

Research Proposal Write-up

Model Culture: Yeast Strain *S. cerevisiae*

Possible treatment reagents: These are just a few ideas, but you should decide on a “common” reagent to test.

- If you choose one reagent then you will have to look at different concentrations (low dose, average dose, high dose) or different exposure times (short duration, average duration, high duration)
- If you choose multiple reagents than you can compare them in a controlled experiment.

Temperatures	Caffeine	Pre-workout supplement
Table sugar	Stevia	Artificial sugar
Essential oils	Activated charcoal	Energy drinks

Methods of Analysis: (choose one or multiple)

- Growth rate: Observe if growth/ cell division was affected
- Cell viability: Observe if cells are dying
- Membrane integrity: Observe if the cell’s membrane is being compromised
- Respiration rate: Observe if the cell’s respiration rate is being compromised

Fill out the following sections: must use complete and coherent sentences that are supported by references:

- 1. Research Question or Purpose:** What is the importance of your question? How can it be related real life experiences?
- 2. Hypothesis:** What do you expect your outcome to be? Why? (cite references)
- 3. Brief Protocol:** What are the steps needed to execute this experiment? Try to make it a step- by-step protocol.
- 4. Discussion of variables:** what are some varying factors that could affect the results of your experiment?
- 5. Collection time points or dilutions to be used:** At least one reference should be cited to support why you are choosing certain dilutions or time points.
- 6. Explain your method of analysis:** Explain **why** you are choosing your method of analysis. What is it that you are trying to “see” and how will this method achieve that?