

# OREL VINE SCHOOL

## Course Outlines

Year 8

### Cambridge Lower Secondary Science

#### BIOLOGY

<i>Term I</i>		<i>Term II</i>		<i>Term III</i>	
<i>Topic/Subtopic</i>	<i>Objectives</i>	<i>Topic/Subtopic</i>	<i>Objectives</i>	<i>Topic/Subtopic</i>	<i>Objectives</i>
<b>Unit 8.3</b> <b>Respiration and the respiratory system</b> <b>(11 hours)</b>	<ul style="list-style-type: none"> <li>• <b>8Pf.07</b> Describe the diffusion of gases and liquids as the intermingling of substances by the movement of particles.</li> <li>• <b>8Bp.05</b> Know and use the summary word equation for aerobic respiration.</li> <li>• <b>8Bp.04</b> Know that aerobic respiration occurs in the mitochondria of plant and animal cells, and gives a controlled release of energy.</li> <li>• <b>8Bs.04</b> Describe the diffusion of oxygen and carbon dioxide between blood and the air in the lungs.</li> <li>• <b>8Bs.03</b> Describe how the structure of the human respiratory system is related to its function of gas exchange (in terms of lung structure</li> </ul>	<b>Unit 8.6</b> <b>Health</b> <b>(11 hours)</b>	<ul style="list-style-type: none"> <li>• <b>8Bp.01</b> Identify the constituents of a balanced diet for humans as including protein, carbohydrates, fats and oils, water, minerals (limited to calcium and iron) and vitamins (limited to A, C and D), and describe the functions of these nutrients.</li> <li>• <b>8Bp.02</b> Understand that carbohydrates and fats can be used as a store of energy in animals, and animals consume food to obtain energy and nutrients.</li> <li>• <b>8Bs.01</b> Identify ball-and-socket and hinge joints, and explain how antagonistic muscles move the bones at a hinge joint.</li> </ul>	<b>Unit 8.9</b> <b>Applications of science</b> <b>(11 hours)</b>	<ul style="list-style-type: none"> <li>• <b>8ESp.02</b> Identify renewable resources (including wind, tidal and solar power, and bioplastics) and non-renewable resources (including fossil fuels) and describe how humans use them.</li> <li>• <b>8Ccc.02</b> Know that some processes and reactions are endothermic or exothermic, and this can be identified by temperature change.</li> <li>• </li> </ul>

	<p>and the action of the diaphragm and intercostal muscles) and understand the difference between breathing and respiration.</p> <ul style="list-style-type: none"> <li>• <b>8Bs.02</b> Describe the components of blood and their functions (limited to red blood cells transporting oxygen, white blood cells protecting against pathogens and plasma transporting blood cells, nutrients and carbon dioxide)</li> </ul>		<ul style="list-style-type: none"> <li>• <b>8Bp.03</b> Discuss how human growth, development and health can be affected by lifestyle, including diet and smoking.</li> <li>• <b>8Bs.02</b> Describe the components of blood and their functions (limited to red blood cells transporting oxygen, white blood cells protecting against pathogens and plasma transporting blood cells, nutrients and carbon dioxide).</li> <li>• <b>8Be.02</b> Describe the impact of the bioaccumulation of toxic substances on an ecosystem.</li> </ul>		
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## Resources

- Cambridge Lower Secondary Science Stage 8 Student's work book.
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- Cambridge Lower Secondary Science past papers
- LMS e-learning platform.

## Methodology

- Discovery method
- Experimentation
- Field study
- Integration of Information technology (IT)
- Research work
- Use of primary and secondary data from various sources

**Mode of assessment**

- Daily exercises from the course book
- End of month tests
- End of unit tests set from Cambridge Lower Secondary Science Stage 8 past papers
- Mid - term & end of term assessments
- Quizzes and assignments on the LMS
- Weekly homework assignments