

 **CHECK YOUR LEARNING**

1. Name the main organs and structures of the respiratory system. [K/U](#)
2. What is the role of the epithelial tissue that lines the trachea and bronchi? [K/U](#)
3. How does an animal's respiratory system depend on its circulatory system? [K/U](#)
4. Explain the difference between breathing and gas exchange. [K/U](#)
5. (a) Why is an X-ray insufficient to make a positive diagnosis of tuberculosis?  
(b) What test is required to confirm a diagnosis of TB? [K/U](#)
6. Describe the similarities and differences between the respiratory systems of humans and fish. [K/U](#)

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**Suggested Answers**

1. The main organs of the respiratory system are the nasal cavity, mouth, trachea, bronchi, lungs, bronchioles, and alveoli.
2. The role of epithelial tissue in the trachea and bronchi is to secrete mucus to filter out foreign material.
3. The circulatory system carries oxygen and carbon dioxide that are exchanged by the respiratory system.
4. Breathing is the intake and output of air. Gas exchange involves the diffusion of oxygen into the blood and carbon dioxide out of the blood.
5. **(a)** An X-ray can show TB. However, pneumonia and other conditions can look like TB in an X-ray.  
**(b)** To confirm TB, stomach and lung secretions must be examined.
6. Both fish and humans exchange oxygen and carbon dioxide. The fish takes in oxygenated water, whereas the human takes in air. Humans breathe air in and out. Gas exchange occurs as water flows over a fish's gills.