VCE Biology – Exploring Inheritance

Post-Visit Activity

Build a Pedigree	35 mins	**Scenario:** You are the genetic counsellor for **Ben T.**, a 46-year-old with a strong family history of bowel cancer. **Task:** • Construct a pedigree for Ben's extended family using this link. • Follow the rules of pedigree drawing (symbols, shading, generations). • Highlight "red flags" that suggest an inherited cancer syndrome (HNPCC/Lynch). **Discussion Prompts:** • After constructing the pedigree, describe Ben's risk for bowel (colon) cancer. Describe Joanna's risk. • As Ben's genetic counsellor, what key issues would you discuss with him regarding family history and genetic testing? • Is there anyone on either side of the family you'd like to investigate further to support your view of a possible inherited cancer syndrome? • What is the relationship between cell cycle regulation and cancer? What distinguishes a cancerous cell from a normal cell?
Counsellor's Report	20 mins	**Task:** Write a **1-page opinion piece** as if you are presenting to a patient. Topic: *"If we can edit embryos to avoid disease, should we also allow editing for intelligence or physical traits?"* **Discussion Angles:** • Where is the ethical line between treating disease and enhancing human traits? • Could editing for intelligence or appearance reduce the value placed on natural human diversity? • Who decides what traits are desirable—and what are the risks of social conformity or genetic inequality? • Would this create a society where only the wealthy can afford genetic "upgrades"? • How do we protect future generations' rights when they cannot consent to genetic changes? • Should there be global agreements to regulate or ban non-medical gene editing?