Who Swims Here?

Identify cartilaginous fish using traits you can observe or describe.

ZOO.7.3 "Identify specific fish species and characteristics that differentiate class Chondrichthyes (e.g., sharks, skates, and rays)."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Circle each named shark, skate, or ray. Underline the traits that help you identify it or distinguish it from the Atlantic cod.

Clues Beneath the Surface

1. At a coastal aquarium, an Atlantic cod glides past a shark tank. The cod has a skeleton made of bone, but sharks, skates, and rays belong to class Chondrichthyes, whose skeletons are made mainly of cartilage. Cartilage is the firm, flexible material that also supports your nose. These fish have several exposed gill slits rather than the bony gill cover found on each side of a cod. They also have tiny toothlike scales that can make their skin feel rough. Cartilage alone cannot tell a shark from a ray, so a closer look at body shape and gill position helps.

2. Two sharks in the aquarium display show how varied this class can be. A great white shark has a streamlined body, gill slits on the sides of its head, and large, serrated teeth for cutting prey. A whale shark also has side gill slits, but it has a wide mouth and feeds by filtering tiny animals from seawater. Despite its name and huge size, the whale shark is not a whale. It is a fish with a cartilage skeleton. Neither shark has the broad, flattened body and underside gill slits typical of skates and rays.

3. On a sandy seafloor, a clearnose skate presses its broad, flattened body close to the bottom. Its gill slits lie underneath, and it lays eggs in tough cases. A southern stingray also has a flattened body and underside gill slits, but it gives birth to live young and has a venomous barb on its tail. Farther offshore, a giant oceanic manta ray uses its broad fins to swim through open water and filters small animals for food. Its gill slits also lie underneath. The skate and both rays have cartilage skeletons, but their different traits help identify each species.

2 ANSWER WITH EVIDENCE

Use the passage

1. Which named fish has a bony gill cover? Give one skeletal trait that distinguishes it from the sharks, skates, and rays.

2. How can you tell a great white shark from a whale shark using their teeth or feeding habits?

3. How do the clearnose skate and southern stingray differ in reproduction, and which has a venomous tail barb?

4. A large fish filters small animals while swimming offshore. Which species is it, and how does gill position distinguish it from a whale shark?

3 YOUR TURN

Your own words

Write a three-step identification key for the great white shark, whale shark, clearnose skate, and southern stingray. Start with gill position, then separate the sharks by teeth or feeding and the flattened fish by reproduction or tail traits.

Who Swims Here?

PART 1 · READ AND MARK

Circle each named shark, skate, or ray. Underline the traits that help you identify it or distinguish it from the Atlantic cod. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Which named fish has a bony gill cover? Give one skeletal trait that distinguishes it from the sharks, skates, and rays.	**The Atlantic cod has a bony gill cover. Its skeleton is made of bone, while those of the sharks, skates, and rays are made mainly of cartilage.**
2	How can you tell a great white shark from a whale shark using their teeth or feeding habits?	**A great white shark has large, serrated teeth for cutting prey. A whale shark filters tiny animals from seawater.**
3	How do the clearnose skate and southern stingray differ in reproduction, and which has a venomous tail barb?	**The clearnose skate lays eggs in tough cases. The southern stingray gives birth to live young and has a venomous tail barb.**
4	A large fish filters small animals while swimming offshore. Which species is it, and how does gill position distinguish it from a whale shark?	**It is a giant oceanic manta ray. Its gill slits lie underneath, while a whale shark's gill slits are on the sides.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

1. If the gill slits are on the sides, go to step 2. If they are underneath, go to step 3.
2. If it has large, serrated teeth for cutting prey, it is a great white shark. If it filters tiny animals from seawater, it is a whale shark.
3. If it lays eggs in tough cases, it is a clearnose skate. If it gives birth to live young and has a venomous tail barb, it is a southern stingray.

Accept keys with a different order if each path identifies one species using traits stated in the passage. For question 4, underside gill slits are the distinguishing clue, not filter feeding, which both species share.