

The Respiratory System of Birds

Teacher's Guide

My name is Siham Al-Bushaje', a teacher at Al-Kadeeh secondary school in Al-Qatif, Kingdom of Saudi Arabia. I studied at the University of Dammam and graduated in 1414 H.

I have been working as a teacher since 1416 H. I love to read and see what's new in life. I am so delighted to be a guest teacher in schools around the world

Main Objective of the lesson:

I would like to present a lesson about the respiratory system in birds and show how it is different from other living creatures especially mammals. I will talk about these adaptations and differences through the sequence of this lesson which will not exceed 20 to 25 minutes and the remaining time is distributed among the activities which will be performed by the students accompanied by their teachers

Prior Knowledge:

Students should know the classification and general characteristics of birds and mammals classes in addition to the characteristics of the phylum chordata and the subphylum vertebrates.

Activities:

In the first part, students and teachers think about finding an answer to the question introduce in the beginning of the lesson which is about how birds can maintain the temperature of their bodies in their short and long trips despite the absence of sweat glands.

And of course their answer will be after watching a short video about a topic related to the lesson as well as they should think about the answer of the following question: Why don't their bodies burn up or get damaged by all the heat that their bodies are creating with that constant activity?

The students should write down the answers before the display of the second scene.

In the second part, the teachers will show pictures of the respiratory system in birds and mammals and ask the students to compare between the structures of each system. (Pictures can be replaced by models of the respiratory system of birds and humans)

In the third part of the lesson, students will be intellectually stimulated to identify the functions of air sacs which are not found in the lungs of mammals and write down their answers until part 4 begins.

After the fourth part, teachers can show the students some fans that are installed in devices such as laptops or behind air conditioners, or machines in factories and ask them to find an explanation for installing these fans and relate that to air sacs in birds.

In Part V, students along with their teachers are encouraged to think again regarding how migrating birds can return to their nests again. The aim of this question is to stir the curiosity of students to learn more about the world of birds.

At the end of the lesson, I introduce – as a guest teacher- some scientific facts after explaining the functions of air sacs and all the questions about the beautiful and amazing world of birds that would make the students more interested and excited and encourage them to continue research in the future.