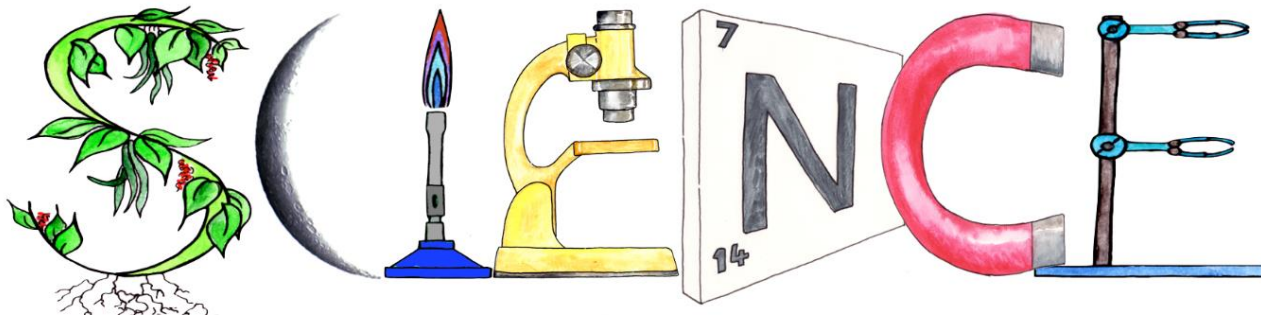


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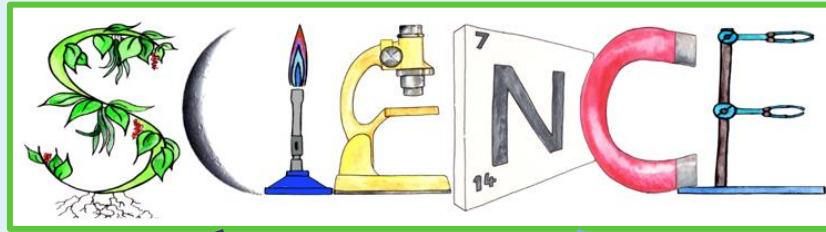


Department

Audio available throughout presentation →



**English, Maths & Science
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Penistone Grammar School**



Trilogy (Combined Science)

- All 3 Sciences studied
- 2 x GCSEs
- 6 x exams (1h15min)
- 10 lessons per fortnight
- Rotations of **Biology**, **Chemistry** & **Physics** (roughly 25 lessons each)

Separate (Triple Science)

- 3 x GCSEs
 - 6 x exams (1h45min)
 - 15/16 lessons per fortnight
- Dependent on options pathway:
- Rotations of **Biology**, **Chemistry** & **Physics** (25 lessons + 6 option lessons)
 - Or simultaneous lessons of **Biology**, **Chemistry** & **Physics** (5 per subject)



Trilogy 17-
point grading
scale

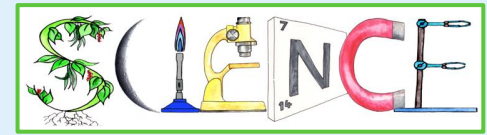


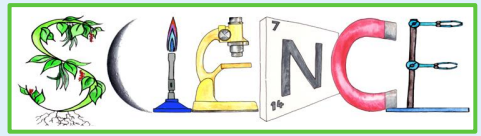
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Separate
Science
grading scale





Assessments

1) Home learning

- Past paper questions
- Approximately 3 per rotation
- Around 40 marks each
- Recap HL

2) Required practicals

- Determined by exam board
- Lesson 1: practical
- Lesson 2: short test

3) End of topic tests

- Short-term assessment
- One per rotation
- Past paper questions
- Around 45 marks each

4) Practice exams

- Past paper questions
- Long-term assessment
- 70 or 100 marks

Online support available for all assessments





Biology Learning Pathway – Higher Tier

What's assessed?

Biology Paper 1 Exam (1h 15min) – Topics B1-4

(B1 Cell biology, B2 Organisation, B3 Infection & response and B4 Bioenergetics)

Biology Paper 2 Exam (1h 15min) – Topics B5-7

(B5 Homeostasis & response, B6 Inheritance, Variation and Evolution and B7 Ecology)

B1 Cell Biology

B1.1 Cell Structure (Paper 1)

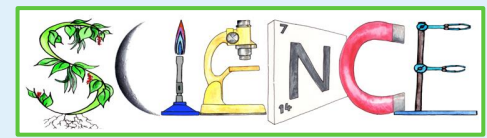
1	Animal and plant cells	Label and describe the role of each part of an animal and plant cell. Compare the structure of an animal and a plant cell.	
2	Cells differentiating into specialised cells	Identify the specialisations of different cells e.g. a sperm cell. Describe how specialisations help the cell carry out a particular function. Describe the term 'differentiation'. Compare differentiation in plant and animal cells.	
3	Stem cells	Define a stem cell and describe how stem cells are used in plant meristems.	
4	Eukaryotic and prokaryotic cells	Label and describe the role of each part of a bacterial cell. Compare a prokaryotic cell (bacterial) with a eukaryotic cell.	
5	Required practical 1: Animal & plant cells and microscopy	Describe how microscopy techniques have developed. Briefly compare a light microscope with an electron microscope. Use calculations to calculate magnification, real size and image size.	Grade:
6		Percentage:	
7	Home learning 1 review	Percentage:	Grade:

B1.2 & B1.3 Cell Division & Transport in Cells (Paper 1)

8	Chromosomes	Describe the structure of a chromosome. State how many chromosomes are found in a human body cell and a gamete.	
9	Mitosis and the cell cycle	State what mitosis is used for. Describe the three main stages of the cell cycle. Describe what happens to chromosomes during mitosis.	
10	Theory of diffusion	Define the term 'diffusion' and give examples. Describe factors that affect the rate of diffusion.	
11	Diffusion in living organisms	Describe adaptations for efficient diffusion. Calculate and compare surface area to volume ratios. Include: the small intestine, lungs, fish gills, plant roots and leaves	
12	Theory of osmosis	Define the term 'osmosis'. Calculate percentage gain and loss of mass of plant tissue and interpret data from graphs.	

13	Required practical 2: Osmosis	Investigate the effect of a range of concentrations of salt or sugar solutions on the mass of plant tissue.	
14			Percentage:
15	Active transport	Define the term 'active transport' and give examples. Compare active transport with diffusion and osmosis.	
16	Home learning 2 review	Percentage:	Grade:
B4.2 Respiration (Paper 1)			
17	Respiration overview	Describe why respiration is an exothermic reaction. Describe why organisms need the energy that respiration releases.	
18	Aerobic respiration	State the word and chemical equations for aerobic respiration.	
19	Anaerobic respiration	State the word equation for anaerobic respiration in human muscle cells. State the word equation for anaerobic respiration in plant and yeast cells.	
20	Response to exercise	Describe how the body reacts to the increased demand for energy. Explain the term 'oxygen debt'.	
21	Metabolism	Define the term 'metabolism'. Give examples of metabolism (e.g. glucose → starch)	
22	Home learning 3 review	Percentage:	Grade:
23	Test 1 & Test review lesson	Percentage:	Grade:





Revision & Support



1. [SharePoint Resources](#)
2. [Trilogy Revision Guides](#)
3. [Separate Revision Guides](#)



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Science

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