D1.1 DNA replication (HL)

What the Cell · DP Biology · note-taking sheet · HL statements D1.1.6–9

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. 604–614) where you want more detail.

Guiding questions. How do cells make new DNA? What biotechnology has understanding DNA replication made possible?

D1.1.6 Direction

Why does DNA polymerase add only to the 3′ end? Why does it need a primer?

D1.1.7–8 The replication fork

Draw a replication fork. Label 5′ and 3′ ends, leading and lagging strands, Okazaki fragments, primers, and each enzyme.

Enzyme	Role
Helicase	
Primase	
DNA polymerase III	
DNA polymerase I	
DNA ligase	

D1.1.9 Proofreading

How does DNA polymerase III correct a mistake? Why does this matter?

Before you finish

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

- ☐ 5′ to 3′
- ☐ Primer
- ☐ Leading strand
- ☐ Lagging strand
- ☐ Okazaki fragments
- ☐ Helicase
- ☐ Primase
- ☐ Polymerase III
- ☐ Polymerase I
- ☐ Ligase
- ☐ Proofreading