TEACHER NOTES: LŌKAHI UNIT

This unit can be an excellent way to really get to know your students at the start of the year (or later on), even if it strays wide of your specific science content area. Knowing the overall mental, physical and spiritual health of the class should help you teach, and your students learn, much better.

These materials are sequenced below to give you suggestions to teach this unit in 3-5 weeks. If you are using only a few item/activities, look at those nearby in the list below to make sure you will have all the materials and content prep you need for students. If you’re using many items, try the pre-test and post-test … don’t forget to give this out 1st and last!

PRE-TEST: LŌKAHI

A) LŌKAHI IN MY LIFE (TIME CHART)
Give students the time chart sheet at the start of this unit to fill out in advance so they have notes on the how they spend their time before they do the follow-up questions and complete their own Lōkahi Wheel & Plan (see below)

B) LŌKAHI READING
Read aloud & discuss the words of this kupuna:

- What is Aunty Malia’s message?
- Why does she think this?
- What do inter-connectedness & interdependence mean?

Connect this to related standards BS.3.1 & SC.BS.3.4 (see poster in this folder).

C) IMAGE-MAKING
The drawing worksheet can be done in 5 to 10 minutes any time before students see the Kamehameha Schools Lōkahi Wheel. This is a short activity so they will have their own ideas when they create their own wheel later.

D) LŌKAHI WHEEL INTRO
Use this or the laminated wheels to discuss what this wheel represents & advocates (order at: http://store.ksbe.edu/kspress/ or call Kalei at 842-8527 to find out when the new version of this graphic will be ready). Compare this wheel to the triangle in the Lōkahi Reading &/or the students’ own images in the Image-making sheet. Ask students the following questions:

- How many things did ancient Hawaiians believe had to be in balance?
  Answer: 3: gods, people and land (akua, kanaka, & ‘āina)
- How many things do modern Hawaiians believe need to be balanced?
  Answer: 6, according to this Kamehameha Schools wheel
- Which do you agree with more for health & happiness and why?
Do we need to spend equal amounts of time on each of these things?
What are the rewards/consequences of balancing the important parts of our lives in one of these ways?

E) MAKE A HUMAN LÖKAHI WHEEL
Safety – make sure students are not wearing socks only and are not on a slippery surface
Note: most teens are uncomfortable doing this group activity, but may be willing to pair up, stand toe-to-toe & clasp hands, then lean back to form an inverted ‘A’ frame (compression at feet, tension in arms). Can still discuss this sheet without any activity if class is very reluctant.

Answers:
3. Tension should be felt at waist and arms
4. Compression should be felt at feet and legs
5. Humans build tension rings at the base of domes; nature makes tension rings when volcanic craters & lava tubes erode, but remain standing. Examples are Diamond Head crater and Aloha Stadium
6. If any one part of a tension ring fails, the whole structure is affected negatively. This is the same concept as: interdependence among all species and biospheres on the planet (the food chain, etc); the same idea as a person needing a balanced diet to maintain a healthy body; and the same idea as a single person balancing their time and energy on the 6 areas of the Lökahi Wheel to stay happy.

F) HAWAIIAN HEALTH: THEN & NOW
Students can write notes or draw their answers in the boxes on this sheet to think about the discussion questions in advance. The class can read the paragraph on ancient times together, or silently. The final 3 questions can be done before or after these discussion questions:
Would you like to eat & exercise like Hawaiian teens did long ago? Why?
Do you think school & work was harder for them or for you today?
Note long ago youth were sometimes selected very young to train as kāhuna, & all learned trades of survival & specialties such as farming, fishing, canoe building, hunting, kapa weaving, hula, etc. Often training for kāhuna took decades.
Who do you think had more time to spend with family & friends?
Which lifestyle do you think helped people to think better? Why?
Encourage understanding of the link between balancing your diet, getting exercise & good mental functioning.
Do you think teens in Hawai‘i long ago were happier than you?
Encourage understanding of the link between balancing your health, social supports & happiness.
What differences are there in spiritual beliefs, practices & health?
Explore the choices then & now and the link between physical health & mental, emotional & spiritual well-being. Note in ancient times most people believed in many gods, but no law forced them to, and some people were atheists.

G) GUEST SPEAKER &/OR LUNG CAPACITY, BLOOD PRESSURE ACTIVITIES
Invite 1 or more community experts in who know about caring for the human body. He/she can be a Hawaiian healer who can talk about medicinal plants and practices, a doctor or nurse, a massage therapist, acupuncturist, nutritionist, homeopathic doctor, on someone who uses a variety or physical and dietary health practices such as yoga, vegetarianism, etc. Encourage guests to let students try out what they are talking about, not just lecture.
With or without these guests have students test their blood pressure (see school nurse for equipment & possible visit to class) &/or test their lung capacity (can do with balloons, holding breath and timing it, before and after jumping jacks or other exercises)

H) YOU ARE WHAT YOU EAT
Read page 1 together and allow students to fill in the right column as you read each row. Point out the Word Bank on page 2 which explains the body’s systems. Students can answer page 2 questions on their own. Follow up discussion can occur after they’re done, or when doing the lesson below.
OPTIONAL – EXTENSION
Have students study the human body systems listed in the word bank at the bottom of page 2. They can report back to the class in small groups, do jigsaw grouping to share the info and take notes, or do textbook exercises on each. Also, see Body Parts Project and Reading: Na’au (Gut) below.

I) DOES MY LIFE HAVE LŌKAHI?
Read through this worksheet with the class, starting with the example timetable and pie graph. Note this pie graph shows accurate percents to match the timetable, but this person probably doesn’t get enough sleep, if the Physical/Body (Ke Kino) category includes sleeping, eating and exercising.
• Question 1: students tally own activities in hours (will equal 168 for 1 week if they don’t do 2 things at once & count twice the hours); then they can use pie graph to show estimate of percents or use calculator to show exact percents (some may be less than 1%)
• Question 2: can be done with or without class discussion (refer to original Lōkahi Reading sheet to recall Lōkahi pyramid of Old Hawai‘i)
• Question 3: can be done with or without discussion, but stress students should decide for themselves what is best for them given their abilities, wellness, obligations, etc.
• 4 & 5: encourage them to take time planning their wheel before creating it; they may use a different shape than a circle but should discuss it with the teacher first
J) MAKE YOUR OWN LŌKAHI WHEEL
Once students have charted their weekly schedules they can make pie graphs to show how they actually spend their time &/or how they plan to spend it in future (now that they can see where things need to change). This can be done along with the essay below or instead of it.

K) MATH PRACTICE (no hand-out) – Optional!
This exercise lets students work more with pie graphs before making their wheel, if there is time. It is best done with a protractor. Tracing a large circle or using the hand-out template can also be done … folding the paper in half, both ways, will help students find the exact center. Alternately, the hand-out provided can be used to save time or for absentees to catch up.

More Practice with Percentages & Pie Graphs (no hand-out)
- class finds even percentages if all Time Chart activities are given equal time …
  168 divided by 6 = ___ hrs? (Lōkahī Wheel has 6 parts) … draw example, 28 hrs
- students total how they spend their time now (using their Time Chart)
  Example: Physical = 77 hrs; School = 42; Spiritual = 2; Thinking = 10;
  Social = 20; Feelings = 17 (total: 168 hours per week)
- students draw their pie graph to show these figures
  Example: Estimate ... 28 x 2.75 = 77 hrs, so almost 3 "wedges"
  OR Calculate ... 77 divided by 168 = 45.8% of the pie
- If time, continue by estimating or calculating, then graphing, the weekly hours spent doing all 6 Time Chart activities

L) READING: NA‘AU (GUT) – ENTERIC SYSTEM
This is a good intro to the project below and something Hawaiian students should be familiar with and all students can relate to. Try have students share their "gut instinct" stories with the class before or after the reading.

M) BODY PARTS PROJECT
This is best introduced with a demo and a model made in advance by the teacher or a student who has completed earlier work ahead of schedule. Teacher notes are included on page B-103 in this folder.

N) GUIDED ESSAY (2 OPTIONS)
OPTION 1 – OUTLINE SHEET (2 page handout with explicit directions for 5 paragraph essay given, see page B-35) … NOTE: this option takes 1 class, but teaches them little
OPTION 2 – COLOR CODED CARDS for ESSAY or PRESENTATION (refer to mini-unit in Unit II: Kula, on Ahupua`a Resource Guided Essay Writing (includes 3 pages of internet & book notes on coconut; 2 pages showing how to write & organize card notes for 5 paragraph essay; example final essay; worksheet questions evaluating example essay) … NOTE: this option takes 2-3 classes, but teaches students to organize ideas & edit before writing; also engages tactile & visual learners for those with low writing &/or processing skills
O) LÔKAHI PRE/POST-TEST FOR UNIT … don’t forget to give this out 1st and last!

READING: INTERDEPENDENCE IN THE AHUPUA’A
Also see this document and questions on page B-37 to connect the Lōkahi Unit to biodiversity in the ahupua’a.

EXTRA RESOURCES:
The USDA’s new Food Pyramid info, tables & charts are at:
This includes lots of great information (posters, games, tables, etc.) such as:
• Estimated calorie needs at different activity levels (active to sedentary)
• Daily amount of food for each group (by activity level)
Try using the keyword search on the home page to find charts like this: