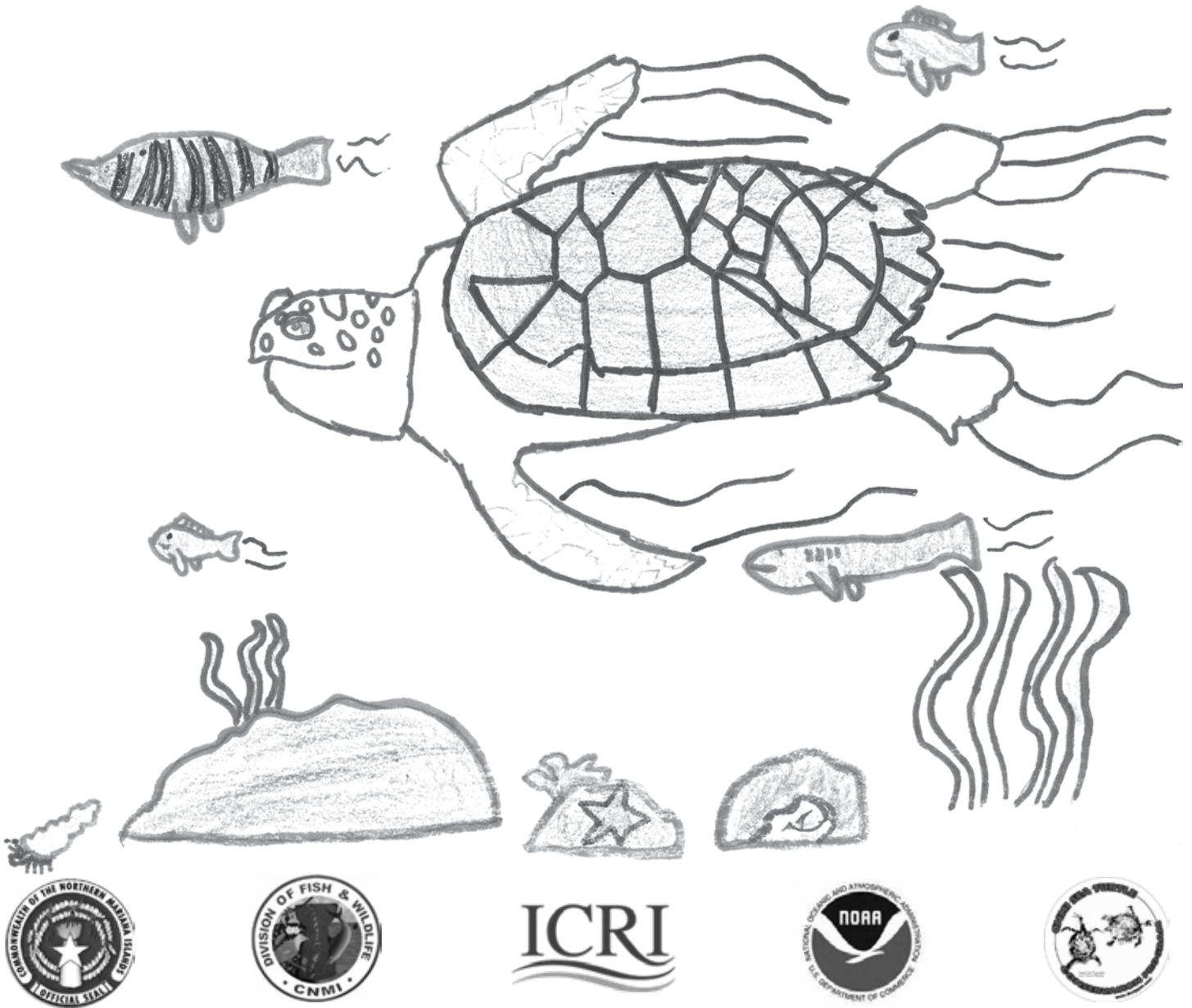


Northern Mariana Islands Sea Turtle Activity Book



Commonwealth of the Northern Mariana Islands Department of Lands & Natural Resources

Division of Fish & Wildlife Sea Turtle Program

(670) 287-8537 (CTRTLES) (670) 322-9834 www.ihaggan.com

This activity book was created with the assistance of Coral Reef Initiative interns Raegina Castro and Zabrina Shai. Front cover designed by Vince Levi Conanan, Mrs. Manglona's 5th grade class, Tinian Elementary School, CNMI. Printing costs for educational distribution furnished by the National Oceanic & Atmospheric Administration, Pacific Islands Regional Office.

Sea Turtle Glossary

Artificial lighting: light from human-made sources.

Body Pit: the upper part of the nest where the turtle removes the surface layers of sand before digging the inner egg chamber.

Carapace: a hard outer covering on an animal, such as a shell of the turtle.

Carnivore: a flesh-eating animal.

Clutch: a nest of eggs.

Community: a group of animal and plant species that live in the same area and interact with each other through food chains and interrelationships.

Coral Reef: a marine ridge or reef consisting of coral and other organic material compact into limestone; a habitat for a mass amount of marine life.

Crevices: a narrow crack.

Ecosystem: an ecological community together with its environment functioning as a unit.

Egg Chamber (Cavity): the part of a turtle nest where the eggs incubate.

Endangered Species Act (ESA): a law that protects endangered and threatened species in the United States and its territories.

Erosion: the removal of sand or other bodies of land by either a gradual process or during a storm event.

Exotic Species: species that are introduced into an area where they are not naturally occurring.

Extinct: when the last living individual of a species dies, causing the species to no longer exist.

False Crawl: term used to describe when a turtle comes up to the beach but does not lay a nest.

Foraging: is searching for and eating food sources.

Global Warming: the gradual increase in the temperature of the Earth's atmosphere, believed to be due to the greenhouse effect.

Habitat: a place where a plant or animal lives in the natural environment.

Haggan Betde: green sea turtle in the Chamorro language.

Haggan Cari: hawksbill sea turtle in the Chamorro language.

Harassment: any disturbance of a turtle's behavior due to human interference; such as riding, feeding, or chasing.

Herbivore: a plant-eating organism.

Incubate: process during which eggs develop into hatchlings.

Migration: the act of moving from one region to the other.

Natal Beach: the beach where the sea turtle was born.

Nest: the structure made to shelter and incubate eggs.

Plastron: the underside or ventral portion of a turtle's shell.

Poach: to hunt turtles or harvest eggs illegally.

Predator: an organism that lives by capturing and feeding on other animals or their eggs.

Satellite Telemetry: technology that uses radio transmitter to relay a signal to satellites orbiting the Earth.

Sea Level Rise: when the mean high tide increases year after year; due to global warming

Scutes: the hard scales covering a turtle's shell.

Threatened Species: an organism that may become endangered.

Wong: green sea turtle in the Carolinian language.

Wong mao: hawksbill sea turtle in the Carolinian language.

Fun Facts about Sea Turtles in the CNMI



1. Green Sea Turtle (*Chelonia mydas*) – Nearshore

- Listed as a threatened species in the Western Pacific.
- Unlike other sea turtles; green sea turtles have a single pair of scales between their eyes instead of two pairs.
- Named after their internal fatty tissues that are green in color; only sea turtle primarily herbivorous and prefers eating algae and sea grass.
- Largest of the hard-shelled sea turtles; adults average more than 3 ft. in length and weigh up to 500 lbs.
- In the CNMI, green sea turtles lay on average 6-9 nests per season.
- Satellite telemetry applied to Saipan nesting green turtles found they migrate to Japan and the Philippines after laying their eggs.



2. Hawksbill Sea Turtle (*Eretmochelys imbricata*) – Nearshore

- Listed as an endangered species worldwide.
- Traditionally captured for their beautiful shells which were used to make jewelry, hair combs, and other products; this is one of the reasons that they are endangered.
- One of the smaller species of sea turtles weighing around 100 to 150 lbs. and as long as 3 ft. in length.
- Named after their hawk-like facial features; their narrow head and jaws help them get their food from crevices in the coral reefs.
- They eat sponges, anemones, squid, shrimp, and other invertebrates.
- Can contain chelonitoxin which causes poisoning when humans eat these sea turtles.



3. Leatherback Sea Turtle (*Dermochelys coriacea*) – Offshore

- Listed as an endangered species worldwide.
- Unlike all other sea turtles, instead of a hard carapace they have a leathery and flexible carapace.
- Deepest divers and farthest travelers of all sea turtles. The largest of all sea turtles, mature leatherbacks weigh 650-1,300 lbs. and grow up to 4-8 ft. long.
- Largest leatherback ever found was 8.5 ft. and 2,020 lbs. washed up in the West Coast of Wales in 1988.
- Named for their leathery shell; which has tiny bones and cartilage.
- Their jaw is lined with delicate spines that help them to swallow jellyfish, their favorite meal.



4. Loggerhead Sea Turtle (*Carretta carretta*) – Offshore

- An endangered species in the Pacific region.
- Can weigh up to 400 lbs. with a shell length of 2 ½ – 3 ft.
- Primarily carnivorous; eating mostly crustaceans such as lobsters and crabs.
- Their large heads and strong jaws help to crush the hard shells of their prey.
- Loggerheads have a reddish-brown carapace and a dull brown to yellow plastron.

5. Olive Ridley Sea Turtle (*Lepidochelys olivacea*) – Offshore

- Listed as threatened in the Western Pacific.
- One of the smallest species of sea turtles growing to around 2 ft. and weighing 100 lbs.
- Named after their shell and skin's greenish color.
- Closely related to the Kemp's ridley sea turtle; however olive ridley's are only found in warmer waters like the in the Pacific



and Indian Oceans.

- Females come together as a group for *arribada* once a year; where a group of up to one thousand turtles come ashore to nest at the same time.
- Omnivores feeding mostly on jellyfish, crustaceans, seaweed, and algae.

Fun Facts about YOU:

Write six fun facts about yourself. Then Draw a picture of you and your favorite sea turtle.

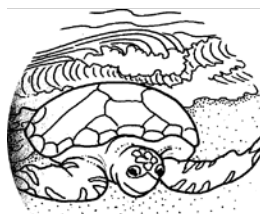
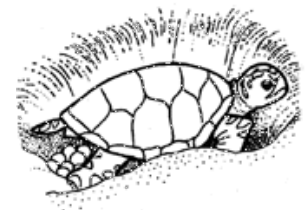
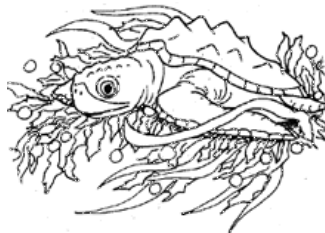
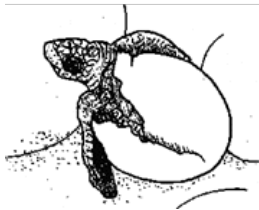
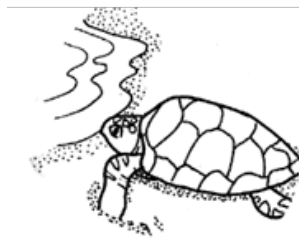
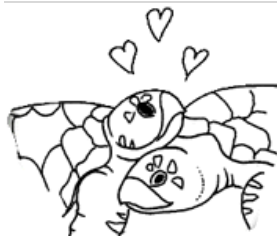
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____



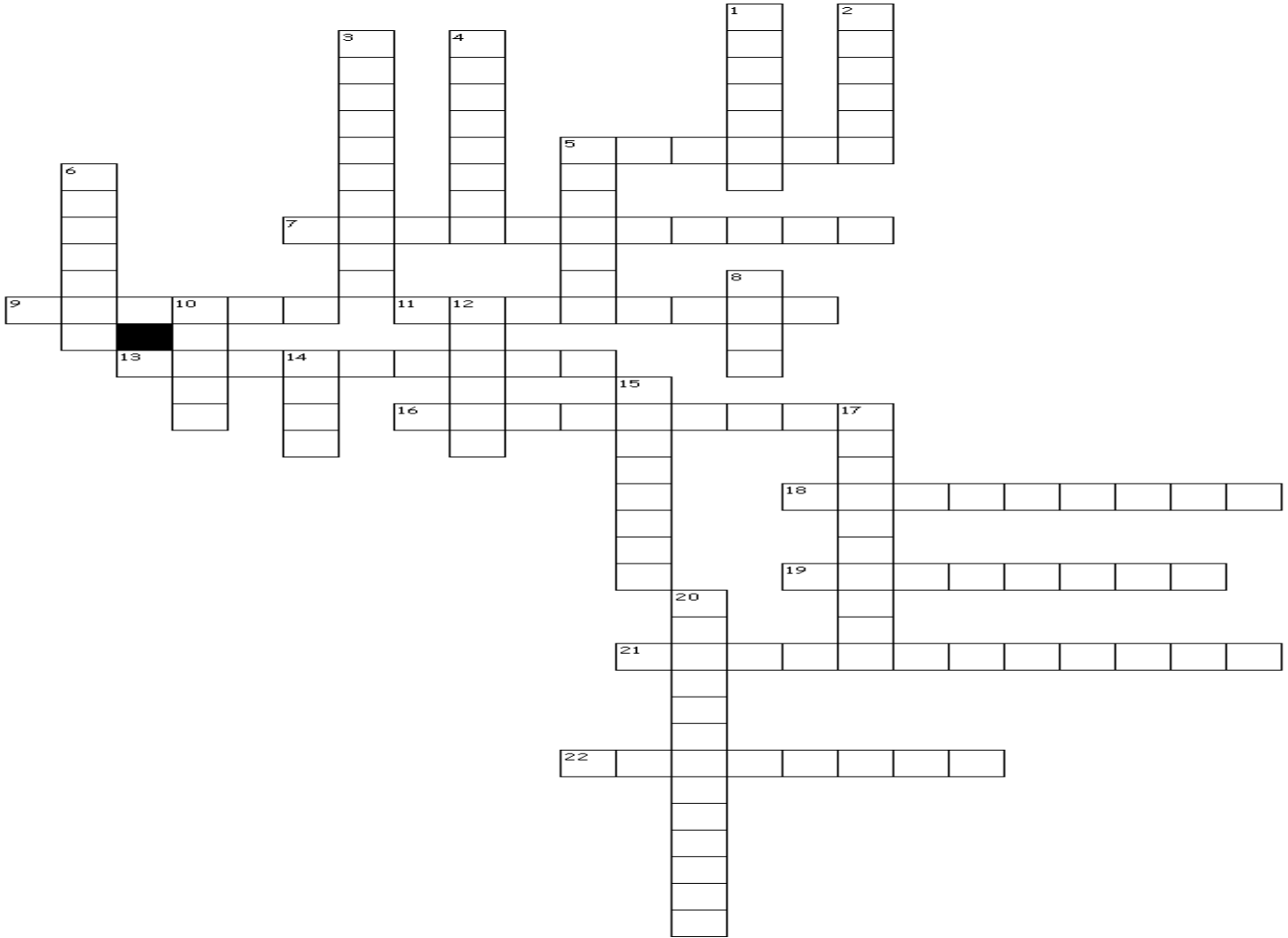
The Life Cycle of a Sea Turtle

Directions: Label the picture with the proper number and description of the stages in the life cycle of a sea turtle.

1. Female turtle arriving at the beach.
2. Digging nest
3. Laying eggs
4. Eggs incubating in nest
5. Turtle returns to water
6. Turtle hatching from egg
7. Hatchlings entering ocean
8. Young turtle searching for food in seaweed
9. Young turtle eating a crab
10. Adult turtles mating



Another Day Another Adventure for a Sea Turtle



Across

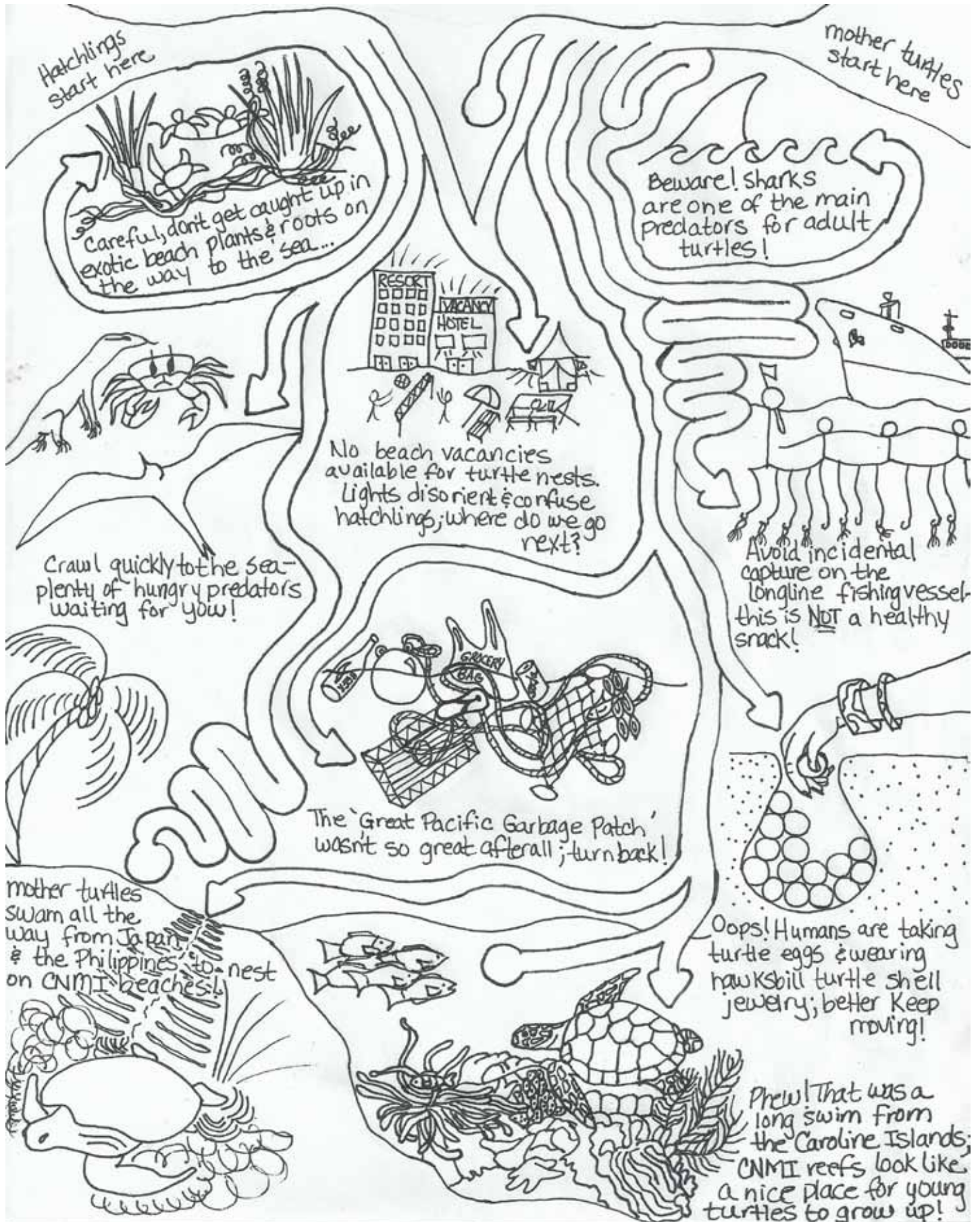
5. The bony plates on the top part of a turtle's shell.
7. The Chamorro name for the green sea turtle.
9. A nesting beach in Rota.
11. The bottom part of a turtle's shell.
13. An animal that feeds on plants.
16. An animal that preys (feeds) on other animals; a meat-eater.
18. A species of turtle found foraging in CNMI near-shore waters, which has a sharp upper jaw that looks like a bird's beak.
19. The adult green sea turtle's favorite snack.
21. A nesting beach in Tinian.
22. The top part of a turtle's shell.

Down

1. Sea turtles _____ hundred or even thousands of miles to get from their feeding grounds to their nesting beaches.


2. The primary reason hawksbill sea turtles are killed.
3. The Chamorro name for the hawksbill sea turtle.
4. When turtles are eating their favorite foods.
5. The hawksbill sea turtle's favorite snack.
6. The Carolinian name for the hawksbill sea turtle.
8. The Carolinian name for the green sea turtle.
10. The species of turtle which nests on CNMI beaches, that is named for the color of the fat underneath its shell.
12. A nesting beach on the south east coast of Saipan.
14. Plastic _____ are often mistakenly eaten by sea turtles, often causing them to die.
15. Artificial _____ may cause hatchling sea turtles to become disoriented after hatching out of a nest.
17. When an organism, plant or animal, is in danger of becoming extinct.
20. A predator that can be found eating turtle eggs in Rota.

See if you can help the mother turtle and her hatchlings find their way to suitable habitat. The hatchlings must make it to a healthy foraging habitat. The adult female turtle is trying to find a dark, quiet nesting beach on which to build a nest. Beware of all the potential threats that can keep them from reaching their destinations.



Sea Turtle Nesting

Unscramble each of the clue words.

Take the letters that appear in  boxes and unscramble them for the final message.


LHCUTC

					
--	--	--	--	--	---


BYOD TIP

							
--	--	--	--	--	--	--	--

GGE HBCAMRE

										
--	--	--	--	--	---	--	--	--	--	--

ATDA REOGLG

										
--	--	--	--	--	--	---	--	--	--	--


NOTRACNUL

								
--	--	--	--	--	--	--	--	--

TABCUGIINN

									
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NAALT CAEBH

										
--	--	--	--	--	--	--	--	--	--	---


DGNIGGINETS

										
--	--	---	--	--	--	--	--	--	--	--

CASTRK

						
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LESFA LARWC

									
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Find the Difference

Find the seven differences then color the original picture.



Source: <http://www.edupics.com/coloring-page-turtle-i18663.html>



Threats to Sea Turtles

Directions: Find the words from the box in the word search below. Note: Some words in the box are made up of more than one word but in the word search below there are no spaces.

BOATS	GLOBAL WARMING	CLIMATE	COMPETITION
DISEASE	ENTANGLEMENT	EROSION	HARASSMENT
HABITAT LOSS	HARVESTING	STRESS	SPEARGUN
SEA LEVEL RISE	MARINE DEBRIS	BYCATCH	POLLUTION

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

16 of 16 words were placed into the puzzle.

Created by [Puzzlemaker](https://www.discoveryeducation.com/puzzlemaker) at [DiscoveryEducation.com](https://www.discoveryeducation.com)

S S O L T A T I B A H S E E + + + B +
 + H N + + + + + I S + T + + O + +
 + G A U + + + + + R A + + A A + + +
 + + L R G + + + + + B E + + T M + + +
 + + + O V R + + + + E S + S + + I + +
 + + + + B E A + + + + D I + + + + L C
 + T + + + A S E + + + E D + + + + O C
 + + N + + + L T P + + N S + + + + M + +
 + + + E + + + W I S + I + T + + P + S +
 N + + + M + + + A N + R + + R E + E + P
 O + + + + E + + + R G A + + T E A + O B
 I + + + + + L + + + M M + I + L S L + Y
 S + + + + + G + + + I T + E + L S + C
 O + + + + + N + + + I N V + U + + + A
 R + + + + + + + A O + E G T + + + + T
 E + + + + + + + N T L + I + + + + C
 H A R A S S M E N T R N O + + + + + H
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 + + + + + + + + S + + + + + + + + +
 + + + + + + + + E + + + + + + + + +

- (Over, Down, Direction)
 BOATS (19, 1, SW)
 BYCATCH (20, 11, S)
 CLIMATE (20, 7, NW)
 COMPETITION (20, 6, SW)
 DISEASE (13, 7, N)
 ENTANGLEMENT (13, 18, NW)
 EROSION (1, 16, N)
 GLOBALWARMING (2, 3, SE)
 HABITATLOSS (11, 1, W)
 HARASSMENT (1, 17, E)
 HARVESTING (2, 2, SE)
 MARINEDEBRIS (12, 12, N)
 POLLUTION (20, 10, SW)
 SEALEVELRISE (19, 9, SW)
 SPEARGUN (10, 9, NW)
 STRESS (13, 8, SE)

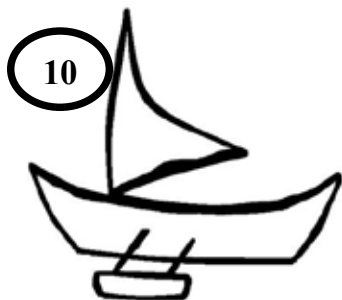
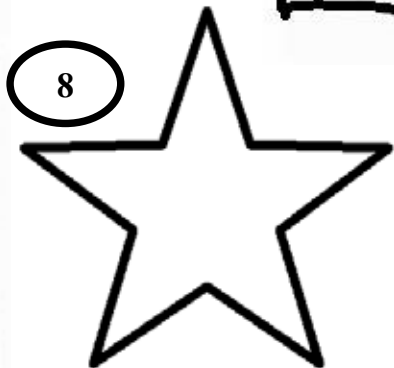
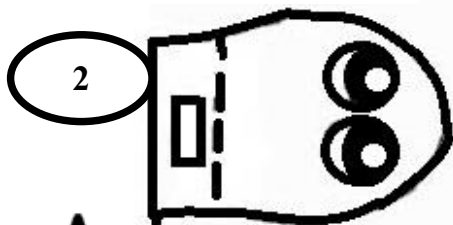
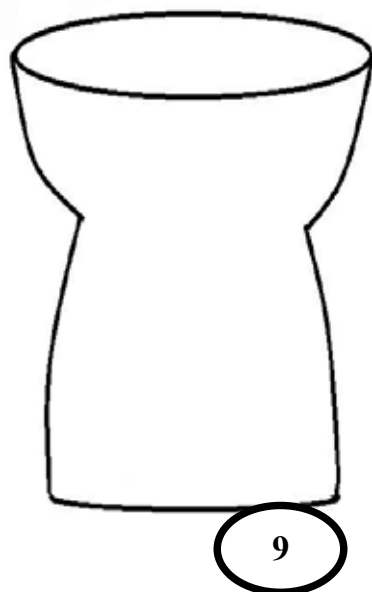
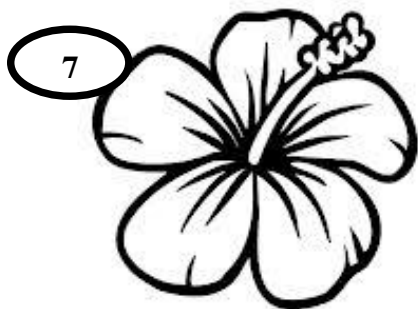
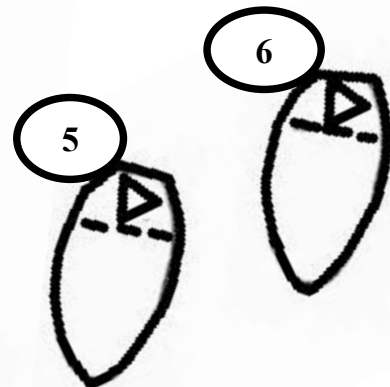
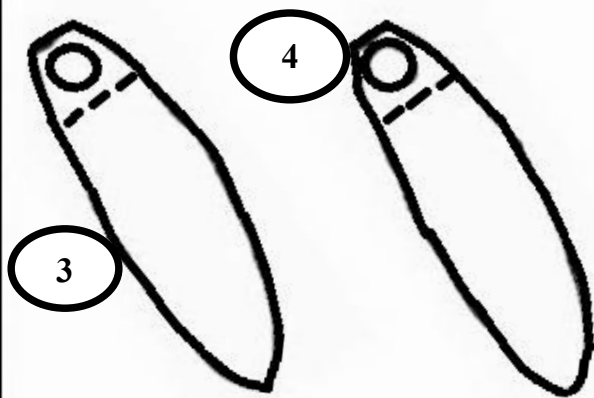
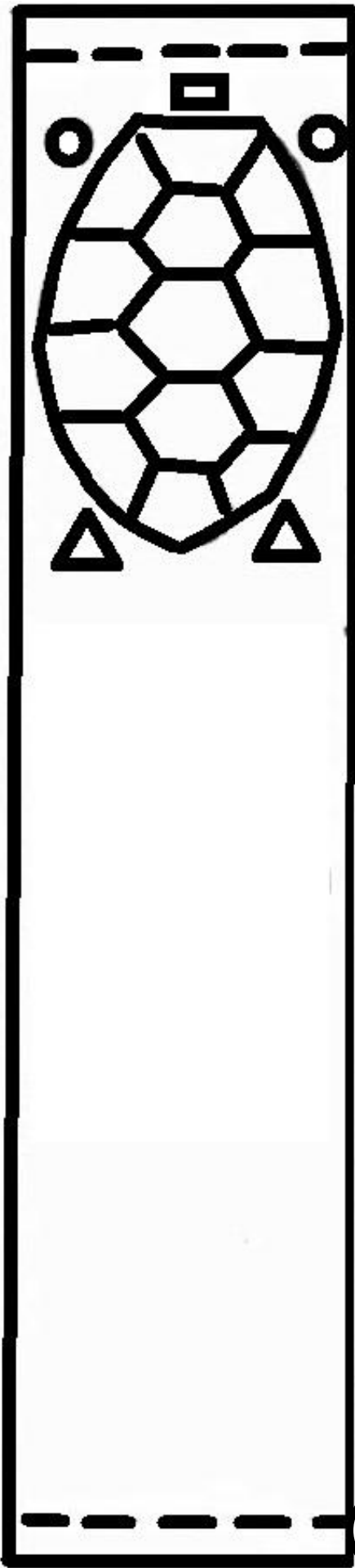
The Life Cycle of a Sea Turtle [Answers by row (left to right)]
 Row 1
 Picture 1 - 4 Eggs incubating in nest
 Picture 2 - 9 Young turtle eating a crab
 Picture 3 - Hatchlings entering the ocean
 Row 2
 Picture 4 - 10 Adult turtles mating
 Picture 5 - 5 Turtle returns to the water
 Picture 6 - 2 Digging nest
 Row 3
 Picture 7 - 6 Turtle hatching from egg
 Picture 8 - 8 Young turtle searching for food in seaweed
 Picture 9 - 3 Laying eggs
 Row 4
 Picture 10 - 1 Female arriving at the beach


LHCUTC CLUTCH
 BYOD TIP BODY PIT
 GGE HBCAMRE EGG CHAMBER
 ATDA REOGLG DATA LOGGER
 NOTRACNUL NOCTURNAL
 TABCUGINN INCUBATING
 NAALT CAEBH NATAL BEACH
 DGNIGGINETS DIGGING NEST
 CASTRK TRACKS
 LESFALARWC FALSE CRAWL

HATCHLINGS

A crossword puzzle grid with the following words filled in:
 Across: HANGANC, FORAGING, SCUTES, HANGANBETDE, TAT, GUVA, PLASTRON, HERBIVORE, CARNIVOR, HAWKSBILL, SERPENTS, UNDAIDANGKULO, CARAPACE.
 Down: HANGANC, FORAGING, SCUTES, HANGANBETDE, TAT, GUVA, PLASTRON, HERBIVORE, CARNIVOR, HAWKSBILL, SERPENTS, UNDAIDANGKULO, CARAPACE.





Directions: Color all the numbered pieces on this page. Then when you are finished coloring cut each piece out (remember what number each piece is or write in on the back). Piece 1 is going to be your headband for your *mwaar/mwar mwar* but since it is not long enough, take another paper and fold it hotdog  style making sure that it is long and skinny. Next you will have to match Piece 2 with the rectangle on Piece 1. Then you attach Piece 3's circle to one of Piece 1's circles. You also attach Piece 4, 5, and 6 to their matching shapes on Piece 1. After that you attach Piece 7, 8, 9, and 10 anywhere you want them on Piece 1. Finally, you staple Piece 1 and your extra folded paper together. Now you have finished making your turtle *mwaar/mwar mwar*. Enjoy!