



CHECK YOUR LEARNING

Suggested Answers

1. Oxygen enters through the nose and mouth, moves through the trachea, bronchi, and airways, then moves into the air sacs, and, finally, into capillaries.
2. Cilia trap bacteria and particles of dirt from the air and move them up, out of the respiratory system.
3. Breathing moves air into and out of air sacs where diffusion enables oxygen to move into capillaries and carbon dioxide to move out.
4. Sample answer: Asthma, emphysema, and bronchitis all involve airways being unable to remain open easily to allow air to move through. In bronchitis, narrowing results from inflammation. In asthma, narrowing results from both inflammation and tightening of muscles around the airways. In emphysema, small airways near air sacs are weakened, losing their ability to hold their shape, and thus close when air moves through.
5. Muscles paralyzed by curare include those involved in breathing, so the animals are unable to breathe or are able to breathe only with difficulty.
6. In order for carbon dioxide to move out of blood and out of the body through the lungs by diffusion, the concentration of carbon dioxide in the external environment must be kept extremely low. Otherwise, carbon dioxide will remain in the body, leading to death.