

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Respiration in Organisms

Q1. Whales and dolphins often come up to the water surface. They even release a fountain of water sometimes while moving upwards. Why do they do so?

Ans.

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Q2. Explain the mechanism of breathing with the help of an activity.

Ans.

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## Respiration in Organisms

Q1. Whales and dolphins often come up to the water surface. They even release a fountain of water sometimes while moving upwards. Why do they do so?

Ans. Whales and dolphins are mammals and breathe air into their lungs, just like we do. They cannot breathe under water like fish can as they do not have gills. They breathe through a nostril, called a blowhole, located right on top of their heads. This allows them to take breaths by exposing just the top of their heads to the air while they are swimming or resting under the water. After each breath, the blowhole is sealed tightly by strong muscles that surround it, so that water cannot get into the dolphin's lungs.

When they surface for air, they breathe out (exhales) first and then breathe in (inhales) fresh air. The water spray is not coming from their lungs; it is just water sitting on top of their head around the blowhole being blown away before they inhale. □

Q2. Explain the mechanism of breathing with the help of an activity.

Ans. Take a wide plastic bottle. Remove the bottom. Get a Y-shaped glass or plastic tube. Make a hole in the lid so that the tube may pass through it. To the forked end of the tube fix two deflated balloons. Introduce the tube into the bottle. Now cap the bottle. Seal it to make it airtight. To the open base of the bottle tie a thin rubber or plastic sheet using a large rubber band. To understand the expansion of the lungs, pull the rubber sheet from the base downwards. The volume of the cavity increases. This causes the pressure to decrease. Air rushes in to equalize the pressure, causing the balloons to inflate. Next, push the rubber/plastic sheet up. The volume of the cavity decreases. This causes an increase in pressure within the bottle, the air rushes out of the balloons causing them to deflate.