



Lesson 9: Turtle Tracking

Description: Students will learn how scientists learn about sea turtles' movements in the ocean.

Objectives:

By the conclusion of this lesson, students will

- Understand that some sea turtles can swim for thousands of miles in the ocean
- Have a better understanding of how satellite tagging helps scientists track turtles.

You will need:

- Copies of chapter 9, *Turtle Tracking* for each student.
- Word wall words (pages 9-6 to 9-8)—printed, cut out and laminated (if desired)
- Copies of *Turtle Tracking Activity* (pages 9-3 to 9-4) for each student or group of students
- Internet access

Standards:

Florida Sunshine State Standards-

English Language Arts

- **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.

Mathematics

- **MAFS.NBT.1.4** Use place value understanding to round decimals to any place.
- **MAFS.NBT.2.6** Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Common Core Standards-

ELA/Literacy

- **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

- **NBT.A.4** Use place value understanding to round decimals to any place.
- **NBT.B.6** Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Vocabulary:

Antenna: A wire or metal rod that is used to send or receive radio signals.



Decade: A period of ten years.

Epoxy: A type of very strong glue.

Fiberglass: A type of plastic with glass fibers in it.

Flipper tag: A piece of metal or plastic that is folded over. It gets clipped to a sea turtle's flipper. The tag is numbered so scientists can identify the turtle.

PIT tag: A tiny electronic device that can be inserted under an animal's skin. PIT tags can be "read" by a special receiver.

Satellite tag: A type of tag used to track animals. The tag sends signals to satellites. The signals let scientists know where the animal is.

Tag: An object that is attached to an animal so that people can identify it.

Procedure:

1. Add words for this lesson (pages 9-6 to 9-8) to your sea turtle word wall. Review these words with students (definitions are given in Vocabulary, above).
2. Have students read "Tracking Turtles" (chapter 9 in *One in a Thousand: Those Amazing Sea Turtles*).

Activity: **Leatherback Sea Turtle Tracking** (pages 9-3 to 9-4).

Give students the handouts for this activity.





Leatherback Sea Turtle Tracking Activity

Every year, several sea turtles are tagged with a special satellite tag. Most of the turtles are tagged as they are nesting. The tag is attached to the turtle's back. When the turtle comes to the surface to breathe, the tag sends a signal to satellites in the sky. The signal gives a record of that turtle's location (like a GPS). The satellite sends the information to scientists. The scientists put these locations on a map. They can then tell where the turtle has traveled. They can also tell how long it took the turtle to swim that far. You will be looking at some of these "tracks" on a website. This activity will focus on leatherback sea turtles. The website also has tracks for tagged loggerhead, green, hawksbill and olive ridley sea turtles.

OK, let's get started:

This activity involves five leatherback sea turtles tagged in 2012 and 2013. Their names are Calypso Blue, Karma, Saila, Calypso Blue II (the second) and Panama Jackie.

1. Go to <http://www.conserveturtles.org/>
2. Click on "Turtle Tracker" on the top menu bar
3. Select "Tracking projects"
4. Click on a turtle's name to see a tracking map and information about its travels. You can use the mouse to move the map around. Click on the – or + symbols on the map to zoom in and out. There may be tracking locations that are "off the map" when you first view the map. You might have to zoom in on the map to get some of the requested information.
5. You will need to use the clues on the worksheet to identify each of the turtles. You can then find out a little more information about them from the website.



Name: _____

TURTLE TRACKING WORKSHEET

Fill in the blanks:

Turtle A was released off the northern coast of Panama in May, 2013. She headed northeast and was last recorded off the coast of Portugal.

Turtle A's name is _____. She traveled a total of _____ miles in _____ days. That's an average speed* of _____ miles per day!

Turtle B was released off the northern coast of Panama in May 2012. She swam between the Dominican Republic and Puerto Rico. She then headed north up the eastern coast of the US. In October, she headed east and spent several months in the area south of Nova Scotia, Canada.

Turtle B's name is _____. She traveled a total of _____ miles in _____ days. That's an average speed* of _____ miles per day!

Turtle C was released off the northern coast of Panama in May 2013. She headed north and swam around the Gulf of Mexico. She spent about five months just north of Tabasco, Mexico.

Turtle C's name is _____. She traveled a total of _____ miles in _____ days. That's an average speed* of _____ miles per day!

Turtle D was released off the northern coast of Panama in May 2012. She spent the next year swimming around mostly in the western Gulf of Mexico. She might have been heading for Tampa when her location was last recorded.

Turtle D's name is _____. She traveled a total of _____ miles in _____ days. That's an average speed* of _____ miles per day!

Turtle E was released off the northern coast of Panama in May 2012. She traveled northwards, skimming the west coast of Cuba and spent most of her year in the Gulf of Mexico near the west coast of Florida.

Turtle E's name is _____. She traveled a total of _____ miles in _____ days. That's an average speed* of _____ miles per day!

*to calculate the average speed, divide the number of miles by the number of days. Round your answer to the nearest whole number.

Which of the turtles had the fastest average speed? _____

Which of the turtles had the slowest average speed? _____



Turtle Tracking Activity Answers

Turtle A was released off the northern coast of Panama in May, 2013. She headed northeast and was last recorded off the coast of Portugal.

Turtle A's name is Calypso Blue II. She traveled a total of 5,876 miles in 222 days. That's an average speed* of 26 miles per day!

Turtle B was released off the northern coast of Panama in May 2012. She swam between the Dominican Republic and Puerto Rico. She then headed north up the eastern coast of the US. In October, she headed east and spent several months in the area south of Nova Scotia, Canada. Turtle B's name is Calypso Blue. She traveled a total of 8,548 miles in 308 days. That's an average speed* of 28 miles per day!

Turtle C was released off the northern coast of Panama in May 2013. She headed north and swam around the Gulf of Mexico. She spent about five months just north of Tabasco, Mexico. Turtle C's name is Panama Jackie. She traveled a total of 7,338 miles in 357 days. That's an average speed* of 21 miles per day!

Turtle D was released off the northern coast of Panama in May 2012. She spent the next year swimming around mostly in the western Gulf of Mexico. She might have been heading for Tampa when her location was last recorded.

Turtle D's name is Karma. She traveled a total of 7,245 miles in 339 days. That's an average speed* of 21 miles per day!

Turtle E was released off the northern coast of Panama in May 2012. She traveled northwards, skimming the west coast of Cuba and spent most of her year in the Gulf of Mexico near the west coast of Florida.

Turtle E's name is Saila. She traveled a total of 8,066 miles in 430 days. That's an average speed* of 19 miles per day!

*to calculate the average speed, divide the number of miles by the number of days. Round your answer to the nearest whole number.

Which of the turtles had the fastest average speed? Calypso Blue

Which of the turtles had the slowest average speed? Saila

Tag

Flipper tag

Decade

PIT tag

Satellite tag

Antenna

Epoxy

Fiberglass