AQUATIC ANIMALS: FISH OR MAMMALS?

8.1. Vocabulary

Ex. 1. *Match the words with their definitions.*

1. venous	a. to get something that is given or sent to you.
2. receive	b. a dividing wall or membrane between two cavities or spaces in an organism.
3. action	c. the act of moving or changing position.
4. motion	d. the process of doing something to achieve a result.
5. space	e. consisting of two parts or elements.
6. dual	f. related to veins, which carry blood back to the heart.
7. connection	g. relating to valves, especially those that control blood flow in the body.
8. upper	h. a device that controls the flow of liquids or gases by opening and closing.
9. valve	i. a link or relationship between two or more things.
10. species	j. a closed space or room within a larger structure, often used for a specific purpose.
11. hollow	k. situated higher than something else; above it.
12. sound	l. producing a lot of loud sounds that can be disturbing.
13. valvular	m. pertaining to the heart and its functions.
14. cardiac	n. a vibration that travels through the air or another medium and can be heard.
15. noisy	o. an area that is free, available, or unoccupied.
16. chamber	p. a group of living organisms that share common characteristics and

	can reproduce together.
17. septum	q. having an empty space inside; not solid.

Ex. 2. *Complete the sentences with the given words.*

connection, Venous, hollow, action, receive, septum, motion, species, Valvular, dual, valve, noisy, chamber, Cardiac, space, upper

Some fish have a _____(1) body that helps them float in water.

The sound of the waves can be very calming for many people.

Dolphins are known for their _____(2) intelligence and social behaviors.

Each _____(3) of fish has its own unique way of swimming.

The _____(4) in a fish's heart separates oxygen-rich blood from poor blood.

Aquarists love to _____(5) new species of fish for their tanks.

A _____(6) in a fish's heart helps control the flow of blood.

The main _____(7) of a fish’s heart pumps blood throughout its body.

The _____(8) of a fish gliding through water is quite graceful to watch.

The _____(9) between fish and their environment is crucial for survival.

Some underwater environments can be very _____(10) due to the sounds of animals.

The _____(11) of hunting for food is essential for all aquatic animals.

The ocean provides a large _____(12) where many creatures can thrive.

_____(13) defects can affect the health of a fish’s circulatory system.

The _____(14) fins of a fish help it navigate through the water easily.

_____(15) blood carries carbon dioxide back to the fish's heart.

_____(16) health is important for mammals like whales that swim in the sea.

8.2. Grammar

Ex. 1. *Complete the table with the correct form of the verb.*

Infinitive	Past Simple	Past Participle
	arose	
to become		become
to build		
to do	did	
	drew	
		given
to grow		
	heard	
		run
	saw	
to send		
to spread		spread

Ex. 2. *Find and underline in each sentence a compound predicate with a modal verb. Translate the sentences into Russian.*

1. The walls of the capillaries consist of thin cells through which the body fluids can pass.

2. The rate of the heart can be increased from 70 to 200 beats per minute.

3. Heavy physical exertion may increase the rate of flow to the muscles.

4. The blood in the capillaries must be continually replaced with fresh blood.

5. Healthy bones cannot be built without calcium salts.

6. The liver, with its many complex functions, can be damaged by various disorders and diseases.

7. The shape of the brain cannot be determined from the shape of the skull.

8. The body temperature of mammals must lie within the range 35° to 40°

8.3. Reading

Ex. 1. *Read the text.*

When discussing aquatic animals, it's important to understand the differences between fish and mammals. Fish typically have a simple heart with just two chambers: one to pump blood and one to receive it. This means they rely on a straightforward circulation system that makes for efficient oxygenation in water.

On the other hand, aquatic mammals like dolphins and whales have a more complex, dual chambered heart divided by a septum. Their hearts have four chambers, similar to terrestrial mammals, allowing for a valvular system that aids in efficient gas exchange. The cardiac function in aquatic mammals is more advanced, enabling them to dive deep and stay underwater for extended periods.

Fish have a hollow skeleton that makes them light and adaptable to rapid motion in water. They also have scales and gills which assist them in breathing. Aquatic mammals, however, have lungs and need to surface for air. Their skin is smooth or covered with a thin layer of fur.

One might notice that fish are relatively quiet compared to the more noisy aquatic mammals. Sounds produced by dolphins and whales include clicks and whistles used for connection and navigation in their three-dimensional space.

Both fish and aquatic mammals have evolved different but fascinating adaptations. The upper hand for mammals is their intelligence and complex social structures, while fish excel with their streamlined bodies and efficient, venous blood flow systems. Although different, both groups illustrate the beautiful diversity of aquatic species.

Ex. 2. *Answer the questions.*

1. What are the differences in heart structure between fish and aquatic mammals?

2. How does the circulatory system of fish differ from that of aquatic mammals?

3. Why do fish rely on a straightforward circulation system for efficient oxygenation in water?

4. What advantages do aquatic mammals have with their four-chambered hearts compared to fish?

5. How do the skeletal structures of fish and aquatic mammals differ?

6. Why do aquatic mammals need to surface for air while fish can breathe underwater?

7. What types of sounds do aquatic mammals like dolphins and whales use for connection and navigation?