

BIOTECH REVIEW

Topics we covered in this unit:

- DNA Toolbox – understand the 4 items we discussed (we did not talk about sequencing in depth)
 - Restriction Enzymes – sticky ends, how they can be used
 - Complementary base-pairing and ligase
 - Gel Electrophoresis – why we use it and how it works
 - PCR – why we use it, how it works and the components of the reaction
- Recombinant DNA – what, why and how
 - Plasmids – components, use in research
- Transformation – general concept, procedure and selection
- Gene Cloning – steps in this process
- Forensics – how is biotech used, interpret data
- Organism Cloning
 - Stem cells – pluripotent v multipotent, potential uses in research and therapeutics
 - SCNT & Dolly
- Gene Therapy and Gene Editing
- CRISPR – theory, 2 main components, pros and cons, CRISPR 2.0 (video from class)