B3.3 Muscle and motility (HL)

What the Cell · DP Biology · note-taking sheet · HL statements B3.3.1–10

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. 326–340) where you want more detail.

Guiding questions. How do muscles contract and produce movement? What do animals gain from having muscle tissue?

B3.3.1, B3.3.9 Movement

Motile and sessile organisms, with examples. Four reasons for locomotion, with an example of each.

B3.3.2–4 Muscle contraction

Draw a relaxed and a contracted sarcomere. Label Z lines, actin, myosin, titin, light band and dark band.

The cross-bridge cycle in five steps, including calcium and ATP:

Antagonistic muscles, titin, the intercostals, and motor units:

B3.3.5–7 Skeletons and joints

Part of the hip	Role
Femur and pelvis	
Cartilage	
Synovial fluid	
Ligaments	
Muscles and tendons	

Levers, exoskeletons and endoskeletons; range of motion of the hip and knee:

B3.3.10 Marine mammals

Before you finish

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

- ☐ Motile and sessile
- ☐ Sarcomere
- ☐ Cross-bridges
- ☐ Calcium and ATP
- ☐ Titin
- ☐ Antagonistic pairs
- ☐ Intercostals
- ☐ Motor unit
- ☐ Levers
- ☐ Hip joint
- ☐ Range of motion
- ☐ Marine mammals