C2.2 Neural signalling (HL)

What the Cell · DP Biology · note-taking sheet · HL statements C2.2.8–16

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. 479–489) where you want more detail.

Guiding questions. How do neurons produce electrical signals and pass them along? How do neurons affect other cells?

C2.2.8–10 Action potentials

Sketch an oscilloscope trace. Label resting potential, threshold, depolarization, repolarization and hyperpolarization, and when each channel opens.

How local currents propagate the action potential:

C2.2.11–12 Myelin and exogenous chemicals

Saltatory conduction. Neonicotinoids compared with cocaine.

C2.2.13–14 Inhibition and summation

How an IPSP forms. How EPSPs and IPSPs add up.

C2.2.15–16 Pain and consciousness

From a hot surface to the brain. Why consciousness is an emergent property.

Before you finish

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

- ☐ Threshold
- ☐ Na^+ and K^+ channels
- ☐ Local currents
- ☐ Oscilloscope traces
- ☐ Saltatory conduction
- ☐ Neonicotinoids
- ☐ Cocaine
- ☐ IPSPs
- ☐ Summation
- ☐ Pain receptors
- ☐ Consciousness