

AQUADEMY LESSON 4: ANIMAL SENSES

Fish have the same five senses that people have, and more! In today's final lesson we'll explore the aquarium and learn more about how animals use their senses to interact with the watery world around them.

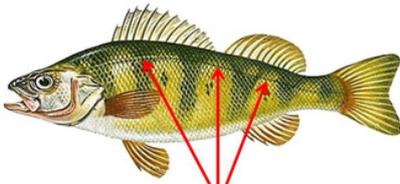
TASK: Can you name all 5 of the human senses?

1. _____
2. _____
3. _____
4. _____
5. _____

1

W.O.W

The lateral line



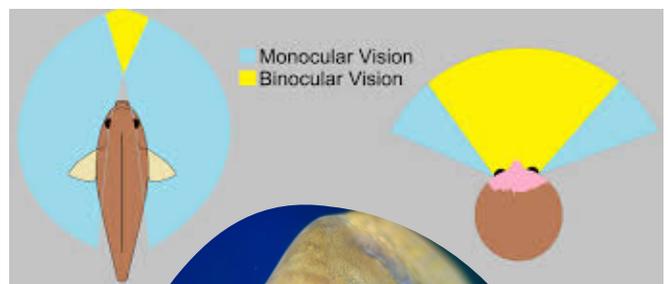
The lateral line is a line of very small pores (holes) that sense water movements and vibrations.

Fish have a special sixth sense, called the **LATERAL LINE** that allows them to detect water movements and vibrations. Detecting movement helps fish find prey or escape from predators.

TASK: Can you spot a fish with a lateral line? Draw it!

2 SHIPWRECK

A fish's sense of sight is similar to our own. Unlike us though, most fish have **MONOCULAR** vision which means they mostly see what is on either side of their head because their eyes are on the side of their head. We have **BINOCULAR** vision which means we see what is in front of us because our eyes are on the front of our face.



TASK: MOST fish have **MONOCULAR** vision. Can you spot a fish in here that has **BINOCULAR** vision?

3

THE DOME

Find the Paddlefish, what do you think they use their long noses for? For a long time people thought they used it like a shovel but now we know they use it to find their food. Paddlefish are **FILTER FEEDERS** meaning they eat small plants and animals that float in the water. They eat by opening their mouth wide, taking in lots of water and filtering out the food.

But how do Paddlefish find their food in murky water with poor eyesight?! They use their big nose and a special ability called **ELECTRORECEPTION**, meaning they can **FEEL** the electricity their food puts off. So their big nose is kind of like a metal detector, but instead of metal it finds food!



TASK:

If you could have a special super power, what would it be?
What would you use it for?

4



TASK:

What are some things you've smelled in the aquarium today?

SHORELINE

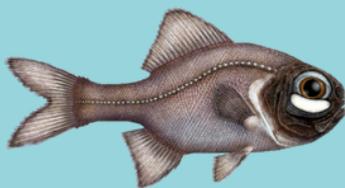
We've talked about **TUBEFEET** in previous lessons, they help sea stars and sea urchins move around and hold onto rocks. **DID YOU KNOW** they also help them **SMELL**?!
Starfish have a very strong sense of smell, they can detect the faintest scent of food and even tell what direction it's coming from!

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5

THE CAVE



TASK:

Can you name another example of a **SYMBIOTIC RELATIONSHIP** at the aquarium? **HINT:** Think about a famous Disney movie about an orange fish.

The Flashlight Fish uses its light to stay with their group in the dark and to attract food. The light is created through a **SYMBIOTIC RELATIONSHIP** with glowing bacteria that live in a pocket of skin under their eyes. A **SYMBIOTIC RELATIONSHIP** is when two organisms form a long-term mutually beneficial relationship meaning both benefit from the relationship. In this case, the bacteria have somewhere safe to live and the fish is able to use the light produced by the bacteria to find food and other flashlight fish.

6 THE TUNNEL

Fish hear, but their "ears" are on the inside. Bony fishes detect vibrations through their "earstones" called **OTOLITHS**.



Can you find a red fish in the tunnel? This is a Squirrelfish, they are known for their ability to make a variety of clicking and grunting noises.

TASK: What do you think the squirrelfish sounds like? Make a noise you think would sound similar.

7 CONTACT COVE



TASK: Can you find another animal with barbels? Hint: Check the **SHARK** tunnel.

There is a tank on your left hand side as you exit the Shark Tunnel. Can you find a fish that is red and yellow?

This is a Goatfish, his whiskers are called **BARBELS**. He uses them to feel around but they are actually covered in **taste buds** and help the goatfish to find food.

8 SUBMARINE

Sea Jellies have no brain, but they have basic senses like smell and touch! This means they can feel it when we touch them!

TASK: What does the Moon Jelly feel like compared to other animals you've touched today?



Final Test!

Take this mini quiz to test your knowledge!

What does the Lateral Line help fish do?

- A. Stay away from other fish
- B. Find fish
- C. Detect water movements and vibrations

When an animal has binocular vision it means their eyes are where?

- A. On the side of their head
- B. On the front of their head
- C. On the back of their head

What does electroreception help an animal do?

- A. Feel the electricity of their food
- B. Shock their food
- C. Shock their predators

What is an otolith?

- A. A Stingray ear
- B. A Shark ear
- C. A Fish ear

When an animal has monocular vision it means their eyes are where?

- A. On the side of their head
- B. On the front of their head
- C. On the back of their head

What do Filter Feeders eat?

- A. Sardines
- B. Plants
- C. Small plants and animals that float in the water

What is a Symbiotic Relationship?

- A. A negative relationship between two organisms
- B. A mutually beneficial relationship between two organisms
- C. A beneficial relationship

What are barbels?

- A. A feeler used to find food
- B. A whisker covered in taste buds that some animals can use to find food
- C. A whisker

You have completed Lesson 4: Animal Senses!

Bring this packet to the gift shop to check your answers. Turn in your punch card with all 4 stamps to redeem your prize!