



**U.S. FISH AND WILDLIFE SERVICE**

**BECOME A PAPA HĀNAUMOKUĀKEA**

**JUNIOR BIOLOGIST**



**PAPA HĀNAUMOKUĀKEA**  
Marine National Monument

**THIS BOOK BELONGS TO:**

**BIOLOGIST** \_\_\_\_\_



# MEET THE ISLANDS

## OF PAPAĤANAUMOKUĀKEA MARINE NATIONAL MONUMENT



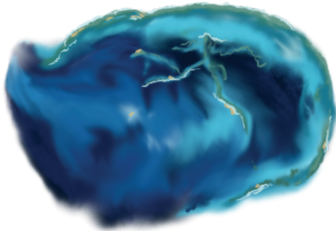
### **Nihoa:**

Nihoa means jagged or toothed, after the steep cliffs found on this island. Many native and endemic species are found here including the Nihoa mahina and palihoa.



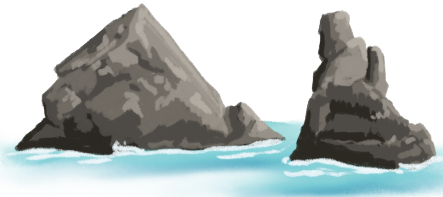
### **Mokumanamana:**

This island is special to Native Hawaiians, it has great spiritual significance. It has many temples, which are called heiau. This island has the most heiau in the Monument.



### **Lalo:**

The largest atoll in the Monument forms an 18-mile long crescent. Lalo is home to the largest coral reef area in Hawai'i. Over 95% of all honu in Hawai'i nest here.



### **Ōnūnui, Ōnūiki:**

These islets are the oldest volcanic peaks in Hawai'i and are estimated to be 15.8 million yrs old. The oldest volcanic peaks in the Hawaiian Islands. Lots of 'opihi live here.



### **Kamole:**

This island has a hypersaline lake in the middle that is 3 times saltier than the ocean. The koloa pōhaka makes the lake their home.

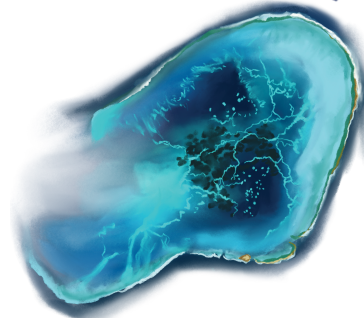
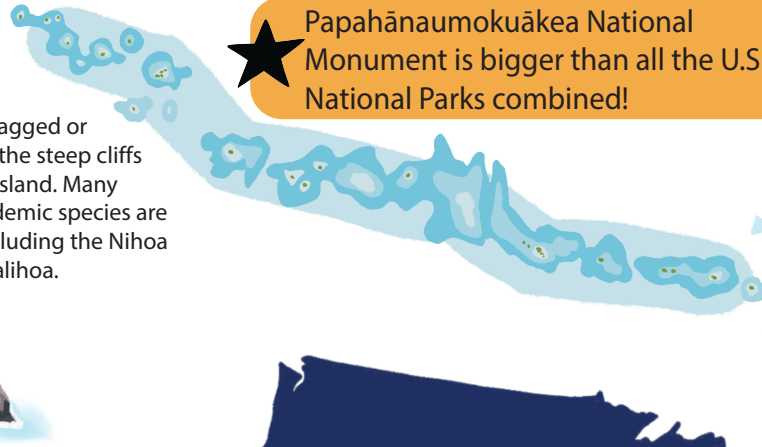
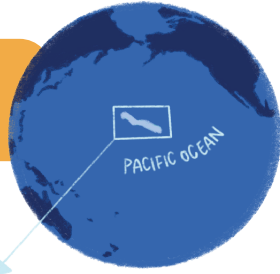


### **Kapou:**

Kapou means "pillar", which might be because of all the rainbows that form here. From space you can see the largest tree in the monument, the *Pisonia grandis*.



Papahānaumokuākea National Monument is bigger than all the U.S. National Parks combined!



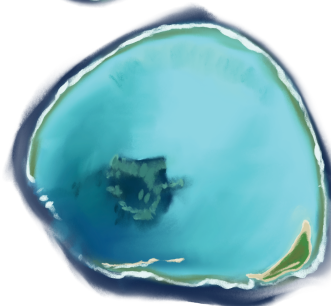
### **Manawai:**

Also called Pearl and Hermes Atoll, it is well known for the "maze" of coral reef in its lagoon. 'Īlioholoikauaua often rest here after their long journeys.



### **Kuaihelani:**

This atoll is home to the world's largest albatross colony as well as to the world's oldest bird, a mōlī named Wisdom. A very important battle took place here during World War II called the Battle of Midway.



### **Hōlanikū:**

This is the last atoll in the Monument. The name Hōlanikū means "bring forth heaven", which symbolizes its importance to the voyagers and Native Hawaiians.



# ACTIVITY

## INTRODUCTORY



Parental help may be needed



Requires going outdoors



New vocabulary word



A quick fun fact

## ACTIVITY CHECKLIST

- ☐ HOW DID PEOPLE GET TO THE ISLANDS?
- ☐ WHAT LIVES ON THE ISLANDS?
- ☐ WHAT DOES A BIOLOGIST DO?
- ☐ HOW CAN I CARE FOR THE OCEAN?
- ☐ HOW CAN I NATURE JOURNAL?
- ☐ WHAT CAN I SEE AND NAME?

# MEET THE SPECIES!



Aloha! I am a koloa pōhaka, and I am only found in Papahānaumokuākea. I am dabbling duck, I dip my head under water to eat plants, insects, and little fish.

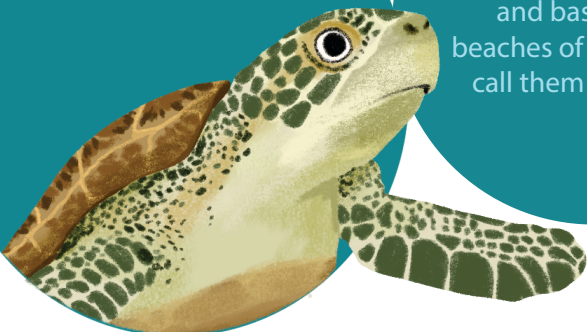
I am a Nihoa mahina! I live on Nihoa. They call me a trapdoor spider because of how I make my home, spinning a web over the burrow entrance.



Hi! I am a mōlī! Like other seabirds, I live mostly out on the water then come back to land to have my babies. I love to soar over the oceans and eat squid.



Hello! I am a honu. My friends and I like to nest and bask on the beaches of Hawai'i, and call them our home.





# HOW DID PEOPLE GET TO THE ISLANDS?

## ACTIVITY # 1 START NAVIGATING

Native Hawaiians travel between **Pō** to **Ao** on their voyaging canoes, using only what they see. They use the sun, stars, seabirds, and ocean swells to navigate. There is one star that never moves in the night sky called Hokupa'a, Polaris, or the North Star. Can you find it?

### A WAYFINDER'S GUIDE TO FINDING POLARIS (THE NORTH STAR)

STEP 1: GO OUTSIDE AT NIGHT!

STEP 2: FIND THE BIG DIPPER

STEP 3: FOLLOW THE FRONT OF THE "SPOON"  
UNTIL YOU SEE A BRIGHT STAR!



IF YOU CAN FIND THE LITTLE DIPPER,  
POLARIS IS AT THE END OF ITS "HANDLE"!

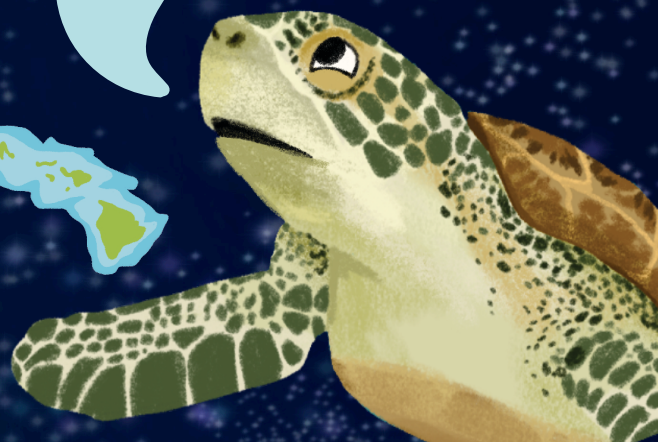
**Pō**: Voyagers travel to these islands to visit ancestors and to worship.

**TROPIC OF CANCER**

**Ao**: meaning light, these islands are where people live, grow food, farm, build homes, and have families.

Voyagers travel great distances to get to islands that have **heiau** to worship and celebrate their ancestors. **Heiau** are sacred temples made from stone, meant for worshiping. Mokumanamana is a sacred place, right on the Tropic of Cancer with many **heiau** built on it.

Like the voyagers, we honu navigate the oceans using Earth's natural magnetic field. We use the bright light of the moon to help guide us to the ocean, and use Earth's magnetic field to swim around, finding all the islands we need to get to. We swim from **Pō** to **Ao** and back in search for food, to bask in the sun and have our babies.





# WHAT LIVES ON THE ISLANDS?

## ACTIVITY # 2 HOME TOUR!

This Nihoa mahina spins a web to cover their burrow, making a door! They live in rocky areas, using their jaws to dig. They catch their food by letting it fall through their "trapdoor" web and into the burrow! Can you draw the spider hiding out in his burrow?

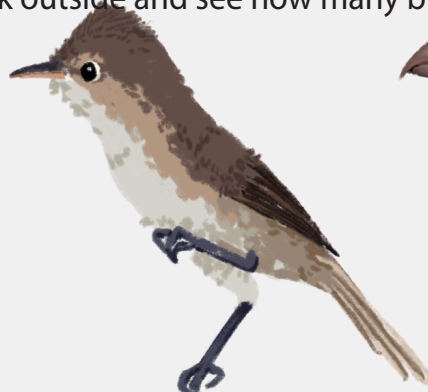


## ACTIVITY # 3 ENDEMIC SONGBIRDS

These songbirds are endemic to their islands! Biologists monitor their population sizes by counting how many they see each day. Let's practice! Look outside and see how many birds you can count in 5 minutes.



Palihoa



Ulūlu



'Ekupu'u

Species like me, the koloa pōhaka, the Nihoa mahina, and these songbirds are **endemic** to our homes!

**ENDEMIC:** a species that is limited to a particular place and found nowhere else in the world

VS.

**INDIGENOUS:** a species that is native or occurs naturally in a particular place



## ACTIVITY # 4 TAKE ACTION

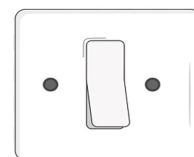
Due to climate change, our earth is warming up. This means that a lot of the endemic species are endangered or threatened. The koloa pōhaka was endemic to Kamole. Rising global temperatures has led to sea level rise which has led biologists to move or translocate species like the koloa pōhaka from Kamole to islands like Kuaihelani and Hōlanikū. How can you help fight climate change?



CONSUME LESS



RECYCLE



SAVE ENERGY



RIDE YOUR BIKE





# WHAT DOES A BIOLOGIST DO?



**BIOLOGIST:** someone that studies life, and protects nature like refuges, parks, and wilderness for their job!



## ACTIVITY # 5

### HOW MANY BIRDS ARE HERE?

A **Biologist** at Papahānaumokuākea has to count lots of different species, like these seabirds. This helps determine how healthy the ecosystem is. Can you count all the birds on this island? Write down how many you see in the orange boxes, to keep track!

#### SEABIRD CHECKLIST



Mōli



Ka'upu



Manuokū



Nunulu



Koloa Pōhaka



## ACTIVITY # 6

### FIND ALL THE MARINE DEBRIS!

Circle all the marine debris (trash and pollution) that you can see on this beach!



After they leave Kuaihelani, mōli may not touch land for 5 years, before returning home to mate!



Me and my 2 million friends live on Kuaihelani. We are **threatened** because of the pollution in the oceans and shores around Papahānaumokuākea, and all over the world.



**THREATENED:** a species that is close to being endangered  
**VS.**

**ENDANGERED:** a species close to extinction- which means not existing anymore



# HOW CAN I CARE FOR THE OCEAN?



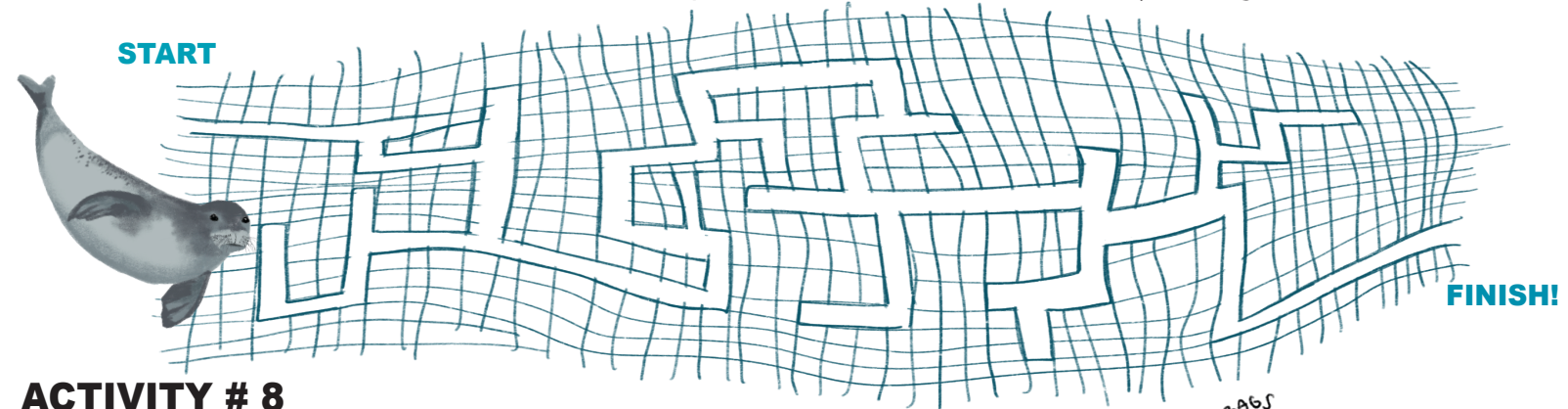
**MARINE DEBRIS:** persistent material that is directly or indirectly disposed of or abandoned into marine or freshwater environments.

## ACTIVITY # 7

### ENTANGLEMENTS WITH GHOSTS

Honu and 'ilioholoikauaua get into **entanglements**, cuddling up with large nets, called ghost nets. Ghost nets are discarded fishing nets and line from boats across the world. They are often the same color as water or rocks, where animals like to swim. Help this 'ilioholoikauaua find its way through the net!

START



## ACTIVITY # 8

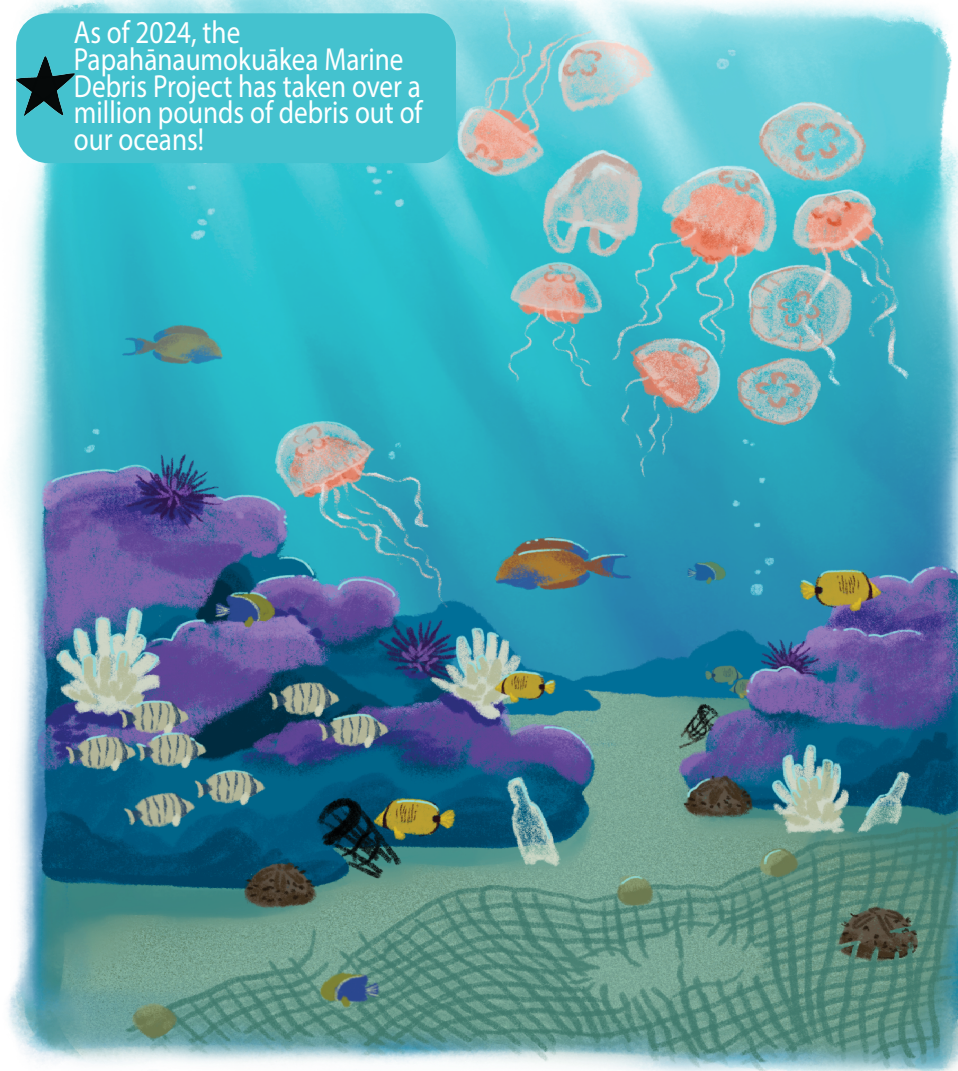
### LOOK AFTER OUR OCEANS

**Marine Debris** can be found in the reefs and shores of Papahānaumokuākea year around. Nets, glass bottles, plastic toys, toothbrushes, and water bottles all end up in our oceans. Pretend you are a honu, can you circle ALL the trash in this picture?



CAN YOU FIND THESE ITEMS?

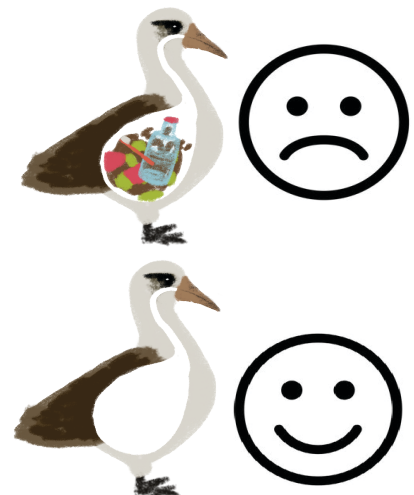
★ As of 2024, the Papahānaumokuākea Marine Debris Project has taken over a million pounds of debris out of our oceans!



## ACTIVITY # 9

### YUMMY TRASH?

Mōlī, nunulu, and other animals eat marine debris alongside food, like squid, jellyfish, and fish. Can you color what a healthy albatross stomach looks like?



Like an owl, mōlī chicks cough up indigestible bits of their food like squid beaks, and now plastic. Biologists collect boluses and send them to schools and/or teachers. This helps teach about pollution in our ocean. You can get mōlī boluses in YOUR classroom!



# A BIOLOGIST'S GUIDE TO FIELD JOURNALING!

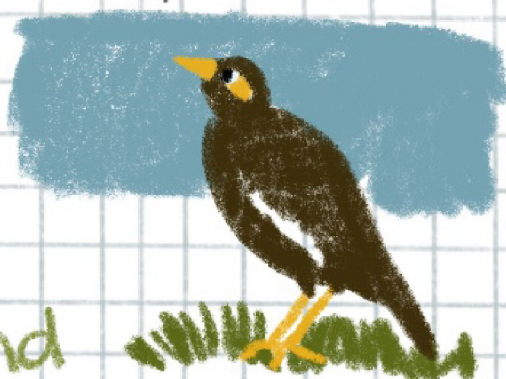
WHERE ARE YOU? *My  
backyard*

DATE: *MM/DD/YYYY*

WHAT DO YOU SEE?

*I see grass, a fence, and  
a black bird with a yellow  
beak, legs, and eyes.*

DRAW/COLOR IT!



WHAT DO YOU HEAR?

*I hear the wind blowing and  
birds chirping. I can also hear  
people talking.*

WHAT IS THE WEATHER LIKE?

*There are fluffy cumulus clouds  
in the sky. It is warm and windy.  
I can see the sun sometimes.*

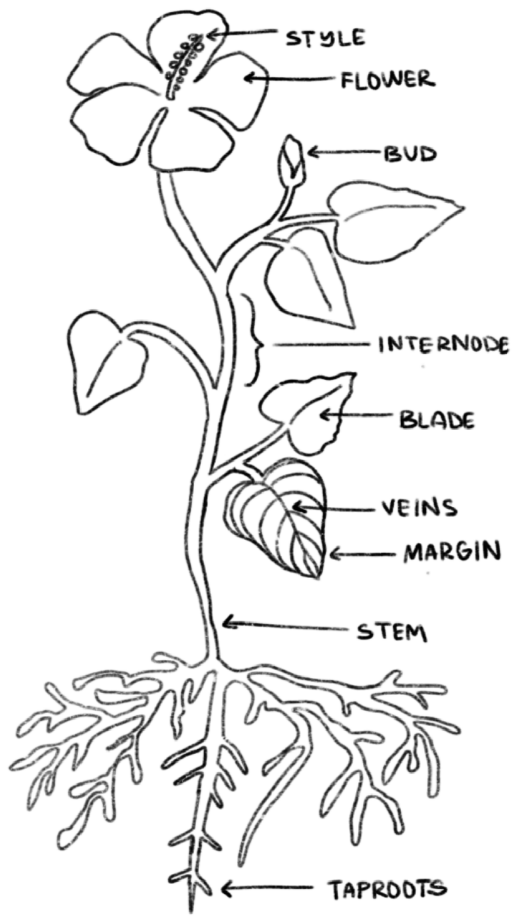
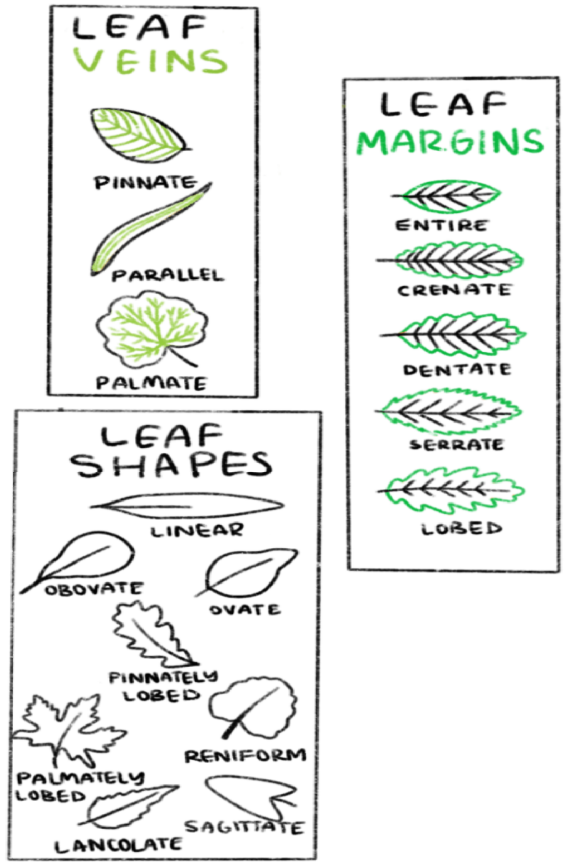
OBSERVATIONS?

*The bird is pecking at the  
grass. Will he find anything?*

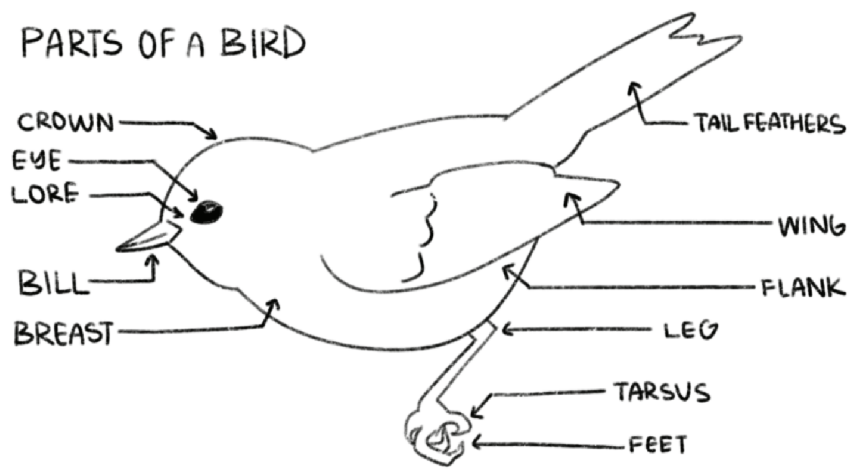


# A BIOLOGIST'S GUIDE TO PLANT ID

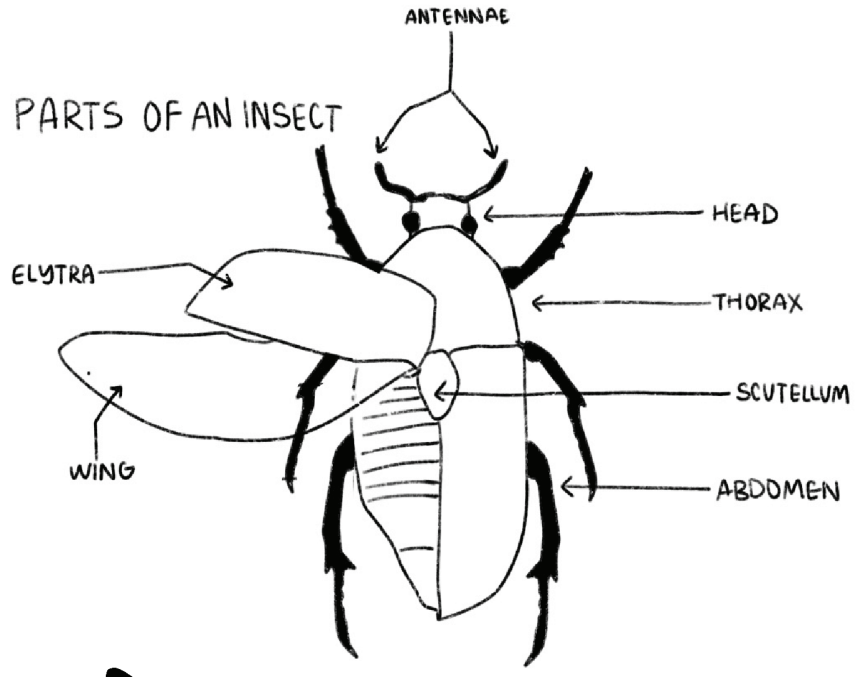
# A BIOLOGIST'S GUIDE TO ANATOMY



## PARTS OF A BIRD



## PARTS OF AN INSECT



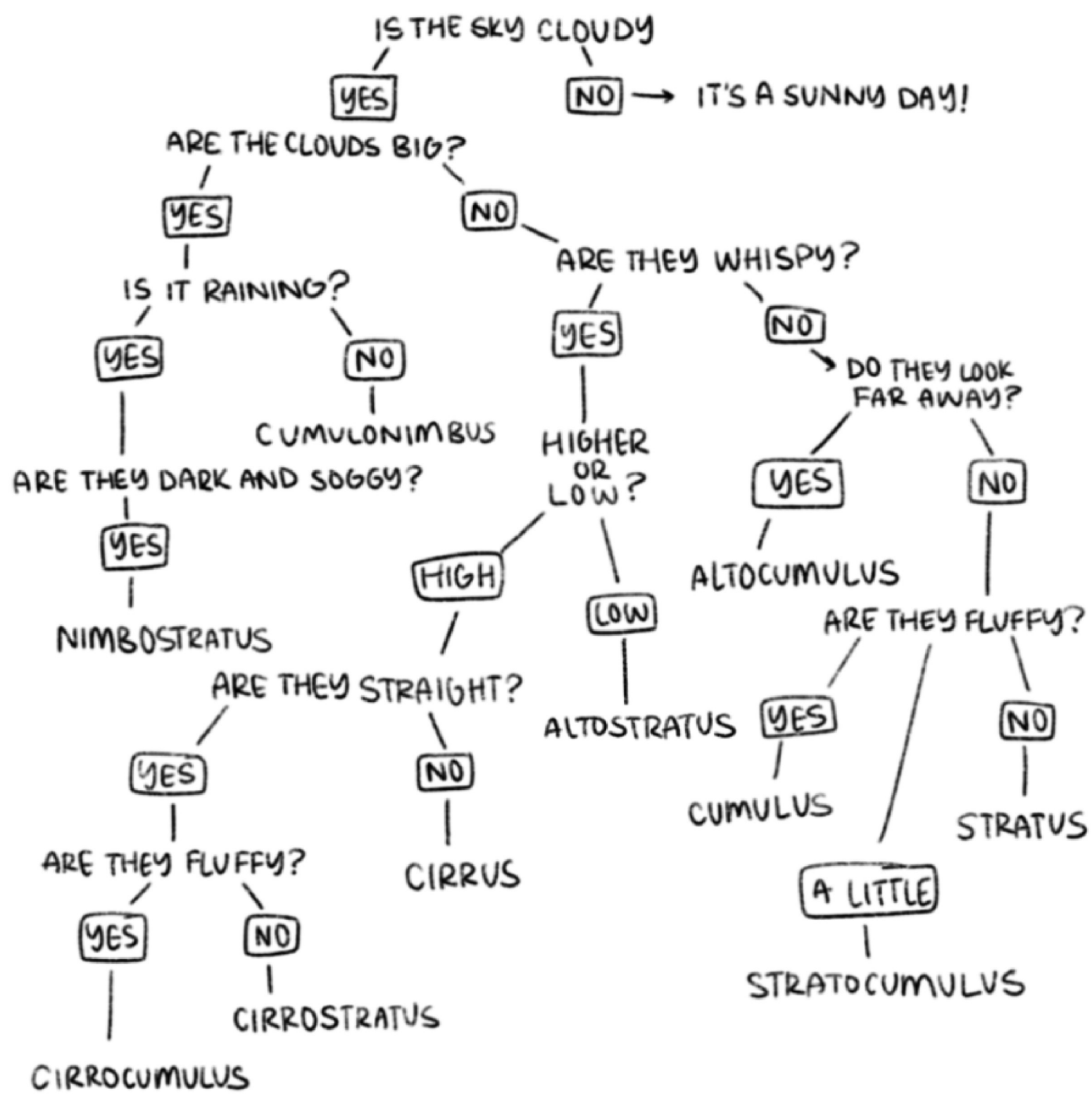
## ACTIVITY # 10 LET'S GO OUTSIDE!

Biologists in Papahānaumokuākea learn about all the different types of plants, animals and even weather. These are some guides that will help you anywhere in the world.

You can find the clouds in the sky or plants from your backyard and gardens. What can you discover today? Make sure you write down all your observations and questions in your nature journal!

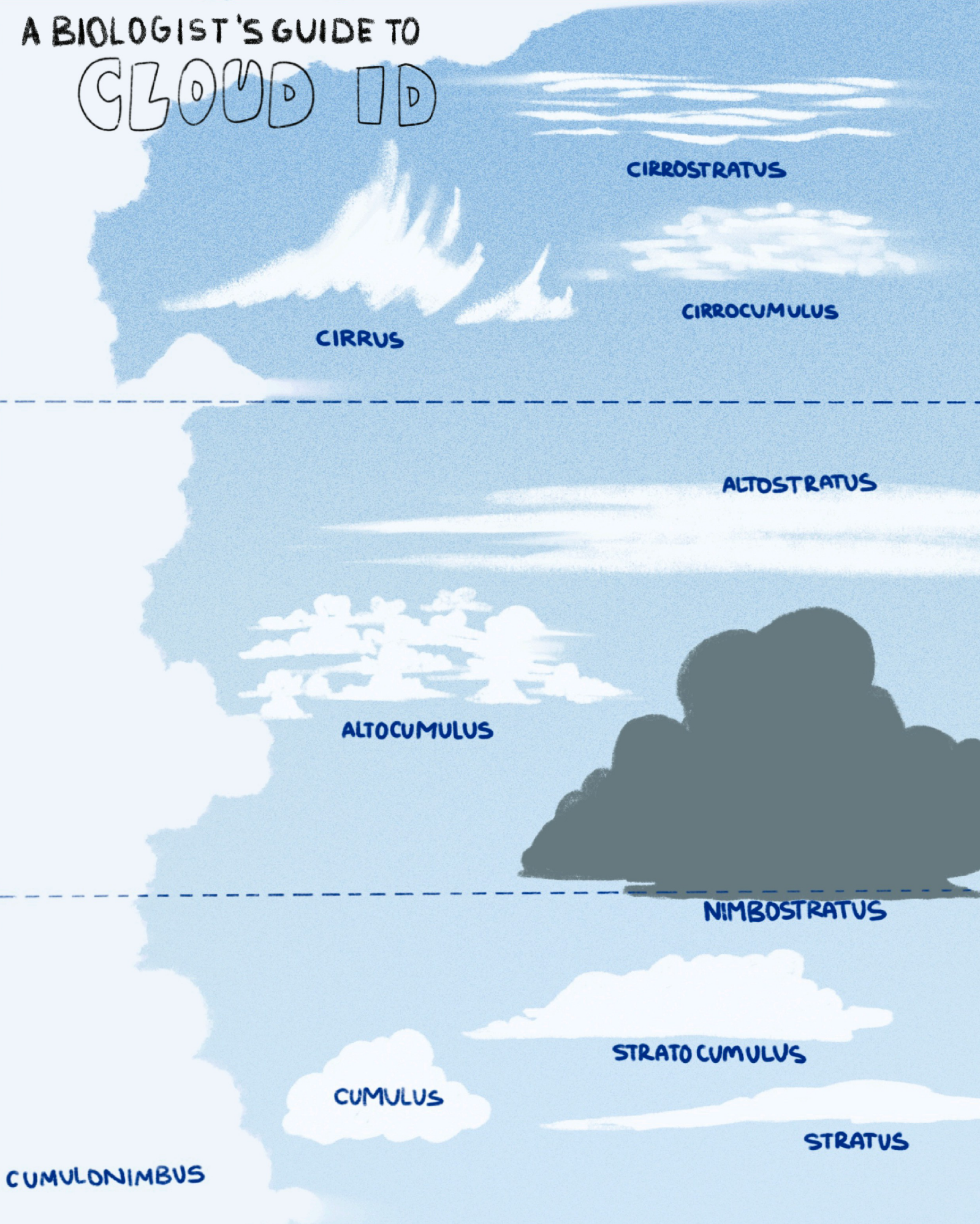


# A BIOLOGIST'S GUIDE TO CLOUD ID





# A BIOLOGIST'S GUIDE TO CLOUD ID



CIRRUS

CIRROSTRATUS

CIRROCUMULUS

ALTOSTRATUS

ALTOCUMULUS

NIMBOSTRATUS

STRATOCUMULUS

CUMULUS

STRATUS

CUMULONIMBUS



## NOW YOU CAN TRY!

WHERE ARE YOU?

DATE:

WHAT DO YOU SEE?

DRAW/COLOR IT!

WHAT DO YOU HEAR?

WHAT IS THE WEATHER LIKE?

OBSERVATIONS?



# JUNIOR BIOLOGIST CERTIFICATION

This certifies that

completed the  
Papahānaumokuākea  
Junior Biologist Course



# GLOSSARY

SPECIES HAWAIIAN AND ENGLISH NAMES



**'Ekupu'u**  
Laysan Finch



**Mōlī**  
Laysan Albatross



**Honu**  
Green Sea Turtle



**Nihoa Mahina**  
Trapdoor Spider



**'Īlioīkūākea**  
Monk Seal



**Nunulu**  
Bonin Petrel



**Ka'upu**  
Black-Footed Albatross



**Palihoa**  
Nihoa Finch



**Koloa Pōhaka**  
Laysan Duck

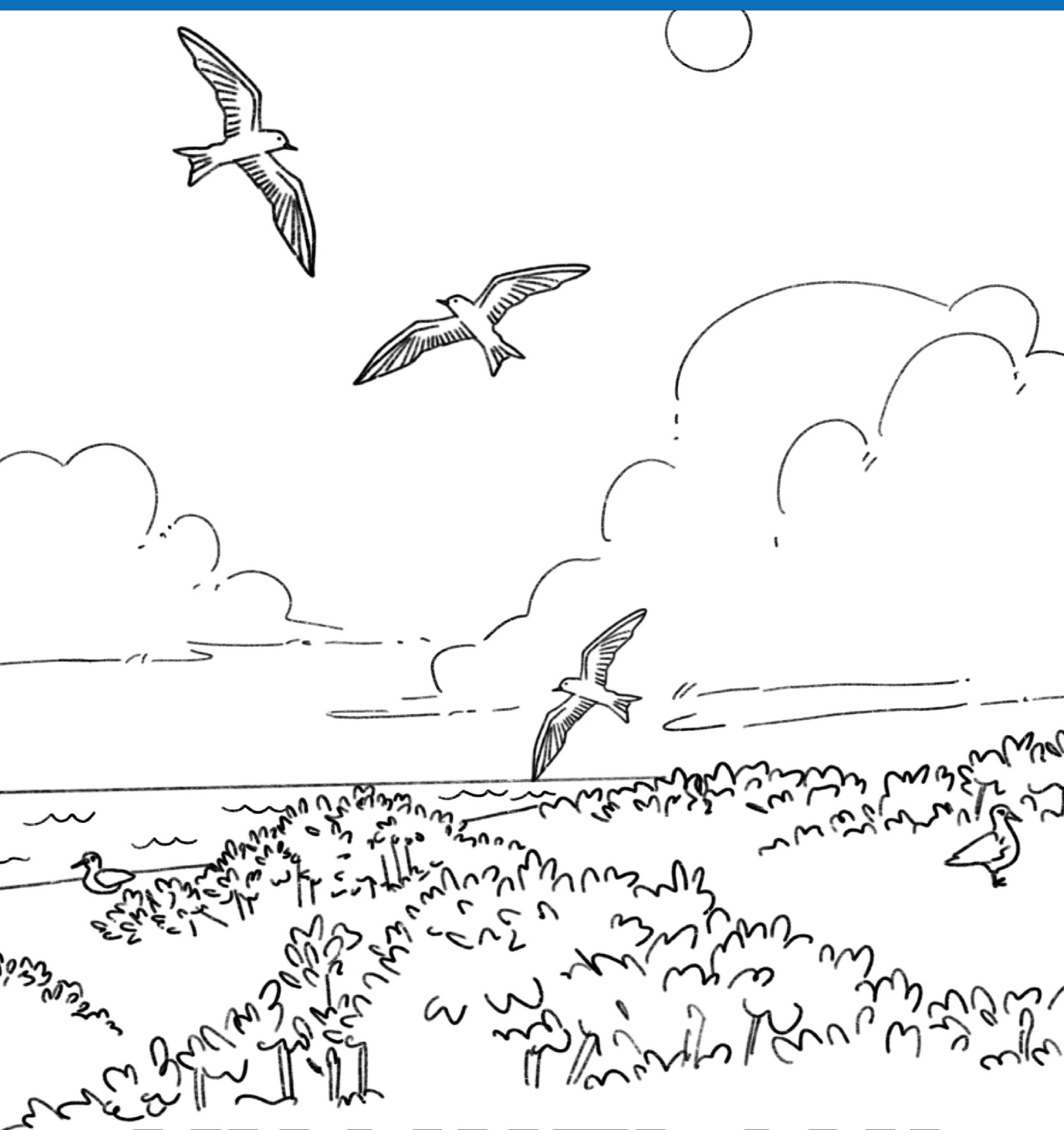


**Ulūlu**  
Nihoa Millerbird



**Manuokū**  
White Tern



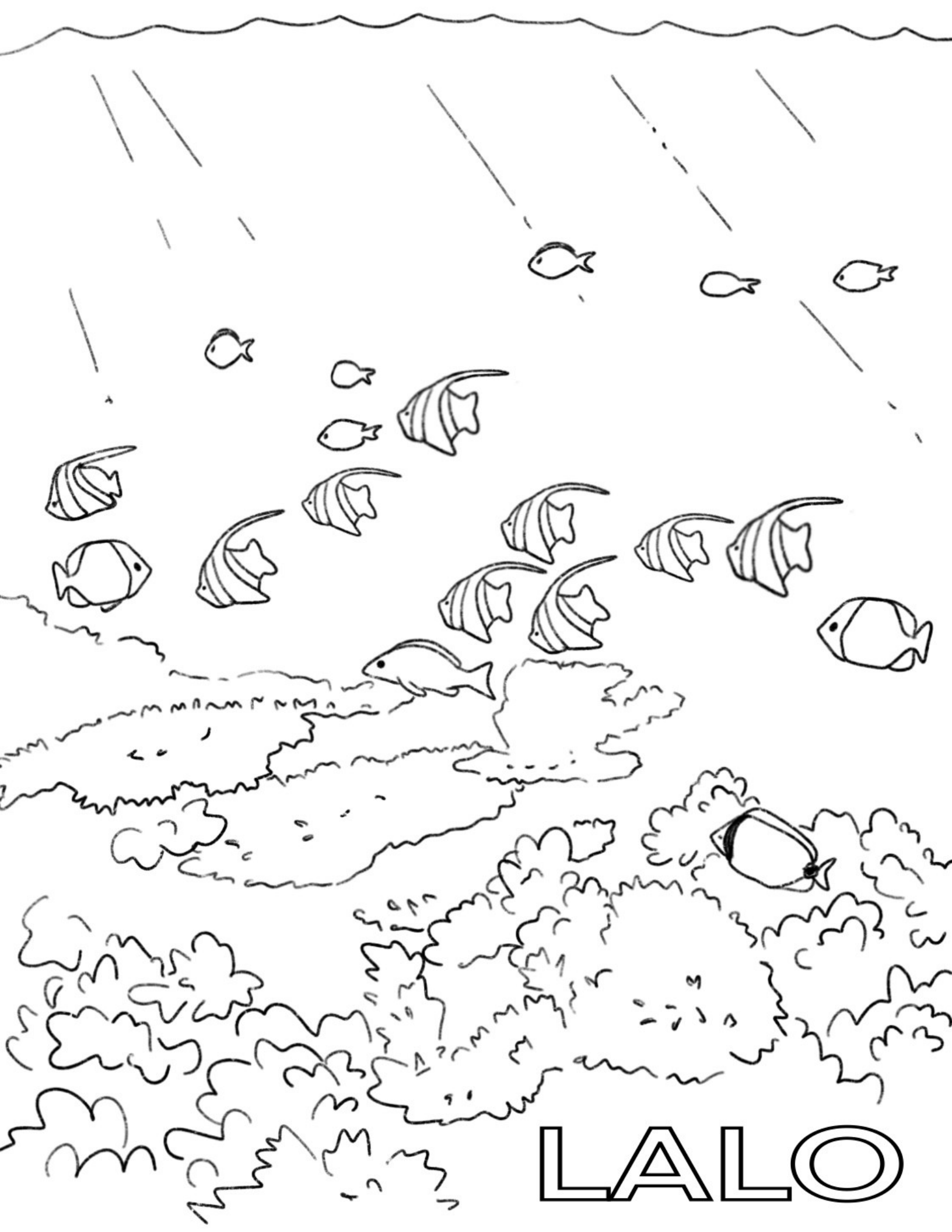


# KUAIHELANI





NIHOA



LALO



