

4th Grade Human Populations Inquiry*Written by Rosela Balinbin Santos and Rayna Fujii*

How did early Polynesians find their way without modern technology?



Unknown

Supporting Questions

-
1. What is wayfinding?
 2. How was the wa'a designed?
 3. What were some of the traditional skills of wayfinding necessary to travel long distances throughout the Pacific Ocean?
-

TEACHING THE C3 FRAMEWORK

How did early Polynesians find their way without modern technology?

C3 Framework Indicator	D2.Geo.7.3-5. (Spatial Patterns and Movements) Explain how cultural and environmental characteristics affect the distribution and movement of people, goods, and ideas.
Hawai'i C3 Standard	SS.4.1.15.4 (Theme 1: Creation Beliefs and Polynesian Migration) Explain how the Polynesians' voyaging skills and the design of the double-hulled canoe allowed them to travel long distances throughout the Pacific Ocean.
Staging the Compelling Question	Listen and watch the song "We know the Way" from the motion picture Moana. Followed by the featurette and then a discussion on wayfinding. Respond to the following question: What is the message the composers are attempting to get across to us about wayfinding?

Supporting Question 1	Supporting Question 2	Supporting Question 3
What is the timeline of Polynesian wayfinding?	How was the wa'a designed?	What were some of the traditional skills of wayfinding necessary to travel long distances throughout the Pacific Ocean?
Formative Performance Task	Formative Performance Task	Formative Performance Task
Create and present a timeline depicting major events related to Polynesian wayfinding..	Design your own double-hulled wa'a. Then write a story that describes the genealogy of your canoe (where it is from, what it represents, and why it is able to travel long distances)	Create a sail plan using information learned about the star compass, calculating time (distance over speed) and wind direction.
Featured Sources	Featured Sources	Featured Sources
Source A: History of Hawai'i (HOH) excerpt & June 11th StarAdvertiser excerpt & June 18th StarAdvertiser excerpt Source B: Timeline Tips Source C: Event Connections Strategy	Source A: Images of Pacific Double-Hull Canoes Source B: Wa'a Design Template Source C: Reflection Template	Source A: Sail Plan Folder Source B: Star Compass

Summative Performance Task	ARGUMENT [COMPELLING QUESTION]? How did early Polynesians find their way without modern technology?? Construct an argument that answers the previous question using researched claims, with evidence from multiple sources, and also acknowledges opposing viewpoints (counterclaims).
	EXTENSION Write and deliver a speech that argues your position on your answer to the compelling question. Defend your position using evidence from the sources analyzed in this inquiry and by including relevant personal experience.
Taking Informed Action	UNDERSTAND How the science of wayfinding allowed Polynesians to travel great distances across the Pacific Ocean. ASSESS Research how polynesian voyaging directly effects and/or connects people. Describe how different Polynesian voyaging communities and/or organizations bring people together for a common purpose. Evaluate these communities/organizations and create a presentation/product to present (e.g. sustainability: Mālama Maunaloa; families staying healthy: Kokua Kalihi Valley; Caring for others: Fur-Angel; Ocean restoration: Kai Makana) ACT Present what was learned in this inquiry to a specific audience (school tv network, present to other classrooms/grade levels, showcase at a parent night, etc.)

Overview

Inquiry Description

This geography inquiry leads students through an investigation of wayfinding and polynesian navigation. By investigating the compelling question “How did early Polynesians find their way without modern technology?” students learn, apply, and assess the complex skills and strategies related to wayfinding and navigation. The formative performance tasks build on knowledge and skills through the course of the inquiry and help students learn engage in close and critical reading of texts, geographical vocabulary, and participate in a community of inquiry discussions related to indigenous intelligence. At the end of the inquiry students will create an evidence-based argument that applies geographical concepts and explains the complexity and impact of traditional practices of wayfinding. In the end, students will be able to share a comprehensive portfolio of the formative tasks as well as a class created magazine based on their self-discovery of the impact of navigation in their lives.

It is important to note that this inquiry requires prerequisite knowledge of historical events and ideas. Thus, students should have already been exposed to basic concepts in geographical literacy (e.g. cardinal directions, navigational tools, constellations).

Note: This inquiry is expected to take approximately ten 45-minute class periods. The inquiry time frame could expand if teachers think their students need additional instructional experiences (i.e., background knowledge, supporting questions, formative performance tasks, and featured sources). Teachers are encouraged to adapt the inquiries in order to meet the needs and interests of their particular students. Resources can also be modified as necessary to meet individualized education programs (IEPs) or Section 504 Plans for students with disabilities.

Structure of the Inquiry

In addressing the compelling question “How did early Polynesians find their way without modern technology?” students work through a series of supporting questions, formative performance tasks, and featured sources in order to construct an argument supported by evidence while acknowledging competing perspectives.

Staging the Compelling Question

In staging the compelling question, “How did early Polynesians find their way without modern technology?” teachers may prompt students with a number of resources: (a) listen to the song and watch the video “We know the Way” from the motion picture Moana (b) Followed by watching the featurette of the composer and cultural expert. (c) Engage in a discussion on wayfinding. Using the See-Think-Wonder reading strategy, students will reflect on this process/experience by having a collaborative discussion responding to the question: What is the message the composers are attempting to get across to us about wayfinding?

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Supporting Question 1

The first supporting question—“What is timeline of Polynesian wayfinding?”— provides students with an opportunity to acquire background information and an overview of wayfinding. The formative performance task asks students to create and present a timeline depicting major events related to wayfinding.

The featured sources for this question include excerpts from texts relevant to the history of wayfinding, information from the most recent Polynesian voyage by the Hokule‘a, and Featured Source A is a text excerpt from the book *History of Hawai‘i* by L. Tau-Tassil, L. Menton, and E. Tamura. Feature Source B is a text excerpt from the homecoming commemorative edition to the Honolulu Star Advertiser featuring non-fiction information about the Hokule‘a. Featured Source C includes the framework for the reading strategy See-Think-Wonder.

Supporting Question 2

The second supporting question—“How was the wa‘a designed?” provides students with the opportunity to learn about the various styles and methods to building a wa‘a (canoe). Students will apply their knowledge by designing a wa‘a based on what they learned. They will also write a story that describes the specific genealogy of their wa‘a. Their story will include where the wa‘a originated, what it represents, and its purpose).

In addition to the resources from the previous supporting question, the featured sources provide students with additional materials that allow them to create their own wa‘a out of recycled/repurposed materials. Featured Source A are images of various double-hull wa‘a. Featured Source B is wa‘a design planning template. Featured Source C is a reflection template students can use to critically reflect on the wa‘a design and creation process.

Supporting Question 3

For the third supporting question—“What were some of the traditional skills of wayfinding necessary to travel long distances throughout the Pacific Ocean?”— students will learn about basic tools, skills and strategies related to traditional wayfinding/voyaging. They will do this by creating a sail plan using information learned about the star compass, calculating time (distance over speed) and wind direction.

In addition to the resources from the previous supporting question, the featured sources provide students with additional materials that allow them to create a sail plan. Featured Source A is a sail plan folder with resources to create a sail plan. Featured Source B is an image of the star compass used by those who employ traditional wayfinding strategies and skills in navigation today.

Summative Performance Task

At this point in the inquiry, students have examined the history of traditional practices of wayfinding and voyaging, studied critical skills to be successful in traditional navigation and wa‘a construction, designs, and genealogies, and identified the impact of indigenous intelligence in the world of navigation and on their own personal lives.

In the summative performance task, students construct an argument based on the compelling question, How did early Polynesians find their way without modern technology,? Students are expected to demonstrate the breadth of

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their understandings and their abilities to use evidence from multiple sources to support their claims. It is important to note that students' arguments could take a variety of forms, including a detailed outline, poster, or essay.

Students' arguments will likely vary, but could include any of the following:

- ***We need Polynesian voyaging as it teaches us to navigate without modern technology in the event that technology fails and we are left only with our ability to read the world around us using non-instrumental means.***
- ***Current debates about polynesian voyaging being a significant and plausible way to navigate a wa'a around the world is controversial because it was an artform lost long ago. On a global spectrum, the revival of this practice with the Hokule'a Worldwide Voyage (2014-2017) has created a new space to prove to naysayers that this traditional practice can actively continue.***
- ***Polynesian voyaging is controversial because many of the past recordings of polynesian open-ocean travel is based on myths and legends. (Frankel, J. P. "Polynesian Migration Voyages: Accidental or Purposeful?" American Anthropologist 65.5 (1963): 1125-1127.)***

To extend their arguments, teachers may have students write and deliver a speech that continues to examine the relevancy of traditional forms of wayfinding co-existing with modern navigation techniques. Students will present their position using evidence from the sources analyzed in this inquiry and by including relevant personal experience. Their presentations will reflect and applied using the Structured Academy Controversy (SAC) process.

Students have the opportunity to Take Informed Action by drawing on their understandings of the complex skills and strategies related to wayfinding and navigation. To *understand*, students generate a list of concepts/categories from the student created magazine articles that depicts how polynesian voyaging directly effects and/or connects people. To *assess* the issue, students research how different communities and/or organizations bring people together for a common purpose. They analyze the purpose of these communities/organizations and create a presentation/product to present (e.g. sustainability: Mālama Maunalua; families staying healthy: Kokua Kalihi Valley; Caring for others: Fur-Angel; Ocean restoration: Kai Makana). To *act*, students present this information to a specific audience (school tv network, present to other classrooms/grade levels, showcase at a parent night, etc.).

Staging the Compelling Question: Suggested Instructional Exercises

Included are two sequential instructional exercises to help students build background in the staging the compelling question portion of the inquiry.

Instructional Exercise Part One: View the following video clips. After each clip refer to the reflection questions to facilitate discussion.

1. https://youtu.be/ubZrAmRxy_M "We Know the Way" Song

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- a. After watching the video clip of the Moana song “We Know the Way,” have students do an initial fill of the See-Think-Wonder chart (STW). Pose the question “What is the message the composers are attempting to get across to us about wayfinding?”
2. <https://youtu.be/3QCN6rtn4-c> Moana “We Know the Way” Featurette #1 or <https://youtu.be/V2qRZ-tqFYc> Moana “We Know the Way” Featurette #2. Have students watch the featurette to gather some background behind the meaning and the purpose of the song. Students can reflect on the following questions before adding to their STW:
 - a. How does the information connect to wayfinding?
 - b. What new information did you gather from the featurette?
 - c. *NOTE: the teacher may choose to watch one or both of the featurettes that describe the production of the Moana song “We Know the Way.” Also the teacher should watch the featurettes and cue the video to the parts/clips that they feel are most relevant to the discussion of wayfinding.
3. After the students have completed their STW charts and reflected on the above questions, the whole class creates a concept map of the things they learned about wayfinding.

Staging the Compelling Question

Featured Source

Source A: [See Think Wonder Template](#)

Screenshot of STW template (see link for full document):

SEE, THINK, WONDER		
See	Think	Wonder

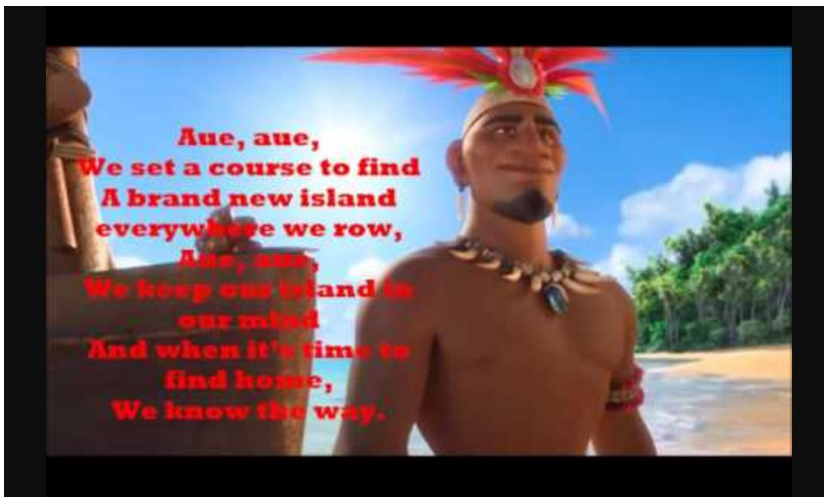
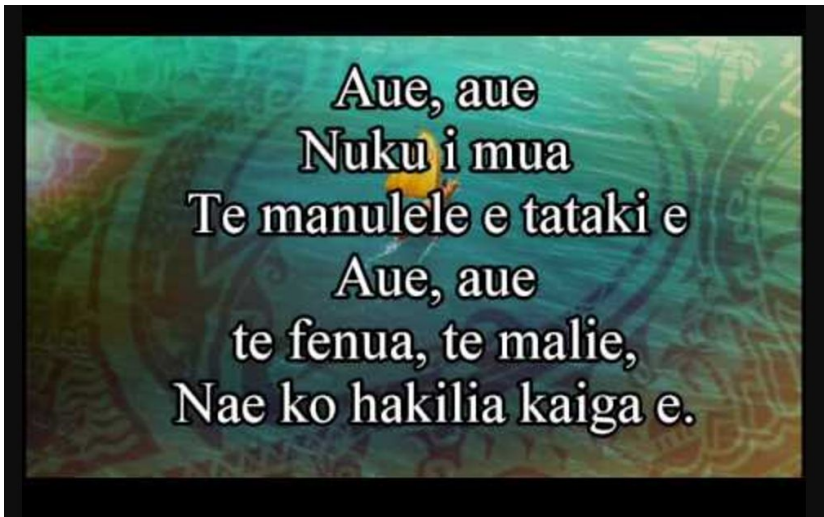
© Ideas From Miss D, 2014

Staging the Compelling Question

Featured Source

Source B: [Moana Video](#) and [Featurette #1](#) and [Featurette #2](#) Links

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Supporting Question 1: Suggested Instructional Exercise

Included is a suggested instructional exercise to support students in accomplishing the task suggested by Supporting Question 1, What is Wayfinding? By exploring the supporting question “What is Wayfinding?,” students will analyze close reading texts that showcase the importance of the traditional skills and strategies of wayfinding.

Instructional Exercise: Students will engage in an independent close reading of specific informational texts and then collaborate in small groups to analyze and identify important events of the Hokuke‘a’s contributions to the Hawaiian Renaissance. At the conclusion of the supporting question exercises, students will have created a timeline mapping out important events and/or people who contributed to the revival of wayfinding during the Hawaiian Renaissance from 1976 to the present day.

1. Teacher should review the the purpose of timelines, the elements of a timeline, and how to create a timeline. See [timeline tips](#) folder for ideas.
2. Students will be given an excerpt from the book History of Hawai‘i (pp. 402 - 409) and will be tasked independently to only read their assigned pages.. The teacher will parcel out only a few pages to each

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student. This means that not every student will have an opportunity to read all of the pages from the provided excerpt. For example, if there are 28 students in the class, the following pages distributed to each student may consist of the following breakdown:

- a. pp. [402 - 405](#); 7 students
 - b. pp. [406 - 409](#); 7 students
 - c. pp. 2 -3 of The [Homecoming Commemorative Edition](#) (Honolulu Star Advertiser); 7 students
 - d. pp. of of the [June 18, 2017 Honolulu Star Advertiser](#); 7 students
3. Teacher reviews [Event Connections strategy](#) (Seravallo, 2015) with the students and how to use it while independently reading the text.
 4. While students are reading independently, this will provide an opportunity for the teacher to work closely with smaller groups of students to insure that they are able to access the text. The teacher may choose to employ differentiation strategies
 5. After students have created a basic timeline using the event connections strategy, the teacher will put them into small groups according to the sections of the text they were given, and as a group they will determine which events were the most important to share on the class timeline.
 6. Once students have determined which events were the most significant to share on the class timeline, the groups will transfer the necessary to a timeline event card (see sample in [timeline tips](#) folder).
 7. Teacher and students will then work together to order the events (as page excerpts may not necessarily be in time order).
 8. Once in chronological order, the students share their event cards and then place on the large class timeline (teach should have the large class timeline created beforehand, with increments).

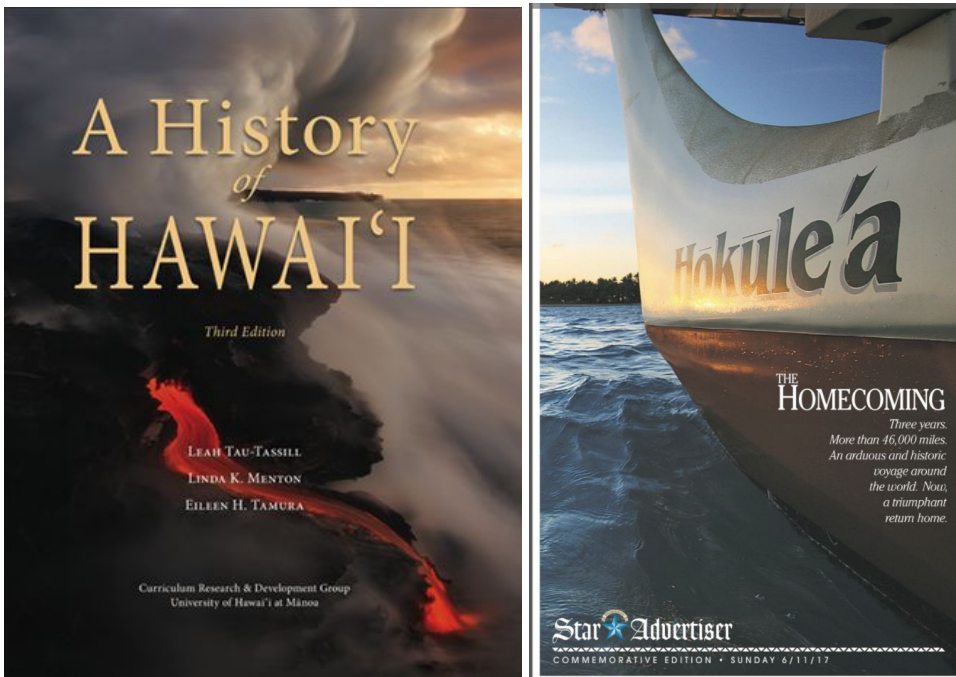
*NOTE: This may take a few class periods. It is recommended that the review of timelines be done on one day, the close reading and group discussion on another and close with the final day presenting the events for the timeline.

Supporting Question 1

Featured Source	Source A: History of Hawai'i (HOH) excerpt & Honolulu Star Advertiser (Commemorative) excerpt June 11th & Honolulu Star Advertiser (Commemorative) excerpt June 18th
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Image of the book cover *History of Hawai'i* by Leah Tau-Tassil, Linda K. Menton & Eileen H. Tamur; Image of Homecoming Commemorative issue (06/11/17).Duri

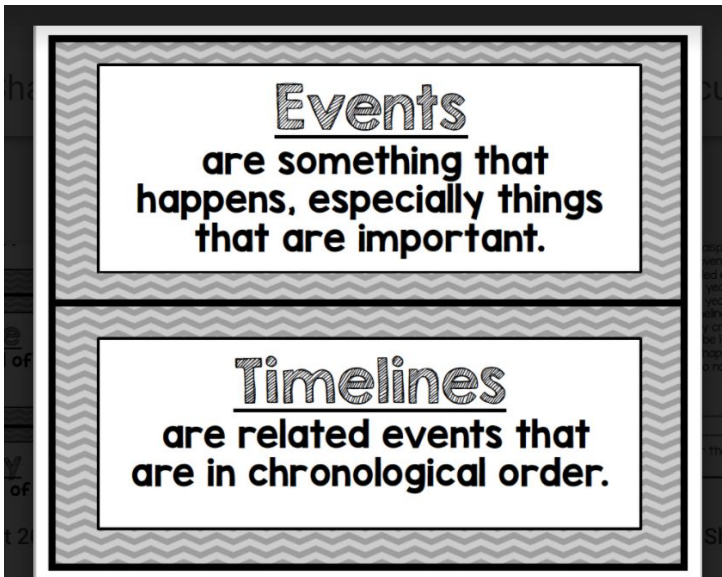
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Supporting Question 1

Featured Source | Source B: [Timeline Resources](#)

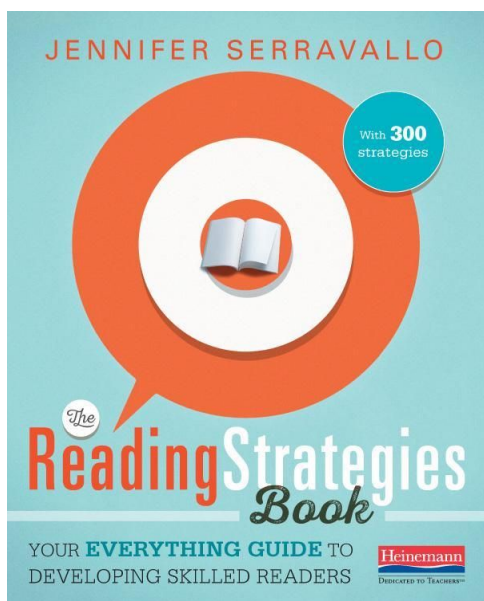
Screenshot one sample timeline tip (see link to folder for full tips):



Supporting Question 1

Featured Source | Source C: [Event Connections Strategy](#)

Image of the book cover Reading Strategies Book by Jennifer Serravallo



Supporting Question 2: Suggested Instructional Exercise

Included are two sequential suggested instructional exercises to support students in accomplishing the task suggested by Supporting Question 2, How was the wa'a designed? By exploring supporting question 2, students will have an opportunity to

Students will design and create their own double-hulled canoe (wa'a) accompanied by a written story that describes the genealogy of their wa'a. Their story will include the purpose of the wa'a, where the wa'a originated, and what the wa'a represents.

Instructional Exercise Part One: Students will learn about the double-hulled canoe. They will then design and construct their own double-hull wa'a. *NOTE: This activity will take approximately two weeks to complete.

1. Teacher should review the the timeline event cards, the story it created regarding the revival of traditional wayfinding. Teachers may use the following guiding questions to facilitate the discussion.
 - a. What did we learn from the timeline we created?
 - b. Based on what we learned from the timeline, what are the things a person would need to voyage? (wa'a, knowledge of the stars, wind patterns, directions, wave movements, distance, weather, cloud variations etc.)
 - c. Which of the criteria that we listed, is a structure that needs to be built in order to voyage? (WA'A/CANOE!!!)
2. Teacher will read the story "The Island Below the Star" by James Rumford. However the teacher only needs to read from the beginning up to the scene where the boys are hanging on for dear life (there are no page numbers). The teacher will use elements from the story to jump start a conversation of the things students must to consider when designing a double-hull wa'a.
3. Explain to the students that they will be designing a double-hull wa'a in pairs using **recycled/repurposed** materials.

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4. During the explanation (#2), have students first turn-and-talk with one another about why a double-hulled wa'a is important to the practice of wayfinding and voyaging.
5. Following the turn-and-talk, the teacher will elaborate on the importance of the use of a double-hull canoe (i.e. two advantages - carry greater capacity for transporting people to distant islands; more stability when riding and maneuvering on the waves and currents of the ocean (Howe, 2006).
6. Teacher shares images of various double-hulled canoe designs used throughout the Pacific to help students generate ideas for their own wa'a. What design will they use? What is the purpose for their wa'a?
7. Pairs will brainstorm the design of their wa'a. Use the [Wa'a Design Planning Template](#), Source B. They will need to consider the following characteristics:
 - a. Purpose of the wa'a (what are you transporting and why?)
 - b. size of the hull and sails
 - c. materials (recycled/repurposed) they will use for each part of the wa'a
 - d. durability of your wa'a (can it withstand voyaging across vast distances and unpredictable weather?)
 - e. Name of the wa'a (could also do this first)
8. Get pairs into groups of four to collaborate and share their brainstorm template (from #6) of each other's wa'a design plans. Pairs should give constructive feedback to help improve each other's designs.
9. Have pairs once again get together on their own, look at the comments they received from their peers, and then make a plan together and execute the design over the next week (gather materials, bring to class, begin construction, test the canoe).

Instructional Exercise Part Two: Students will have the opportunity to test their canoe prototype and make changes to their design if time permits (could be connected to the Engineering Design Process (EDP)).

1. Teacher will take pictures of the completed wa'a **before** testing them. These images will be used to close the activity with a whole group discussion.
2. will have the opportunity to test their wa'a prototypes.
 - a. water: teacher must have a large plastic wading pool (see image); or smaller buckets if not available.
 - b. wind (teacher uses a large fan to test the stability of the wa'a)
 - c. water currents/waves: teacher shakes the pool or bucket, OR creates wave like currents but disrupting the surface of the water.
 - d. transportation capability: teacher can put magnet or any type of small weights onto the canoes
 - e. longevity: teacher leaves the canoes in the water all day or for multiple days to test the wa'a ability to withstand the ocean elements. For example, was there degradation? Did the wa'a become waterlogged over time?
3. After the canoes have been tested, the pairs have the opportunity to [reflect](#) on the success of their wa'a design and construction based on the a-e criteria above. *Note: Teacher may choose to continue the design and build process if time permits. If not, the students can stop after this first test.
4. In small groups, students share out what about their wa'a (use the pictures the teacher took in step one). Students will have a conversation to close the activity relating to how traditional navigators thought about functionality and purpose when designing their wa'a.
5. Teacher can conclude by saying "Now that you have designed and constructed a canoe, our next steps will

TEACHING THE C3 FRAMEWORK

be to create a sail plan for our wa'a.

Supporting Question 2

Featured Source

Source A: [Images of Pacific Double-Hull Canoes](#)

Below is an screenshot of one of the images in the folder linked above. Click on the link to view all other images.



Supporting Question 2

Featured Source

Source B: [Wa'a Design Planning Template](#)

Group Members _____ Date: _____ 1

Wa'a Design Planning Template

*Instructions: The left hand side of the table are questions to think about discuss as a group. The right hand side of the table is where you put your answers.

What is the name of our wa'a?	Name:
How did we come up with that name?	The story of our wa'a:
What purpose will our wa'a serve? Why?	Purpose: Why we chose this purpose:
What materials might we need to build our wa'a?	Materials:
How can we make sure our wa'a is durable and will withstand the ocean elements?	What we will do is...

Supporting Question 2

Featured Source

Source C: [Reflection Template](#)


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Below is a screenshot of the reflection template. See link for full document.

4. Longevity: (was there degradation? Did the canoe become waterlogged over time?)
Our wa'a was/was not able to withstand degradation after testing. We know this because _____

Could your design be used by practicing navigators to construct a real-life double hull canoe?

If you had to do this activity again, would you do anything differently? If so, what?



Supporting Question 3: Suggested Instructional Exercises

Included are suggested instructional exercises to be completed in sequential order to support students in accomplishing the task suggested by Supporting Question 3, What were some of the traditional skills of wayfinding necessary to travel long distances throughout the Pacific Ocean? By exploring supporting question 3, students will

Instructional Exercise Part One: Students will engage in a discussion about the three steps to voyaging. At this point, the students will have acquired a basic understanding of the history of traditional voyaging and ideas about the concepts related to wayfinding, and they will have designed and constructed a wa'a. In this active experience, they will continue to expand their knowledge and learn the three steps to voyaging: planning, sailing, finding land.

1. Teacher and students revisit the wayfinding concept map they created and the timeline of the history of the Hokule'a Worldwide Voyage. The teacher may use the following guiding questions:
 - a. What did we learn from our timeline? Is there anything new that we may want to add to our concept map on wayfinding?
 - b. Is there anything on our concept map that may not be directly to wayfinding? Explain?
 - c. What tools and skills do you think wayfinders needed to successfully sail/travel long distances (possible thousands of miles) across the Pacific Ocean without modern technology and instruments?
2. At this point, the students will have acquired a basic understanding of the history of traditional voyaging and ideas about the concepts related to wayfinding. The teacher will then introduce some of the tools and skills used for traditional wayfinding when voyaging.
3. There are 3 steps to voyaging: planning, sailing, finding land.
 - a. **Planning:** When planning a course, students will need to know where they are going, how far it is (distance), and what direction(s) they will sail. The students will need to understand that they cannot sail based only on a single direction they choose. As wayfinders, students will need to consider that they must sail in the direction the wind is moving. The teacher will introduce

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windytv.com to the students. Teachers and students create random scenarios of possible directions they might sail to reach different locations of the island. This is based on the direction of the winds movement and patterns. The teacher will also involve the students in multiple mathematics calculations to generate time and speed (e.g. if traveling 15 miles from Ni‘ihau to Kaua‘i at 5 mph, how long would it take?).

- b. **Sailing:** Students will be introduced to the idea of using the stars and the horizon to determine where they are (latitude) located. The teacher will use the featured resources to show that PWO navigators use their knowledge of the location of [stars to determine their position](#). *Note: PWO is used to reference a master navigator. For example, if a person were at the equator, a certain star would appear to be sitting on the horizon. As the star moves, the location of the star in relation to the horizon moves. This is part of how the navigator knows his position. Teachers may read the book [Twinkle Twinkle Small Hoku](#) to inspire students‘ understanding how the stars are constant no matt what may be happening on the ocean or on the canoe. In regards to how fast the canoe is traveling, the teacher can refer to the article on [estimating distance](#) to give a brief overview (The act of dropping an object in the water and timing how fast it travels opens up opportunities for math and science connections). The teacher may opt to simulate the test of how fast a canoe is traveling by sending a floating object down a current and timing its speed from one point to another (dropping corks in a stream, simulating current using a long container with a hose or fan at one end and dropping a cork etc.)
 - c. **Finding Land:** Knowing when you might be in the vicinity of land depends on the type of landforms you are looking for. For example, Hawai‘i Island has a large mountain range that can be seen as soon as a 100 miles out at sea. However a landform like an atoll may only be seen from roughly 10 miles away. Seeing large flocks of birds is also another indicator that land is nearby. There are many seabirds that reside in the Hawaiian islands and often seen by paddling teams and anyone seafaring. Teachers may use the [O‘ahu Seabird Group](#) website if they would like to share more information.
4. After the teacher has shared these steps with the students and gone through the various activities, they will be given the task of completing step one, planning a course to sail.

Instructional Exercise Part Two: Teacher will have students create a basic sail plan. This is step one of voyaging. By applying basic mathematical skills and knowledge of the wind direction and traveling distance. Supports are provided in the Sail Plan Folder, Source A.

1. Teacher will revisit and review the previously read pages from the story “The Island Below the Star” by James Rumford. This time the teacher will read the rest of the story but starting from the point where the brothers find Manu on board the wa‘a. *NOTE: Teacher may choose to just reread the entire story if he/she feels it is necessary.
2. Teacher will distribute the sail plan template and the go over the parts by projecting a large image of the template for all to see. Teachers and students will do a sample sail plan together as a whole class (e.g. Moloka‘i to Maui).

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3. Once the parts of the sail plan template have been explained, the teacher will divide students into groups of 3 or 4. See the sample breakdown of possible sail plan destinations below. See sail plan folder for pdf that has distances between the islands.
 - a. Group 1 & 2: Moloka'i to O'ahu, month of July
 - b. Group 3 & 4: Kaua'i to O'ahu, month of January
 - c. Group 4 & 5: Ni'ihau to O'ahu, month of March
 - d. Group 6 & 7: Lana'i to O'ahu, month of April
4. Once in groups, students will make the necessary calculations and begin creating their sail plan. After they create their sail plan, students will then go to the O'ahu Seabird Group and find information about one of the seabirds that might be an indicator that they have made it to their destination, O'ahu. Teacher monitors each group.
5. After students have completed their sail plan, they switch their plan with the group that had the same starting location. For example, Groups 1 & 2 would switch their sail plans and check each other's work. Students are looking for:
 - a. accurate mathematical calculations
 - b. directions chosen on the star compass. Does it make sense based on the wind?
 - c. Did they choose the right constellations that point north in the month they are sailing?
 - d. information provided about the seabird the group chose
6. Groups get back together to discuss the biggest take away from traditional voyaging skills and processes. What make traditional voyaging unique? What skills and knowledge do traditional wayfinders need to have in order to voyage without using modern instruments? *NOTE: Teacher is guiding students to the idea that traditional wayfinding requires the voyagers and navigators to be aware of, knowledgeable and respectful of the environment at all times. Knowing where you are (place and time) and what is going on around you (awareness).

Thoughts: The revival of wayfinding is a cross-over between traditional cultural practices and modern/contemporary practices

Supporting Question 3

Featured Source	Source A: Sail Plan Folder
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Screenshot of sail plan template (see link for full document)


TEACHING THE C3 FRAMEWORK

PLAN A COURSE

WHAT IS YOUR SPEED?
You travel 5 mph. Time is distance divided by speed. You can sail 6 hours from the direction the wind is blowing. How far do you need to travel? List the information below.

SAIL PLAN
From _____ To _____
How far do you need to travel? How fast are you going? How long will it take you to get there?

WHICH WAY IS THE WIND BLOWING?
<https://www.windy.com/>
*Draw the way the wind is blowing around the islands now.
Date: _____



LIST THE HOUSE
Which house will you be sailing to? Staying to your course.

Constellations and Your Position

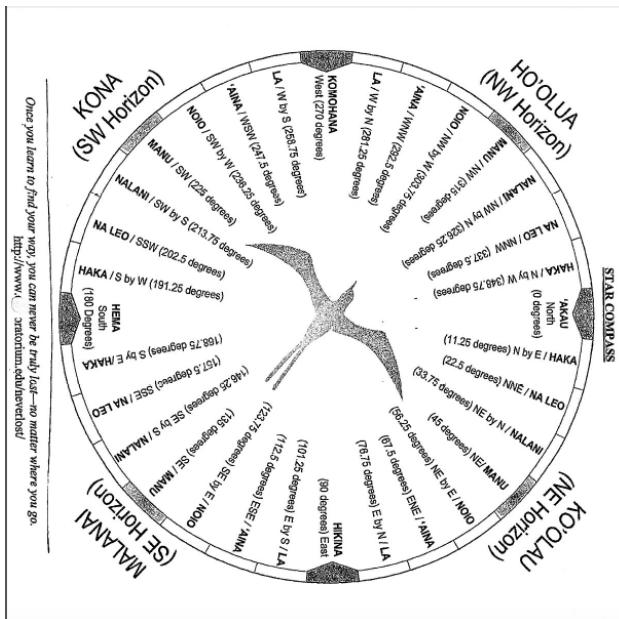
HOW DO YOU KNOW YOU HAVE FOUND LAND?

Supporting Question 3

Featured Source

Source B: [Star Compass](#) Article

Screen shot of the Star Compass (see link for full information on how to read and use):



Summative Performance Task

Do we need the traditional form of wayfinding in today's modern world of navigation? Construct an argument that answers the previous question using researched claims, with evidence from multiple sources, and also acknowledges opposing viewpoints (counterclaims). Teachers will use the provided website resource to help students begin researching and developing their argument claims.

Summative Performance Task

Featured Source

Source A: [Website Resources](#)

Screenshot of Website resources (see link for full document):

Website Resources and Other Resources

Research traditional wayfinding to help you construct your argument.

- a. [Polynesian Wayfinding; Modern Methods and Techniques of Non-Instrument Navigation, Based on Pacific Traditions](#) (other resources embedded within) **NOTE: Teachers use this website first to build a foundation for the students' argument claims and then have students delve into the following resources for more specific information.
- b. [Polynesian Voyaging Society](#)
- c. [Imiloa Astronomy Center of Hawai'i](#) at the University of Hawai'i at Hilo
- d. [Bishop Museum's Planetarium](#)
- e. [Kau Ka Pe'a](#) (Hokule'a Homecoming Protocols)
- f. [KHON Press Release of Virtual Wayfinding](#)
- g. Virtual Wayfinding
- h. [Live Tracking Map of the Hokule'a](#)
- i. [Polynesian Triangle Image](#)

Books:

- j. Vaka Moana
- k. Hawaiki Rising
- l. History of Hawai'i

Summative Performance Task (Extension)

Does wayfinding have a place in modern navigation? Write and deliver a speech that argues your position on the argument question. Defend your position using evidence from the sources analyzed in this inquiry and by including relevant personal experience. Present your information by applying the Structured Academy Controversy (SAC) process.

Summative Performance Task (Extension)

Featured Source

Source B: [SAC Framework](#)

Screenshot of SAC framework (see link for full document):

STRUCTURED ACADEMIC CONTROVERSY (SAC): 5 PHASES/PROCESS

1. **Learn your Position (Research & Prepare)**
 - a. Research several points with supporting evidence.
 - b. Prepare your points in an outline so that you can present the information to the other team.
2. **Present your Position (Present and Advocate)**
 - a. As a team, present your position clearly and persuasively.
 - b. Listen carefully and learn the opposing position.
 - c. Record the opposing team's position points.
3. **Discuss the Issue (Open Discussion)**
 - a. Re-state your position and support your points with any additional argument.
 - b. Listen carefully and critically to the opposing position.
4. **Reverse Perspectives**
 - a. Select two major points made by the opposing team and present these major points as if you were they. Be as convincing as you want.
 - b. Elaborate on their position by relating it to other information that you have.
5. **Reach a Decision (Synthesize)**
 - a. Summarize the best arguments made by each side.
 - b. Reach a consensus on a position that is supported by the facts.
 - c. Write a consensus that is accepted by both sides and includes a solution.

Note: These are the 5 phases/processes that comprise a SAC. The SAC can also be completed in pairs/partners and small groups/team.

*Adapted from Patricia Halagao's Fil-am Education Institute worksheet, University of Hawaii at Manoa, College of Education

Taking Informed Action

A significant feature of the C3 Inquiry Framework, is to provide students with opportunities to **actively participate and contribute** to the community in which they live. On a broader and global perspective, student participation can be enacted at the local, state, and/or national levels. There are no parameters to the degree that students can take informed action. However, the focus, rather, is that students are given the opportunities to actively experience making positive and informed changes to the community in which they belong. This will support students in making connections with the content that they learned throughout this inquiry and applying this knowledge to present-day situations.

For this inquiry, it is suggested that students understand, assess and take action in determining “How the wa'a and traditional elements of wayfinding are relevant for everyone today?”

*Note: It is to be determined by the teacher, the most applicable and relevant instructional strategies to accomplish the three steps (understand, assess, act) of *Taking Informed Action* listed below:

UNDERSTAND How does the wa'a inform how we navigate our own lives? Students will actively reflect on what they learned about the wa'a and traditional wayfinding and how it impacts (or could potentially impact) their life today.

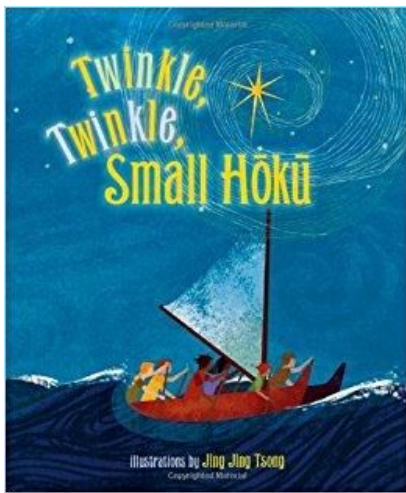
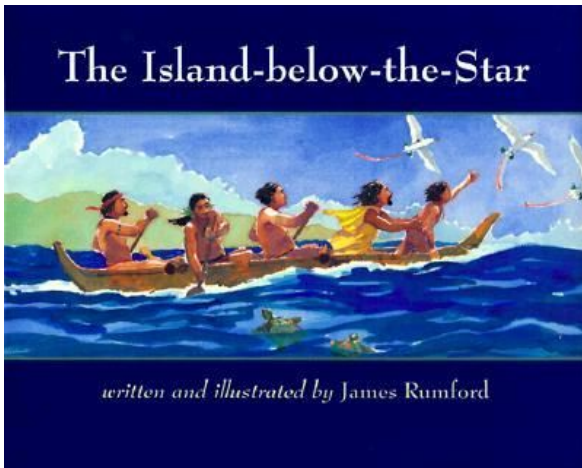
ASSESS Students will evaluate the ways in which the Malama Honua Worldwide Voyage has impacted the lives of the people in the community.

ACT Students will participate in an online site where they can input their own voice and share how the Malama Honua Worldwide Voyage has impacted their lives.

1. Read, analyze and reflect on the stories that are shared on the Malama Honua Worldwide Voyage “[Tell Your Story](#)” website.
2. Use the following questions to guide reflection:
 - a. What do I care about? What can I do? How do I connect to all this?
 - b. So what? What is the bigger purpose behind all that I have learned about the wa'a and wayfinding? How does it apply to my life?
 - c. What is my story? What is my message?
3. Students will then actively participate along with the community and tell their story but sharing how the wa'a has impacted their lives on the same website.

Additional Resource Images:

TEACHING THE C3 FRAMEWORK



TEACHING THE C3 FRAMEWORK

