

# Respiration – fact sheet

| Question  | Answer  |
|---|---|
| Where does aerobic respiration take place?  | Mitochondria of cells   |
| Write the word equation for aerobic respiration. (4)                                | Glucose + Oxygen → Carbon dioxide + Water   |
| Respiration in cells releases energy. List four things this energy is used to do.   | <ul style="list-style-type: none"> <li>a. Build larger molecules</li> <li>b. Muscle contractions</li> <li>c. Maintain body temperature</li> <li>d. Plants make amino acids from sugar and nitrates</li> </ul>   |
| What changes take place within the body during exercise to support respiration? (2) | <ul style="list-style-type: none"> <li>Increased Heart rate</li> <li>Increased breathing rate</li> </ul>  |
| Explain these changes (4)   | <ul style="list-style-type: none"> <li>Increased heart rate –               <ul style="list-style-type: none"> <li>1. Increases blood flow to muscles...</li> <li>2. to provide oxygen and remove carbon dioxide</li> </ul> </li> <li>Increased breathing rate –               <ul style="list-style-type: none"> <li>3. Increases amount of oxygen entering the blood...</li> <li>4. and amount of carbon dioxide leaving the body.</li> </ul> </li> </ul> |
| What chemical do muscles store glucose as?  | Glycogen  |
| Write the word equation for anaerobic respiration (2)                               | Glucose → Lactic acid   |
| Why does anaerobic respiration happen?  | Not enough oxygen for aerobic respiration to take place.  |
| Which type of respiration releases the most energy?                                 | Aerobic respiration   |
| What organ processes lactic acid?   | Liver   |
| How does lactic acid get to this organ?   | In the blood  |
| What chemical does this organ need in order to break down lactic acid?              | Oxygen  |
| Define oxygen debt  | The amount of oxygen the liver needs in order to break down the lactic acid after exercise.   |