



Growing healthy keiki, schools, and communities
A program of the Kōkua Hawai'i Foundation

THE TOPS & BOTTOMS GARDEN

Student Workbook

Grade K

Student's Name: _____

Teacher's Name: _____

Date: _____

www.kokuahawaiifoundation.org/aina

ĀINA In Schools is a farm to school initiative launched in 2006 that connects children to their local land, waters, and food to grow a healthier Hawai'i. In addition to encouraging the use of locally grown fruits and vegetables in school meals and snacks, the program includes a standards-based nutrition, garden, and compost curriculum that empowers children to grow their own food, make informed food decisions, and reduce waste. ĀINA In Schools also promotes field trips to local farms, chef cooking demonstrations in classrooms, as well as waste reduction, garden, and cooking educational opportunities for families and community members.

Six Integrated Program Components

Core components:

- **Nutrition Education** empowers students to try new foods and make healthy choices that will last a lifetime.
- **Garden-Based Learning** transforms the school garden into a learning laboratory where all subjects are explored.
- **Healthy Food on Campus** increases local, fresh products in school lunches and snacks to provide healthy choices and support local farms.

Additional components:

- **Agricultural Literacy** introduces students to where their food comes from and who grows and prepares their food.
- **Waste Reduction** reduces, reuses, and recycles waste in gardens, schoolyards, cafeterias, and classrooms.
- **Family & Community Outreach** raises awareness to support student, family, and community health and wellness.



"As an educator, I appreciate your program on so many levels. Your program does more than simply address state standards, but gives our students meaning and relevance as they study and engage in a living classroom where they literally see the fruits (and vegetables!) of their labor."

School Principal

ĀINA In Schools Curriculum

- The ĀINA In Schools curriculum includes 8 lessons per year for grades K-6 that are standards-based, multi-subject, and hands-on. The curriculum supports a variety of learning styles and covers topics from the Nutrition, Garden, and Waste Reduction components. Successive units enable students to build on previous knowledge while developing a solid foundation in 'āina-based systems thinking. Nutrition and garden lessons also include close to the source, healthy snacks that reinforce key concepts.
- ĀINA In Schools Curriculum Trainings for Educators and online access to all materials via the Kōkua Hawai'i Foundation website enable educators to bring the ĀINA In Schools experience to students throughout Hawai'i and beyond. Lessons meet Common Core and HCPSIII standards for grades K-6 and are easily adaptable for other grades.

Key KHF Farm to School Partnerships

- Co-leader and founding partner of the **O'ahu Farm to School Network:** www.oahufarmtoschool.org.
- Founding member of the **Hawai'i Farm to School & School Garden Hui:** www.hawaiischoolgardenhui.org.
- Hawai'i Core Partner for the **National Farm to School Network:** www.farmtoschool.org.
- Kōkua Hawai'i Foundation is also an Advisory Committee member of the **Hawai'i Environmental Education Alliance:** www.heea.org.

This Pre-Unit Survey is to see what you already know about these topics. It is ok if you don't know any of the answers. You will be learning about these topics this semester. Try your best and have fun!

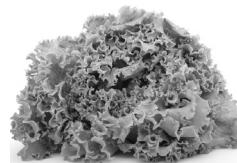
1. Draw a **circle** around the fruit:



Flower



Papaya



Lettuce

2. Draw a **circle** around what you would bury in the soil to grow a plant:



Seeds



Worms



Leaf

3. Draw a **circle** around the part of the carrot you eat most of the time:

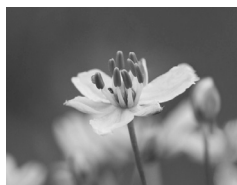


Leaves









Root

4. Draw a **circle** around the picture that best shows withering:



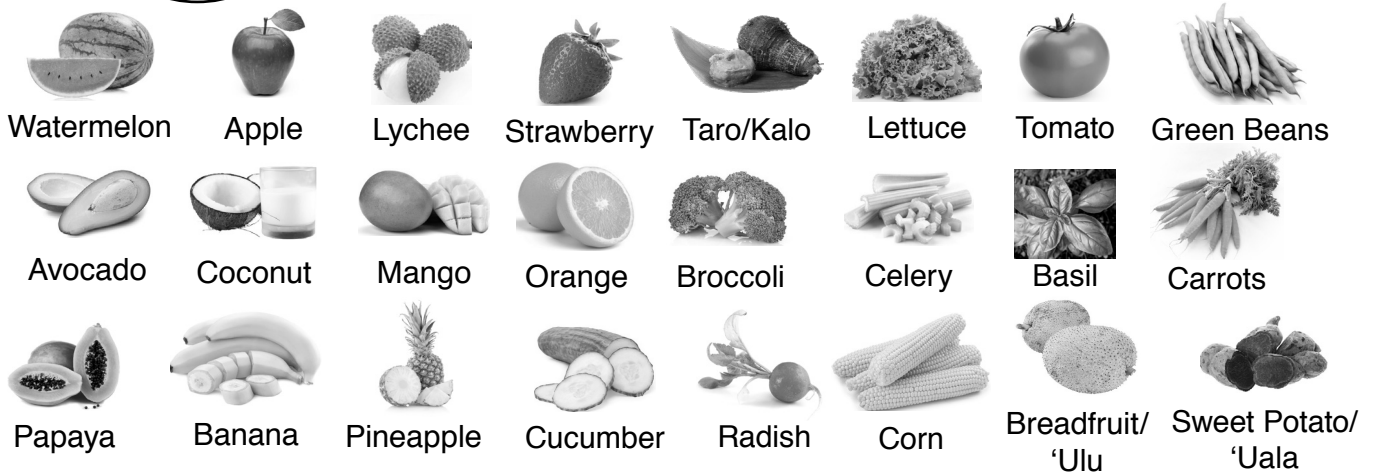
4. Do you like gardening? **Circle** ONE answer:  Yes  I don't know  No

5. Do you like eating fruits and vegetables? **Circle** ONE answer:  Yes  I don't know  No

6. Do you like cooking? **Circle** ONE answer:  Yes  I don't know  No

7. Do you like 'ĀINA Lessons? **Circle** ONE answer:  Yes  I don't know  No

8. Draw a **Circle** around all the fruits and vegetables you like to eat:



9. Draw a picture of what 'āina means to you.

Dear Parent or Caregiver:

This semester, kindergarteners will be participating in four 'ĀINA In Schools Garden Lessons. 'ĀINA In Schools, a program of Kōkua Hawai'i Foundation, is a farm to school initiative that connects children to their local land, waters, and food to grow a healthier Hawai'i. Program components vary from school to school and include nutrition education, garden-based learning, farm field trips, chef visits, waste reduction, and family and community outreach.

Although the lessons are delivered once a month, the students will be engaged in between lessons with regular garden activities that include watering, weeding, making observations, and spending time in the garden.

Photos and Media Releases: By now each of you should have received a Kōkua Hawai'i Foundation Media Release Form. We hope that you have completed this form and have submitted it to your child's classroom teacher. From time to time, KHF takes photos/videos of our lessons to highlight activities that are noteworthy.

To keep yourself up to date on what your child is experiencing in 'ĀINA, we suggest putting this letter up on your refrigerator or bulletin board and talking with your child as the lessons are delivered. You can help reinforce, engage, and learn along with your child by discussing the the lessons and activities after each lesson. A lesson summary and suggested questions/activities for each lesson are listed below.

Mahalo!

In the **Tops and Bottoms Garden** unit, students will plant a vegetable garden of carrots, lettuce, and green beans, with edible parts that are the bottoms, tops, and middle of the plants. Key concepts for the unit include 'āina, the parts of plants, the job of each plant part, edible plant parts, the life cycle of plants, harvesting, and gratitude.



Lesson 1 - Plant Parts

In this lesson, students will discuss the parts of a tomato plant and discover the important job of each plant part. They play the Plant Part Game to discover examples of different edible plant parts: roots, stems, leaves, flowers, fruits, and seeds. Students read *Vegetables, Vegetables!*, sing the Plant Part Song, and plant their Tops and Bottoms Garden by planting carrot and lettuce seeds.

Questions to discuss with your child:

- What part of the plant grows underground and takes in water and nutrients from the soil?
- What is the special job of a seed?

Suggested home activity:

- Show your child a fruit or vegetable and have them tell you which part of the plant it came from.
- Have your child describe the texture, smell, taste, and appearance of the fruit or vegetable.



Lesson 2 - Plant Life Cycle

In this lesson, students explore the plant life cycle by reading the book *A Bean's Life* and acting out the life cycle of bean plants. Outside, students will go on a Life Cycle Scavenger Hunt, finding seeds, green leaves, flowers, and brown leaves and arranging them into a circle of life. They plant bean seeds and help the garden by watering, weeding, and fertilizing with vermicast. They will harvest, wash, and eat any available fresh lettuce from the garden.



Questions to discuss with your child:

- What are the stages of the green bean life cycle?

Suggested home activity:

- Observe a bean seed germinate and sprout: In a shallow glass jar, fill with paper towels halfway. Add bean seed on top of paper towel. Drip water onto towels until moist but not soaked. Observe the bean seed daily and record or draw changes occurring. Transfer plant when four leaves appear.

Lesson 3 - Review & Garden Harvest

In this lesson, students will sort themselves into groups and review the parts of a plant that are eaten and the job of each plant part (roots, stem, leaves, flower, fruit, seeds). They will also review the life cycle of plants by discussing the lettuce plant life cycle. In the garden they will harvest, wash and eat any available lettuce and beans, plant lettuce seeds if space allows, and care for the garden by watering, weeding, and fertilizing with compost and vermicast.

Questions to discuss with your child:

- What are the jobs of each plant part?

Suggested home activity:

- Identify and make a list of the many different fruits or vegetables that your child has eaten.
- Discuss which fruits or vegetables they prefer to eat.



Lesson 4 - Harvest Party

This is the Harvest Party celebration! Students will read the *Tops and Bottoms* story by Janet Stevens, then harvest, wash and eat their garden vegetables and make Harvest Party hats.

Questions to discuss with your child:

- What types of vegetables did you harvest today?
- Which part of the harvested vegetables could be eaten?

Suggested home activity:

- Visit a farmers' market or fruit stand.
- Identify and explore other fruits and vegetables to try in the future.



If you have any questions or are interested in becoming an 'ĀINA In Schools docent, please do not hesitate to ask.

To learn more about 'ĀINA In Schools at your child's school, please contact your school's 'ĀINA Team Coordinator, or contact:



'ĀINA In Schools
Program



aina@kokuahawaiiifoundation.org

I WILL BE SAFE

*

I WILL BE KIND

*

**I WILL HAVE
AN OPEN MIND**

*

**I WILL USE
MY TIME WELL**



Student Worksheet
THE GARDEN AGREEMENTS

Name

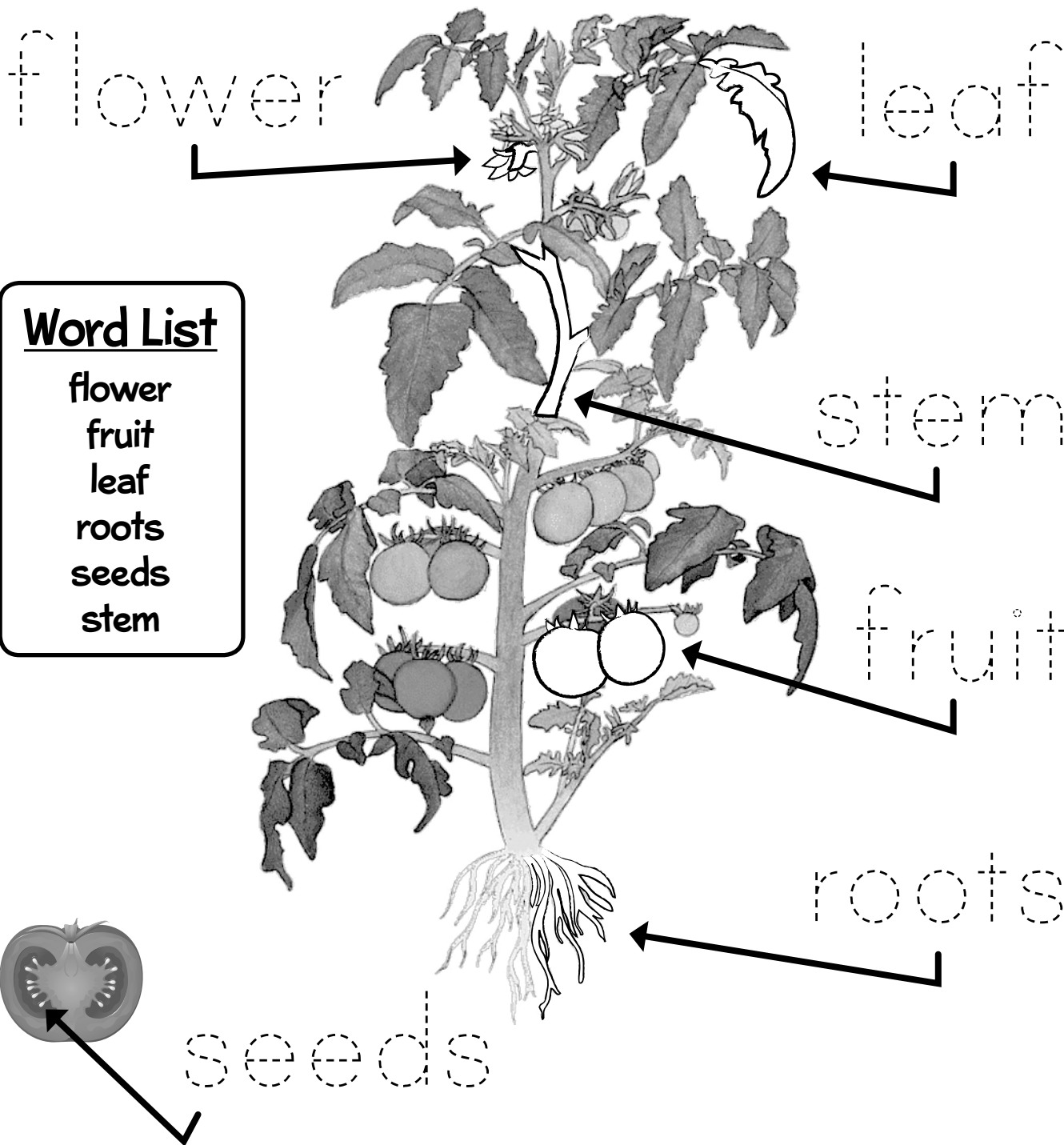
Class Date

Directions: Draw a picture of you in the garden following the Garden Agreements.
Color the Garden Agreements on page 5 if time permits.

A large, empty rectangular box with a thin black border, intended for the student to draw a picture of themselves in a garden.

PLANT PARTS

Part 1 Directions: Color and label the parts of the tomato plant.



Word List

- flower
- fruit
- leaf
- roots
- seeds
- stem



PLANT PARTS

Part 2 Directions: Go outside and draw a plant you see.
Color and label the parts of the plant.

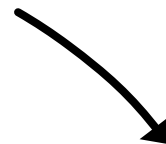
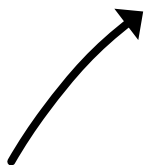
Word List

- flower
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GREEN BEAN LIFE CYCLE

Directions: Color and label the parts of the green bean life cycle.

flower



sprout

beans



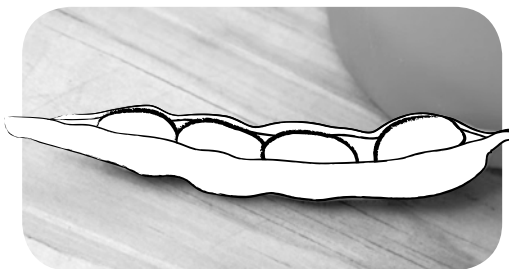
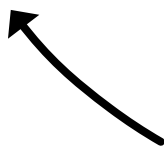
Word List

beans

flower

seeds

sprout



seeds



Student Worksheet
THE TOPS AND BOTTOMS GARDEN
Lesson 2 * Plant Life Cycle

Name

Class Date

Part 2 Directions: Draw a picture of you in the garden and write about what you are doing in your picture.



Student Worksheet
THE TOPS AND BOTTOMS GARDEN
Lesson 3 * Review and Garden Harvest

Name

Class Date

HARVEST REFLECTION

Part 1 Directions: Fill in your answers to the questions below.

1. We harvested _____

2. Draw a picture of the vegetables you harvested.

3. Draw a picture of yourself eating your vegetables.

What We Planted

Lettuce



Beans



Carrots



Part 2 Directions: Match the vegetable to the plant part that you eat.

Beans



Root

Broccoli



Stem

Carrots



Leaf

Celery



Flower

Lettuce



Fruit

Tomatoes



Seed



Garden Reflection

Directions: Answer the question that your teacher selects by drawing and writing in the spaces provided below.

Large empty rectangular box for drawing and writing, containing horizontal lines and dashed midlines for writing.



For Teachers: Choose one of the following opinion questions for students, or create your own, regarding their gardening experience this semester.

**Do you like having a garden?
List three reasons why.**

**What did you enjoy most
about the garden?**

**What other types of plants would you
like to grow in the garden?**

**What is your favorite kind of
pollinator?**

**What is your favorite kind of garden
creature that lives in the soil?**

**What is your favorite kind of
vegetable to eat? What edible plant
part is it?**

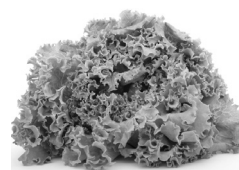
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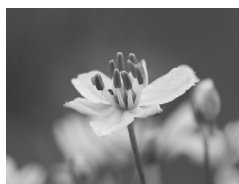




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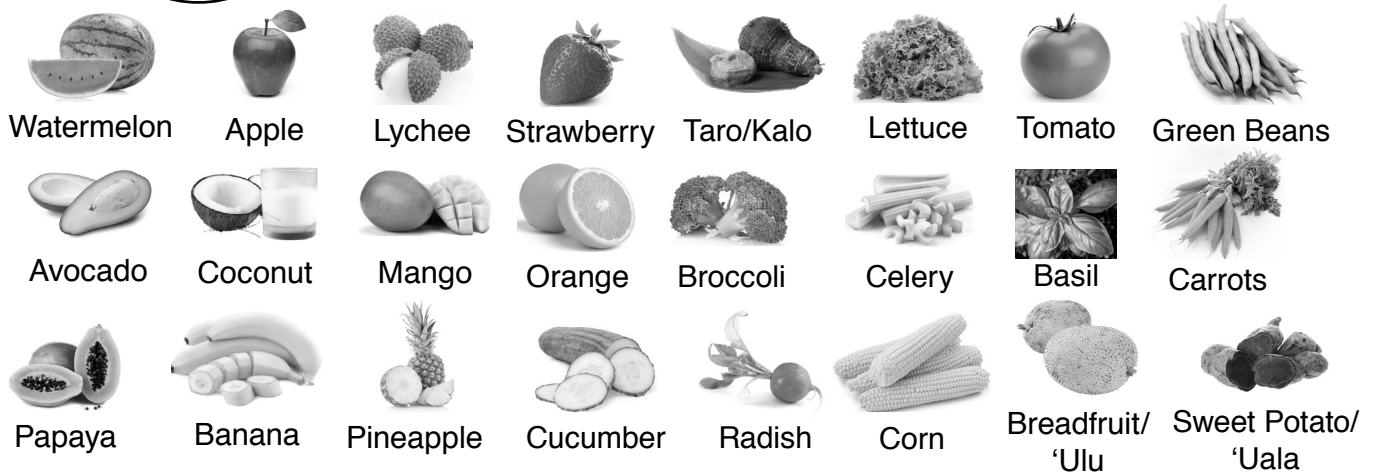
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INSIDE-
COVER
BLANK

OUTSIDE-
COVER
BLANK