C1.3 Photosynthesis (HL)

What the Cell · DP Biology · note-taking sheet · HL statements C1.3.9–19

Name _____ **Date** _____

How to use this sheet: go through the slides and videos with it, then close them and write from memory. Use your own words and add page numbers from the book (pp. 439–449) where you want more detail.

Guiding questions. How does photosynthesis capture and use the energy in sunlight? How do non-living factors affect photosynthesis?

C1.3.9–11 Photosystems and photolysis

What is a photosystem? Why must pigments be in an array?

Equation for photolysis. What happens to each product? How did oxygen change the Earth?

C1.3.12–14 The light-dependent reactions

Draw a thylakoid membrane with photosystem II, the carriers, photosystem I, ATP synthase and NADP. Show the path of electrons and protons, and label stroma and thylakoid space.

	Non-cyclic	**Cyclic**
Photosystems		
Products		

C1.3.15–19 The Calvin cycle

Draw the Calvin cycle: fixation, reduction, regeneration. Show where ATP and reduced NADP are used.

What happens to the cycle if light stops? If CO_2 runs out?

Before you finish

Tick the ones you can explain without notes. Circle anything to ask about.

- ☐ Photosystem
- ☐ Reaction centre
- ☐ Photolysis
- ☐ Great Oxidation Event
- ☐ Chemiosmosis
- ☐ Cyclic and non-cyclic
- ☐ NADP
- ☐ Rubisco
- ☐ Glycerate 3-phosphate
- ☐ Triose phosphate
- ☐ RuBP
- ☐ Interdependence