From the Teacher: **McKay** **Biotech CTE** **Period: Zero** **Assignment week 1**	

Distance Learning WK1: Biotechnology – All classes (MWF/ TTh yr1,2,&3)

- TTh- your work should demonstrate 1.0 hr of work
- MWF – your work should demonstrate 1.5 hrs of work

Since you left off with Molecular Genetics, and a particular area of molecular genetics is in the news – using PCR for testing for the novel Corona virus SARS-Covid-2 which causes Covid-19 we will focus on PCR and CTE Biotech standard A3.0 Demonstrate competencies in the fundamentals of molecular cell biology, including deoxyribonucleic acid (DNA) and proteins and standard techniques for their purification and manipulation.

Choose the option(s) that best fits your background level, interest, and mental health (if looking into Covid-19 stresses you out focus on the fundamentals of PCR – polymerase Chane Reaction).

Write Reflection: List which resource(s) you used and then write 1-2 paragraphs About …What you now understand. What still confuses you. What new questions you have regarding …PCR and its applications in biotechnology. (Due 5/8/20)

- Intro options
  - Video (3 min) https://www.youtube.com/watch?v=JRAA4C2OPwg and https://www.youtube.com/watch?v=iQsu3Kz9NYo&t=2s
  - Textbook: p175-177
  - and a bit of fun PCR song https://www.youtube.com/watch?v=x5yPkxCLads
- A bit more basic depth options
  - IB 3.5 - Genetic Modification & Biotechnology Part 1 Dan Rott 11 min https://www.youtube.com/watch?v=vcqmkzRU2oM
  - Textbook: p177-183
  - Real-Time Polymerase Chain Reaction (PCR) - Multi-Lingual Captions (6 minutes) https://www.youtube.com/watch?v=kvQWKcMdyS4
- COVID-19 and Real time PCR
  - https://www.gene-quantification.de/real-time-pcr-handbook-life-technologies-update-flr.pdf
  - Textbook p181-185
  - COVID-19 Webinar with miniPCR bio https://www.youtube.com/watch?v=D7opofnnhzQ
  - https://www.cdc.gov/coronavirus/2019-ncov/about/testing.html
  - https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/laboratory-guidance
  - The principle of Real Time PCR, Reverse Transcription, quantitative rt-PCR (30 minutes) https://www.youtube.com/watch?v=DH7o9Df5_50
  - Other: you can use news / science new.
    - It they are questionable sites, then your reflection should be fact checking or critiquing.
    - How to Verify if a Source is Credible on the Internet (see below)

BY ROBIN REICHERT https://itstillworks.com/verify-source-credible-internet-8139507.html

Step 1
Determine the credibility and reliability of the information by identifying the source. Research the name of the writer or the organization to determine if it is a well-known and respected authority on the subject of your research.
Step 2
Compare the information provided by your source with other reliable sources to verify accuracy. Check facts and data provided in an Internet source with information from trusted sources, such as government agencies and universities. Look for a complete and comprehensive presentation of data and facts.
Step 3
Read the information objectively to determine if the information is presented in a balanced, reasonable and unbiased manner. Look for possible bias in the information presented and claims or assertions that seem unreasonable. Note any conflict of interest that may have influenced the assertions by the writer.
Look for citations that support the claims and assertions made by the writer. Follow the links provided to verify that the citations in fact support the writer's claims. Look for at least two other credible citations to support the information.
Tips
Always follow-up on citations that the writer provides to ensure that the assertions are supported by other sources.
Note the designation of a website to help determine credibility. Websites that end in ".com" are commercial and are usually trying to market a product or service. Sites that end in ".org" are usually non-profit organizations. Government agency sites end with ".gov" while ".edu" is used for educational institutions.
Libraries, universities and professional organizations usually provide reliable information.