

## Year 9 Biology Remote Learning Programme: Spring 1 2022

Lesson Number	Lesson Title	Lesson Overview
1	The Lungs <a href="https://classroom.thenational.academy/lessons/the-lungs-ccu3ge">https://classroom.thenational.academy/lessons/the-lungs-ccu3ge</a>	In this lesson we will look at how the lungs are adapted for efficient gas exchange.
2	Breathing <a href="https://classroom.thenational.academy/lessons/breathing-70v6ct">https://classroom.thenational.academy/lessons/breathing-70v6ct</a>	This lesson looks to explain the processes involved in breathing. It will compare the difference in lung volumes in different people and we will calculate means and identify the range in the data collected.
3	Effects of exercise on breathing <a href="https://classroom.thenational.academy/lessons/the-effects-of-exercise-on-respiration-cgrk6t">https://classroom.thenational.academy/lessons/the-effects-of-exercise-on-respiration-cgrk6t</a>	This lesson looks at describing and explaining the effects of exercise on the respiratory system.
4	Aerobic respiration <a href="https://classroom.thenational.academy/lessons/aerobic-respiration-crt64e">https://classroom.thenational.academy/lessons/aerobic-respiration-crt64e</a>	This lesson goes through the word equation for respiration and explains the importance of respiration.
5	Anaerobic respiration <a href="https://classroom.thenational.academy/lessons/anaerobic-respiration-6cu3cc">https://classroom.thenational.academy/lessons/anaerobic-respiration-6cu3cc</a>	This lesson goes through the word equation for anaerobic respiration, the importance of anaerobic respiration and then compares aerobic and anaerobic respiration

## Year 10 Biology Remote Learning Programme: Spring 1 2022

Lesson Number	Lesson Title	Lesson Detail
1	Digestion <a href="https://classroom.thenational.academy/lessons/digestion-cnk66c">https://classroom.thenational.academy/lessons/digestion-cnk66c</a>	In this lesson we will build on prior knowledge from earlier years of the digestive system. We will look at the organs and their functions, and will learn how bile aids digestion.
2	Enzymes theory <a href="https://classroom.thenational.academy/lessons/digestive-enzymes-6dgkgr">https://classroom.thenational.academy/lessons/digestive-enzymes-6dgkgr</a>	This lesson will look at how enzymes help digest our food.
3	Investigating enzymes <a href="https://classroom.thenational.academy/lessons/investigating-enzymes-60w64t">https://classroom.thenational.academy/lessons/investigating-enzymes-60w64t</a>	In this lesson we will look at how changing the temperature affects enzyme activity.
4	pH and enzymes <a href="https://classroom.thenational.academy/lessons/ph-and-enzymes-part-1-cru3jt">https://classroom.thenational.academy/lessons/ph-and-enzymes-part-1-cru3jt</a>	In this lesson we will look at how changing the pH affects enzyme activity.
5	pH and enzymes continued <a href="https://classroom.thenational.academy/lessons/ph-and-enzymes-part-2-75h3gr">https://classroom.thenational.academy/lessons/ph-and-enzymes-part-2-75h3gr</a>	In this lesson we will look at the results from the pH and enzyme investigation.
6	Absorption <a href="https://classroom.thenational.academy/lessons/absorption-74v38e">https://classroom.thenational.academy/lessons/absorption-74v38e</a>	In this lesson we will look at specific parts of the digestive system that are adapted to absorb nutrients, and link this back to our prior knowledge about effective diffusion.
7	Photosynthesis <a href="https://classroom.thenational.academy/lessons/photosynthesis-cnj36r">https://classroom.thenational.academy/lessons/photosynthesis-cnj36r</a>	This lesson introduces the photosynthesis word and formula equation. The uses of glucose within a plant are explained and the results of the test for starch are

		described with relevance to the photosynthesis process.
8	<p>Photosynthesis Required Practical Part 1</p> <p><a href="https://classroom.thenational.academy/lessons/photosynthesis-required-practical-cmrk4t">https://classroom.thenational.academy/lessons/photosynthesis-required-practical-cmrk4t</a></p>	<p>In this lesson we will look at the variables in an experiment that are changed, measured and controlled. We will explain the first few steps of the scientific method and how to test a hypothesis. Describe how to design a table to collect and record data to test a hypothesis.</p>
9	<p>Photosynthesis Required Practical Part 2</p> <p><a href="https://classroom.thenational.academy/lessons/photosynthesis-required-practical-results-c4tp4t">https://classroom.thenational.academy/lessons/photosynthesis-required-practical-results-c4tp4t</a></p>	<p>In this lesson we will look at the photosynthesis required practical. We will follow along with the scientific method by first looking at the hypothesis, then planning a method to test the hypothesis. We will look at the scientific variables and practice identifying the variables for different hypothesis. Finally we will design a table to collect the results of the practical.</p>
10	<p>Limiting factors of photosynthesis</p> <p><a href="https://classroom.thenational.academy/lessons/limiting-factors-of-photosynthesis-crw68d">https://classroom.thenational.academy/lessons/limiting-factors-of-photosynthesis-crw68d</a></p>	<p>In this lesson we will continue to investigate the limiting factors of photosynthesis and interpret the graphs that investigate when one factor becomes the limiting factor over another.</p>

## Year 11 Biology Remote Learning Programme: Spring 1

Lesson Number	Lesson Title	Lesson Detail
1	Sex determination <a href="https://classroom.thenational.academy/lessons/sex-determination-crup8t">https://classroom.thenational.academy/lessons/sex-determination-crup8t</a>	In this lesson we will name and recognise the chromosomes that determine sex and interpret diagrams to show how sex is inherited.
2	Genes, DNA and chromosomes <a href="https://classroom.thenational.academy/lessons/genes-dna-and-chromosomes-71gk6d">https://classroom.thenational.academy/lessons/genes-dna-and-chromosomes-71gk6d</a>	In this lesson we will learn about the structure and function of DNA. We will also explore the human genome and the advantages of developing an understanding of this.
3	Genetic inheritance <a href="https://classroom.thenational.academy/lessons/genetic-inheritance-higher-c5jk4t">https://classroom.thenational.academy/lessons/genetic-inheritance-higher-c5jk4t</a>	In this lesson we will learn key terms related to genetic inheritance and construct diagrams to predict the outcomes of genetic crosses.
4	Inherited disorders <a href="https://classroom.thenational.academy/lessons/inherited-disorders-part-1-higher-c8u6ad">https://classroom.thenational.academy/lessons/inherited-disorders-part-1-higher-c8u6ad</a>	In this lesson we will learn how two disorders are inherited, and predict the probability of offspring inheriting these disorders.
5	Inherited disorders continued <a href="https://classroom.thenational.academy/lessons/inherited-disorders-part-2-64up8r">https://classroom.thenational.academy/lessons/inherited-disorders-part-2-64up8r</a>	In this lesson we will learn how family trees can be used to explain patterns of inheritance. We will then learn about embryo screening, and practice exam skills such as evaluating and comparing.
6	Asexual and sexual reproduction <a href="https://classroom.thenational.academy/lessons/sexual-vs-aseexual-reproduction-ccr64t">https://classroom.thenational.academy/lessons/sexual-vs-aseexual-reproduction-ccr64t</a>	This lesson will focus upon comparing the two types of reproduction, and explaining how each affects variation.
7	Advantages and disadvantages of asexual and sexual reproduction <a href="https://classroom.thenational.academy/lessons/advantages-and-disadvantages-of-sexual-and-aseexual-reproduction-60w6ce">https://classroom.thenational.academy/lessons/advantages-and-disadvantages-of-sexual-and-aseexual-reproduction-60w6ce</a>	In this lesson we will look at the advantages and disadvantages of both types of reproduction. We will also learn about organisms who are able to reproduce both sexually and asexually, explaining why being able to do both is an advantage.
8	Genetic engineering part 1	In this lesson we will describe what genetic engineering is, with examples. We will also evaluate its use in agriculture and medicine.

	<a href="https://classroom.thenational.academy/lessons/genetic-engineering-part-1-64v3gt">https://classroom.thenational.academy/lessons/genetic-engineering-part-1-64v3gt</a>	
9	Genetic engineering part 2 <a href="https://classroom.thenational.academy/lessons/genetic-engineering-part-2-cngkgd">https://classroom.thenational.academy/lessons/genetic-engineering-part-2-cngkgd</a>	In this lesson we will learn about the steps involved in genetic engineering. We will also evaluate its use in agriculture and medicine.