



# BIOLOGY

## NCERT - NCERT BIOLOGY(ENGLISH)

### BREATHING AND EXCHANGE OF GASES

#### Exercise

1. Define vital capacity. What is its significance?



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2. State the volume of air remaining in the lungs after a normal breathing.



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3. Diffusion of gases occurs in the alveolar region only and not in the other parts of respiratory system. Why?



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4. What are the major transport mechanisms for  $CO_2$ ? Explain.



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5. What will be the  $pO_2$  and  $pCO_2$  in the atmospheric air compared to those in the alveolar air?

(i)  $pO_2$  lesser,  $pCO_2$  higher

(ii)  $pO_2$  higher,  $pCO_2 \leq$  lesser (iii)  $pO_2$

*higher*,  $p\text{CO}_2$  higher

(iv)  $p\text{O}_2$  lesser,  $p\text{CO}_2$  lesser



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6. Explain the process of inspiration under normal conditions.



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7. How is respiration regulated?



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8. What is the effect of  $pCO_2$  on oxygen transport?



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9. What happens to the respiratory process in a man going up a hill?



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**10.** What is the site of gaseous exchange in an insect?



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**11.** Define oxygen dissociation curve. Can you suggest any reason for its sigmoidal pattern?



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**12.** Have you heard about hypoxia? Try to gather information about it, and discuss with your friends.



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**13.** Distinguish between

(a) IRV and ERV

(b) Inspiratory capacity and Expiratory capacity

(c) Vital capacity and Total lung capacity



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**14.** What is Tidal volume? Find out the Tidal volume (approximate value) for a healthy human in an hour.



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