

Can You Measure Up?

Audience: Middle to upper elementary; extension for middle and high school

Duration: 30 minutes to 1 hour

STEM Process Skills: Analyzing data, graphing, predicting

Learning Objectives/Goals: The student will be able to construct and interpret a line graph from marine related data.

TEKS: All Grades 1, 2, 3, 4, 12

Ocean Literacy Principles: #5, #6

Vocabulary: carapace, growth rate

Set Up/Break Down: Copy the Loggerhead Growth Rate Record for each student

Revised, March 2018

Description: This activity challenges students to analyze data, create a line graph and make predictions.

Materials: One copy of the Loggerhead Growth Rate Record per student

Procedures: Using the loggerhead growth and weight chart, create a line graph of the weight change and carapace length change over time. Use the graphs to answer the questions.

Extensions: Middle and high school students can use the resources provided, or search for additional reliable resources, to find out about the natural history of the loggerhead sea turtle (what it eats, where it lives). Students can use that research to design a rescue and rehabilitation center for stranded turtles. Research current data sets on growth rates and compare/contrast the provided set to those you find.

Background Information: Each time a turtle is held in human care for any reason, special attention is paid to its size and any changes that occur over time. This gives scientists a database of information that may be useful to determine the ages of stranded sea turtles. The data listed

here came from one of two sea turtles raised in the care of humans at a research station near the Sea of Cortez. Their weights and carapace lengths were recorded annually. Use the sites below to track loggerheads with real-time data.

Resources:

www.arkive.org

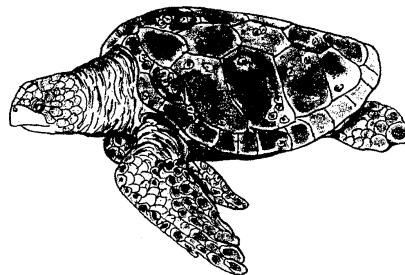
www.seaturtleinc.org/

www.eol.org

www.seaturtle.org/tracking/

www.oceantoday.noaa.gov

www.iucnredlist.org



TO LEARN ABOUT AQUARIUM CAREERS VISIT

www.texasstateaquarium.org/educate/teachers-and-schools/learning-resources/staff-profiles/

Loggerhead Growth Rate Record

Background Information

Each time a turtle is held in human care for any reason, special attention is paid to its size and any changes that occur over time. This gives scientists a database of information that may be useful to determine the ages of stranded sea turtles. The data listed below came from one of two sea turtles raised in the care of humans at a research station near the Sea of Cortez. Their weights and carapace lengths were recorded annually. Use the sites below to track loggerheads with real-time data.

Questions

What was the total change in the turtles' weight from Year 1 to Year 11?

What was the total change in the turtle's carapace length during that time?

During which year did the turtle gain the most weight?

During which year did the turtle's carapace grow the most?

What factors might cause a wild sea turtle to grow more in some years than others?

What factors might cause the growth rates of a turtle raised in the care of humans and a wild turtle be different?

How could sea turtle biologists use this data?

Year	Carapace Length (an)	Weight (kg)
1	47.0	11.0
2	47.0	18.0
3	49.9	24.1
4	53.0	30.0
5	57.0	36.0
6	60.6	42.0
7	63.2	48.0
8	66.0	54.5
9	69.0	56.0
10	71.0	57.9
11	75.9	65.8

