



## Kūkulu Nā Uapo Unit 1 - Foundational Skills

Kūkulu Nā Uapo (Building Bridges) is a comprehensive Physical Science Curriculum created especially for 6<sup>TH</sup> grade students in Hawai'i. This curriculum connects the Hawaiian science standards with students' varied learning styles as well as the local and host culture. The activities in this first unit teach about classroom protocols and values to be applied throughout the curriculum. The intention of this expanded first unit is to help teachers set a foundation which supports the development of a strong learning community who are able to work collaboratively work to accomplish the yearlong goals. All units in this curriculum address 6<sup>th</sup> grade Science Content and Performance Standards (HCPS III) and General Learner Outcomes (GLOs)

### Unit 1 Goals:

- increase interest in scientific study by relating science to self and place
- build awareness of the importance of scientific study in Hawai'i - past, present, and future
- develop foundational knowledge and skills critical to the work of scientists

Lesson #	Activity	Purpose	Goal(s) Addressed
1	Core Values	◦ Promote a community of learners guided by values	C
1	Course Overview	◦ Provide an understanding of the course	C
1	UNIT AND Course Pre-Assessments	◦ Identify prior knowledge and attitude toward the topics	C, D
2	Lōkahi Triangle	◦ Provide foundational values to support a positive learning community and introduce the concept of interconnectedness	C
2	<i>Sense of Place</i> story	◦ Promote understanding about the connectedness of the host culture to Hawaiian 'aina (land)	A,B
2	Ka 'Upena o ke Ola (The Net of Life)	◦ Anchor the concept to help teach physical science and connections of life (forces, energy, and matter)	A,B,C,D
3	Definition of Science	◦ Connect the practice of science to real life	A, C
3	People Patterns	◦ Connect the concept of patterns with science ◦ Increase knowledge of self and peers	C, D
3	Protocols	◦ Relate concepts to culture and behavior of both student and scientist ◦ Connect the family and community as instructional resources	A, C
4	Steps to the Scientific Method	◦ Develop understanding of the protocols of scientific research	C, D
5	Question Matrix	◦ Increase skills in questioning ◦ Promote higher level thinking	C, D
6	Defining Hypothesis	◦ Develop an understanding of the process of inquiry	D
6	Hawaiian Values / Bowl of Light	◦ Develop an understand about relationships and values	C
7	Graphing	◦ Increase knowledge about data presentation	D
7	"Knowing Self" article	◦ Increase knowledge for scientific self- study ◦ Develop skills in reflection	A, C
8	Rubrics	◦ Develop an understanding about performance guidelines	C, D
8	Visual Display Guide	◦ Introduce criteria for creating projects	C, D
9	Oral Presentation Guide	◦ Introduce criteria for making successful presentations	
9	Ka 'Upena Project	◦ Develop skills in inquiry ◦ Develop Skills in interviewing Identify how to organize and present data	A, D
10	People Patterns	◦ Increase skills in working collaboratively	A, C

	presentations	◦ Increase skills in data collection and analysis	
<b>Lesson #</b>	<b>Activity</b>	<b>Purpose</b>	<b>Goal(s) Addressed</b>
11	Steps to Interviewing	◦ Learn about protocols for further investigation	A, C, D
11	Observation	◦ Develop skills in observing	A, C
12-14	Multiple Intelligences	◦ Increase knowledge of self, peers, and family ◦ Set personal goals for learning	A
14	Why Hawai'i is a Special Place for Scientists	◦ Recognize importance of scientific work in Hawai'i ◦ Expand understanding of future opportunities	A, B, C
15	Introduction to Hawaiian Kāhuna	◦ Develop an understanding of Hawaiian ancestors ◦ Increase skills in working in small groups	A, B, C
16	Kāhuna Story Sharing	◦ Refine communication skills ◦ Share data	A, D
16	Webquest-Scientists in Hawai'i	◦ Connect with local scientists via technology	B
16	Post Test Study Guide	◦ Provide strategies for studying	C, D
17	Scientists in Hawai'i Video	◦ Develop knowledge about careers in science ◦ Develop skills in taking notes	C
18	Turn 4 Review Game	◦ Increase understanding about unit information ◦ Learn format for future test review	D
19	Test Taking Tips	◦ Develop skills in test taking	D
19	Presentation Notes	◦ Develop skills in note taking	C, D
19	Presentation Reflection	◦ Develop skills in self evaluation	A, C, D
19	Unit Post-Test	◦ Identify understanding about big ideas and concepts	D
20	End of Unit Reflection	◦ Develop skills in self-reflection	D
20	Project Sharing	◦ Increase presentation skills	A, C
20	Test Review	◦ Increase understanding about unit concepts	D

*Research sources:*

A'o- Educational Traditions Ka Wana Series - Malcolm Chun

Hawai'i Content and Performance Standards III and General Learner Objectives - Hawaii State Department of Education

Ho'oulu - Our Time of Becoming - Dr. Manu Meyer

Kūkulu Nā Uapo Curriculum Advisory Hui - Kūpuna and other team members

Nā Honua Mauli Loa - Native Hawaiian Guidelines - Native Hawaiian Education Council:

This We Believe - Handbook on Developmentally Responsive Middle Schools - National Middle School Association