# Final Presentation

**Culturally Responsive Teaching and NGSS Science for All**

Majory Colon

# Prework

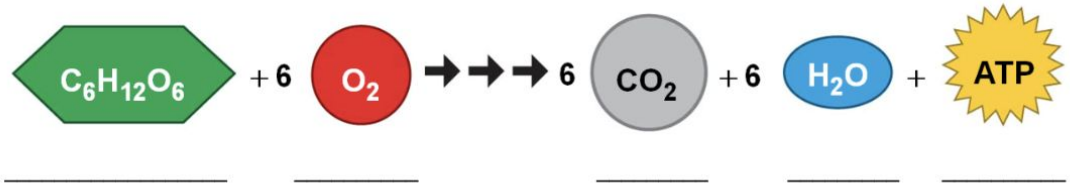
- Students were given a study guide for their standardized assessment in order to meet students where they are.
- Practice test items were provided and students were given teacher accessibility, a contact, to have an available resource at all times.
- Students were provided 5 extra credit points upon completion of the packet.

**Unit 1: Metabolism Section**

# Level 1 Practice

1. Mr. Tan notices Ms. Butter always gets starbucks in the morning. To see if she really knows science he asks her how her cells get molecules that are needed. What does Ms. Butter say?
   a. Ms. Butter says she only gets molecules for energy by sleeping.
   b. Ms. Butter says her cells get molecules they need from food and air.
   c. Ms. Butter says her stomach gets all the molecules from food and air.
   d. Ms. Butter says her cells get only molecules from air.
2. Mr. Weaver is examining a cell under a microscope, he is drawing the molecules he is seeing before they change (transform). What would you see if you opened Mr. Weaver's notebook?
   a. You see molecules from food and air: Glucose, Protein and Oxygen.
   b. You see molecules from food and air: Starch, Amino Acids and Oxygen.
   c. You see molecules from food and air: Glucose, Amino Acids and Oxygen.
   d. You see molecules from food and air: Starch, Protein and Oxygen.

11. Label Each Part of the diagram below

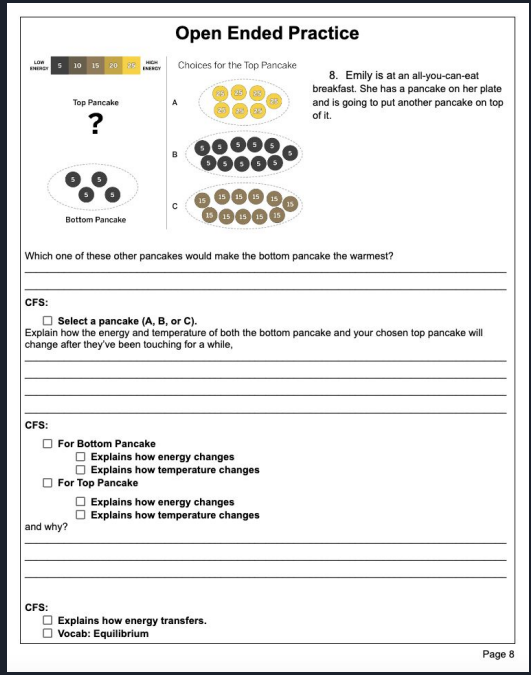



_____ _____ _____ _____ _____

Word bank for #11: Oxygen, Carbon dioxide, glucose, Energy, Water

A variety of testing practice was provided such as:

- Multiple choice
- Fill in the blank
- Open Ended
- Graph analysis/practice



**Open Ended Practice**

LOW ENERGY 5 10 15 20 25 HIGH ENERGY

Top Pancake

?

Bottom Pancake

Choices for the Top Pancake

A

B

C

8. Emily is at an all-you-can-eat breakfast. She has a pancake on her plate and is going to put another pancake on top of it.

Which one of these other pancakes would make the bottom pancake the warmest?

CFS:

☐ **Select a pancake (A, B, or C).**

Explain how the energy and temperature of both the bottom pancake and your chosen top pancake will change after they've been touching for a while,

CFS:

☐ **For Bottom Pancake**
  ☐ **Explains how energy changes**
  ☐ **Explains how temperature changes**
☐ **For Top Pancake**
  ☐ **Explains how energy changes**
  ☐ **Explains how temperature changes**

and why?

CFS:

☐ **Explains how energy transfers.**
☐ **Vocab: Equilibrium**

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# On Assessment

- Students had a standardized assessment for 60 minutes consisting of 19 questions.
- Scoped from Unit 1 and 2.
- Students with accommodations were pulled out for extra time and small group.
- In class; students were provided with scrap paper and a CFS “Criteria for success as they’ve practiced throughout class”

The student left the washers in the beaker of water for 15 minutes and then carefully removed them. The student placed a thermometer on the metal to take the temperature before adding them to the cup of water. The student lowered the washers into the water in the cup.

**Part A**

**Select the bar graph that correctly shows the temperatures that represent each material in Table 1.**

**Table 1. Temperature Data**

| Material | Temperature (°C) | | |
|---|---|---|---|
| | 30 s | 60 s | 90 s |
| ? | 96 | 66 | 46 |
| ? | 22 | 28 | 32 |

**CFS:**

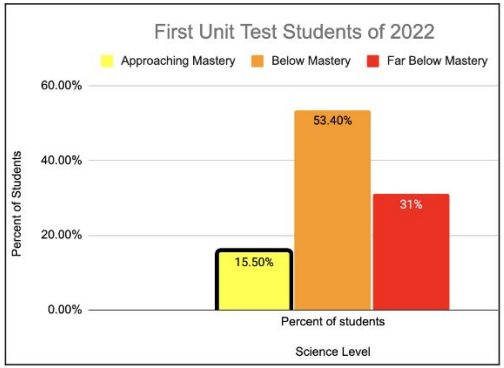
- ☐ **Annotate the Diagram/Question**
- ☐ **Rephrase the Question**
- ☐ **Make a Prediction**
- ☐ **Use Scrap Paper**
- ☐ **Choose the Best Answer**

# Post Assessment Lesson Implementation

- Students were provided with self evaluation and review based on data analysis of the assessment.
    - It was found students needed more support with Open ended, data analysis, and NJSLA based test items.
    - As such, the challenge was to make students invested in improving their test taking skills.
- Comparison from data last year and this year invested students in growth and identifying their strengths.

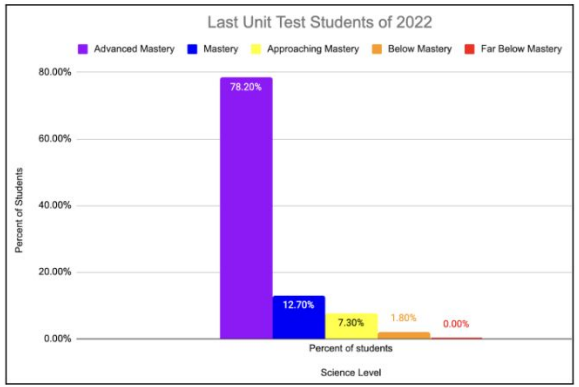
## Self Evaluating Based on Data

Quarterly assessment data is shown below for the previous years. Ms. Butter will talk to you about your results and compare them to last years. Answer the questions below as she discusses the notes with you.



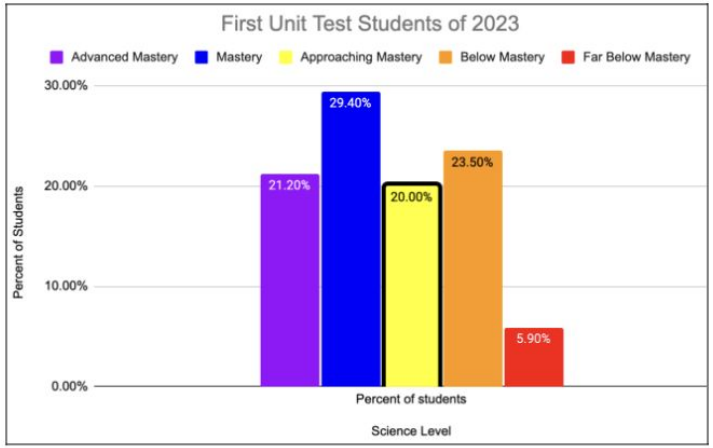

1. What is the first graph showing you?

2. What did students score on the test the most?




3. How did the SAME students score on their LAST unit test in 2022.

4. What can you say about the students overall? Did they do better/worse? Are they good at science?




5. This is your data so far from the first Quarterly assessment. How do you think you did overall as a class compared to last year's students on the FIRST test?

6. Do you think your overall grade data will look the same, better or worse than last years students?

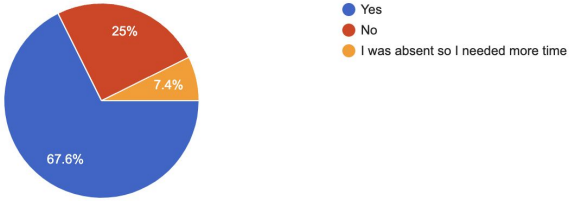
7. Why do you think last year's students got so much better at their assessments? (Predict)

# Learning: A change in behavior

I had enough time to complete my test in one class block.

Copy

68 responses




I thought MOST of the multiple choices were _____.

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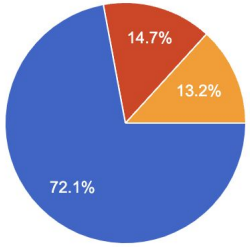
68 responses


The Study Guide and Practice days were helpful to for the test.

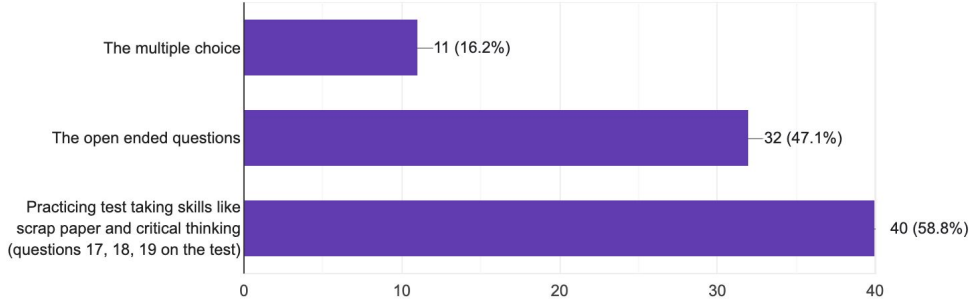
68 responses



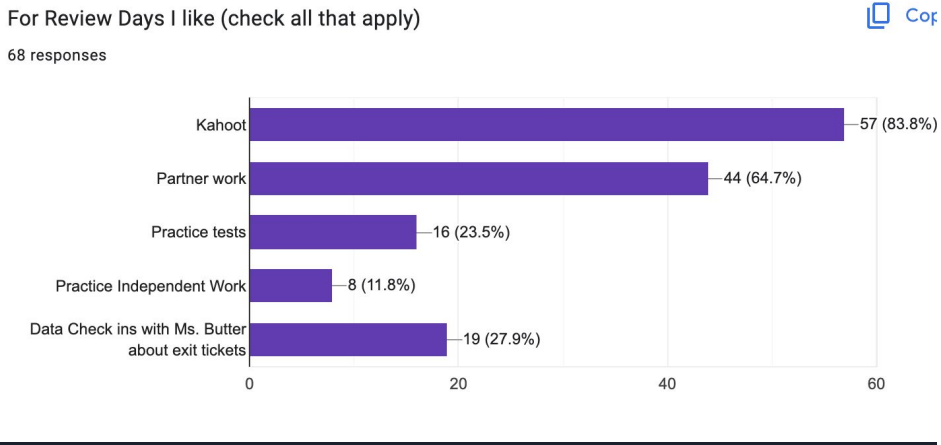

I think I need help with _____ on the test. (check all that apply)

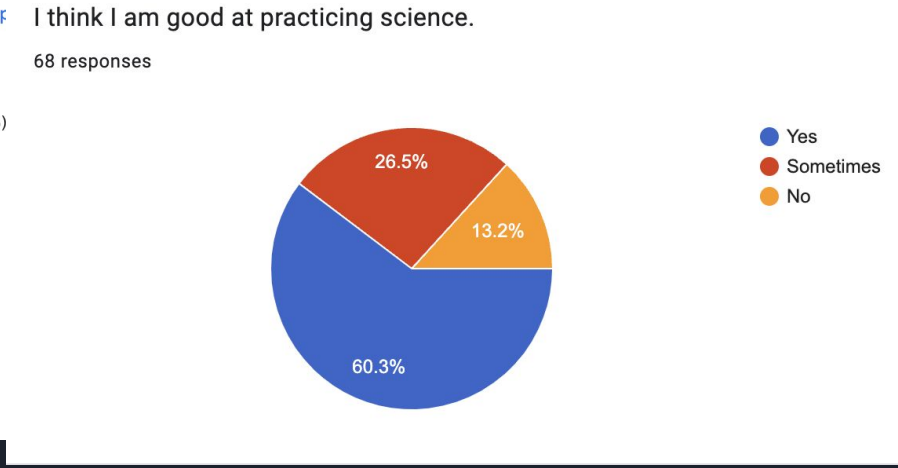
Copy

68 responses



# Student Involvement and Growth



# Pursuing data

- Per student request partner work was pursued in getting students to revise their test via graph and data analysis practice.

## NJSLA Practice

| Time (hour) | Volume (mL) | Weight (g) |
|---|---|---|
| 0 | 350 mL | 23 grams |
| 1 | 355 mL | 23 grams |
| 2 | 360 mL | 23 grams |
| 3 | 365 mL | 23 grams |

1. Mrs. Barbera has a cup of coffee. She puts it in the freezer, until it completely freezes. Here is the data she collected:

Which statement correctly summarizes her experiment?

A. The weight and the volume of the coffee remain the same.
B. The weight of the coffee increases and the volume decreases.
C. The weight of the coffee decreases and the volume increases.
D. The weight of the coffee remains the same and the volume increases.

**CFS:**

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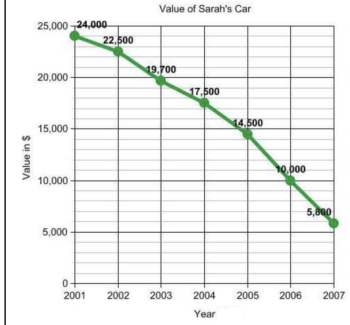
- ☐ Choose the Best Answer




1. What is the title of this graph?
2. What is the graph comparing (X vs. Y Axis).
3. How many data points are on this graph?
4. What is the lowest value recorded?
5. What is the highest value recorded?
6. Did the value of the car increase or decrease over time?


1. What is the title of this graph?
2. What is the graph comparing (X vs. Y Axis).
3. How many data points are on this graph?
4. What is the lowest value recorded?
5. What is the highest value recorded?
6. Did Sam's weight increase or decrease over time?