MA UKA - MA KAI CONNECTION LEARNING LOG 3
WAI IN THE AHUPUAʻA

NAME _____ **DATE** _____

Focus Questions: **How was water distributed in ahupuaʻa of old Hawaiʻi?**
How has the use of water in our ahupuaʻa changed over time?

Vocabulary:

ʻauwai – channels built between streams and loʻi kalo that distributed water through the wetland agricultural system of old Hawaiʻi
kahawai – the Hawaiian word for stream; streams were the source of water for loʻi kalo
kānāwai – the Hawaiian word for law; it translates as the equal sharing of water
laulima – to work cooperatively
loʻi – shallow pond for growing wetland taro
mālama – care for
mahiʻai – farmer
ʻohana – family
poʻowai – a dam built to divert water from the stream into ʻauwai; the literal translation of this word is "water head, or water source" (mānowai and paniwai are other terms used for the dam)
wai – fresh water
waiwai – wealth or prosperity

Answer the following questions using the vocabulary above:

1. What words indicate the importance of water in old Hawaiʻi?

2. What words name the parts of the irrigation system?

3. What Hawaiian values are associated with the way that water was distributed in old Hawaiʻi? Use these words in a sentence to explain your answer.

4. What words refer to the people who take care of the ʻauwai? Use these words in a sentence to explain your answer.

MA UKA - MA KAI CONNECTION MODEL-BUILDING INSTRUCTIONS

Focus Question: How was water distributed in ahupuaʻa of old Hawaiʻi?

Create and analyze a model of water distribution in old Hawaiʻi!

Supplies

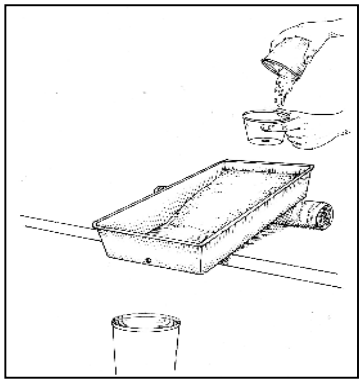
- ✓ Earth material
- ✓ Handful of gravel
- ✓ Large pan
- ✓ Styrofoam™ cup with hole poked in the bottom
- ✓ Container for pouring water
- ✓ Bucket or pan to catch water that comes out of the pan (if done indoors)
- ✓ Wood blocks or rolled up newspaper to prop up one end of your pan a little
- ✓ "digging stick" (chopstick)

1. **Instructions:** In your group, decide on one person to be responsible for each different job:
   - Gathering supplies
   - Setting up model (see picture below)
   - Getting water
2. Start setting up when the teacher says, "Go!"
3. Before you begin making your model, make sure you have all your supplies and, if you are in the classroom, that the desktops and floor are covered with newspaper!
4. Steps to build your model (use the illustration as a guide):
   a) Mix the earth material inside the pan.

   b) Push the earth material against one end of the pan—NOT the end with the hole in it because that's where the water comes out!

   c) Form a gentle "mountain slope" with the earth material.

   d) When you are satisfied with the slope, carve a stream into the slope.



   e) Try running water through the stream! If you are building your model inside, MAKE SURE YOU HAVE A BUCKET or PAN UNDER YOUR MODEL TO CATCH THE WATER! Place the Styrofoam™ cup at the top of the slope above the stream and slowly pour water into the cup. A small stream of water will begin to flow out of the hole in the cup. (Be sure to hold the cup in place so water flows only in the stream.)

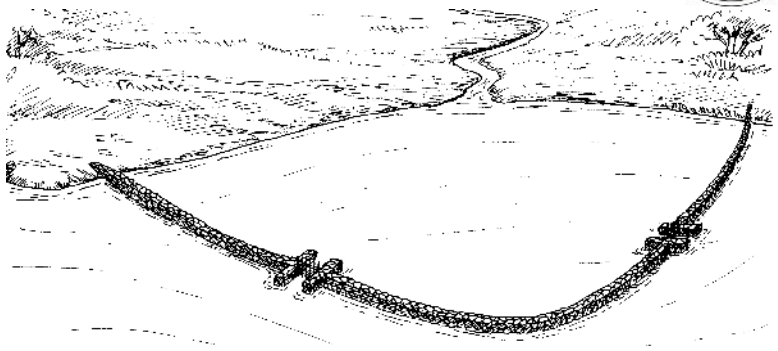
   f) After observing how water flows through your stream, make any adjustments you think the model needs.

   g) Dig out a little of the earth material to create shallow ponds where your loʻi will be.

   h) Dig ʻauwai from the stream to the loʻi and back to the stream.

   i) Place small rocks to make a dam in the stream, and line the ʻauwai with small rocks.

j) Use small rocks to build a fishpond where the stream flows down to the ocean. Use the illustration of a shoreline fishpond to guide you.



k) Try running water through the ahupuaʻa model. (Follow the same procedure as in "e" above.)

l) How does your model work? Does it accurately show how water was distributed in old Hawaiʻi? Make any adjustments you need.

5. Save your models for discussion!

6. Follow your classroom clean-up procedures.

> On an index card, write a reflection about what you learned from this model-building activity. Place the index card next to your model.

> Work with your team to present your model to the class. Be sure to answer the focus question for this lesson when you present.

MA UKA - MA KAI CONNECTION LEARNING LOG 4

NAME_____ **DATE**_____

In the picture below, illustrate how water was distributed through a system of loʻi kalo in old Hawaiʻi, and include the loko iʻa (fishpond).

On a separate sheet of paper, describe the changes that Hawaiians made to the land in order to produce food. Explain how these changes affected the water. How does this compare to the way we use land and water today?

