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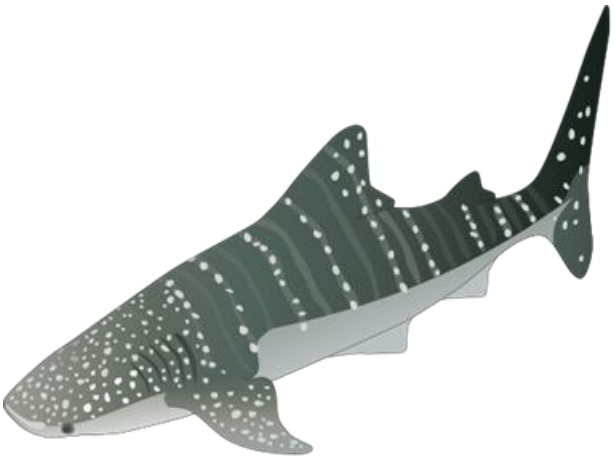
Shark Information

Will Whale Shark



Hi there! My name is Will, and I am a Whale Shark. I am looking for a new house and would appreciate your help.

Whale sharks live in parts of the ocean where the water is salty. The salinity is usually between 25 and 30 parts per thousand (PPT). Whale sharks also like warm water. The water where they live is usually between 25 and 30 degrees Celsius.

Unlike most sharks, whale sharks do not hunt other animals. They eat plankton, which are tiny plants and animals that float in the ocean. Plankton are so small that you usually need a microscope to see them. Whale sharks swim with their mouths open, and the plankton flows into their mouths so they can eat.

Because whale sharks do not hunt large prey, people often call them "gentle giants." They are also called giants because they are the largest fish in the world. Whale sharks can grow up to 60 feet long and weigh about 30,000 pounds.

Even though they are called whale sharks, they are not whales. Whales are mammals, but whale sharks are fish. Whale sharks can live up to 130 years and may swim hundreds of miles each year.

Whale sharks can also swim very deep in the ocean, sometimes as deep as 950 meters. Their large bodies help them stay warm in the cold, deep water.

Tara Tiger Shark

Hi there! My name is Tara and I am a tiger shark. I am looking for a new home and would appreciate your help!

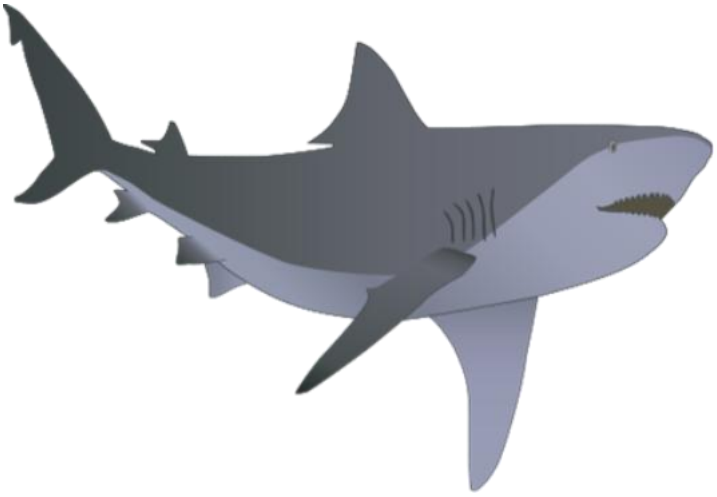
Tiger sharks have dark stripes on their bodies, which is why they are named after tigers. Tiger sharks live in warm ocean water where the temperature is between 20 and 25 degrees Celsius. These sharks are also found in water where the salinity, or salt level, is between 25 and 30 parts per thousand (PPT).

Tiger sharks are predators, which means they hunt for their food. One of the most common animals they eat is sea turtles. Tiger sharks have special teeth that work like a can opener. These teeth help them break open food with hard shells, like turtles.

Tiger sharks are a large species of shark. They can grow up to 20 feet long and weigh about 2,000 pounds. Tiger sharks can live for up to 50 years.

Tiger sharks like to hunt and move around at night. They can see very well in the dark. Sometimes they are called the "garbage cans of the sea" because they often accidentally eat trash. Tiger sharks can also swim deep in the ocean. Scientists have found them in water 350 meters deep.

Billy Bull Shark



Hi! I'm Billy and I am a bull shark. I am looking for a new home and would appreciate your help!

Bull sharks can live in many different ocean environments. They can even swim in freshwater rivers, which most sharks cannot do. Bull sharks prefer water with a salinity, or salt level, of 15 to 20 parts per thousand (PPT).

Bull sharks usually live in warm water, where the temperature is between 25 and 30 degrees Celsius. They are often found in shallow ocean water, but they can also swim far up rivers.

Bull sharks eat many different kinds of animals. One of their most common foods is stingrays, but they also eat fish and other sea animals. Bull sharks are predators, which means they hunt for their food.

Bull sharks are a medium-sized species of shark. They can grow up to 11 feet long and weigh about 500 pounds. Female bull sharks are usually bigger than male bull sharks.

Bull sharks can live for up to 30 years. Female bull sharks can have up to 12 babies at one time, which are called pups. Sometimes bull sharks even work together to hunt for food.

2.1 Salinity and Temperature Station

Salinity and temperature are important parts of your shark's habitat. Salinity is the amount of salt that is in a body of water and is measured in parts per thousand (PPT).

You will use the data table below to decide which habitats have the right temperature and salinity for your shark. Read your shark's information on the kind of habitat they want and pay attention to the salinity and temperature they are comfortable in.

Step 1: Cut out the habitats and your shark from the cut-out page

Step 2: Color the row ⟶ on your grid that is the right temperature for your shark in blue.

Step 3: Color the column ↑ on your grid that is the right salinity for your shark in red.

Step 4: Find the square where the right temperature and salinity meet. Draw an x on this box and then glue your shark cut-out in that square.

Step 5: Find where each habitat cutout should go on the grid using the table on the next page.

You can use your fingers to help find the right square:

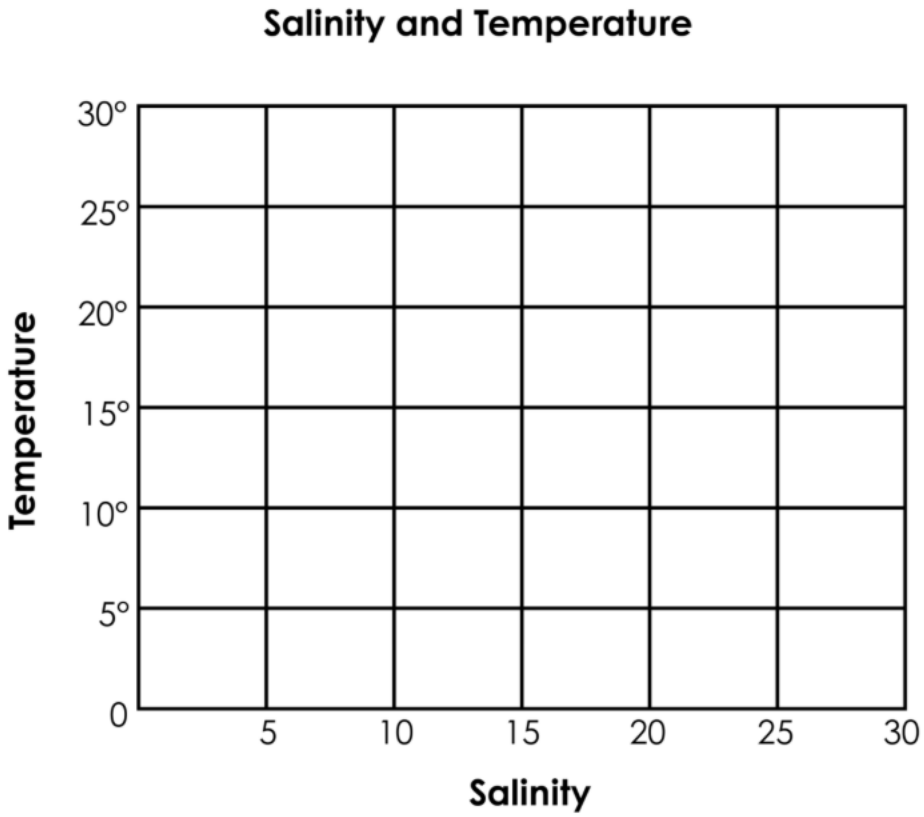
- Place one finger on the temperature row.
- Place your other finger on the salinity column.
- Slowly slide your fingers across the grid until they meet in one square. Put an X on this square.
- Glue each habitat cutout in the square that matches the correct temperature and salinity.

Step 6: Look at which habitats are closest to the salinity and temperature your shark would prefer. Decide which habitat should be your shark's new home.

DATA TABLE		
House	**Temperature**	**Salinity**
House 1 	25-30°C	20-25 PPT
House 2 	15-20°C	15-20 PPT
House 3 	25-30°C	10-15 PPT
House 4 	15-20°C	25-30 PPT

2.2 Salinity and Temperature Worksheet

Names _____

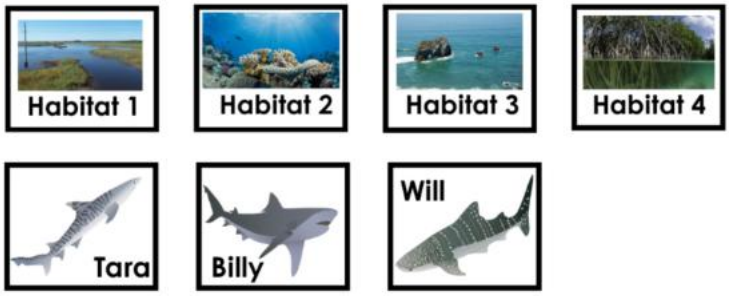


My shark should live in Habitat _____ because _____

_____

_____

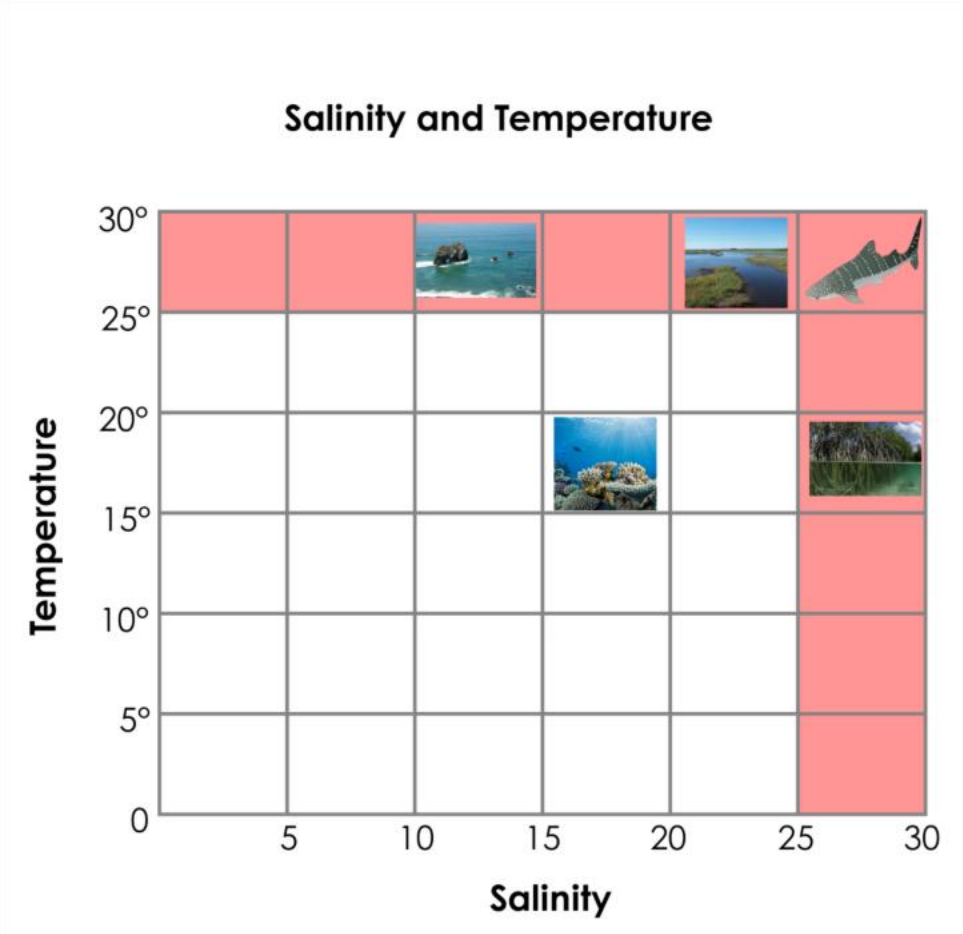
Cut out each habitat and the shark that matches your assigned shark.



Answer Keys:

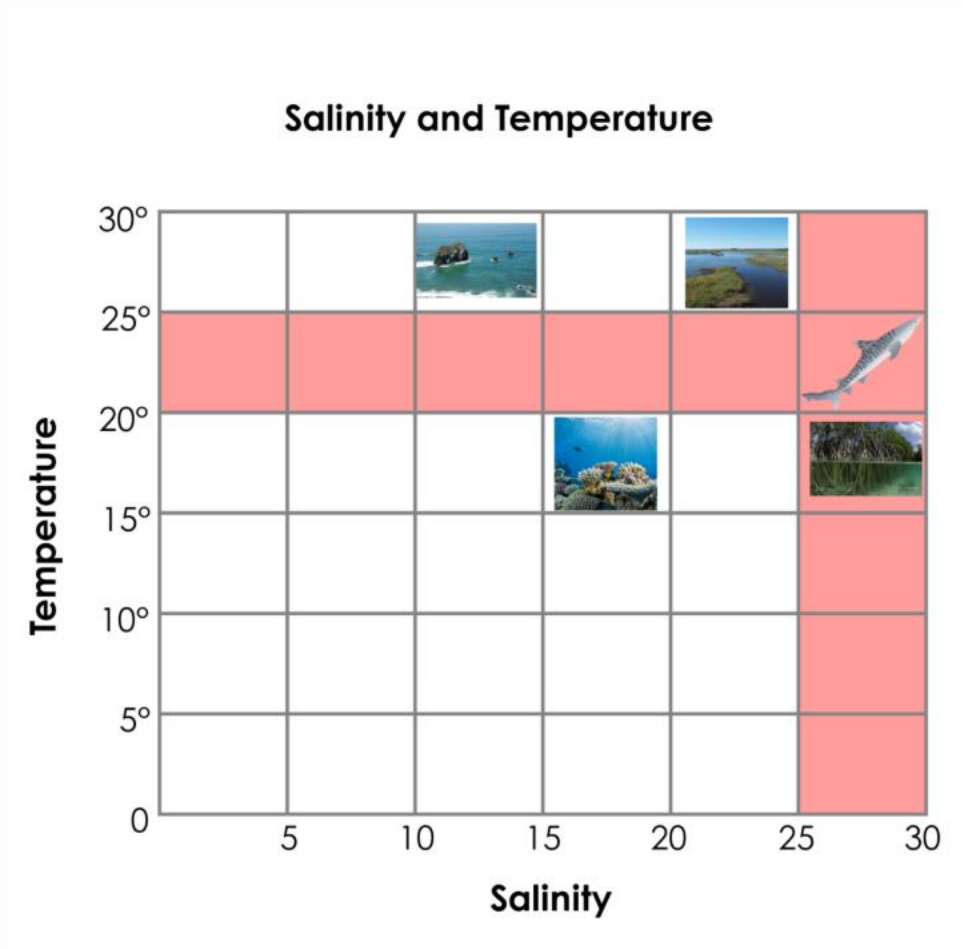
2.3 Salinity and Temperature Answer Key

Will Whale Shark group:



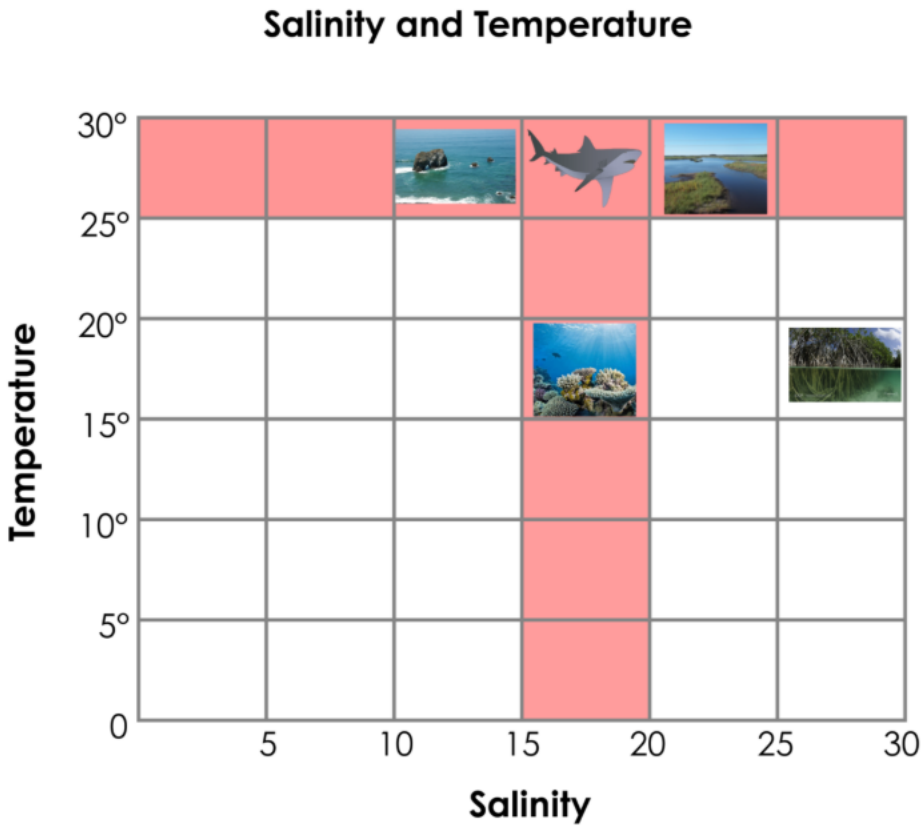
My shark should live in Habitat 1 because it is the closest habitat to the correct temperature and salinity. It has the correct temperature and a salinity close to what my shark is looking for.

Tara Tiger Shark group:



My shark should live in Habitat 4 because it is the closest habitat to the correct temperature and salinity. It has the correct salinity and a similar temperature to what my shark is looking for.

Billy Bull Shark group:



My shark should live in Habitat 1 OR 3 (students can pick one of the two or identify both) because this/these habitat(s) are the closest to the correct temperature and salinity. They have the correct temperature and a salinity that is close to what my shark is looking for.

3.1 Diet Station

Let's see what's on the menu at each habitat! There is a cup for each habitat your shark is thinking about living in. Inside each cup are beads, and each color of bead represents a different type of food that is in that house. Read your shark's information on what kind of food they eat.

Here's what the color of the bead means:

Blue: Plankton **Green: Fish** **Red: Turtle** **Orange: Crabs** **Purple: Stingrays**

Part A:

Step 1: Pour out the beads from the cup that says Habitat 1 onto the paper plate.

Step 2: Count the number of beads of each color. Look at the key to see what food each color represents.

Step 3: Fill in the worksheet to show the number of each food type you found at House 1.

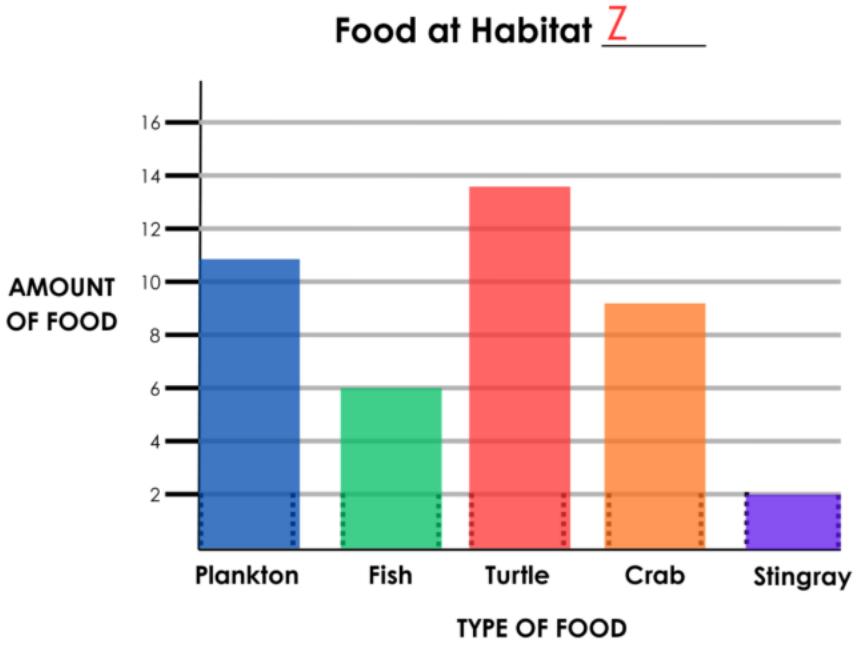
Step 4: Put the beads back in the right cup and repeat the steps with the other 3 cups.

Part B:

Step 5: Look back at your worksheet. Which habitat had the right food for your shark? Circle that house.

Step 6: Now, you will make a bar chart for the habitat you just picked. You will color in bars to show how many of each food type you found. Use the same colors in the chart that were used with the beads.

Here is an example of what your bar chart should look like.



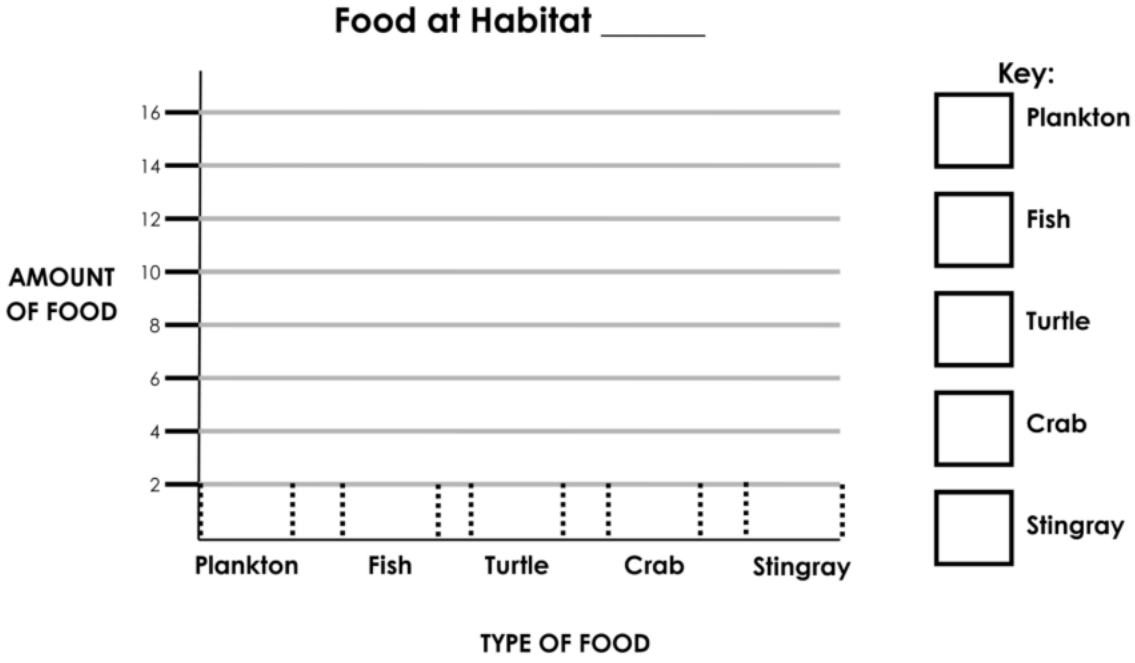
3.2 Diet Worksheet

Names _____

Part A: Fill out each blank with the number of each type of food you find at each habitat.

Habitat 1:	Habitat 2:	Habitat 3:	Habitat 4:
____Plankton	____Plankton	____Plankton	___Plankton
____Fish	____Fish	____Fish	___Fish
____Turtles	____Turtles	____Turtles	___Turtles
____Crabs	____Crabs	____Crabs	___Crabs
____Stingrays	____Stingrays	____Stingrays	___Stingrays

Part B: Circle the habitat that has the right kind of food for your shark. Fill out the bar graph for that house. Make sure to title your graph and color in the key.



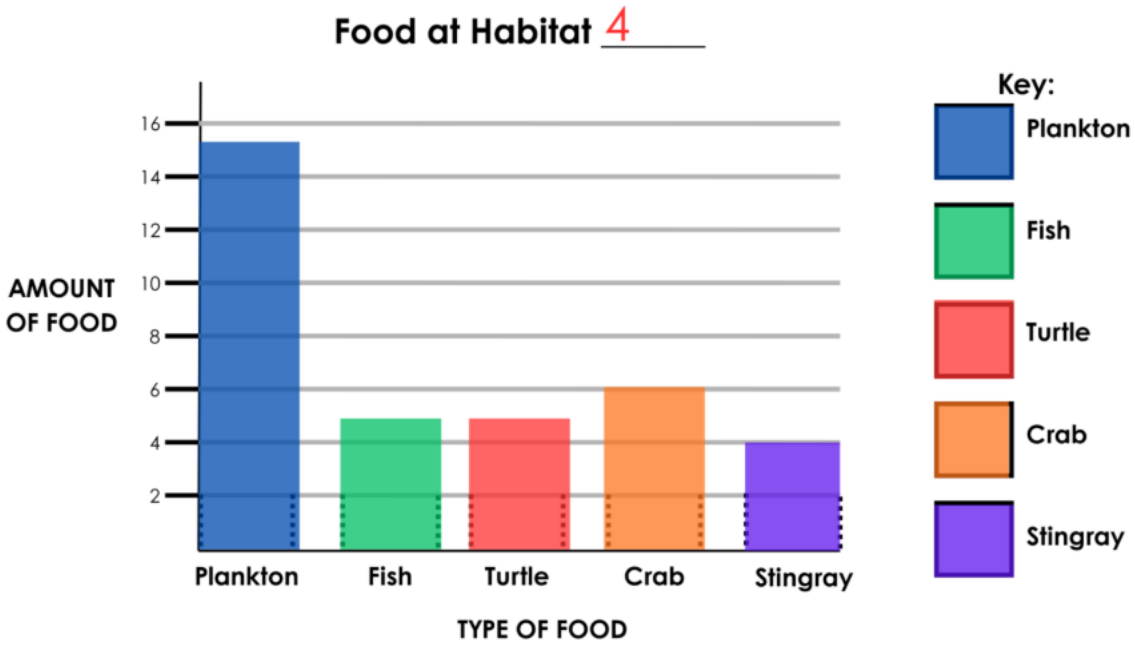
3.2 Diet Answer Key

Will Whale Shark Group

Part A: Fill out each blank with the number of each type of food you find at each habitat.

Habitat 1:	**Habitat 2:**	**Habitat 3:**	**Habitat 4:**
2 Plankton	4 Plankton	2 Plankton	15 Plankton
8 Fish	4 Fish	7 Fish	5 Fish
2 Turtles	14 Turtles	3 Turtles	5 Turtles
16 Crabs	6 Crabs	5 Crabs	6 Crabs
2 Stingrays	2 Stingrays	13 Stingrays	4 Stingrays

Part B: Circle the habitat that has the right kind of food for your shark. Fill out the bar graph for that habitat. Make sure to title your graph and color in the key.

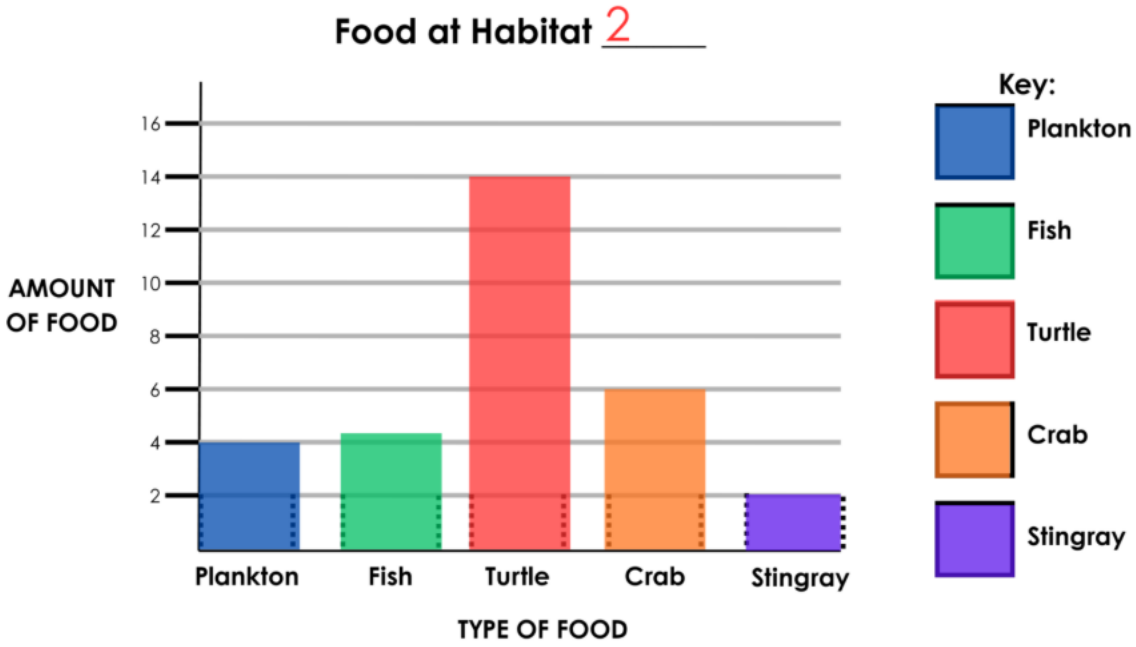


Tara Tiger Shark Group

Part A: Fill out each blank with the number of each type of food you find at each habitat.

Habitat 1:	**Habitat 2:**	**Habitat 3:**	**Habitat 4:**
2 Plankton	4 Plankton	2 Plankton	15 Plankton
8 Fish	4 Fish	7 Fish	5 Fish
2 Turtles	14 Turtles	3 Turtles	5 Turtles
16 Crabs	6 Crabs	5 Crabs	6 Crabs
2 Stingrays	2 Stingrays	13 Stingrays	4 Stingrays

Part B: Circle the habitat that has the right kind of food for your shark. Fill out the bar graph for that habitat. Make sure to title your graph and color in the key.

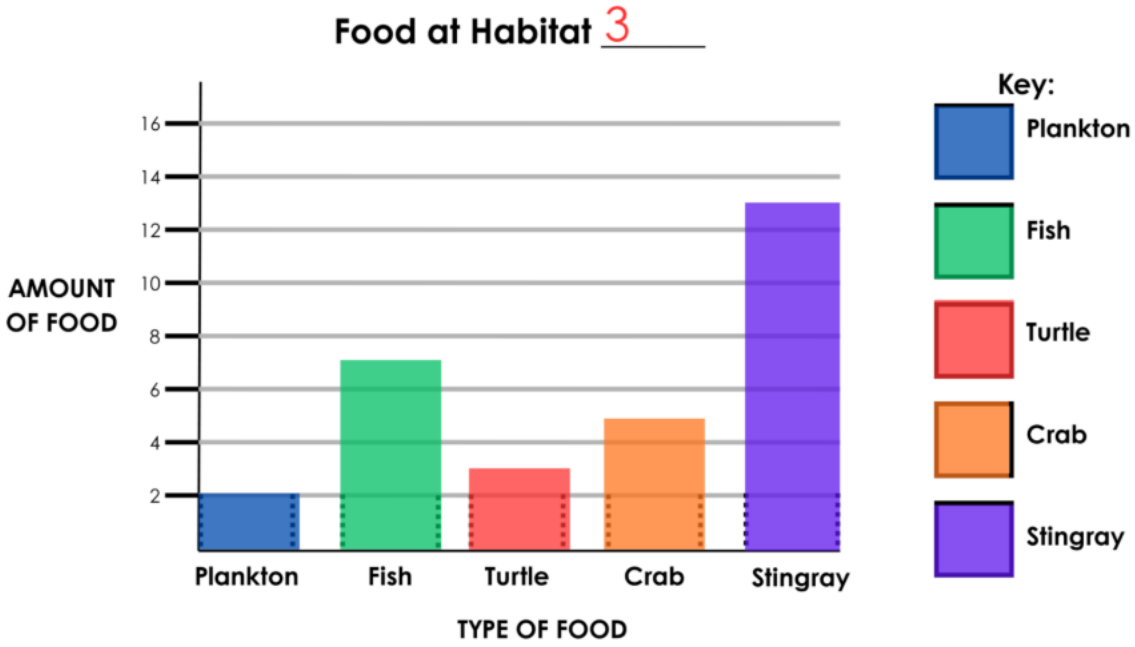


Billy Bull Shark Group

Part A: Fill out each blank with the number of each type of food you find at each habitat.

Habitat 1:	Habitat 2:	Habitat 3:	Habitat 4:
2 Plankton	4 Plankton	2 Plankton	15 Plankton
8 Fish	4 Fish	7 Fish	5 Fish
2 Turtles	14 Turtles	3 Turtles	5 Turtles
16 Crabs	6 Crabs	5 Crabs	6 Crabs
2 Stingrays	2 Stingrays	13 Stingrays	4 Stingrays

Part B: Circle the habitat that has the right kind of food for your shark. Fill out the bar graph for that habitat. Make sure to title your graph and color in the key.



4.1 Human Impacts Station

Sharks need healthy oceans to survive and grow. There are lots of activities done by humans that can make the ocean less clean or less healthy for sharks to live in. For example, humans can add trash and dangerous chemicals to the ocean, do construction in the water that adds noise to the environment, or accidentally catch sharks while fishing.

Let's see how human activities change the habitats where your shark is thinking about living.

Step 1: Cut out the 4 habitats and glue them each in a square of your choosing on the grid.

Step 2: Take turns drawing a card from Set 1 and following the directions on it to color in your grid in different colors. Fill out the color key to remind yourself what each color means.

Step 3: After using all of the cards in Set 1, take turns drawning a card from Set 2 and following the directions to paste pictures on your grid.

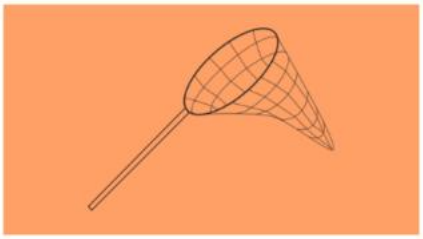
Step 4: See how the ocean neighborhood has changed and decide which habitats are still safe for your shark to live in!

4.2 Human Impacts Cut-Outs

Pile 1:

There is a factory near the beach that has a leak! Chemicals from the factory are now in the water and can make ocean animals sick. Color Color in one column of your ocean BLUE to show where the chemicals are. Your shark does not want to live here!

A big storm came through last night and blew a bunch of trash into the ocean. Now, there is plastic floating everywhere. Sharks can accidentally eat this plastic and become very sick. Color in 4 squares of your ocean RED to show where the plastic is. Your shark does not want to live here!



There is a lot of trash in this part of the ocean left behind by fishing boats, like old nets. Sharks can get stuck in these, which can prevent them from swimming or eating. Color in 3 squares of your grid ORANGE to show where the fishing trash is. Your shark does not want to live here!

The ocean is getting warmer because the climate of our planet is changing. Sharks are very picky about what temperature the water should be. Color in 3 squares of your grid YELLOW to show where the water is too warm. Your shark does not want to live here!

An oil spill has happened! This means that many harmful chemicals are now in the ocean that can make sharks and the fish they eat very, very sick. Color in one row of your grid BROWN to show where the oil is. Your shark does not want to live here!

It is a beautiful, sunny day, so many people decide to go fishing-- for sharks! Sharks can be injured when caught on fishing lines. Color in 5 squares your ocean GREEN to show where the fishing happens. Your shark does not want to live here!

Pile 2:

You and your friends organize a beach clean-up! Together, you pick up all of the garbage at your local beach. Paste smiley faces in one row on your grid. The water near the beach is now safe for sharks again!

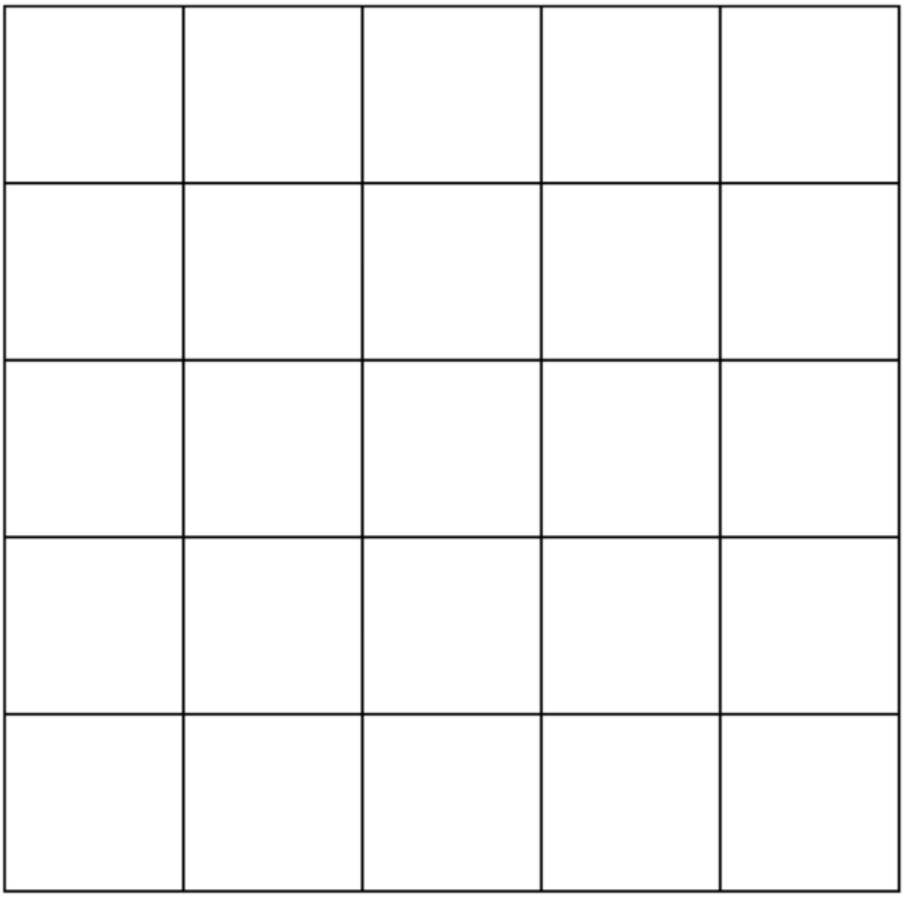
Reduce, reuse, recycle! Your family starts to recycle all of the plastic bottles and containers you use instead of throwing them in the trash. This keeps more plastic from going into the ocean. Paste smiley faces in one column anywhere on your grid. This water is safe for sharks again!

You decide to switch to reusable items at home instead of plastic-- reusable shopping bags, reusable water bottles, and more! This keeps more plastic out of the ocean. Paste one smiley face anywhere on your grid. This water is safe for sharks again!

When you go fishing, you remember to always clean up after yourself and take your gear back home with you instead of leaving it in the ocean. Paste one smiley face anywhere on your grid. This water is safe for sharks again!

4.3 Human Impacts Worksheet

Names _____



Color Key

Oil spill

Chemicals

Shark fishing

Too warm

Plastic from storm

Fishing net trash

My shark should not live in Habitat(s) _____ because

_____

_____

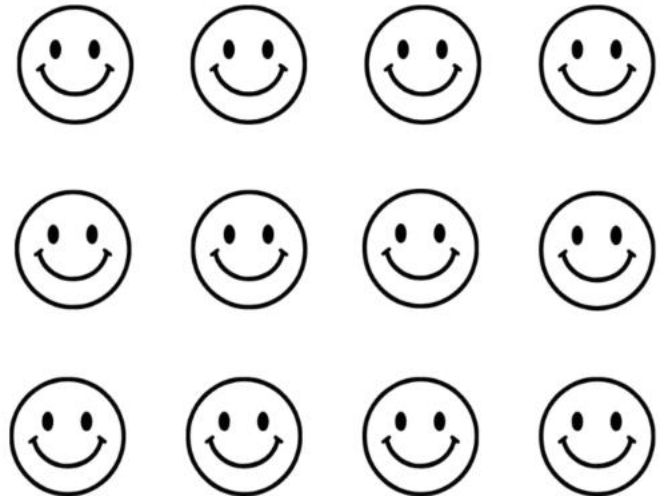
_____.

I can help keep the ocean safe for sharks by _____

_____

_____.

Cut out the pictures of the habitats and smiley faces.



4.4 Human Impacts Answer Key

Students have a lot of choices in how to color in their grid and how to place the habitats.

My shark should not live in Habitat(s) (any habitat is a possible answer) because Students will have variable answers to the question depending on how their grid is colored in. They should identify any habitats that are in squares that are colored in and talk about how the pollution in this square makes it less safe for their shark to live there.

I can help keep the ocean safe for sharks by using reusable items instead of plastic, cleaning up after myself when I go fishing, picking up trash off the beach, etc. These are the answers included on the cards but students can use creativity here and may come up with more examples.

5.1 Choosing a Habitat Worksheet

Names _____

Look at the worksheets you did at each station. There are 4 habitats your shark is thinking about making their home. Each habitat has different salinities, temperatures, food options, and pollution. Talk with your group about the characteristics of each habitat and pick one that you think is the most suitable for your shark to make their home. Use the word bank below when answering the questions.

Salinity Temperature Prey Pollution Diet

Habitat _____ is the most suitable home for my shark because

_____

_____

_____.

However, some downsides to this habitat are _____

_____

_____

_____.

5.2 Choosing a Home Answer Key

This question does not have a set answer. Students can pick any of the 4 habitats as long as their justification fits. Possible explanations include:

-This habitat had the least pollution

-This habitat had a matching temperature and salinity

-This habitat had the right amount of food for my shark.

A good answer should talk about the temperature, salinity, food, and pollution of the habitat.