



Lesson 1: Sea Turtle Biology

Description: Students will learn about basic sea turtle biology.

Objectives:

By the conclusion of the activities, students will

- Understand about experiments, results and nesting cycles of female sea turtles
- Understand geometric shapes and use them to identify turtle body parts
- Design a turtle using geometric shapes

You will need:

- Copies of Chapter 1, *Sea Turtle Biology* for each student.
- Word wall words (page 1-8 to 1-17)—printed, cut out and laminated (if desired)
- Activity sheets for each student
- For activity 2 (for each student)
 - Scissors
 - Construction paper
 - Glue/tape
 - Crayons/Markers
 - Ruler
 - Pencils
 - (Optional) Protractor

Standards:

Florida Sunshine State Standards-

English Language Arts

- **LAFS.5.RL.1.1** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
- **LAFS.5.RI.2.4** Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

Science

- **SC.5.L.17.1** Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycles variations, animal behaviors and physical characteristics.

NGSS-

- **LS1B** Growth and Development of Organisms.



Common Core Standards-

ELA/Literacy

- **RI.5.1** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
- **RI.5.4** Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

Mathematics

- **G.B.3** Classify two-dimensional figures into categories based on their properties.

Vocabulary:

Adapted: A plant or animal that has changed to be able to survive in a particular type of place.

Brackish: Water that is a mixture of sea water and fresh water.

Camouflage: Using shape or color to hide.

Carapace: [KAHR-uh-pace] The back, or top, shell of a turtle.

Cold-stunned: When sea turtles get too cold, they stop moving and float at the water's surface. We call them "cold-stunned." They can become prey or get hit by boats. They might even die from the cold.

Damp: A little bit wet.

Ectothermic: Cold-blooded. An animal whose body temperature varies with the environment.

Flippers: The parts of a sea turtle, whale or dolphin's body that are in the same position as human arms and legs.

Foraging: [FOHR-a-jing] Searching for food.

Hatchling: A sea turtle that has just come out of its egg.

Imprint: To learn something that will affect one's behavior.

Incubate: To keep eggs warm before hatching.

Low frequency: Types of sounds often heard as a low rumble.

Plastron: The part of a turtle's shell that covers its belly.

Propulsion: Pushing something forward in the water.

Reptile: A group of cold-blooded air-breathing vertebrates. Reptiles usually lay eggs and have skin covered with scales or bony plates. Reptiles include snakes, lizards, turtles, and alligators.

Rudder: The part of a boat that is used for steering.

Sea turtle: A type of swimming turtle that lives in the ocean.

Species: A group of living things that are of the same kind. All individuals of the same species share a scientific name.

Stranded: Washed up on shore.

Streamlined: Designed to move through water or air easily.

Substrate: The base which something lives on or moves over.

Subtropical: The part of the world that is not as hot as the tropical area or as cold as the temperate area.

Temperate: The part of the world between the tropics and the Arctic or Antarctic.

Terrapin: A type of turtle that lives in brackish water.



Topography: The shape, ups and downs of the land.

Tortoise: A type of turtle that lives only on land.

Tropical: The part of the world between the two tropics. The tropical region includes the equator.

Procedure:

1. Add words for this lesson (page 1-8 to 1-17) to your sea turtle word wall. Review these words with students (see Vocabulary above for definitions).
2. Have students read “Sea Turtle Biology” (Chapter 1 in *One in a Thousand: Those Amazing Sea Turtles*).

Activities:

Activity 1: **Premier** (page 1-4). Students will read a paragraph. They will then answer questions that draw on ELA and math skills. This activity could be written on chalkboard/whiteboard/projector or given as handouts.

Activity 2: **Geometric turtle activity** (page 1-6). Students will identify shapes and will create a turtle using a given set of shapes.





Name: _____

Premier

In 1975, scientists conducted an experiment in Australia. That year, they marked 7,381 sea turtle hatchlings. 'Premier' was one of those marked hatchlings. None of the marked hatchlings was seen until 2003. In 2003, scientists saw Premier laying her eggs. She did this on the same beach where she had hatched. During that summer, she came ashore five times. She laid eggs four of those five times. Two other turtles that had been marked as hatchlings in 1975 also came back to lay eggs in 2003.

In what year was Premier born? _____.

How old was she when she first laid eggs? _____.

What fraction of turtle hatchlings tagged in 1975 returned to laid eggs in 2003? _____.

If Premier laid 120 eggs in each nest, how many eggs did she lay that summer? _____.

If one of those hatchlings survived to lay eggs at the same age as Premier what year would that be? _____.



Premier activity Answers

In what year was Premier born? ___1975___.

How old was she when she first laid eggs? ___28___.

What fraction of turtle hatchlings tagged in 1975 returned to laid eggs in 2003? ___3/7381___.

If Premier laid 120 eggs in each nest, how many eggs did she lay that summer? ___480___.

If one of those hatchlings survived to lay eggs at the same age as Premier what year would that be? ___2031___.



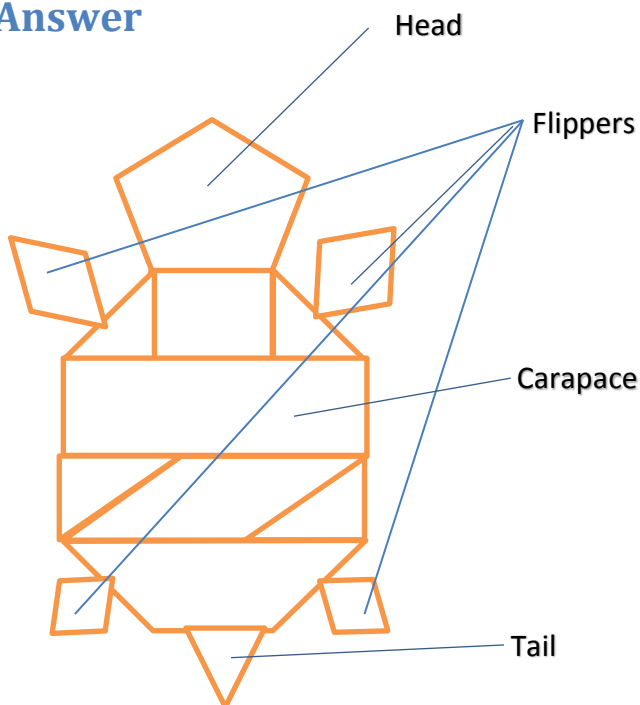
Geometric Turtle Activity

(modified from "Build a Geometric Turtle" in Newport Aquarium Educators Guide

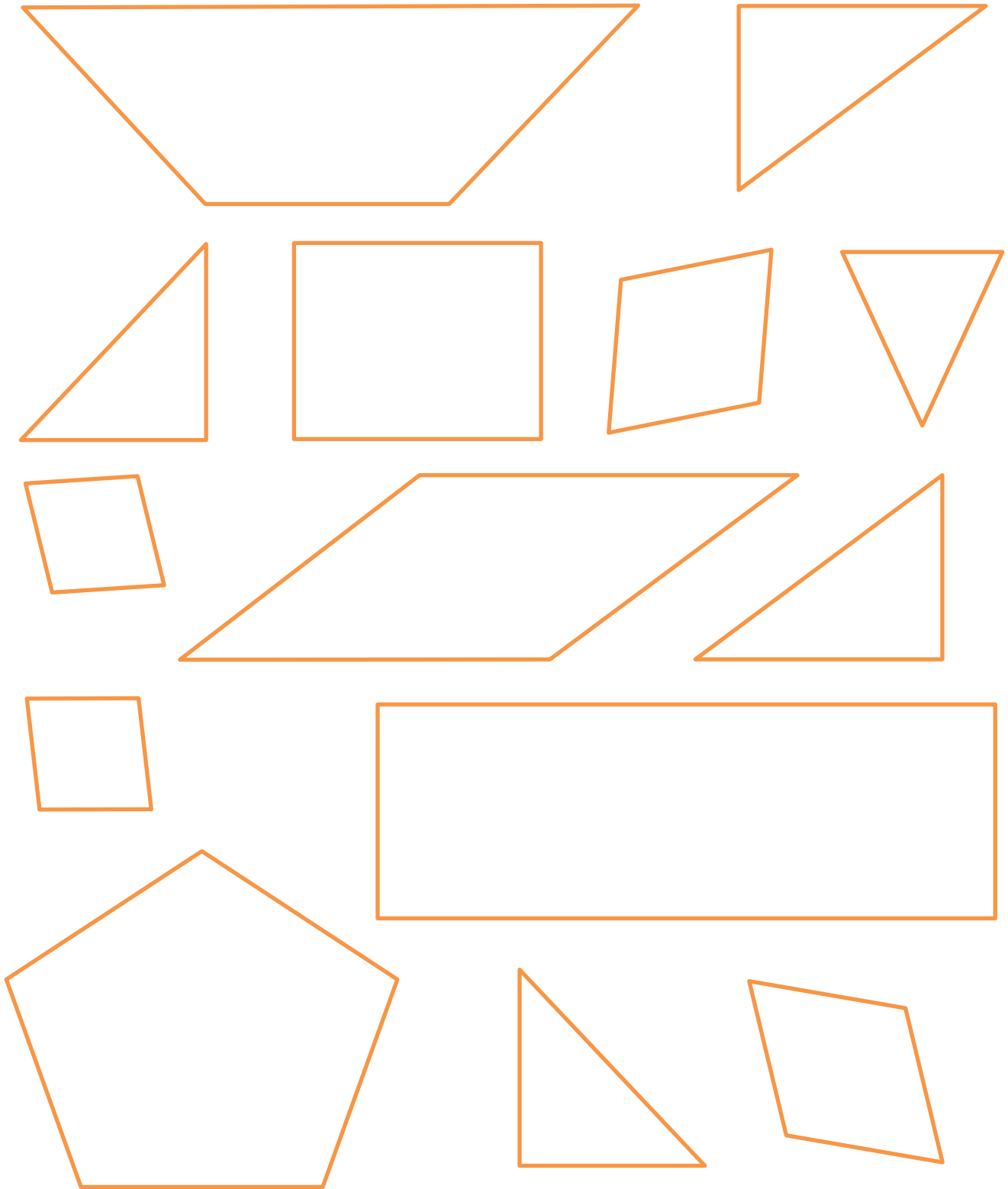
http://www.seaturtle.org/documents/Educators_Guide.pdf)

1. (Optional) Have students color in shapes (Same shapes/same colors)
2. Have students cut out shapes
3. Have students identify the geometric shape and write the shape name on the back of the shape.
4. Have students arrange shapes to make a turtle.
5. (Optional) Have students measure angles using protractor. If students did not color shapes in step 1, you could have them color shapes that have a right angle (for example).
6. Have students glue shapes onto sheet of construction paper.
7. Have students label turtle body parts.
8. Lead a discussion with students—what adaptations do sea turtles have that allow them to survive in the ocean?

Answer



Geometric Turtle Activity



Reptile

Sea turtle

Terrapin

Brackish

Tortoise

Streamlined

Species

Adapted

Carapace

Plastron

Flippers

Propulsion

Rudder

Camouflage

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Low frequency

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Topography