, it's important to remember that writing is a tool that we choose to use to better understand and practice an ancient cultural knowledge system.**

Set up **Nature Journals**: Students should complete at least 1 entry per week in their nature journal. Each entry should be taken from the same location, at roughly the same time of day. The nature journal is both an **observation log** and a place to record their **reflections and learnings**. The journal entry should reflect their nature observation AND the connection to human impact (whether positive or negative).

- *For example, if students observed the albatross in their nesting habitat and found that the **bolus** was filled with plastic bits, they might reflect that there is a connection to human plastic pollution.*
 - **Here is a [TEMPLATE of a journal entry](#).**
 - **HERE is a [WRITTEN EXAMPLE](#).**

***Optional extension activity:** contribute observations to the [US National Phenology Network](#) project.

(MS-ESS3-3. Human Impacts on Earth's Systems)

What should be observed in kilo?

- **Kilo observations should be taken from the same place, at around the same time.** To get started, aim to have students make their observation entries at least 1 time per week (more if possible).
- **Knowledge gathering happens with the senses.** Unlike scientific observation, where you might start with a question and observations will help to answer that question, kilo observations tap into the senses and strengthen the relationship between the person and nature.
 - See, hear, smell, taste, feel
- **Knowledge gathering notes one's surroundings.**
 - Date
 - Time
 - Place
 - Weather (temperature, wind, etc.)
 - Position of the sun
 - [Moon cycle](#) (See Hō Mai Ka Pono's [Daily Moon Posts](#))

Use the following Journal Entry template to get started (modify as needed):

| Side 1 - Observe | Side 2 - Connect |
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| <i>Date, Time, Place</i> | <i>Based on today's kilo, how would you go about answering your "wondering"?</i> |
| <i>Weather</i> | <i>What type of connections do you think exist between humans and what you observed?</i> |
| <i>Position of the Sun</i> | <i>● Include a visual that represents today's observation●</i> |
| <i>Moon Cycle (optional)</i> | |
| <i>What do I...</i> | |
| <i>See</i> | |
| <i>Hear</i> | |
| <i>Smell</i> | |
| <i>Taste</i> | |
| <i>Feel</i> | |
| <i>I WONDER....</i> | |

[TEMPLATE of a journal entry](#) and a [WRITTEN EXAMPLE](#).

Observing with a Scientific Eye

How do scientists observe and document their findings of nature? What do scientists learn from these observations? How does being “mindful” help me be a better observer?

As students complete their weekly nature journal entry, supplement class time with lessons to build their scientific observation skills.

Run the following [mini-lessons](#):

- [Creating scientific drawings](#)
- Practice [mindfulness in nature](#)
- Practice becoming a better [scientific observer](#)
- (Optional Extension) [Using a quadrat system to collect data](#)
- (Optional Extension) [Using a grid to enlarge an image](#)

As students become better at observation, mindfulness, and scientific drawing, they can apply their new knowledge to their weekly Nature Journal entries. Remember to decipher between the skills of kilo and the skills of a scientific observer, and how students are becoming more practiced at both with each journal entry.

Continue the Nature Journal entries throughout the project (recommended minimum of 5 entries). **The most consistent students can be with this process, the more they will have to work within the remaining Learning Moments.**

- **Growth over time:**
 - As students become more practiced, look for growth in their skills of using **descriptive adjectives** to describe their senses, growth in **actively showcasing respectful and mindful behavior** during observation time, growth in the **length and depth** of their reflection and connections page,

TIP! Keep a Nature Journal yourself.

Because this project is as much about the process as the final product, keeping a nature journal as the teacher will help you hone your own kilo practice and support students in their journeys of becoming more mindful observers.

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Optional Extension: Discuss the following quote from Robin Wall Kimmerer

“How we think about our relationship to the living world matters deeply. It is our moral imagination that will shape our futures, as much as any technology or policy.”

-Robin Wall Kimmerer, [TedXSitka](#), 2012

What to collect from students:

-Nature journal entries

Type of assessment:

-Formative

Skills and content:

-Observation

-Creativity

-Reflection

-Mindfulness

Audience + Scope. As you move into the next stage of the project, start determining who the final audience of the project will/can be, and what the scope of the project will be.

Consider the following: ([use the planning document](#))

A. Audience:

- a. **Who is a feasible younger audience? How can I set this up prior to rolling out the next stage with students?** (i.e. Are there younger classes at your school that can be an audience? Do you know anyone that works at an elementary school that you can contact? Can you contact the local library to see if they have a children's storytime?)
- b. **How will the students share their work with this audience?** (e.g. virtual storytime, via Zoom; an in-person visit to the school, or have the students visit you).

B. Scope:

- a. **What scope of the final product do you want to work towards with your students?**
 - i. **Individual scope:** With your help, students identify who they will share their story with (i.e. a sibling at home).
 - ii. **Class scope:** You will organize the audience as a whole class (see audience notes above).

Teacher Tip: Teacher as Project Manager *In PBL, teachers have the opportunity to guide their students through project work by acting more as a "manager" of tasks than a "director" of tasks. Allowing students to engage with their work in a way that promotes independence and inquiry can go a long way. Create opportunities for students to learn new skills and knowledge through stations, peer feedback, 1-1 conferencing, and group work, and offer "project work time" where many of these approaches may be happening simultaneously.*

Nature in Stories

How can I use what I've observed and documented to tell a story to younger kids?

In this section, students will begin to brainstorm their ideas for their children's narrative. The children's narrative will be based on their Nature Journal observations and drawings.

Use the [Narrative Brainstorm](#) to get started.

Have students do a **Pair-Share** to get feedback on their narrative brainstorm. Instead of sharing the physical document, have students orally summarize their brainstorm to practice articulating their story out loud.

Example: *During my observations, I got really into watching ants. I noticed there are many different kinds and that they congregate around one specific tree. My story will incorporate lots of my observed descriptive writing about the ants and also introduce a fictitious conflict wherein my neighbor wants to cut down the tree because birds roost in it and poop on her car but I (a human) defend the tree because it gave me shade when the sun was hot and because it is a home for so many other living things.*

What to collect from students:

-[Narrative Brainstorm](#), Story Mapping, Drafts of Narrative Story

Type of assessment:

-Formative w/ feedback (the final narrative story will be assessed summatively)

Skills and content:

-Produce clear and coherent writing (CCSS.ELA-LITERACY.W.7.4)

-Write narrative texts (CCSS.ELA-LITERACY.W.7.3 (A-E))

-Develop and strengthen

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| <p><i>Peer Feedback:</i></p> <ul style="list-style-type: none"> • What do you <i>like</i> about your partner's story brainstorm? • What do you <i>suggest they change or add</i> to their story? • What question(s) do you have for your partner about their story? <p>Narrative writing resources: consider sharing these resources through the use of stations or mini-lessons.</p> <ul style="list-style-type: none"> • Descriptive Writing: How to Write Fiction That Comes Alive • Character Development: Characters • Story Structure: Developing your Plot Line • Dialogue: TobyLitt Exercise on Writing Good and Bad Dialogue <p>Give students time to draft their story.</p> | <p>writing (CCSS.ELA-LITERACY.W.7.5)</p> |
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Teacher Tip: Giving and receiving feedback. *Feedback is an essential part of Project-Based Learning! To be able to give and receive feedback is a skill that can be taught and practiced. If your students are new to peer critique, start small: provide sentence starters, show examples, and have them reflect on how the feedback they received impacted their work.*

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| <h2>Getting feedback</h2> <p>What can I do to improve my story? Does my story connect to the essential question of the project? How can I give my peers feedback that will improve their stories?</p> <p><i>If students are new to giving and receiving feedback, show the video, review what Kind, Specific and Helpful feedback looks like.</i></p> <p>Set up the feedback round. Pair students up (randomly or intentionally) as feedback partners. You have the option to run this in any way that works for you and your students. A more formal option is to set up a Tuning Protocol. However, if students are finishing their first drafts at different rates, you could also have them pair up as they finish to give and receive feedback from one another. They should complete a feedback form (or index card) for each person they give feedback to, and receive one in return.</p> <p>Some guiding sentence stems for students to consider:</p> <ul style="list-style-type: none"> • <i>What were you hoping to achieve with ____?</i> • <i>What were you trying to communicate with ____?</i> • <i>Why did you use this approach?</i> • <i>Can you explain to me why you chose this (word, phrase, color, quote, etc.)____?</i> • <i>How does your story teach younger children how to “live in harmony with the environment”? (our essential question)</i> <p>Work on final drafts. Make sure to give students plenty of time to take into account the feedback they received to improve their plans.</p> | <p>What to collect from students: -Feedback forms from peers</p> <p>Type of assessment: -Formative</p> <p>Skills and content: -Reflection</p> |
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| <p>While students are working, conference with students. This is a chance for you to meet with students in groups or 1-1, with the project rubric in hand. Think of it as a <i>final check-in</i> before they present their stories to their audience. <i>*project rubric provided in project materials*</i></p> <p>Prepare to present! Depending on the type of presentation you've selected, students will need to prepare in different ways.</p> <ul style="list-style-type: none"> • Practice with a partner • Fishbowl practice presentations • Mock presentations | |
| <h2>Sharing & Reflection</h2> <p>How can I use fiction to share a lesson about observing nature? How did my Nature Journal help me get better at observing and learning from nature?</p> <p>This section will be dependent on the Audience + Scope you selected for this project. Make sure to ensure that students have an opportunity to share their Narrative Stories with a younger audience.</p> <p>After the public presentation, reflection can take place in writing, verbally, through student-conferencing, or through whole-class discussion. Option to use the Project Reflection document.</p> <p>Some project-specific reflection questions to guide your students through:</p> <ul style="list-style-type: none"> • What kind of feedback and questions did my audience ask me? What did I learn from this? • What was the most challenging component of this project? • What is the power of practicing kilo? What can we learn about the connection between nature and human impact when we do so? • Why is it important that we practice scientific observation and mindfulness of nature? What can we learn about the connection between nature and human impact when we do so? • Now that the project is complete, how would you answer the EQ? • What does this project teach me about my role in combating climate change? <p>Connect back to the film. Throughout the project, your students might have veered away from the plastic pollution issues that arose in <i>A Climate for Change</i>. That is okay! There are so many ways to observe human and nature interactions, plastic pollution being just one of them. Use this time at the end of the project to discuss with the students the essential question: <i>How can humans live in harmony with the environment?</i> and how their answers to this question will contribute to climate action.</p> | <p>What to collect from students:</p> <ul style="list-style-type: none"> -Final narrative story -Final Nature Journal -Reflection <p>Type of assessment:</p> <ul style="list-style-type: none"> -Summative <p>Skills and content:</p> <ul style="list-style-type: none"> -Reflection |