B2.3 Cell specialization (HL)

What the Cell · DP Biology · note-taking sheet · HL statements B2.3.7–10

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. 265–272) where you want more detail.

Guiding questions. What do stem cells do in multicellular organisms? How do differentiated cells suit their specialized roles?

B2.3.7 Surface area-to-volume ratio

Adaptation	What it is	Example cell
Flattening		
Microvilli		
Invagination		

B2.3.8 Pneumocytes

	Type I	Type II
Shape		
Organelles		
Role		

What is surfactant, and why do alveoli need it?

B2.3.9 Muscle

	Cardiac muscle cell	Striated muscle fibre
Shape		
Nuclei		
Junctions		
Shared features		

Is a striated muscle fibre a cell? Your view, with evidence on both sides.

B2.3.10 Gametes

Draw and annotate a sperm cell and an egg cell, giving the role of each labelled part.

Before you finish

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

- ☐ Red blood cells
- ☐ Microvilli
- ☐ Invaginations
- ☐ Type I pneumocytes
- ☐ Type II pneumocytes
- ☐ Surfactant
- ☐ Cardiac muscle
- ☐ Striated muscle
- ☐ Is a fibre a cell?
- ☐ Sperm
- ☐ Egg
- ☐ Zona pellucida