BREADFRUIT ('ULU) CURRICULUM RESOURCES

- 'Ulu & You Lesson Plan and Benchmarks
- Terms for the parts of a breadfruit tree
- Coloring sheets:
 - •Legend of Kū and the 'Ulu
 - •Tree
 - •Leaf
 - •Whole fruit
 - Fruit cross section
- Pacific Map of Breadfruit Names

Illustrations by Linda S. Philips

ROOT SHOOT

MALE FLOWER

BARK

BREADFRUIT INSTITUTE - NATIONAL TROPICAL BOTANICAL GARDEN 3530 Papalina Road Kalaheo, Kauai, Hawaii USA www.breadfruit.org 808.332.7324 ext 221

NTBG is an equal opportunity provider

This project is funded by the Kaulunani Urban and Community Forestry Program of the DLNR Division of Forestry and Wildlife; and State and Private Forestry, branch of the U.S. Forest Service, Department of Agriculture, Region 5

'Ulu and You

Grade Level - 3rd

HCPS III Benchmark WL.IE.3.4.1 - Describe mutual contributions of products and practices of the culture being studied and own culture

Sample Performance Assessment (SPA) - The student: Gives examples of shared products, practices, and beliefs (e.g., food, art, clothing, music, stories, customs, sayings, celebrations, religions, gestures) between the culture being studied and his/her own culture by creating lists, drawings, or making an oral presentation. Examples may be given in native language or language being studied.

Rubric

| Advanced | Proficient | Partially Proficient | Novice |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Describe mutual | Describe mutual | Describe mutual | Describe mutual |
| contributions of | contributions of | contributions of | contributions of |
| products and practices | products and practices | products and practices | products and practices |
| of the culture being |
| studied and own culture, |
| in great detail. | in detail. | in some detail. | in minimal detail. |

Sample Lesson Plan:

Day #1 – Write the daily vocabulary terms and their definitions on the board or on "word wall".

mo'olelo = story, legend, history

'ulu = breadfruit

kumu = tree

 $K\bar{u}$ = ancient Hawaiian god of war

Read the mo'olele about 'ulu to students.

Mo'olelo 'ulu

The god Kū decided to live secretly among mortals as a farmer; married and had children. He and his family lived happily until a time of terrible famine. Kū could not bear watching his children suffer, and told his wife that he could deliver them from starvation, but he would have to leave them. She reluctantly agreed, and Kū said farewell and descended into the ground. His family waited there day and night, watering the ground with their tears, until suddenly a small green shoot appeared where Kū had stood. The shoot quickly grew into a tall and leafy green tree that was laden with heavy fruit that Kū's family and neighbors gratefully ate, joyfully saved from starvation.



Individual - Hand out coloring sheet titled "Breadfruit Legend". As students are looking over the coloring sheet with you, ask them questions like, "Why is them an outline of a human diving down the trunk into the ground?" to prompt their memory recall of the mo'olelo you just shared with them. Now, have students write the mo'olelo from memory (two or three sentences) in the upper left hand corner or on the back side of the coloring sheet. Have students color the handout.

Pair Share - Instruct students to discuss with their neighbor dishes made with 'ulu that they have eaten at home. Other products? How is it prepared? If neither students has eaten 'ulu at home, instruct them to brainstorm ways they think that it might be prepared. Have them write their thoughts down on the handout.

Class Share – As a class, go around the room and have students share their uses of breadfruit.

Day #2 – Prepare a copy of the handout titled, "Breadfruit = 'ulu" so that there are blank lines for each part of the kumu. Provide a copy for each student. Guide students through the proper labeling of the kumu. Have students color the handout.

Day #2 - #3 - Do the same as above with the remaining handouts: leaf, fruit, and cross section of fruit.

Grade Level - 4th

Benchmark SS.4.3.1 - Explain the origins and culture of early Hawaiians

Sample Performance Assessment (SPA) - The student: Describes features of early Hawaiian life, such as rules and laws, gods/religion, roles of women/classes of people, sports and games, food, kapu system, land ownership taxes, and/or education.

Rubric

| Advanced | Proficient | Partially Proficient | Novice |
|-------------------------|---------------------------|-------------------------|---------------------------|
| Explain, with clear and | Explain, with detail, the | Explain, with minimal | Ineffectively explain the |
| precise detail, the | origins and culture of | detail, the origins and | origins and culture of |
| origins and culture of | early Hawaiians. | culture of early | early Hawaiians. |
| early Hawaiians. | | Hawaiians. | |

Benchmark SS.4.3.10 - Describe how significant people, including those of legend (including Papa and Wakea, Pele, and Pa'ao) affected pre-contact Hawaii.

Sample Performance Assessment (SPA) - The student: Explains the significance of different people's contributions in the early history of Hawaii.

Rubric

| Advanced | Proficient | Partially Proficient | Novice |
|--------------------------|-------------------------|--------------------------|-------------------------|
| Describe, with clear and | Describe, with detail, | Describe, with minimal | Ineffectively describe |
| precise detail, how | how significant people, | detail, how significant | how significant people, |
| significant people, | including those of | people, including those | including those of |
| including those of | legend, affected pre- | of legend, affected pre- | legend, affected pre- |
| legend, affected pre- | contact Hawaii. | contact Hawaii. | contact Hawaii. |
| contact Hawaii. | | | |

Benchmark SS.4.6.1 - Explain how language, traditional lore, music, dance, artifacts, traditional practices, beliefs, values, and behaviors are elements of culture and contribute to the preservation of culture

Sample Performance Assessment (SPA) - The student: Describes how specific components of Hawaiian culture assure continuity of the culture and embody cultural values.

Rubric

| Advanced | Proficient | Partially Proficient | Novice |
|---------------------------|---------------------------|---------------------------|--------------------------|
| Analyze how language, | Explain how language, | Explain that language, | Recognize language, |
| traditional lore, music, | traditional lore, music, | traditional lore, music, | traditional lore, music, |
| dance, artifacts, | dance, artifacts, | dance, artifacts, | dance, artifacts, |
| traditional practices, | traditional practices, | traditional practices, | traditional practices, |
| beliefs, values, and | beliefs, values, and | beliefs, values, and | beliefs, values, and/or |
| behaviors are elements | behaviors are elements | behaviors are elements | behaviors as elements of |
| of culture and contribute | of culture and contribute | of culture and contribute | culture. |
| to the preservation of | to the preservation of | to the preservation of | |
| culture. | culture. | culture. | |

Grade Level: Botany

HCPS III Benchmark SC.B.4.1 - Describe how plant products (e.g., drugs, timber, spices, herbs, fossil fuels, fibers) impact human life.

Sample Performance Assessment (SPA) - The student: Explains how timber has impacted human life (e.g., history, economics).

Rubric

| Advanced | Proficient | Partially Proficient | Novice |
|------------------------|-----------------------|------------------------|-----------------------|
| Compare the impact of | Describe how plant | Give examples of plant | Explain that plant |
| various plant products | products impact human | products that impact | products impact human |
| on human life. | life. | human life. | life. |

Grade Level – 12th grade Social Studies/Geography using "Pacific Map" of breadfruit names.

Benchmark SS.12G.2.2 - Describe why places and regions are important to individual human identity and as symbols for unifying or fragmenting society (e.g., physical and symbolic characteristics of places, effects of climate on culture).

Sample Performance Assessment (SPA) - The student: Explains the connections between a student-selected culture and its traditional location.

Rubric

| Advanced | Proficient | Partially Proficient | Novice |
|--------------------------|-------------------------|--------------------------|-------------------------|
| Describe, with clear and | Describe, with detail, | Describe, with minimal | Ineffectively describe |
| precise detail, why | why places and regions | detail, why places and | why places and regions |
| places and regions are | are important to | regions are important to | are important to |
| important to individual | individual human | individual human | individual human |
| human identity and as | identity and as symbols | identity and as symbols | identity and as symbols |
| symbols for unifying or | for unifying or | for unifying or | for unifying or |
| fragmenting society. | fragmenting society. | fragmenting society. | fragmenting society. |

Benchmark SS.12G.4.2 - Assess the impact of human migration on physical and human systems (e.g., effects on ecosystems, resource use, and economic development; effects on population characteristics such as religion and average age)

Sample Performance Assessment (SPA) - The student: Chooses a specific instance of human migration to study and compares statistics about the area before and after.

Rubric

| Advanced | Proficient | Partially Proficient | Novice |
|------------------------|-----------------------|----------------------|--------------------------|
| Assess the impact of | Assess the impact of | Assess the impact of | Ineffectively assess the |
| human migration on | human migration on | human migration on | impact of human |
| physical and human | physical and human | physical and human | migration on physical |
| systems, drawing | systems, drawing | systems, drawing | and human systems. |
| relevant and strongly | relevant conclusions. | partially relevant | |
| supported conclusions. | | conclusions. | |

Works Cited

"Hawaii Content & Performance Standards III Database." Hawaii Department of Education. June 2007. Department of Education. 13 Oct. 2013. Retrieved from http://165.248.30.40/hcpsv3/index.jsp

Contributed by:

Meghan Ornellas Goodale

Education Coordinator at the National Tropical Botanical Garden

BREADFRUIT TERMS

FRUIT

SKIN (PEEL)

CORE

PULP (FLESH)

SEED

MALE FLOWER

LEAF

TOP OF LEAF

BOTTOM OF LEAF

LEAF EDGE

LEAF INDENTATIONS

MIDRIB

FINE VEINS

TREE

CANOPY

TRUNK

BRANCH

BARK

ROOTS

ROOT SHOOT

BRANCH BRANCH WALE FLOWER BARK BOTS

SAP

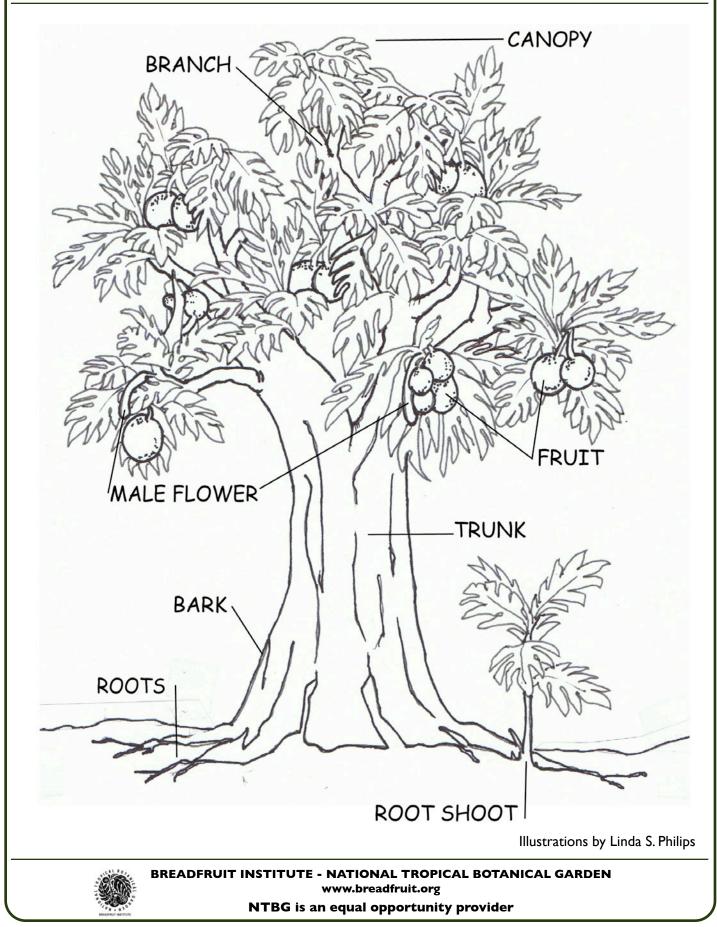
Illustrations by Linda S. Philips

ROOT SHOOT

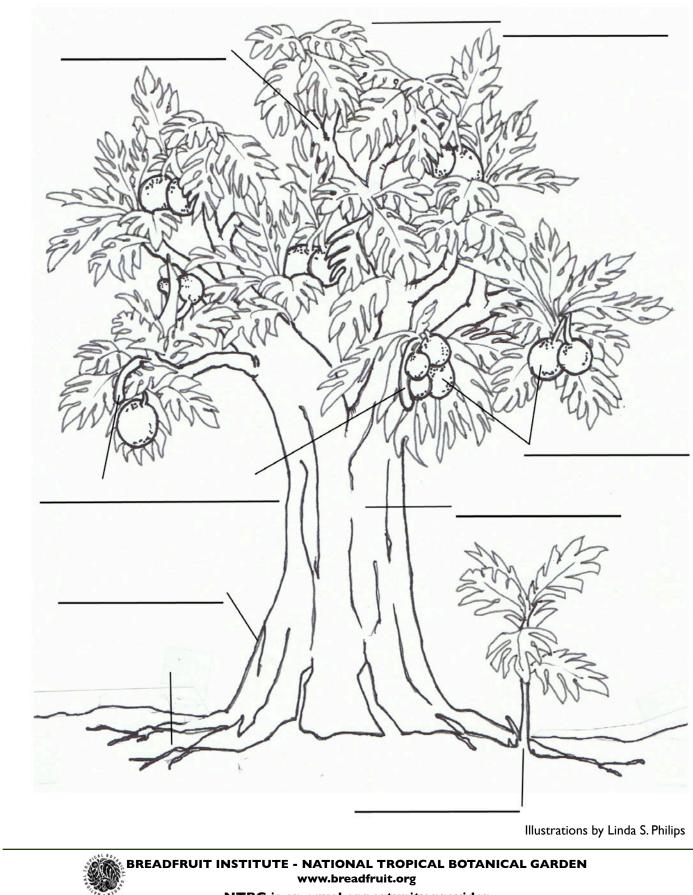
BREADFRUIT INSTITUTE - NATIONAL TROPICAL BOTANICAL GARDEN www.breadfruit.org

NTBG is an equal opportunity provider

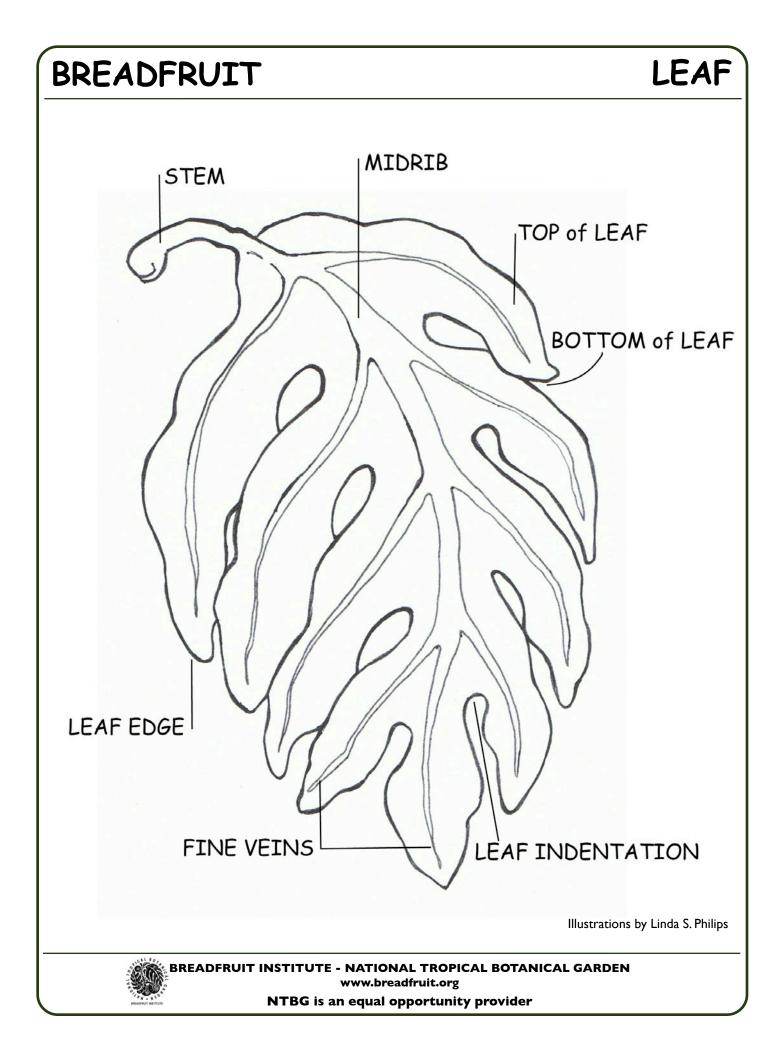
TREE

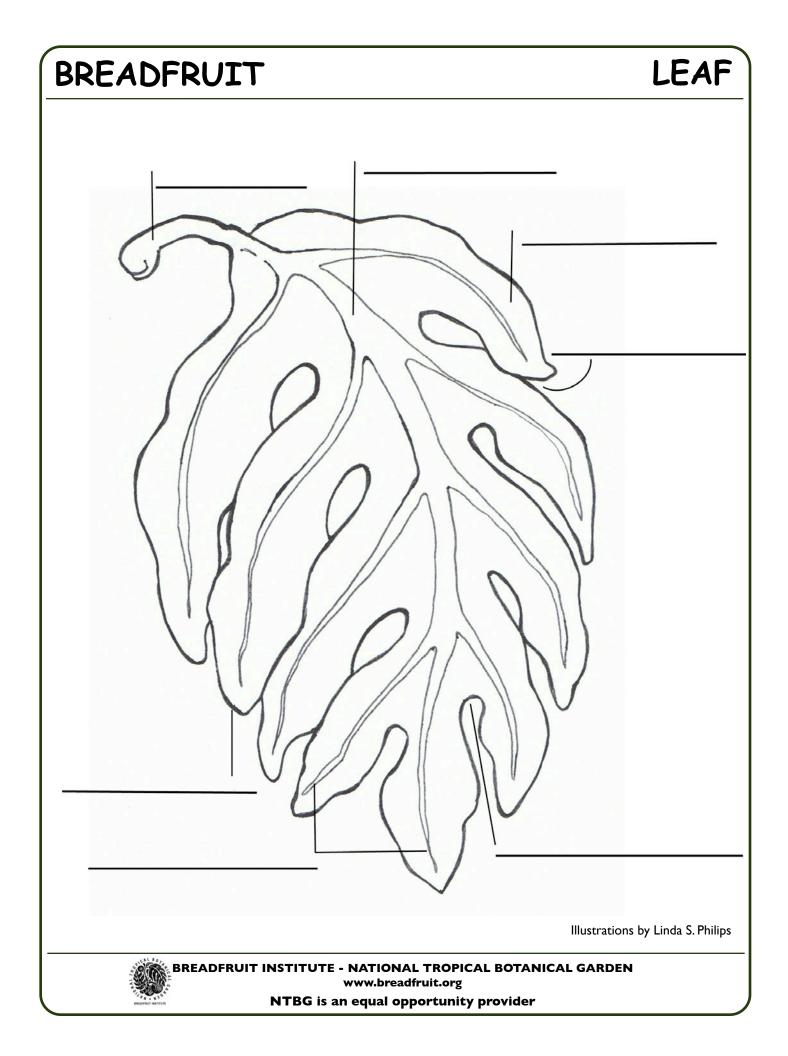


TREE

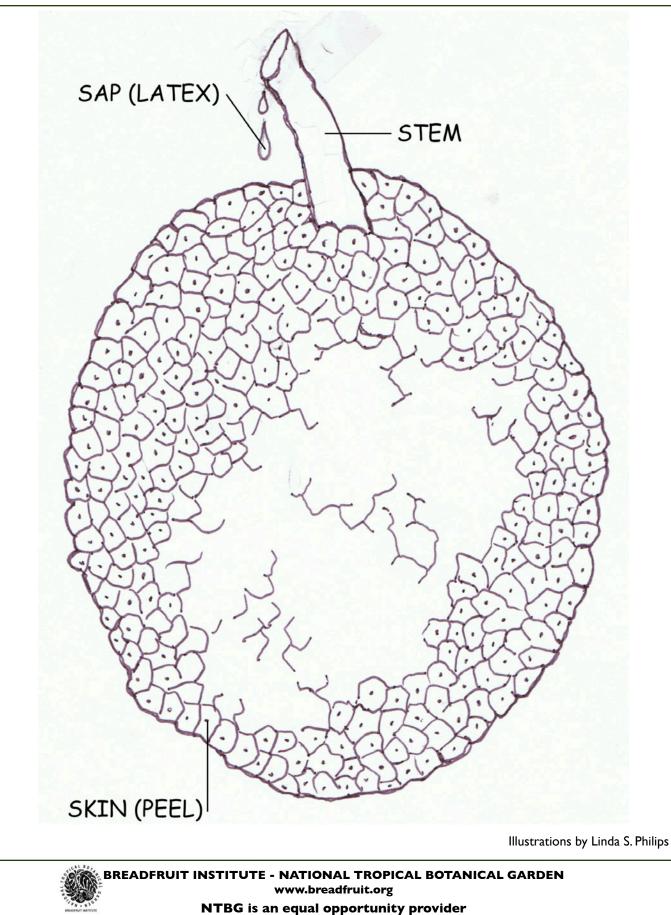


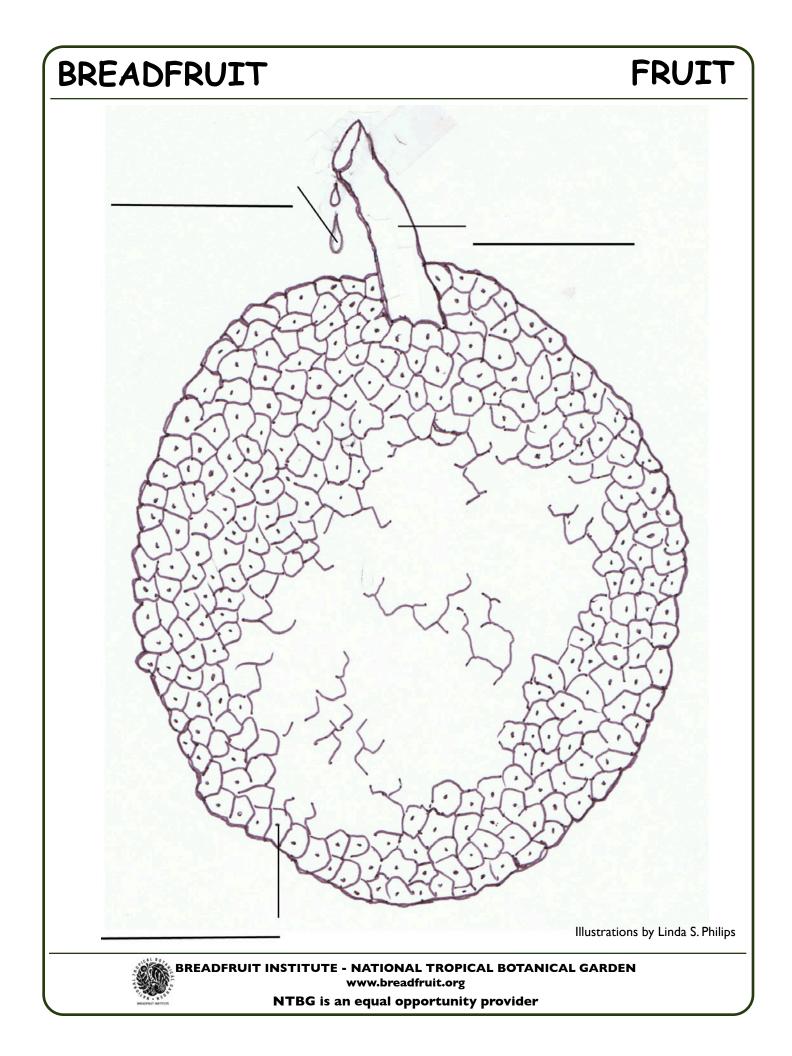
NTBG is an equal opportunity provider



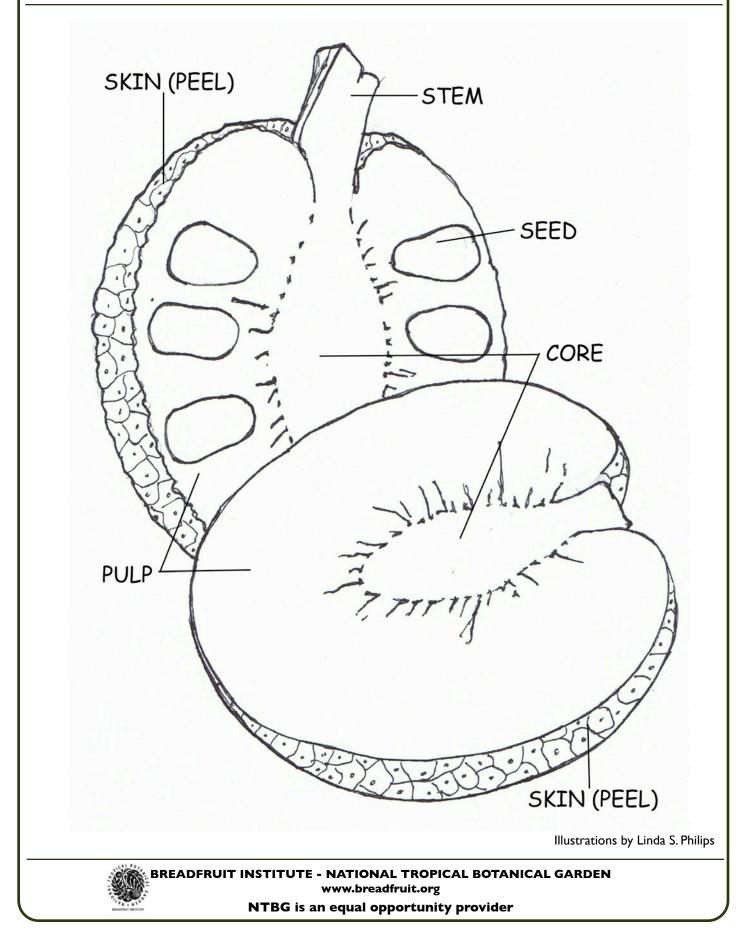


FRUIT

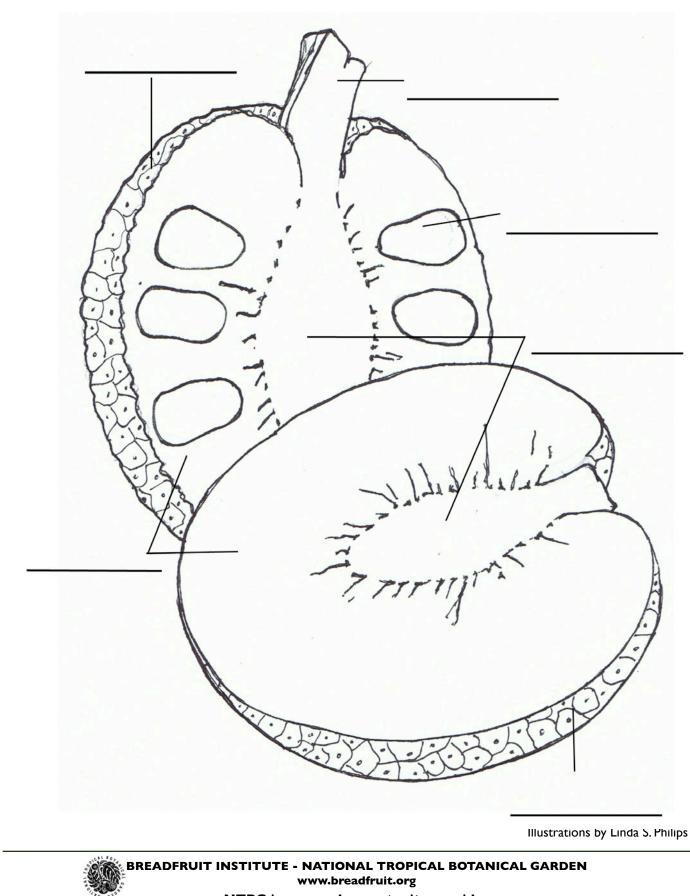




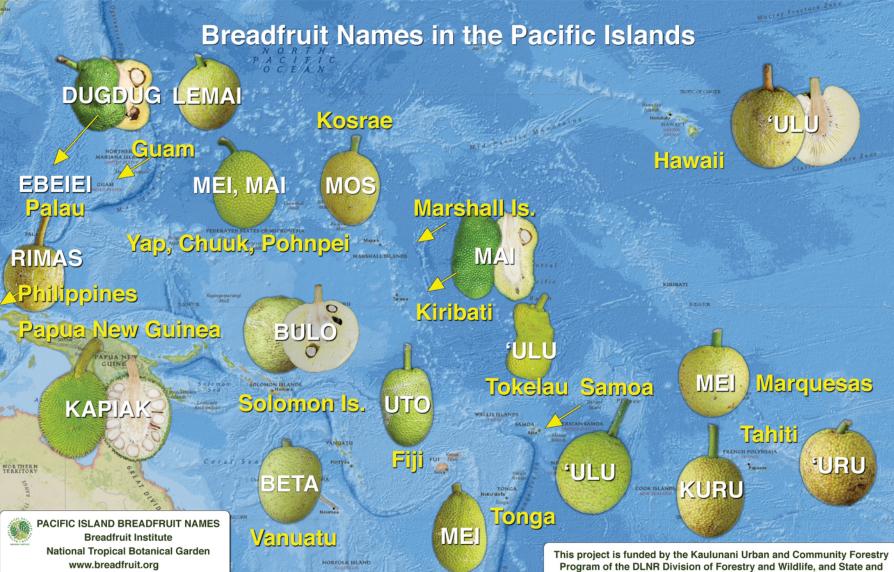
FRUIT







NTBG is an equal opportunity provider



Kermad blend

NTBG is an equal opportunity employer

Private Forestry, branch of Department of Agriculture, Region 5