

Ne'epapa Ka Hana 2.0
Sixth-Grade Mathematics Resources
STEMD² Book Series

STUDENT ACTIVITIES

LET'S GO FROM

MAUKA TO MAKAI

STEMD² Research & Development Group
University of Hawai'i at Manoa



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<http://stemd2.com/>

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Ne'epapa Ka Hana Sixth-Grade Mathematics Resources

Let's Go from Mauka to Makai
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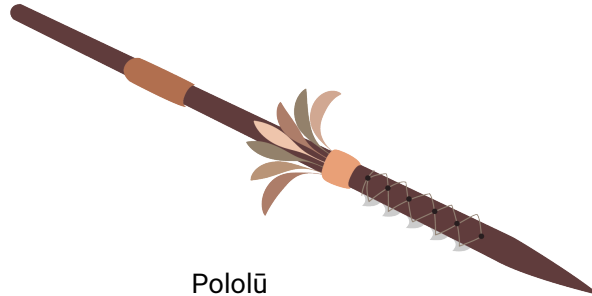
Unit 7: Measurement and Data

In this unit, we'll learn how to use statistics to summarize and display data through evaluating the shape and length of a Hawaiian spear and the exploration of the Big Island. There are two activities in this unit. *Module 16* explores the Hawaiian spear, pololū, through displaying, analyzing, and summarizing data. The final activity is cumulative and incorporates concepts from each of the previous activities in this unit.



Module 16: Displaying, Analyzing, and Summarizing Data Activity

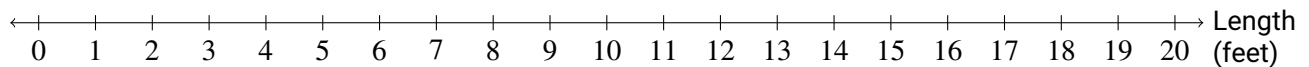
The ancient Hawaiians were very fortunate to have plenty of woody plants around them. The wood from koa trees and kauila shrubs, in particular, are very solid. This quality made them very important for making tools and weapons in ancient Hawai'i. Let's use statistics to figure out the typical length of a Hawaiian spear called the pololū.



There is a collection of ancient pololū in a museum. Let's take a look at their lengths (in feet).

11	15	8	7	11	10
9	6	12	10	13	10
9	9	9	8	7	12

- Plot the lengths on a dot plot.




- Describe the shape of this data distribution.

- Which pololū length was the most common? How many of the ancient pololū were this length?

- Find the mean and median of this data. Round to the nearest tenth.

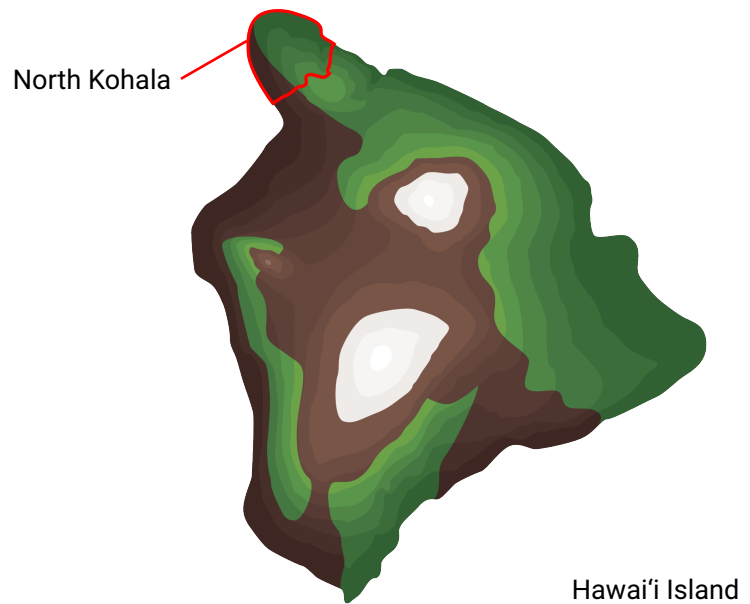
5. Could any of your answers from parts 3 and 4 be used to represent the typical length of a pololū? Why or why not? If not, which one of those answers do you think is best?

6. How do you think life would have been different in ancient Hawai'i if woody plants were rare? Please share with your partner or in the online comment section. 

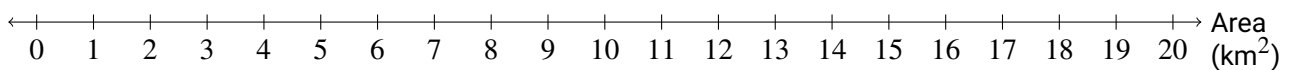
Unit 7: Cumulative Activity

King Kamehameha the Great was born in the moku of Kohala, on the northern end of Hawai'i Island. Today, Kohala is split into North Kohala and South Kohala. Let's look at the sizes of some ahupua'a in North Kohala.

Ahupua'a	Area (km ²)
'A'amakāō	7.06
'Āinakea	2.18
'Āpuakaohau	1.19
'Āwini	8.00
Hala'ula	2.45
Hālawa	6.42
Halelua	3.03
Hana'ula	2.53
Hāwī	1.29
Honokāne	19.03
Honomaka'u	1.46
Honopueo	3.30



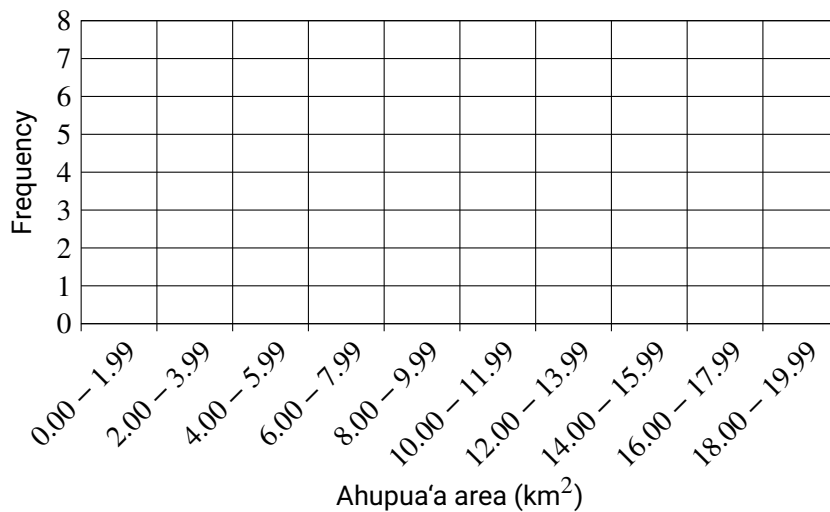
1. Make a box and whisker graph using the area of each ahupua'a.



2. Calculate the range and interquartile range of the areas.

3. Calculate the mean of the areas. Round to two decimal places.

4. If we removed Honokāne from the table, how would this affect your box and whisker graph?
5. Would removing Honokāne from your table affect the mean? If so, how would it be affected? (You do not need to calculate the mean again.)
6. Make a histogram using the area of each ahupua'a.



7. Which measure of center better describes the typical size of an ahupua'a in North Kohala—the median or the mean? Explain.
8. Choose an ahupua'a that you are familiar with but do NOT live in. Share something that you really like about that ahupua'a. Please share with your partner or in the online comment section. 