

Blue Pathway								
Purple Pathway								
Orange Pathway								
	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12
AO1 Remember	State difference between aerobic and anaerobic respiration	Explain why most life depends on photosynthesis	State the equation for aerobic respiration	Explain importance of differentiation & how cells are specialised for their functions.	State the equation for anaerobic respiration including in plants & microorganisms	Describe the process of anaerobic respiration	Compare in detail the processes of aerobic & anaerobic respiration	Fully describe the process of anaerobic respiration in a range of organisms
	Describe leaf adaptations including the role of the stomata				Describe the process of aerobic respiration	Describe in detail the process of aerobic respiration and the conversion of energy		Fully describe the conversion of energy in respiration
	Recall equation for photosynthesis	Describe how minerals are transported in plants	Compare/contrast aerobic and anaerobic respiration	State the uses of glucose from photosynthesis	Describe the process of photosynthesis	Describe the breakdown and synthesis reactions in metabolism	Describe in detail the breakdown and synthesis reactions in metabolism	Fully describe the breakdown and synthesis reactions in metabolism
AO2 Application	Use word equation for photosynthesis	Describe applications of respiration and write word equations	Estimate uncertainty in a set of results	Identify functions of root hair cells, xylem and phloem	Identify the factors that limit the rate of photosynthesis	Describe the factors that limit the rate of photosynthesis	Explain the factors that limit the rate of photosynthesis	Apply an understanding of roles of cell components to explain how the structure of different types of cell is related to their function.
	Sometimes use data to support evidence.	Use word and symbol equations	Calculate rate photosynthesis from data collected in an investigation.		Describe the uses of glucose from photosynthesis	Always make effective use of data to support evidence.		
AO3 Analyse and Evaluate	Recognise anomalous results	Write reasoned explanations of a conclusion based on the experimental data	Identify some causes of error and uncertainty in data or experimental procedures	Interpret data and evaluate impact and effects of exercise, asthma and smoking on respiratory system	Interpret and evaluate data on how one or more factors become limiting using graphical information.	Identify causes of error and uncertainty in data or experimental procedures.	Suggest detailed improvement to methods where reliability may be a concern	Explain how physical factors, and biological factors, such as the opening and closing of stomata, affect transpiration.
	Evaluate basic information to develop simple explanations.							
AO3 Experimental Procedures	Identify variables in an investigation	Measure gas volume using collection over water	Describe/explain effects of light intensity, temp, carbon dioxide and amount of chlorophyll on the rate of photosynthesis.	Plan an experiment & explain importance of repeat readings	Make more complex and quantitative predictions using scientific knowledge and understanding	Explain how to vary percentage concentration of CO ₂ in pondweed practical	Explain that data/graphs of the rate of photosynthesis over light intensity obey the inverse square law.	Plan, justify, and carry out a safe, reliable and valid investigation to test a hypothesis
	Accurately make and record observations and measurements	Accurately make and record observations and measurements						