



# Science Learning Options

Choose 1 activity to do each day.



## Plant Traits (Roots)

<https://my.nsta.org/ebook/122078/peking-inside-plants/16>

(pages 16-18)

With an 'ohana member, click on the link to read or review pages 16-18, in the ebook, about the function of plant roots. Next, kilo the photos of different roots and list their traits. What are some of the advantages those rooting systems might have? After, go outside and kilo different plants in your yard. If you can see the roots, draw, color, and label the physical traits you observe? Then, explain what some advantages the plant might have with those roots.

## Weather Observations (Tracking the weather)

Kilo the weather 2 times each day – 1 time in the morning and 1 time in the afternoon – during the month of April. Record your observations. (Make sure to kilo it at the same time each day). What weather patterns did you notice in April? Explain.

## Changes in Nature (Ho'oilu and Kauwela)

We know Hawai'i has 2 seasons - Ho'oilu (wet) and Kauwela (dry). Long ago, Hawaiians looked for changes in nature to understand time. It is starting to look and feel like Kauwela. What changes in nature have you been able to see, hear, feel, smell? If you have allergies, your body may be reacting to some of those changes. With an 'ohana member, go outside and look for evidence that ho'oilu is approaching. (Hint: flowers blooming, feels warmer, less rain, dry grass...). Then, record your evidence with sketches and labels.

## Habitats (Home Is Where My Habitat Is) [Home Is Where My Habitat Is](#) [PEY004](#)

With an 'ohana member, share what you think you know about habitats. Then, click on the link to read the interactive ebook about habitats. Write 3 new things you learned. Write 2 connections you made. Write 1 question you have. Think: Hawai'i's climate might make for a great habitat for Kippy? If Kippy was introduced, how might he affect Hawai'i's native ecosystem? Explain.

## Plant Traits and Lifecycle (Autograph Tree)

<https://www.biisc.org/?s=autograph+tree>

Have you ever seen an Autograph tree? It gets its name because people can carve, or sign, their names into the leaves. This tree is highly invasive in Hawai'i. With an 'ohana member, read the information to learn more about Autograph tree traits, how it harms our native ecosystem, and its lifecycle (click on the link for additional information). After, analyze the photo of my neighbor's yard. What do you kilo? Make a prediction about what might happen to the 'Ōhi'a tree and my neighborhood.

## Light and Shadows - Part 1 <https://my.nsta.org/ebook/111992/the-amazing-light-show/1>

With an 'ohana member, discuss what you think you know about shadows. Record your ideas on the Circle Map. Then, click on the link to read the interactive ebook, The Amazing Light Show. Discuss new learning, questions, and connections you have. Next, kilo the photos of shadows Kumu took in her yard. What do the shadows tell you about the object, time of day, and the weather. Make some predictions based on what you kilo.

## Light and Shadows - Part 2 <https://my.nsta.org/ebook/111992/the-amazing-light-show/1>

Think about what you know and learned about shadows. With an 'ohana member, go on a shadow hunt outside. What types of shadows do you observe? Later in the day, go back outside to kilo and see how those shadows may have changed. What might be some reasons for those changes. If you don't observe any shadows, what might be some reasons why? Use your body to create different shadow figures. Ask your 'ohana member to draw a picture of you and your shadow figure. Then, draw a picture of your 'ohana member's shadow figure.

## [Backyard Birds](#) (ebook) <https://read.bookcreator.com/HJUgASPjDkbDYSvsV1R8ouX3Zz32/SxsMSjfTzOL4ftLCBzyQg>

Click on the link to read the ebook about the birds Kumu is observing and learning about in her backyard. What birds have you observed in your backyard? What physical traits do they have? How do they behave? What are they eating? Where do they "hang out"? Write your own book about one or more of the birds you observe in your backyard. Then, share it with others so they can learn, too!



# Plant Traits

## Roots

Kilo the different plant roots in the pictures (for example: thick, thin, curved, brown). In the boxes below, make a list of the root's physical traits. Think of as many as you can; add more bullets if needed. Then, explain what advantages a plant might have with those types of roots.

**Autograph tree**



Root traits:

Advantages:





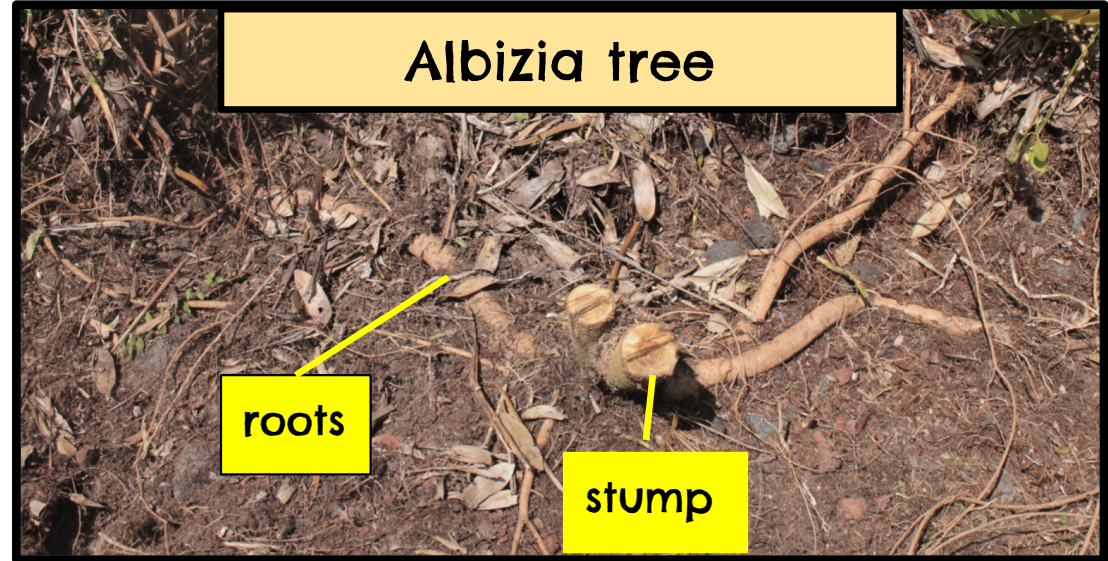
# Plant Traits

## Roots

Kilo the different plant roots in the pictures (for example: thick, thin, curved, brown). In the boxes below, make a list of the root's physical traits. Think of as many as you can; add more bullets if needed. Then, explain what advantages a plant might have with those types of roots.



Albizia roots running under other plants. Notice how long they are. After cutting down the tree, I was curious to see what the roots looked like so I dug them up.



Root traits:

Advantages:



# Plant Traits

## Roots

Go outside and kilo different plants in your yard. If you can see the roots, draw, color, and label the physical traits you observe? Explain to an 'ohana member what some of the advantages the plant might have with those roots.

# Plant Traits and Lifecycle - Autograph Tree



Big Island Invasive Species Committee - Click on the link to learn more about Autograph trees.

<https://www.biisc.org/?s=autograph+tree>

## Autograph Tree

*Clusia rosea*



**Do not  
plant this  
in your yard!**



Autograph tree is widely grown as an ornamental in tropical regions of the world. It thrives in a diverse variety of environments. Plants readily spread from initial plantings to surrounding areas.

Autograph tree is considered one of Hawai'i's most invasive horticultural plants.

All photos by: Forest and Kim Starr





bean plant

# Plant Traits and Lifecycle - Autograph Tree

## Autograph Tree

*Clusia rosea*



**High Risk**

### Description:

Tree up to 10 m tall or more, often begins as an epiphyte on other trees, forms hanging aerial roots, and eventually kills the host tree.

### Flower:

Pinkish flowers are short-lived and have approximately 6 to 8 petals.

### Leaves:

Leathery paddle-like leaves that last for a long time and are often etched with graffiti.

### Fruit:

The numerous seed capsules split open to reveal many red seeds contained within.

### Impacts and Harm:

- Quickly escapes cultivation
- Strangles the host tree that it colonizes
- Shade tolerant and reproduces on its own
- Forms dense thickets that shade out other species
- Produces more than 1,000 seeds per m<sup>2</sup> per year

### Plant this instead:



Kou (*Cordia subcordata*)

Photo: Forest and Kim Starr



# Lifecycle: Autograph Tree



Young plant



flowers



seeds



fruit

Seeds are dispersed by birds.





# Autograph Tree: Neighbor's Yard

Albizia tree

'Ohi'a Lehua tree

Autograph tree







# Autograph Tree: Neighbor's Yard

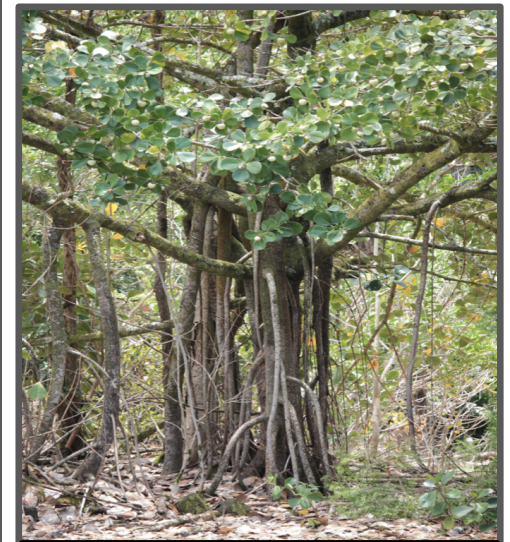
Analyze the pictures. How might the Albizia tree and Autograph tree affect the 'Ohi'a tree's growth? How might those trees affect the rest of my neighborhood? Record your ideas on the next slide.



**Albizia tree**



**'Ohi'a Lehua tree**



**Autograph tree**



# Autograph Tree: Neighbor's Yard

How might the Albizia tree and Autograph tree affect the 'Ohi'a Lehua tree's growth? How might those trees affect the rest of my neighborhood? Record your predictions below. What information from the text supports your thinking? Remember to use "**because**" to explain your thinking.

I predict...

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



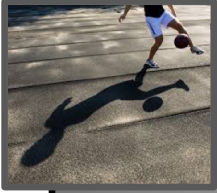
## Weather Observations Tracking the weather

Kilo the weather 2 times each day – 1 time in the morning and 1 time in the afternoon – during the month of April. Record your observations. (Make sure to kilo it at the same time each day). What weather patterns did you notice in April? Explain to an ʻOhana member.

### April

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning	6	7	8	9	10
Afternoon					
Morning	13	14	15	16	17
Afternoon					
Morning	20	21	22	23	24
Afternoon					
Morning	27	28	29	30	
Afternoon					

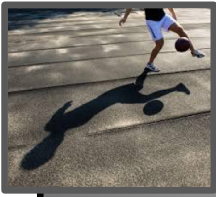




# Light and Shadows - Part 1

<https://my.nsta.org/ebook/111992/the-amazing-light-show/1>

What we think we  
know about light and  
shadows



# Light and Shadows - Part 1

<https://my.nsta.org/ebook/111992/the-amazing-light-show/1>

kilo the photos of shadows taken in Kumu's yard. What do the shadows tell you about the object, the time of day the photos were taken, and the weather?



I kilo

I predict



## Light and Shadows - Part 2

[https://my.nsta.org/ebook/  
111992/the-amazing-light-show/1](https://my.nsta.org/ebook/111992/the-amazing-light-show/1)

Go outside and create a shadow figure. Ask an 'ohana member to draw both you and your shadow figure. Then, draw your 'ohana member's shadow figure. If you don't see your shadow, how can you create one (hint: flashlight).





# Changes in Nature

## Ho'oilō and Kauwela

We know Hawai'i has 2 seasons - Ho'oilō (wet) and Kauwela (dry). Long ago, Hawaiians looked for changes in nature to understand time. It is starting to look and feel like Kauwela. What changes in nature have you been able to see, hear, feel, smell? If you have allergies, your body may be reacting to some of those changes. With an 'ohana member, go outside and look for evidence that ho'ilo is approaching. (Hint: flowers blooming, sun sets later, feels warmer, less rain...). Then, record your evidence with sketches and labels.



# Habitats (Home Is Where My Habitat Is)

[Home Is Where My Habitat Is PEY004](#)

After reading the interactive ebook, [Home Is Where My Habitat Is](#), write 3 new things you learned. Write 2 connections you made. Write one question you have. **Think:** Hawai'i's climate might make for a great habitat for Kippy? If Kippy was introduced, how might he affect Hawai'i's native ecosystem? Explain.

Three new things I learned...

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_

Two connections I made...

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_

One question I have...

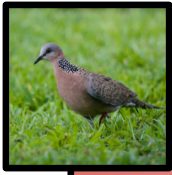
- 1) \_\_\_\_\_

**Think:** Hawai'i's climate might make for a great habitat for Kippy. If Kippy was introduced, how might he affect Hawai'i's native habitat? Explain. Remember to use "because" in your explanation.

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# Backyard Birds

**What birds have you observed in your backyard? What physical traits do they have? How do they behave? What do they eat? Where do they “hang out”? Write your own book about one or more of the birds you observed in your backyard. Then, share it with others so they can learn, too!**