Barnsley Academy – (Year 10 Biology B1) Curriculum
Scheme of Work – 2023-24

Term 1 Week …				
	1	2	3	4
Lesson Focus	Diffusion	Exchange surfaces	Osmosis	Osmosis RP and evaluation
Prerequisite Knowledge	Diffusion from 7CC and 7CP Energy and particle movement 7PE	Diffusion 7CC and 7CP Calculating surface area	Diffusion 7CP – solvent, solute and solution	Diffusion 7CP – solvent, solute and solution Plotting a graph
Core Knowledge	Describe how substances move in and out of cells by diffusion, giving examples Describe and explain factors that can affect the rate of diffusion Describe and explain the results of an investigation on diffusion.	Explain the need for internal surfaces and circulatory systems in larger organisms Calculate surface area to volume ratio Describe and explain the adaptations in plants and animals for the exchange of materials	Define the term osmosis and give some examples in living things Explain changes seen in cells	Identify variables to change, measure and control to test a hypothesis. Explain reasons for given method steps Make and record accurate mass measurements and calculate % change Display and interpret results appropriately Describe and explain the patterns in the results
Expert Model /Guided Practice/Agreed Approach (Procedural Knowledge)	Slide 10 – movement of gas in and out of a cell Slide 40 – Teacher explanation of diffusion through visking tube	Slide 14 – teacher to model examples of how to calculate surface area to volume ratio Slide 34 – Difference between describe and explain when stating adaptations	Slide 7 – steps in osmosis Slides 24-26 – modelling osmosis in different solutions	Teacher to model practical under visualiser while taking through the method Slide 17 – equation for percentage change Slide 25 – use visualiser to model plotting a graph, use data provided

Independent Practice	IP1 – Describe and explain movement of oxygen IP2 – Slide 21 concentration gradient IP3 – slide 33 exam question IP4 – Slide 48 Explain the results of the practical demo	IP1 – Slide 15 – practice calculating surface area to ratio IP2 – Describe and explain general adaptations of exchange surfaces IP3 – Exam question – exchange surfaces	IP1 – Slide 13 Osmosis questions. IP2 – slide 31 and 32 – exam QS IP3- Exam question worksheet	IP1 – set up the practical, measure starting mass and record in tables IP2 – Slide 18 remeasure and record results, complete questions on worksheet IP3- Slide 26 plot a graph IP4 – slide 40 – common questions on osmosis practical IP5- Exam questions
Assessment (Informal/Formal)	Live marking Teacher circulation Exam questions Self-assess	Live marking Teacher circulation Exam questions Self-assess	Live marking Teacher circulation Exam questions Self-assess	Live marking Teacher circulation Exam questions Self-assess
Resources				
Specific SEN(D)/EAL support				