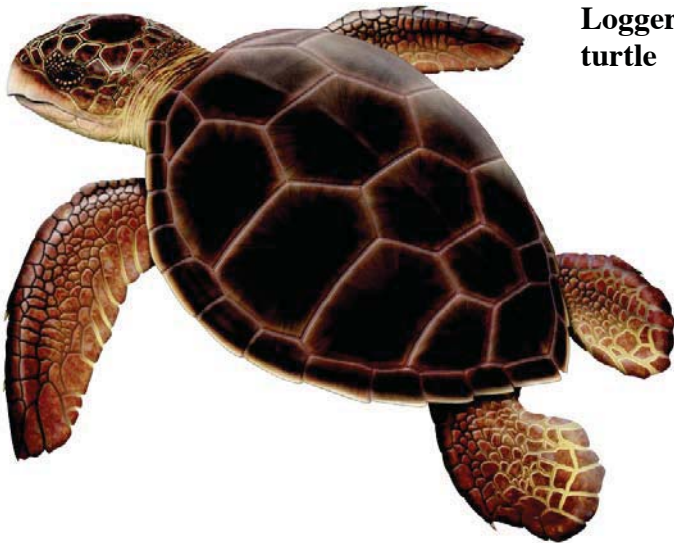


The Sea Turtles of Shark Bay

Activity 1. Making Observations

The first step in a scientific investigation is to make observations. That is what we will do now. Our first step is to list the important features of the turtles. Body parts or behaviors that help an organism survive are called *adaptations*. Sea turtles were swimming the world's oceans when dinosaurs walked on land. What are some of the adaptations that help these two kinds of turtles survive?

Look at the pictures of the green turtle and loggerhead turtle. Circle the adaptations you see. Then fill out the table and answer the question.



Loggerhead sea
turtle



Green sea turtle

Table 1. Turtle Adaptations

Adaptation	How it helps a turtle survive

At first glance, green turtles and loggerhead turtles look the same. But are they? Take a closer look at the pictures of these turtles. Think about what you saw in the video, too. Then, fill out this table to compare and contrast green turtles and loggerhead turtles.

Table 2. Comparing and Contrasting Turtles

Character	Ways they are alike	Ways they are different
Body size		
Head size		
Flipper length		
Shell		
Color		

1. Which turtle do you think can move faster? Why?

Activity 2. Making measurements and developing hypotheses

Good job making observations! But making observations is just the first step of a scientific investigation. We also need to make hypotheses and take measurements. Below are data the team collected from green turtles and loggerhead turtles.

Use these data to construct graphs, answer the questions, and develop your own hypotheses.

Table 3. Traits of Green Turtles and Loggerhead Turtles

Species	Swimming speed (km/hr)	Flipper length (cm)	Head diameter (cm)
Green turtle	11	42	40
Loggerhead turtle	5	36	78

1. Make a bar graph comparing turtle swimming speeds. Be sure to give your graph a title and label the axes.
2. Make a bar graph comparing turtle flipper lengths.

3. Make a bar graph comparing turtle head diameters.

4. Look at your graph of swimming speeds. In Activity 1, Question 3 you made a hypothesis about turtle speeds. Was your hypothesis supported or rejected? Why?

5. Do you think both kinds of turtles eat the same food? What foods do you think each turtle might eat?

6. Develop a hypothesis about whether one turtle species is more at risk from tiger shark attacks than the other. Why do you think this will be the case?

Activity 3. Turtles and sharks

Let's see if your hypothesis is supported by data. Use the data below to fill out Table 5. Then make a graph of the number of green turtles and loggerhead turtles that were attacked by tiger sharks.

Table 4. Shark Attacks, Listed By Turtle Species

Turtle Number	Species	Attacked by a shark?
1	Green Turtle	No
2	Green Turtle	No
3	Green Turtle	No
4	Green Turtle	No
5	Green Turtle	No
6	Green Turtle	Yes
7	Green Turtle	No
8	Green Turtle	No
9	Green Turtle	No
10	Green Turtle	No
11	Loggerhead Turtle	No
12	Loggerhead Turtle	Yes
13	Loggerhead Turtle	No
14	Loggerhead Turtle	Yes
15	Loggerhead Turtle	Yes
16	Loggerhead Turtle	Yes
17	Loggerhead Turtle	No
18	Loggerhead Turtle	Yes
19	Loggerhead Turtle	No
20	Loggerhead Turtle	No

Table 5. Percentage of Each Turtle Species Attacked By Sharks

Species	Total number sampled	Number injured	Percent injured
Green turtle			
Loggerhead turtle			

1. Make a graph to show the percentage of loggerhead turtles and green turtles with shark bite wounds.

2. Was your hypothesis in Activity 2, Question 6 about the species most likely to be attacked supported? Why or why not?

3. Sharks injure one turtle species more often than the other, but both turtle species still live and survive in Shark Bay. Which adaptations do you think most help them survive with sharks? Why?
