

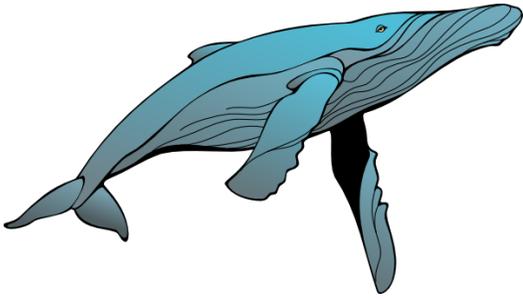
Activity Book

By: Erika Euker



This book belongs to: _____

About the Sanctuary



Aloha Everyone!

My name is Kai the Humpback Whale and I'm here to guide you through the Hawaiian Islands Humpback Whale National Marine Sanctuary activity book!

WHAT?

The Hawaiian Islands Humpback Whale National Marine Sanctuary was created under the National Oceanic and Atmospheric Administration (NOAA) to protect humpback whales and their habitat in Hawai'i.

WHERE?

The waters adjacent to six of the main Hawaiian Islands

HOW?

The Sanctuary helps to protect humpback whales through:

- Education
- Community Outreach
- Research
- Resource Protection Activities

This activity book is a great way for you to learn more about the sanctuary and the warm waters surrounding the main Hawaiian Islands, which contain one of the world's most important humpback whale habitats!

TO LEARN MORE:

Go to hawaiihumpbackwhale.noaa.gov

For education and outreach information go to:

hawaiihumpbackwhale.noaa.gov/education/welcome.html

For children's games and activities:

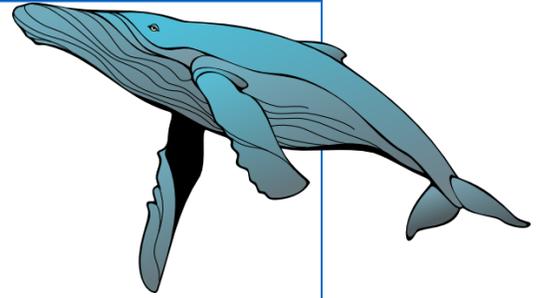
hawaiihumpbackwhale.noaa.gov/education/kidscorner.html

Visitor Center Scavenger Hunt



Activity

Welcome to the Visitor Center! Can you find the answer to the questions below in the sanctuary visitor center?



Name these whale behaviors:

_____ : an energetic display where the whale throws its tail out of the water and in the process, slaps its peduncle on the surface.

_____ : an acrobatic display where the humpback uses its tail to launch itself out of the water, then lands back on the surface with a splash.

_____ : a whale rises vertically toward the surface, with its head out of the water; this behavior might allow the whale to look at activity going on above the surface.

Answer the following questions:

How many years does it take for a green sea turtle to reach adult breeding size of approximately 200 lbs?

_____ years

What are the different sea turtle species found around the Hawaiian Islands? (there are five)

_____/_____/_____
_____/_____

How do you identify a green sea turtle?

What is the name of the sanctuary's research vessel?

Visitor Center Scavenger Hunt

Activity

Continue to fill in the blanks with information from the Hawaiian Islands Humpback Whale National Marine Sanctuary Visitor Center.



What is the average life span of a humpback whale?
_____ years

The _____ of sand during egg development will determine whether the egg will become a male or female turtle.

The diet of a humpback whale includes _____ and small _____.

Scientists believe that nesting turtles return to the same _____ in which they were born.

Hawaiian name for humpback whale: _____ (hint: the same as our boat!)

Where do green sea turtles get their name?

What is the average migration speed of a humpback whale?
_____ miles per hour

Sea turtles ingest a lot of salt water, why don't they get dehydrated?

Fewer than 1 in _____ turtle hatchlings survive to adulthood due to predators.

Humpback whales are the _____ largest whale of the great whales.

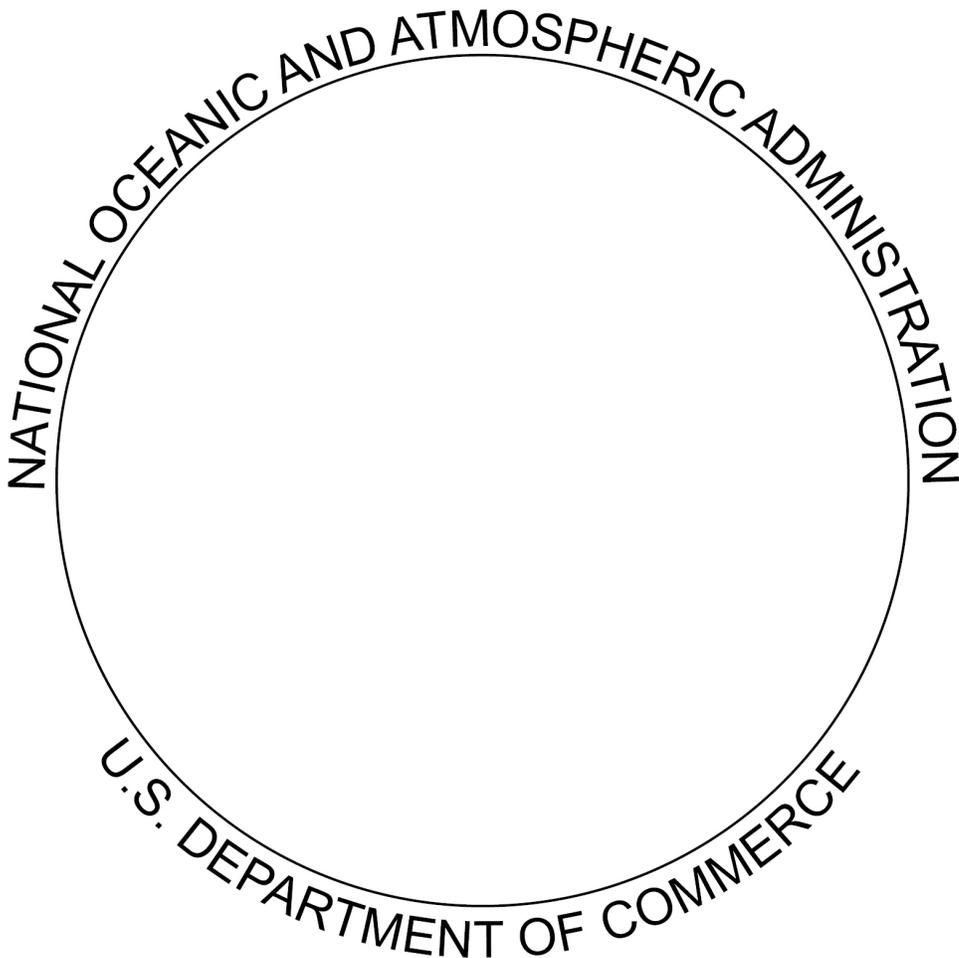
The NOAA Symbol

The National Oceanic and Atmospheric Administration (NOAA):

- predicts changes in climate, weather, oceans, and coasts
- shares that information with others
- conserves and manages marine ecosystems

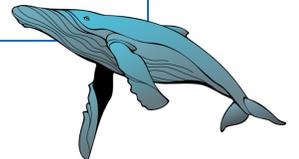


Here is the National Oceanic and Atmospheric Administration's symbol. The **seagull** forms a link between the atmosphere and the sea or Earth, and symbolizes the life that is in the sea, the land, and the air, which NOAA works to protect and conserve.

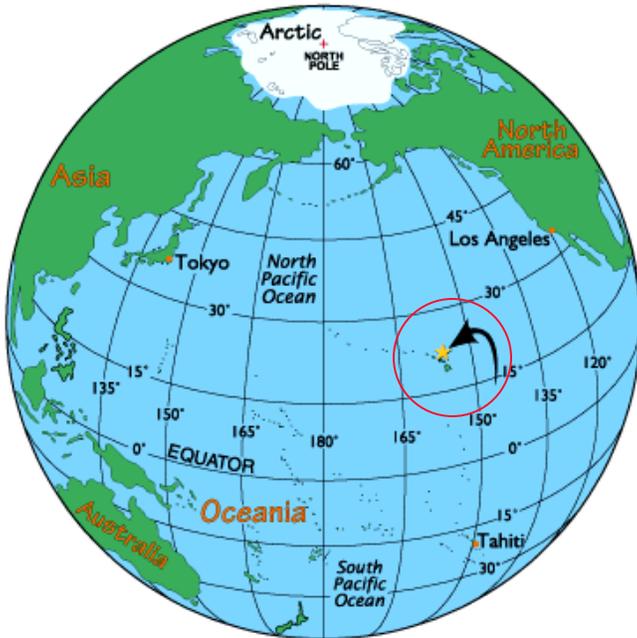


Activity

Design your own symbol for NOAA.



Where are the Hawaiian Islands?

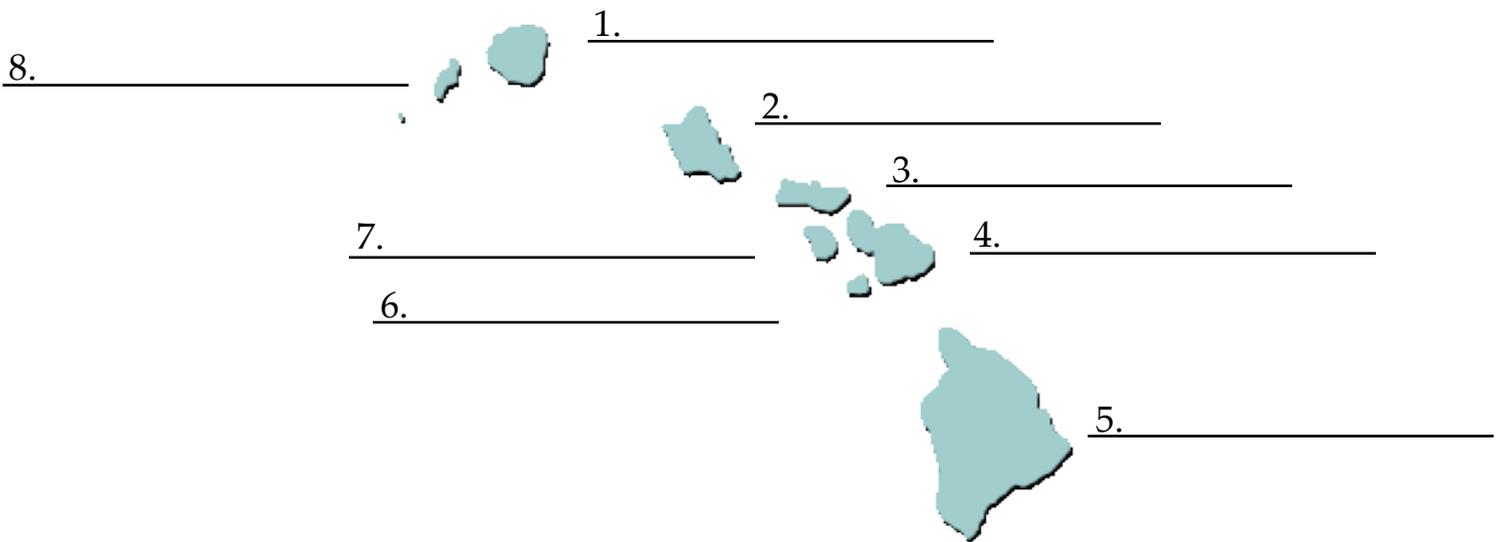
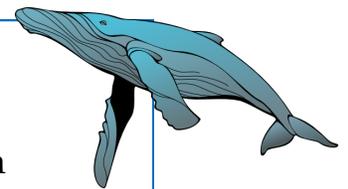


The Hawaiian Islands:

- are located in the middle of the North Pacific Ocean
- were formed by volcanic activity over a hotspot in the Earth's mantle
- have over 100 volcanic mountains

Activity

There are eight main Hawaiian Islands, can you name them all?
List them on the lines below.



Did you know?

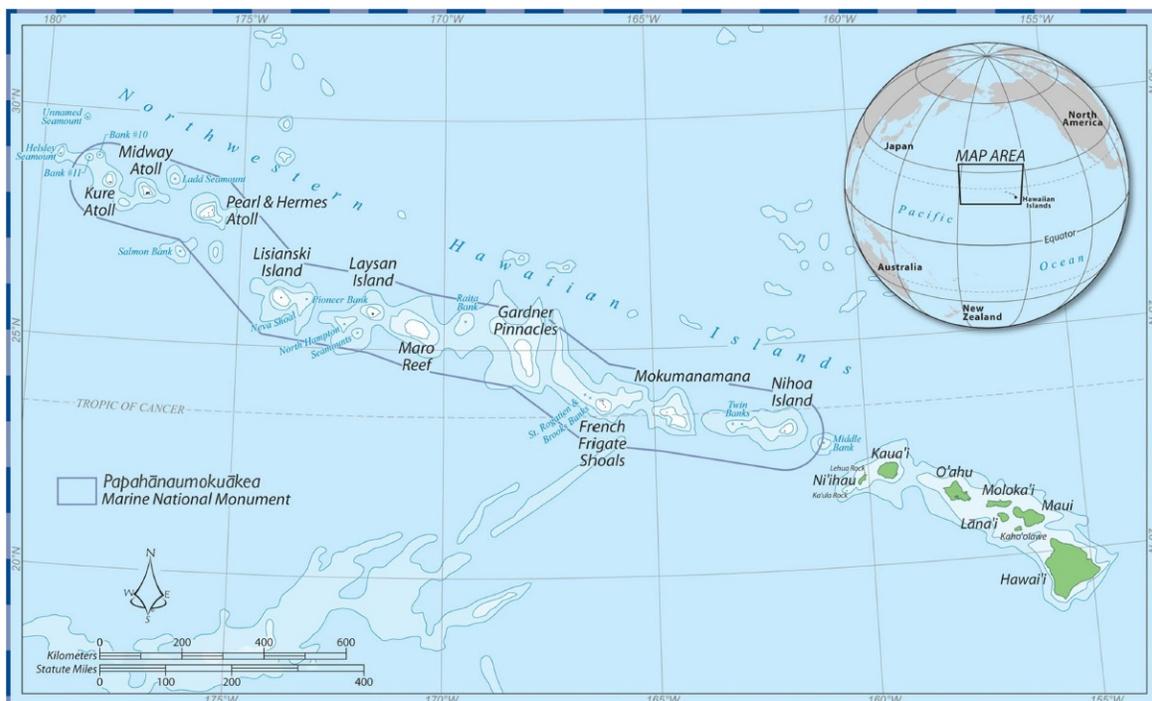
- The Hawaiian Islands are one of the most isolated chain of islands in the world; the closest countries are about 2,000-3,000 miles away.
- As a result, the Hawaiian Islands have many animals and plants that evolved here, and are only found in Hawaii; scientists call these "endemic."
- It is important to help these animals by disposing of trash and picking up litter that may entangle them. Every effort counts!

Northwestern Hawaiian Islands

- The Northwestern Hawaiian Islands are a chain of small islands and atolls (ring shaped coral reefs) located north of the main Hawaiian Islands.
- Only a few of the islands are inhabited by humans.
- As a result, the waters and coral reefs are some of the healthiest in the world.



- The Northwestern Hawaiian Islands are protected under the Papahānaumokuākea Marine National Monument, one of the largest marine conservation areas in the world.
- The name Papahānaumokuākea comes from Papahānaumoku, a mother figure personified by the earth, and Wākea, a father figure personified by the sky.
- Papahānaumoku and Wākea are revered as the ancestors of the Native Hawaiian people and their union resulted in the creation of the Hawaiian Islands.



For more information on the Northwestern Hawaiian Islands, go to hawaiireef.noaa.gov

Humpback Whales

Humpback whales perform a number of behaviors including:

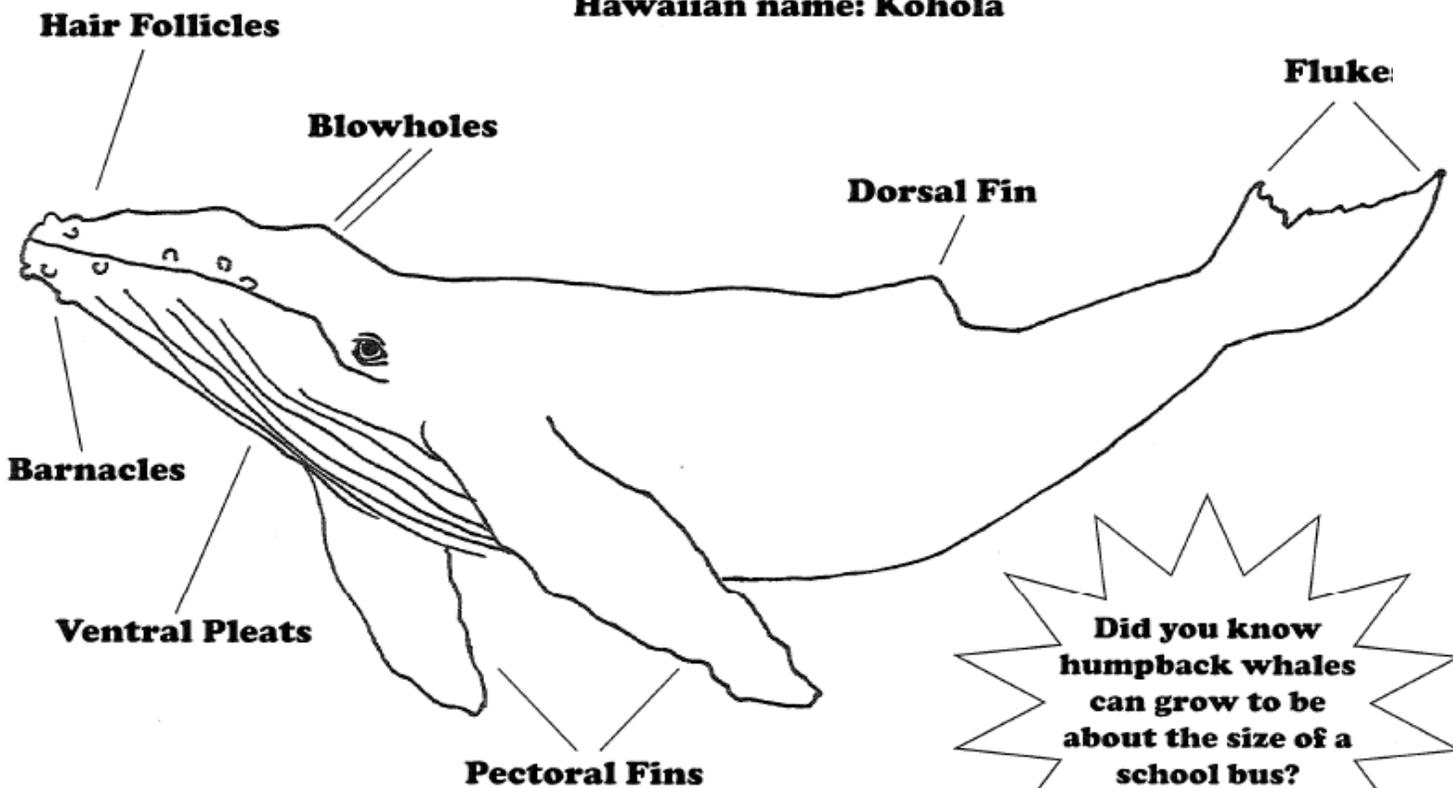
- **Breaching:** The whales throw themselves out of the water.
- **Pectoral fin slapping:** The whales use their pectoral fins, the largest appendage of any mammal, to slap the water.
- **Tail lobbing:** They raise their huge tail out of the water and slap it on the surface.
- **Singing:** Male whales sing complex songs.
- **Diving:** Whales usually dive underwater for 3-7 minutes

Activity

Color the
Humpback Whale



Hawaiian name: Koholā



**Did you know
humpback whales
can grow to be
about the size of a
school bus?**

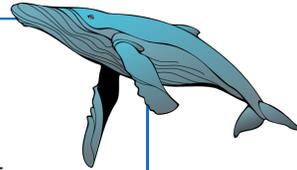
C. Egan

Humpback Whales

A humpback whale's tail, known as a fluke, is unique to each whale, just like your fingerprints. Scientists identify the whales by the shape, markings, and scars on the flukes.

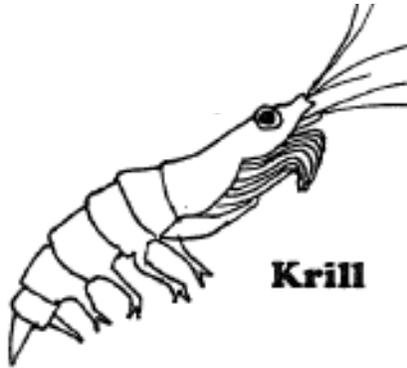
Activity

Draw lines to match the flukes on the left with the flukes on the right.



Humpback Whales

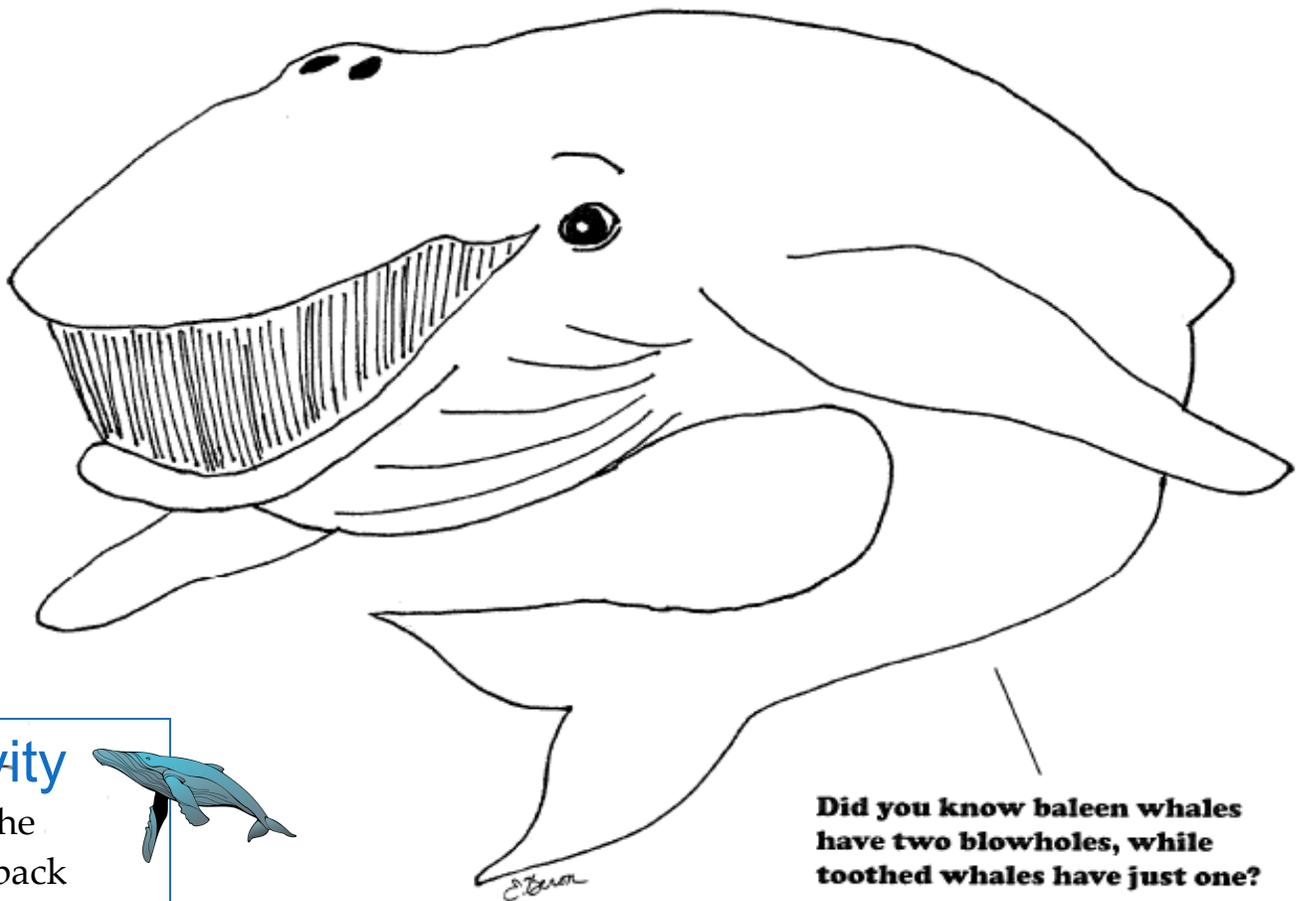
Humpback whales migrate to Hawaiian waters during the winter months to mate, give birth, and nurse their young in the warm waters. Calves are about 15 feet long and weigh about a 1 ton when they are born! During the summer months, the whales return to Alaska to feed.



Did you know?

Humpback whales:

- have baleen instead of teeth; the baleen acts as a filter, catching food and filtering ocean water out
- eat an average of 1 to 1.5 tons of krill and small schooling fish per day in Alaska



Activity

Color the Humpback Whale



Did you know baleen whales have two blowholes, while toothed whales have just one?

Humpback Whales

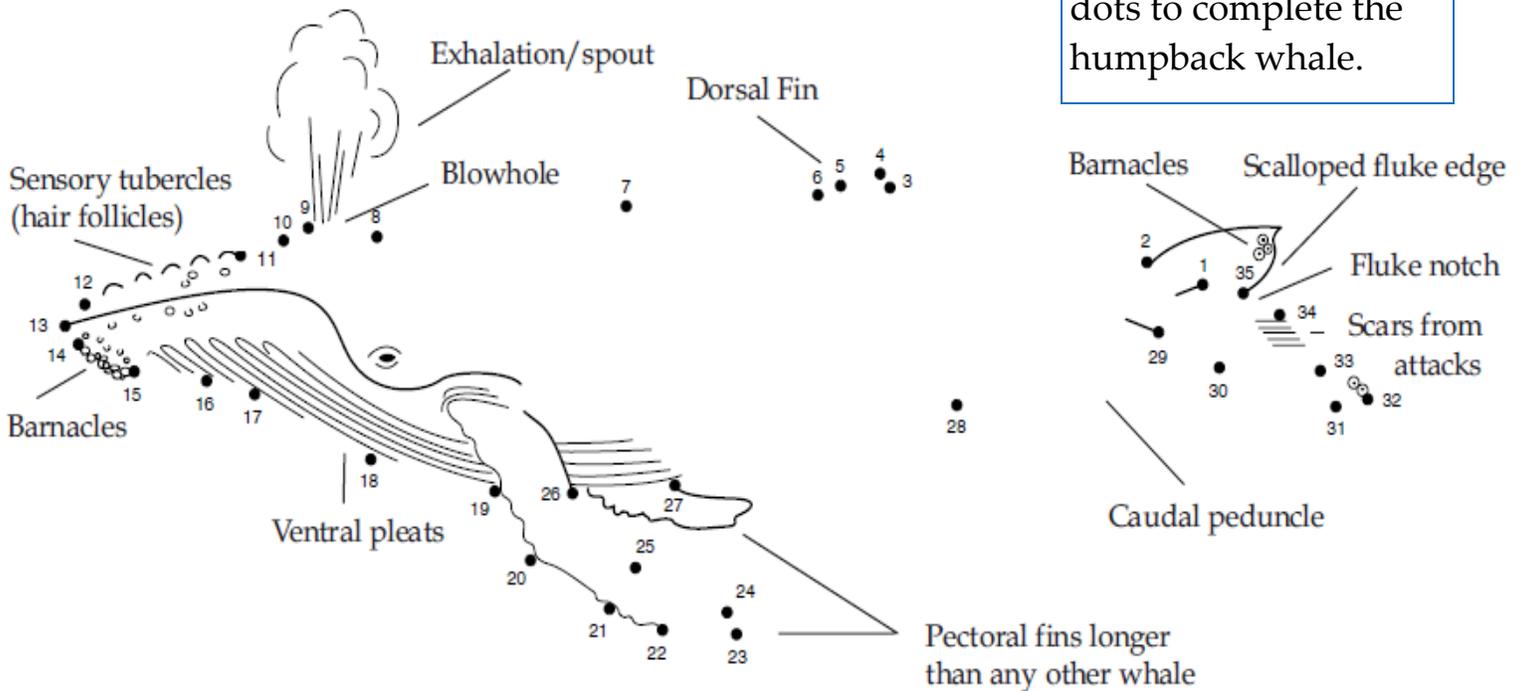


Humpback whales face a number of threats including:

- entanglement in fishing gear and marine debris
- ship strikes
- whale watch harassment
- habitat impacts

Activity

Connect the dots to complete the humpback whale.



Did you know?

There are regulations in place to protect humpback whales:

- It is illegal to harass, injure or kill a humpback whale.
- It is illegal to be closer than 100 yards to a humpback whale.
- View the whales from a distance, for your safety and their protection!

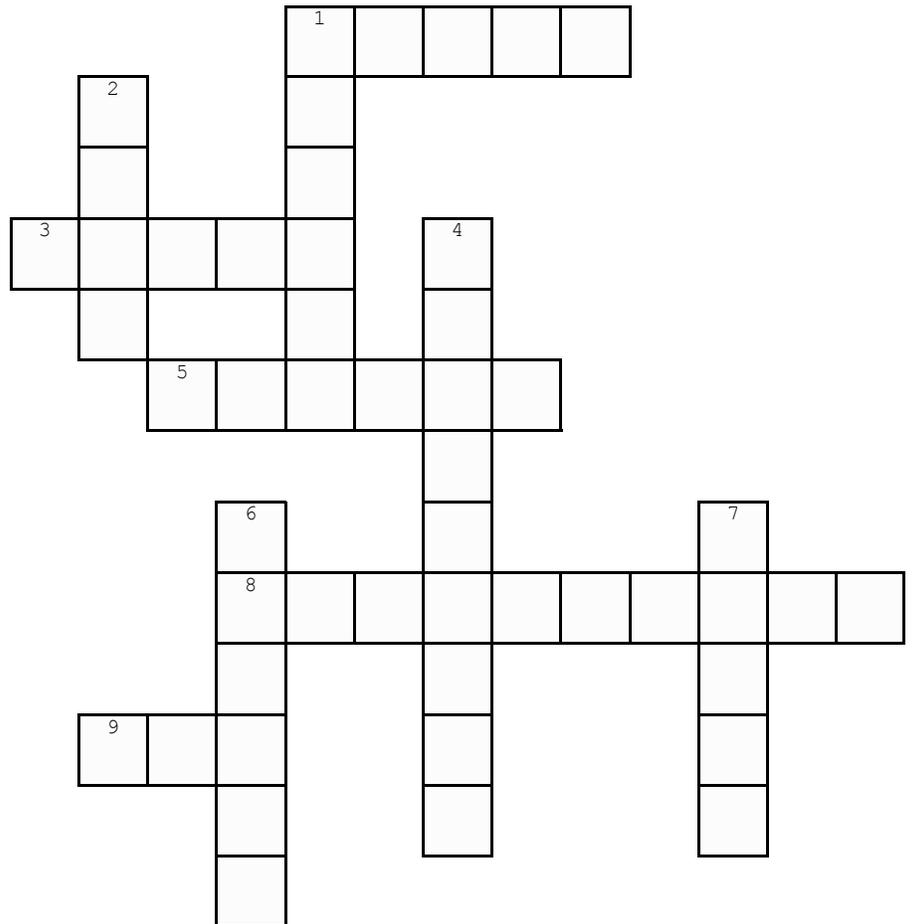
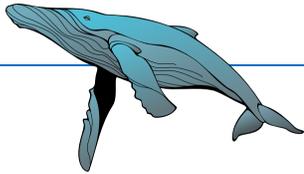
Humpback Whales

Word List

Koholā	Birth	Fluke	Winter
Male	Breaching	One Hundred	Summer
Baleen	Krill	Tail Lobbing	Fluke

Activity

Read each sentence and write the correct word in the boxes below.



Down

1. what humpback whales use to filter their food
2. _____ humpback whales sing complex songs
4. when humpback whales throw themselves out of the water
6. Hawaiian name for humpback whale
7. humpback whale food source

Across

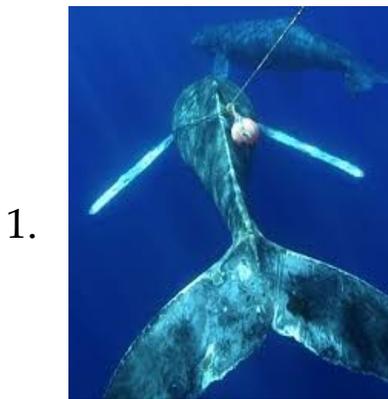
1. humpback whales migrate to Hawaii to give _____.
3. humpback whale's tail
5. season that humpback whales migrate to Hawaii
8. it is illegal to be closer than _____ yards to a humpback whale
9. amount of blowholes humpback whales have

Humpback Whales

Although humpback whale populations are increasing, they are still endangered. To help these whales, the sanctuary has an entanglement response program that not only helps to free large whales from fishing gear and marine debris, but also gathers information towards preventing entanglement threats in the future.

Activity

Oh no! The disentanglement pictures and their descriptions were accidentally mixed up. Can you help sanctuary rescuers by matching the picture to the correct description?



- A. Sanctuary rescuers must first find the entangled whale. Then they use a technique called “kegging” to slow down the animal. (Kegging: rescuers throw hooks that grab onto the gear entangling the animal; the hooks are attached to ropes and large buoys which slow the whale down and keep it at the surface).
- B. The humpback whale is free!
- C. Once the whale is approachable, rescuers attempt to free the whale of all entangling gear
- D. Humpback whale becomes entangled in marine debris, and is restricted in movement
- E. After freeing the whale, rescuers inspect the gear and determine its origin.

To learn more about the disentanglement program go to:
<http://hawaiihumpbackwhale.noaa.gov/res/welcome.html>

Spinner Dolphin



Spinner dolphins (*Nai'a*):

- swim in groups that range in size from 6 to 250 dolphins
- rest during the day and feed at night
- “spin” when they leap out of the water

Important tips:

- Although still in motion, spinner dolphins are resting during the day.
- Interacting with spinner dolphins disturbs their rest and social behavior.
- Do not closely approach or “swim” with the spinner dolphins.



Activity

Unscramble these mixed up words to discover an interesting fact about spinner dolphins!

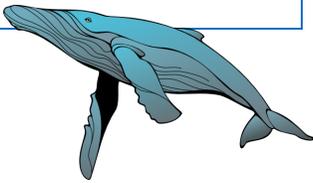


_____ ipnsner _____ hposldni _____ anc
_____ lepa _____ orfm _____ eth _____ twaer
_____ ofurntee _____ miste _____ ni _____ a
_____ wor _____ !

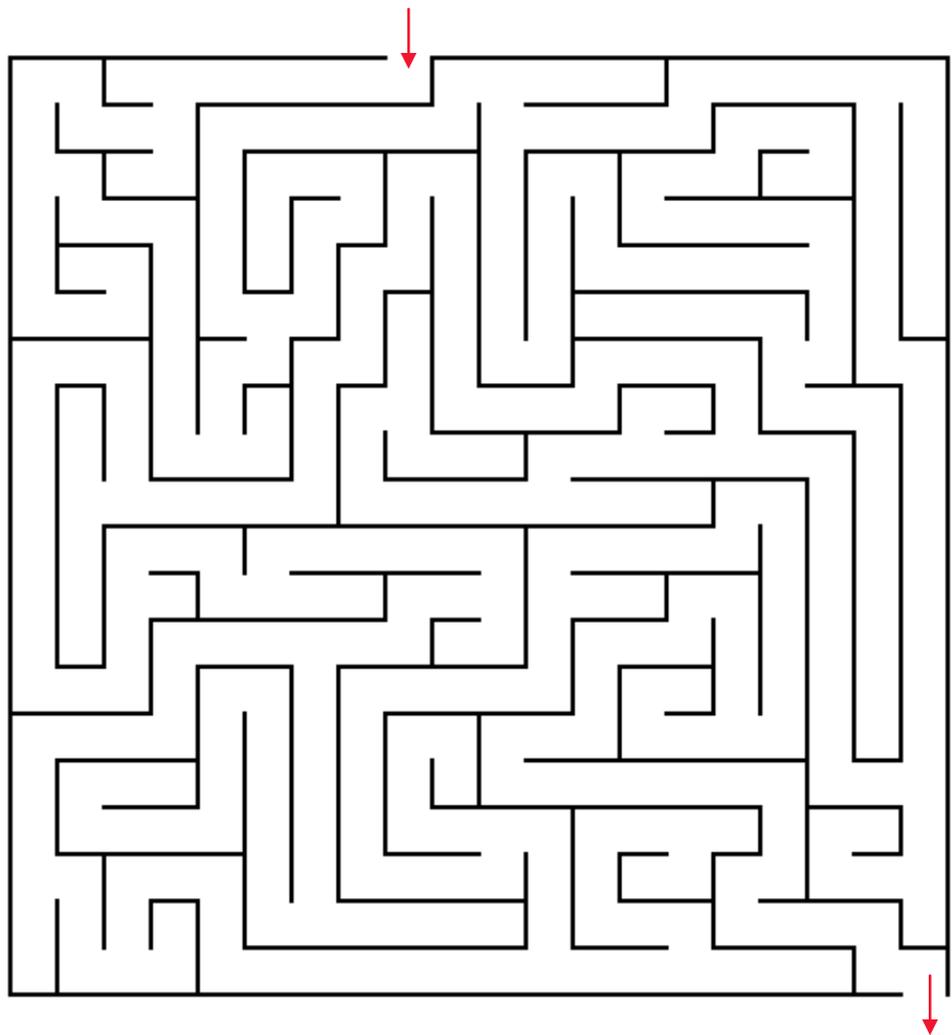
Hawaiian Monk Seals

Activity

Help the Hawaiian Monk Seal avoid these threats and reach safety on a remote beach!



The Hawaiian monk seal, Hawaii's state mammal, is an endangered species, threatened by human interactions, marine debris, disease, climate change, food limitation, and predation.



Important Tips:

- Monk seals haul out on beaches to rest, give birth, or to molt (shedding top layer of skin and fur).
- Approaching a monk seal disturbs these behaviors.
- If you see a monk seal on a beach, please enjoy them from a distance.
- Do not enter roped off areas on the beach– they are there for your safety.



Green Sea Turtles

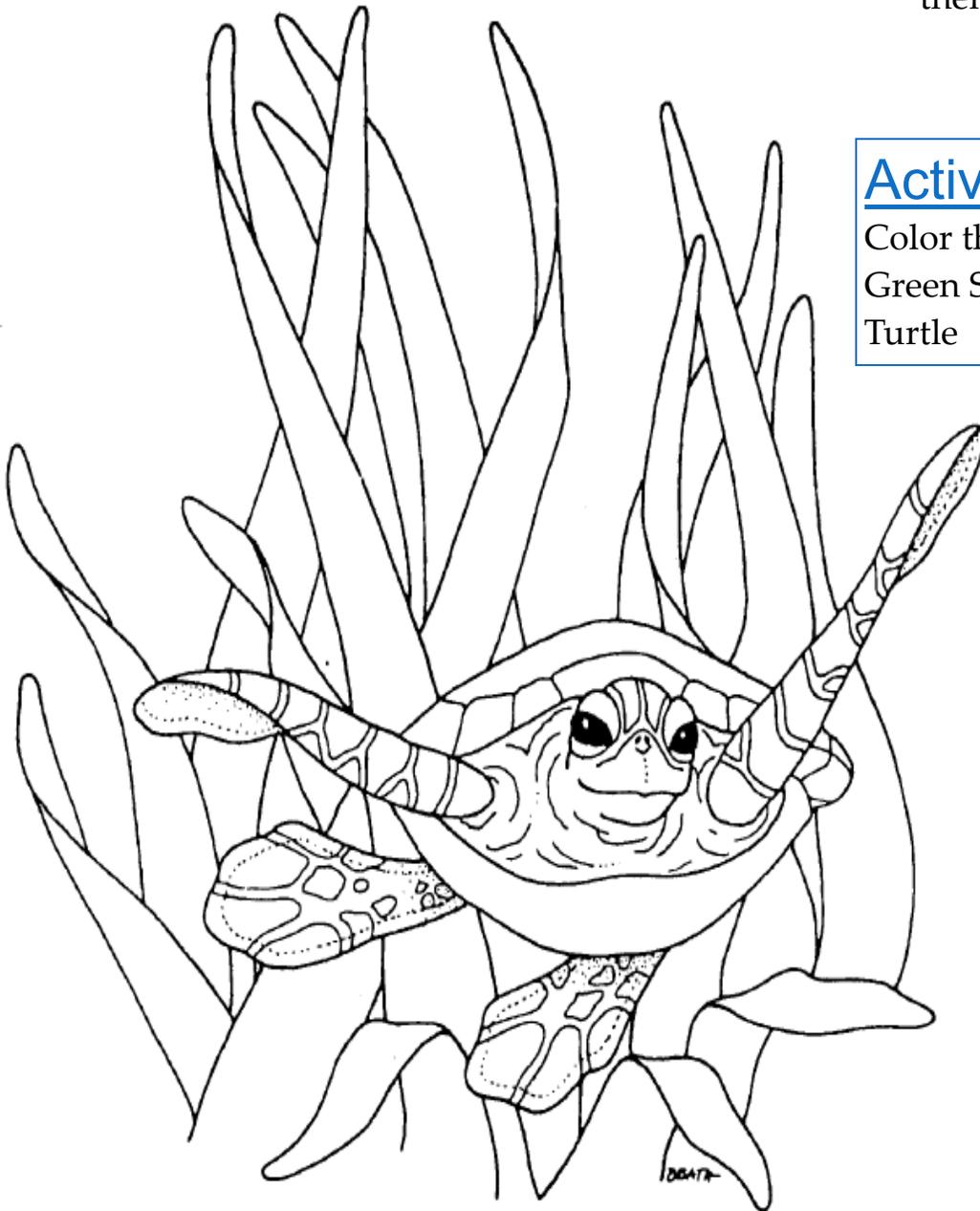
Green Sea Turtles (*Honu*):

- are on the endangered species list
- frequent shallow nearshore areas
- use beaches to rest or to nest



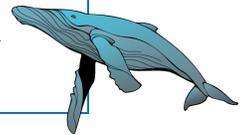
Important Tips:

- If you see a sea turtle on shore, give it space to rest
- Feeding, touching, or interacting with sea turtles can cause stress and change their natural behavior



Activity

Color the
Green Sea
Turtle



For more sea turtle coloring activities go to:

<http://www.yoto98.noaa.gov/books/seaturtles/seatur1.htm>

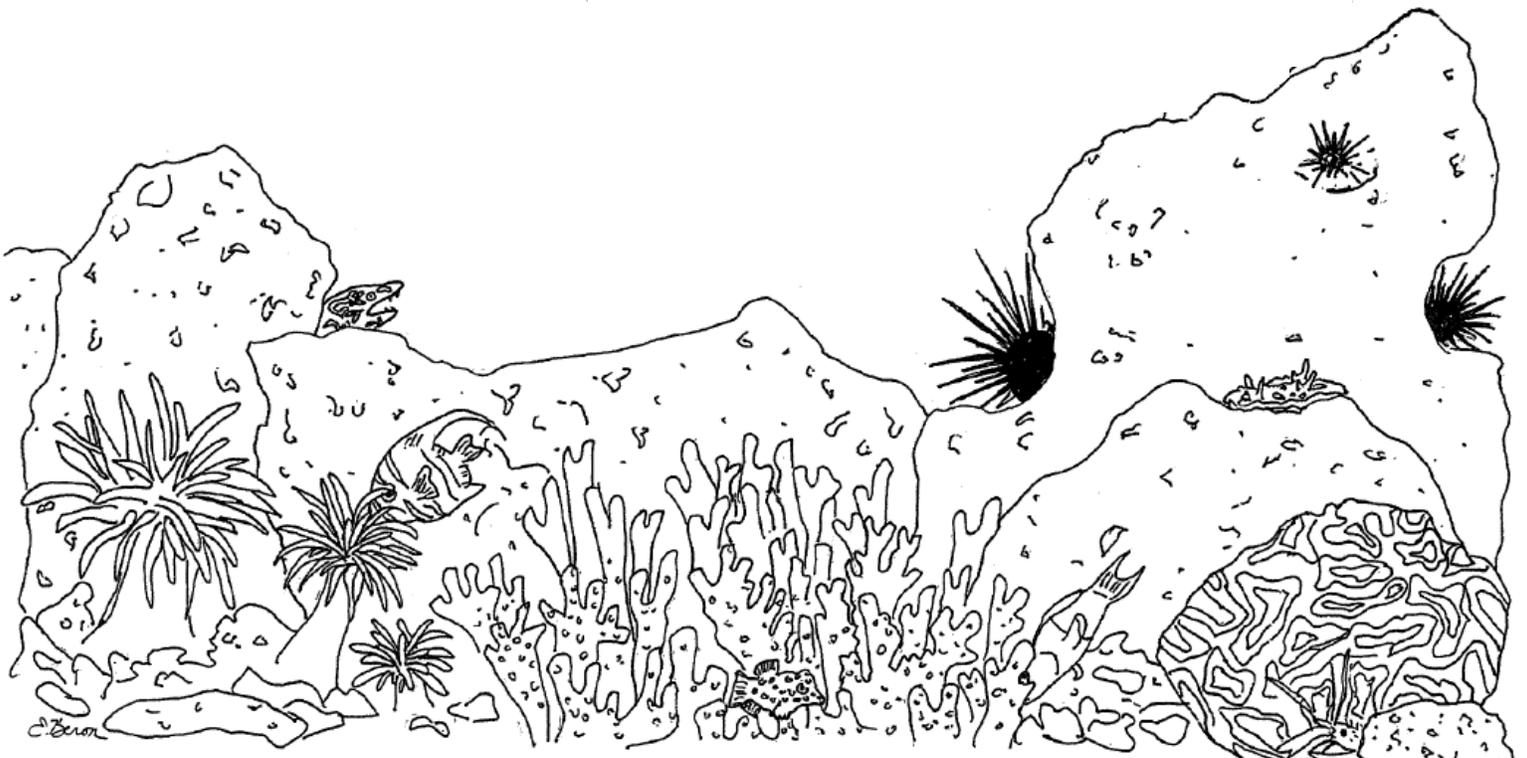
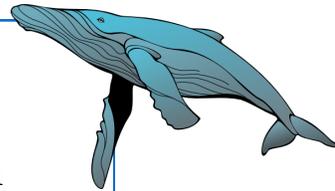
Coral Reefs

Although coral reefs appear to look like rocks, reefs are alive. Coral reefs support more species than any other marine environment. Follow these rules to protect Hawaii's coral reefs and their inhabitants:

- Do not touch or remove coral from reefs; oils from your hand can harm or kill coral.
- Do not walk or stand on coral, as this can break and kill the sensitive coral structure.
- Feeding the fish or other inhabitants of the reef can make them sick.
- Make sure to always dispose of trash! Marine debris can damage the reef or endanger marine wildlife.

Activity

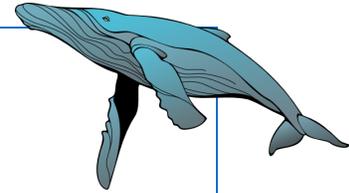
Color the coral reef ecosystem and draw in the animals you might see on a Hawaiian coral reef.



Hawaiian Plants

Activity

Can you find these native Hawaiian plants that grow around the Hawaiian Islands Humpback Whale Sanctuary site?



Hibiscus



The hibiscus is the Hawaiian state flower, and is a symbol of old royalty, power, and respect.

Naupaka



The naupaka has a Hawaiian legend to explain the white half-flowers. It is said that the half-flowers that grow on the mountain, and the half-flowers that grow on the beach are a man and woman who were great lovers. The man angered the Goddess Pele because he would not return her attentions, so she turned the couple into separate half-flowers that could never be reunited.

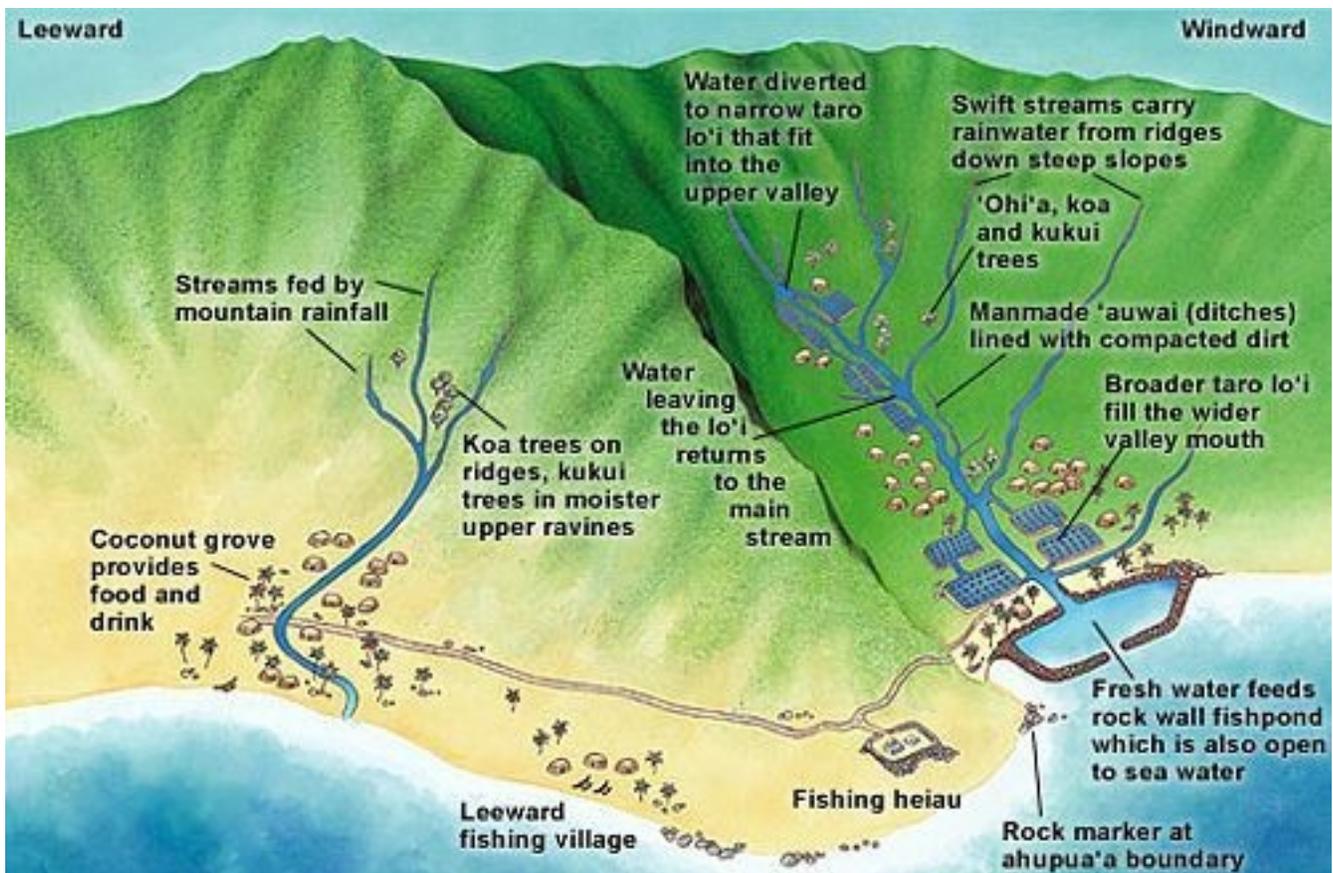
Milo Tree



The milo tree is one of the most important trees to the Pacific Island peoples. The rich, dark wood can be carved into tools, canoes, and figures. The seeds, leaves, and bark provide medicine and food.

Early Hawaiian Life

- Ancient Hawaiians followed a system of complex land division.
- The islands that supported the early Hawaiians were divided into narrow wedge-shaped land sections, known as *ahupua'a*, that followed the natural boundaries of the watershed.
- The *ahupua'a* ran from the mountains to the sea and contained the resources the community needed to survive.
- The *ahupua'a* were governed by land managers, or *konohiki*, who were responsible to chiefs of greater rank, or *ali'i*, pictured right.

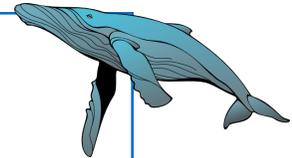


Early Hawaiian Life

- As rain fell from the sky, it traveled through the *ahupua'a*.
- Early Hawaiians maintained the natural flow of water through the *ahupua'a* for a healthy environment. When rivers and ditches were blocked by fallen trees and leaves, the community gathered to clear the debris.

Activity

Help the Hawaiians of this *ahupua'a* clear the path of water as it makes its way from the sky, through the mountains, and into the fishpond along the shoreline.



Kō'ie'ie Loko I'a

Within the waters of the Hawaiian Islands Humpback Whale National Marine Sanctuary, in Kīhei, lies Kō'ie'ie Loko I'a ("Kō'ie'ie" means spurting water and "Loko I'a" means fishpond). Today, the fishpond serves as a historic landmark.

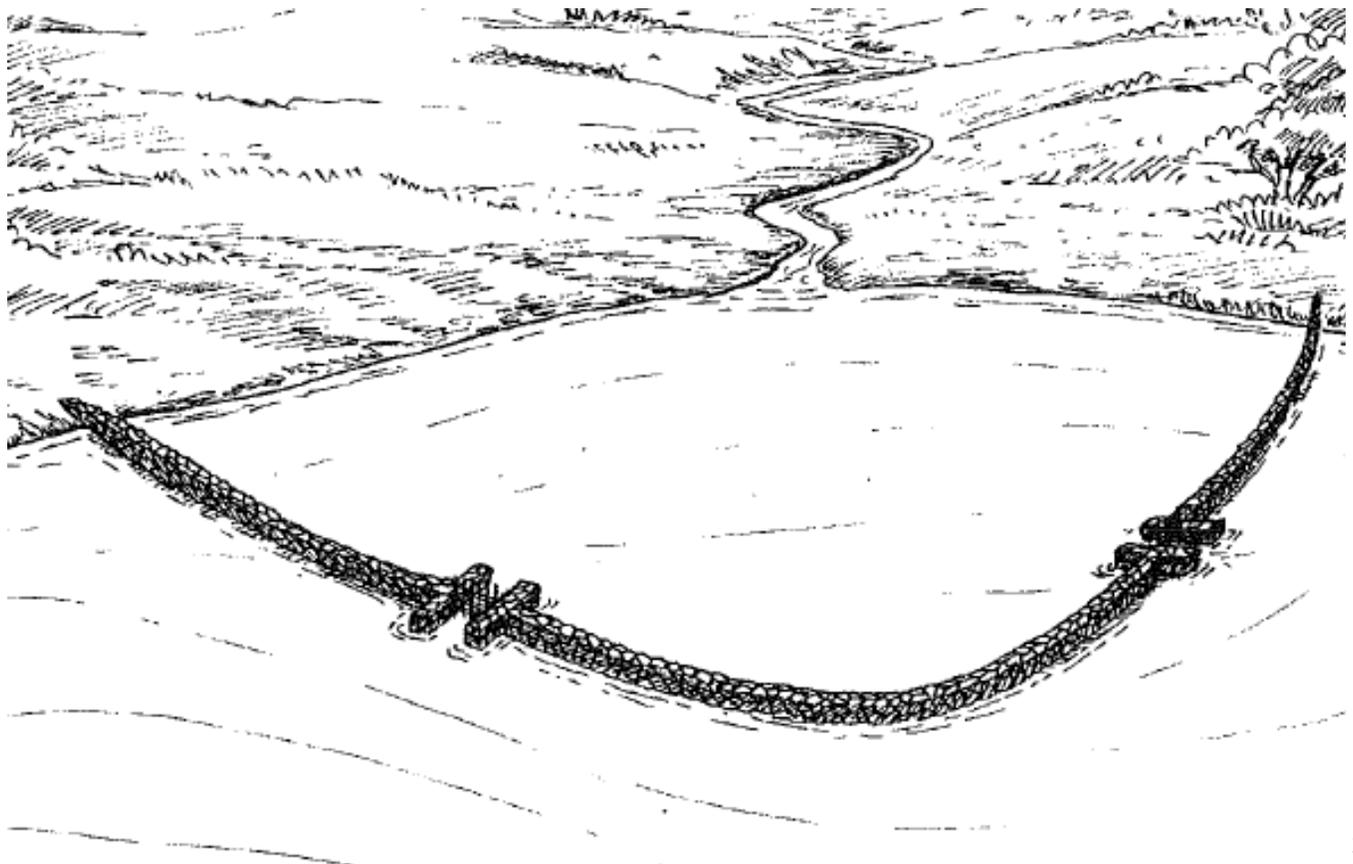


What is a fishpond?

- Fishponds are enclosures near the shoreline, used for the raising and harvesting of fish and plants.
- Native Hawaiians did not have refrigerators or grocery stores, so the fishpond was a way to hold and grow fish until they were caught.

Activity

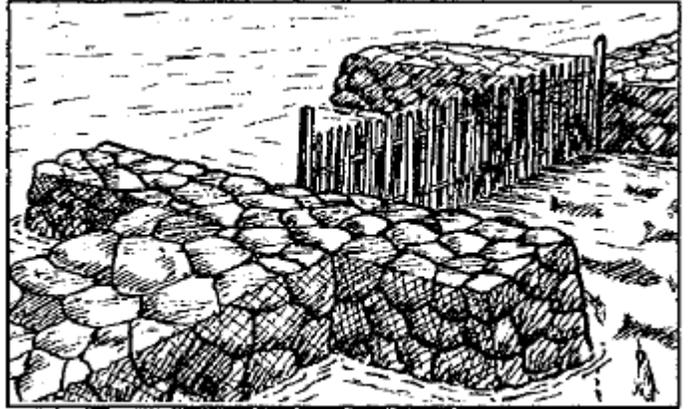
Draw fish you would find in Kō'ie'ie Loko I'a.



Kō'ie'ie Loko I'a

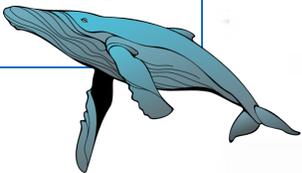
How does the fishpond work?

- The Hawaiian fishpond has a large stone wall with channels that allow for the exchange of water.
- The exchange of water causes swift currents, which attracts fish.
- A gate (pictured right) is placed in the channels and controls what goes in and out of the pond.



Activity

As the fisherman throws his net, he feels the fishpond wall beneath him falling apart. Help the fisherman keep his balance and place the rocks back in their proper place. Draw a line from the rocks below to their position along the fishpond wall.



Kō'ie'ie Loko I'a

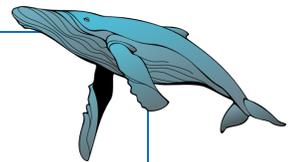
Even during ancient times, native Hawaiians understood the importance of conserving the environment and its resources. They only took from the fishpond what they needed, and then allowed the fishpond to be replenished with more fish. Like the native Hawaiians, it is important that we also help to protect the environment:

- Use fewer plastic products: plastics in the ocean entangle and kill thousands of marine animals every year.
- Help clean up our beaches: pick up litter to prevent it from entering the oceans.
- Reduce the effects of climate change on the ocean: turn off the lights when you leave a room.



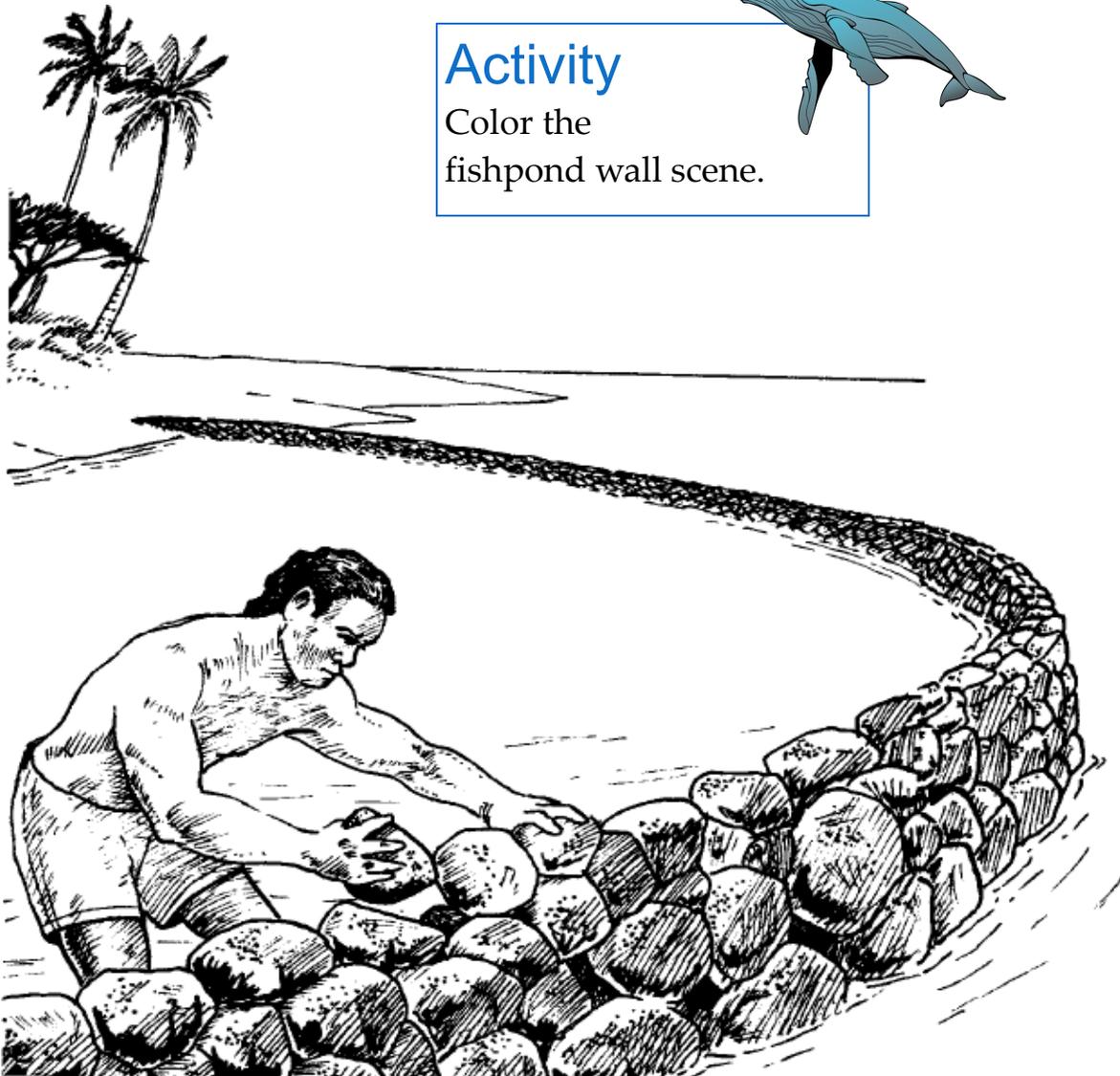
Activity

Color the Hawaiian fisherman, or *lawai'a*, who only takes from the fishpond what he needs to survive.



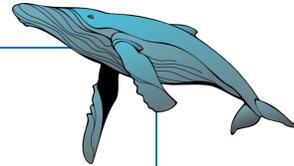
Kō'ie'ie Loko I'a

- Some of the Hawaiian fishponds were reserved for the chiefs only.
- Chiefs were considered wealthy if they had many fishponds because it took a large work force to build a fishpond.
- Over 10,000 people were needed to construct Kō'ie'ie Loko I'a several hundred years ago!
- A large work force was also needed to maintain the wall.
- The Hawaiians worked tirelessly to help rebuild the parts of the wall that had been knocked down by waves and wind.
- Today volunteers continue this tradition, and help to maintain and rebuild the Kō'ie'ie Loko I'a wall.



Activity

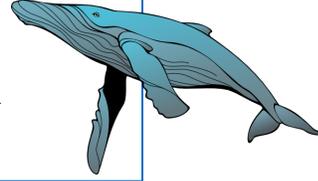
Color the fishpond wall scene.



Word Search

Activity

Find and circle the words listed in the word bank below.



I F R D S Q A D N Q F N X H S
K R O A P X P G J C I L U V U
K J M J I H W R L W S H V D H
K R I K N G Q E A N H I U R U
Z U L N N B G E N Y P B O N M
S S O N E K W N A P O I D I P
T I T M R A G S I I N S B I B
Q T R N D H K E U C D C I H A
C Q E A O O S A U M R U G A C
V D E U L O M T Z O E S I U K
G V K P P L O U Z L E U S K W
Z O A A H A A R Q O X K L K H
F C U K I W H T P K B K A H A
S B A A N E U L N A H E N F L
F K I K G I C E G I Q R D G E

Islands/Places

Maui
O'ahu
Big Island
Kaua'i
Ni'ihau
Moloka'i
Lāna'i
Kaho'olawe
Fishpond

Animals

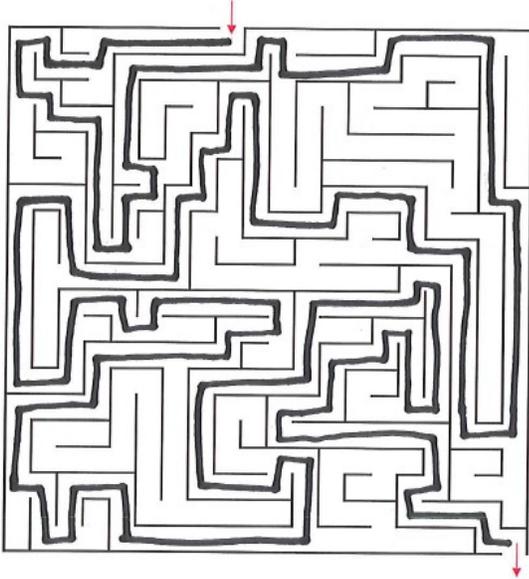
Humpback Whale
Spinner Dolphin
Green Sea Turtle

Plants

Milo Tree
Hibiscus
Naupaka

Answer Sheet

Page 15: Maze

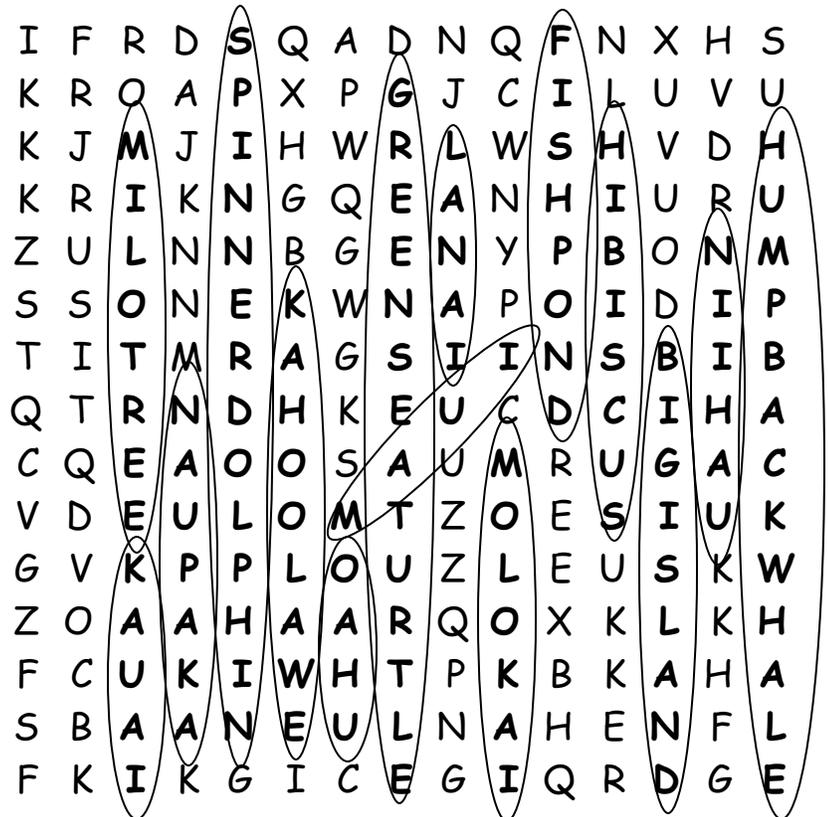


Pg. 20: Maze



Pg 25: Word Search

Pg. 22: Matching



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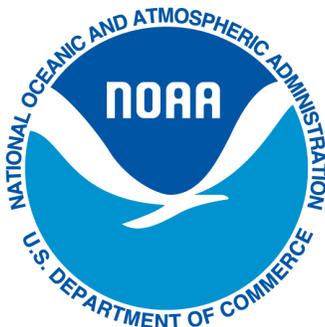
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Photos courtesy of hawaiihistory.org:

Page 19– Honolulu Board of Water Supply

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NATIONAL MARINE
SANCTUARIES