SB6: **Plant Structures and their Functions** (Paper 2)

Lesson	Objectives Tracker Sheet	Date covered	I know this well	I need to do more work on this
SB6a Photosynthesis	B6.1 Describe photosynthetic organisms as the main producers of food and therefore biomass.			
	B6.2 Describe photosynthesis in plants and algae as an endothermic reaction that uses light energy to react carbon dioxide and water to produce glucose and oxygen.			
	B6.9 Describe how water and mineral ions are transported through the plant by transpiration, including the structure and function of the stomata.			
SB6b Factors that affect Photosynthesis	B6.3 Explain the effect of temperature, light intensity and carbon dioxide concentration as limiting factors on the rate of photosynthesis.			
	B6.4 **H** Explain the interactions of temperature, light intensity and carbon dioxide concentration in limiting the rate of photosynthesis.			
	B6.6 **H** Explain how the rate of photosynthesis is directly proportional to light intensity and inversely proportional to the distance from a light source, including the use of the inverse square law calculation.			
SB6b Light intensity and photosynthesis – Core Practical	B6.5 Investigate the effect of light intensity on the rate of photosynthesis.			
SB6c Absorbing water and mineral ions	B1.15 Explain how substances are transported into and out of cells, including by diffusion, osmosis and active transport.			
	B6.7 Explain how the structure of the root hair cells is adapted to absorb water and mineral ions.			
SB6d Transpiration and translocation	B6.8 Explain how the structures of the xylem and phloem are adapted to their function in the plant, including:			

	lignified dead cells in xylem transporting water and minerals through the plant living cells in phloem using energy to transport sucrose around the plant.			
	B6.9 Describe how water and mineral ions are transported through the plant by transpiration, including the structure and function of the stomata.			
	B6.10 Describe how sucrose is transported around the plant by translocation.			
	B6.12 Explain the effect of environmental factors on the rate of water uptake by a plant, to include light intensity, air movement and temperature.			
	B6.13 Demonstrate an understanding of rate calculations for transpiration.			
SB6e Plant adaptations	B6.11B Explain how the structure of a leaf is adapted for photosynthesis and gas exchange			
	B6.14B Explain how plants are adapted to survive in extreme environments including the effect of leaf size and shape, the cuticle and stomata.			
SB6f Plant hormones	B6.15B Explain how plant hormones control and coordinate plant growth and development, including the role of auxins in phototropisms and gravitropisms.			
SB6g Use of plant hormones	B6.16B **H** Describe the commercial uses of auxins, gibberellins and ethene in plants, including: auxins in weedkillers and rooting powders gibberellins in germination, fruit and flower formation and the production of seedless fruit ethene in fruit ripening.			