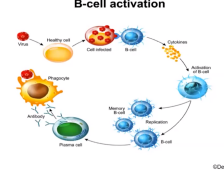


Unit 4: Cell Communication and Cell Cycle (10 - 15%% AP Exam Weighting)	Essential Knowledge & key terms	Resources
Topic 4.1 Cell Communication	Describe the ways cells communicate with one another; explain how cells communicate over long and short distances; target cell e.g. 1 B-cell activation (cell-to-cell contact) e.g. 2 neurotransmitters	Topic 4.1 (5 minutes) 
Topic 4.2 Introduction to Signal Transduction	Protein modification and phosphorylation; ligand, G protein-coupled receptors; signaling cascades, cyclic AMP; ligand-to-ligand channels	Topic 4.2 (9 minutes)
Topic 4.3 Signal Transduction Pathways	Describe the role of the environment in eliciting a cellular response Describe the different types of cellular responses elicited by a signal transduction pathway	Topic 4.3 (5 minutes)
Topic 4.4 Changes in signal transduction pathways	How can changes in the structure of any signaling molecule affect the activity of the signaling pathway	Topic 4.4 (6 minutes)
Topic 4.5 Feedback	Explain negative and positive feedback, and how they impact homeostasis	Topic 4.5 (6 minutes)
Topic 4.6 Cell Cycle	Cell Cycle: Interphase (G1, S, G2), mitosis (PMAT), cytokinesis	Topic 4.6 (6 minutes)
Topic 4.7 Regulation of the Cell Cycle	Describe the role of checkpoints in the cell cycle; Describe the effect of disruptions to the cell cycle	Topic 4.7 (8 minutes)
Progress Check		