

Alligators Up Close

Activity 1. Background research

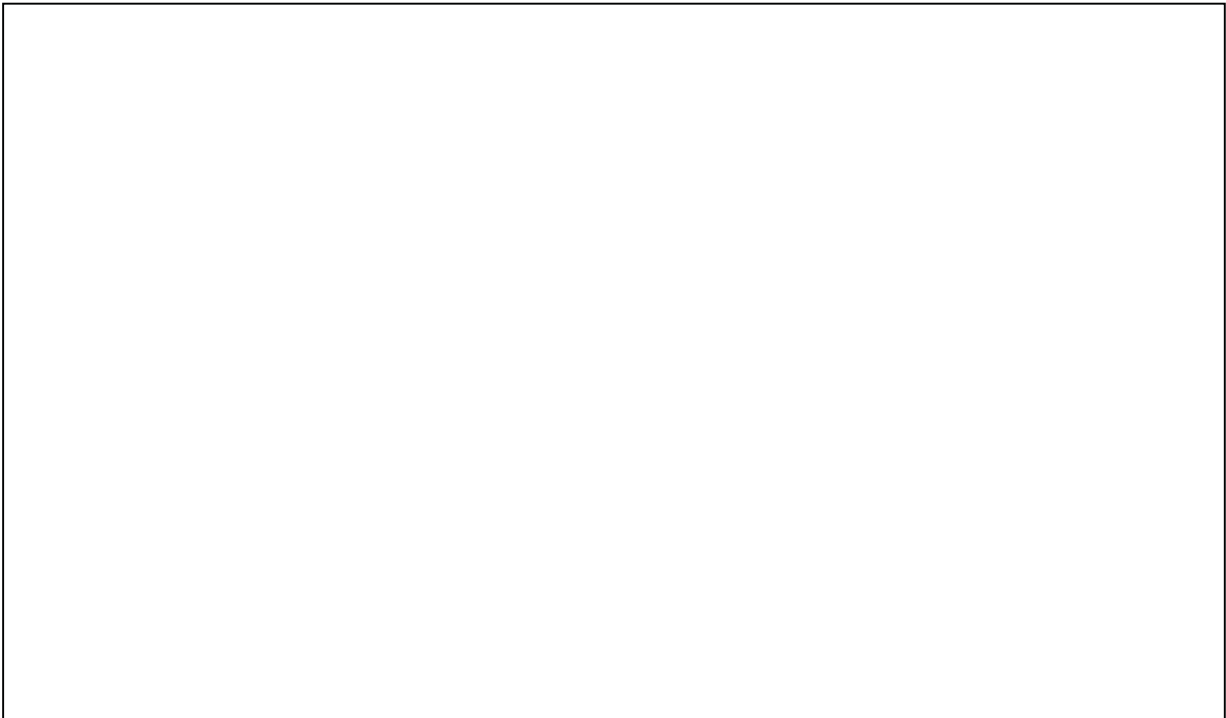
Before starting a scientific investigation it is important to do background research.

We want to know as much as possible about the animals we are studying and the place where they live.

It is time for you to do some background research on alligators and *mangrove estuaries*. Use the Internet or library resources to find out what alligators usually eat. Find out what a food web is. Then answer these questions.

1. What do alligators eat? Is this what you think they will eat in the mangrove estuary? Why?

2. Draw the food web of a mangrove estuary. Start with the sun and end with alligators.



Name _____ Date _____

Activity 2. Alligator food

Adam, Dr. Mike, and Cindy have been busy. The team found out what was in the stomachs of ten alligators. The table below lists what they ate.

Use the data in Table 1 to fill out Table 2. Use Table 2 to make a graph, and then answer the questions.

Table 1. Diets of Ten Alligators in the Mangrove Estuary

Alligator number	Stomach contents
1	crab, small fish
2	empty
3	crab
4	crab, hair
5	crab
6	small fish, snail, crab
7	turtle, crab
8	crab
9	empty
10	small fish, big fish, crab, bird bones

Table 2. Number of Alligators that Ate Different Foods

Food type	Number of alligators
Crabs	
Small fishes	
Big fishes	
Snails	
Birds	
Mammals	
Reptiles	

Name _____ Date _____

1. Use the data in Table 2 to draw a graph of the number of alligators with each type of food in its stomach.

2. What was the most important food for the alligators? How do you know?

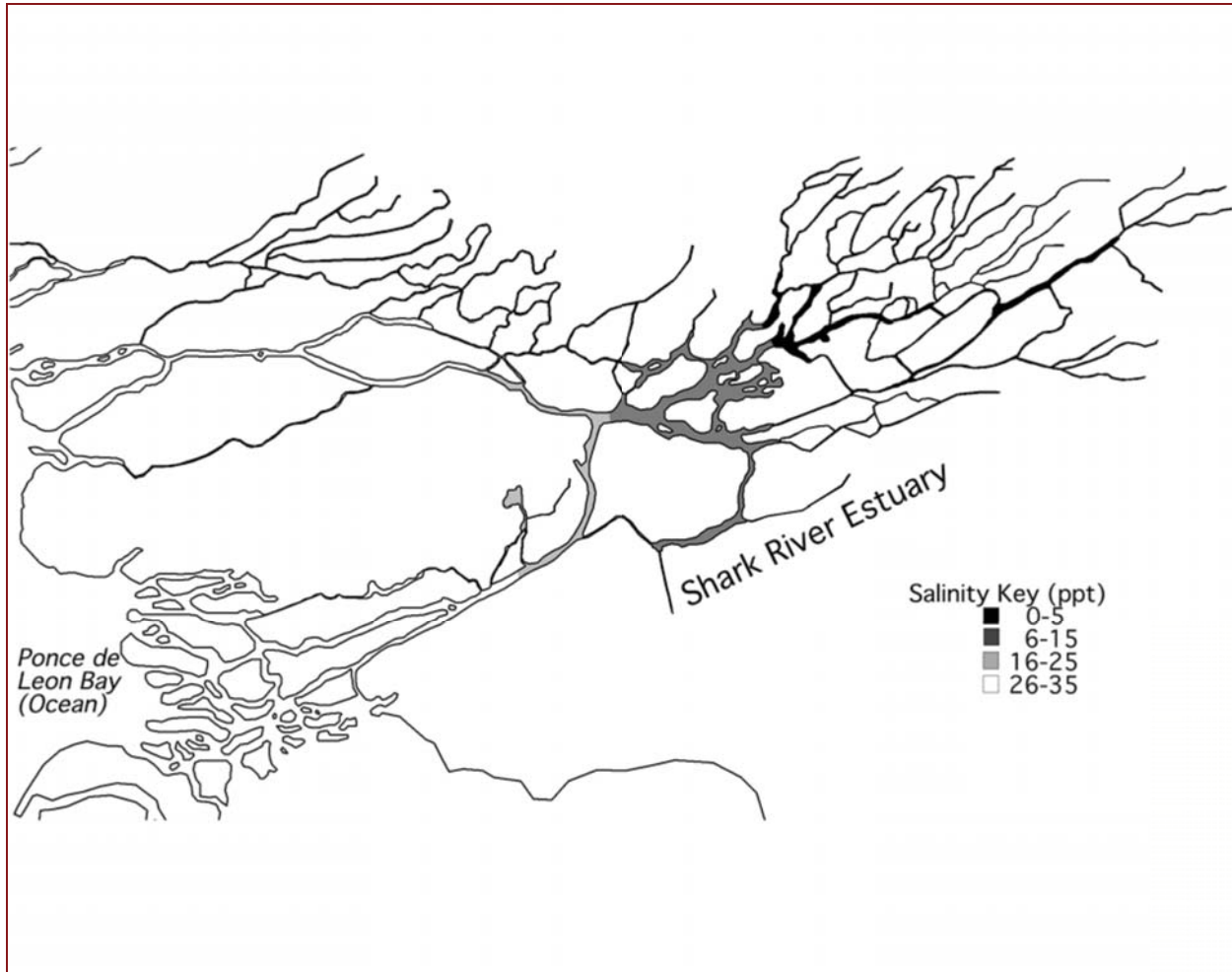
3. Was this the food you thought alligators would be eating? Why?

Name _____ Date _____

Activity 3. Alligators and salinity

Good job team! Now let's find out what parts of the physical environment might influence alligators. Alligators can't live in water with more than 15 parts per thousand (ppt) of salt in it. This is a salinity of 15 ppt. Map 1 shows the salinity in the mangrove estuary.

Use the map below to answer the questions that follow.



Map 1. Salinity in Shark River Estuary

1. Where do you think we will find the alligators spending most of their time? Why?

Name _____ Date _____

2. Do you think there are areas that the alligators will avoid? Why?

Use the information in Table 3 to find the average time alligators spent in each part of the mangrove estuary. Then compare these values to your prediction in question 2 above.

Table 3. Proportion of Time Alligators Spent in Three Areas of the Mangrove Estuary

Alligator number	Downstream (minutes)	Mid-estuary (minutes)	Up-river (minutes)
1	0	25	75
2	0	50	50
3	5	75	20
4	0	75	25
5	0	90	10
6	0	25	75
7	0	0	100
8	0	50	50
9	5	45	50
10	0	0	100
Average			

3. Do the averages support or reject your prediction in question 2 about where alligators should be spending their time? Why?

Name _____ Date _____

Activity 4. Predicting changes in the ecosystem

One reason Adam is doing his study is to find out what might happen to alligators if conditions in the environment changed. People are trying to fix the Everglades so it is more like it was hundreds of years ago before humans changed it.

Use what you learned about alligators to answer the following questions.

1. What will happen to the salinity in the Shark River when there is a lot of rain? Why?

2. Do you think alligators will be found in different places in the wet season when there is more rain? Why?

There are two major events that could change the mangrove estuaries in south Florida. If sea levels rise, salty waters will move further upstream. This event will increase the salinity. If the Everglades is restored, more freshwater will reach the mangrove estuary. This event will lower the salinity.

3. Will sea-level rise be good or bad for alligators? Why?

4. Will restoration of the Everglades be good or bad for alligators? Why?
