

# **pGLO Transformation Lab Report Requirements**

## **1. Title of Experiment:**

Determine the lab's independent and dependent variables, generate an appropriate title (+1)

## **2. Introduction:**

Introductory paragraph describing the key terms associated with the experiment (***check the board!***)(+5)

- Define and explain this experiment's use of:
  - Plasmids
  - Promoters
  - Antibiotics
  - Antibiotic resistance
  - transformation

## **3. Hypothesis:**

- Describe your initial predictions (+2)
- Discuss the experimental design of the experiment
  - What are the independent variables? (+1)
  - What are the dependent variables? (+1)
  - What is the positive control? What results are expected? Why? (+2)
  - What is the negative control? What results are expected? Why? (+2)

## **4. Procedure:**

- Briefly describe/summarize experimental procedure and include the following information:
  - Explain the importance/role of the -pGLO tubes in the experiment (+2)
  - Explain the importance/role of the +pGLO tubes in the experiment (+2)
  - Explain the importance of the Calcium Chloride in the experiment (+1)
- Identify the purpose of each of the 4 plates used in the experiment (+4)

## **5. Results**

- All data tables must have a title and all columns must be labeled at the top
  - Table 1: observations (include qualitative and quantitative) for each plate (+4)
- Include a picture of your results (+1)

## **6. Analysis**

- Explain how transformation efficiency can be calculated. Calculate the transformation efficiency for the +pGLO/amp plate. Show work! (+5)
  - Present calculations in a logical, step-by-step order
  - Explain what you are calculating in each step
  - Include units for all numbers within calculations and for your final answer
- Identify a possible source of error (+3)

## **7. Conclusion**

- Was your transformation successful? How do you know? Give a quantitative and a qualitative explanation (+3)
- Were your experimental results consistent with the predicted results? Reflect back on what you initially predicted (+3)
- How would you improve the experiment to get better results next time? (+1)
- What are some potential applications of transforming bacteria? (+3)

## **Grading Rubric**

Title of experiment score (\_\_\_\_/1)

Introduction score (\_\_\_\_/5)

Completed by: \_\_\_\_\_

Hypothesis score (\_\_\_\_/8)

Completed by: \_\_\_\_\_

Procedure score (\_\_\_\_/9)

Completed by: \_\_\_\_\_

Results score (\_\_\_\_/5)

Completed by: \_\_\_\_\_

Analysis score (\_\_\_\_/8)

Completed by: \_\_\_\_\_

Conclusion score (\_\_\_\_/10)

Completed by: \_\_\_\_\_

Organization score (\_\_\_\_/1)

**Participation** – each member will receive up to 3 points of their grade for participation. Points will be deducted for off task behavior and will only affect the grade of that member.

Name: \_\_\_\_\_ Score (\_\_\_\_\_/3)

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