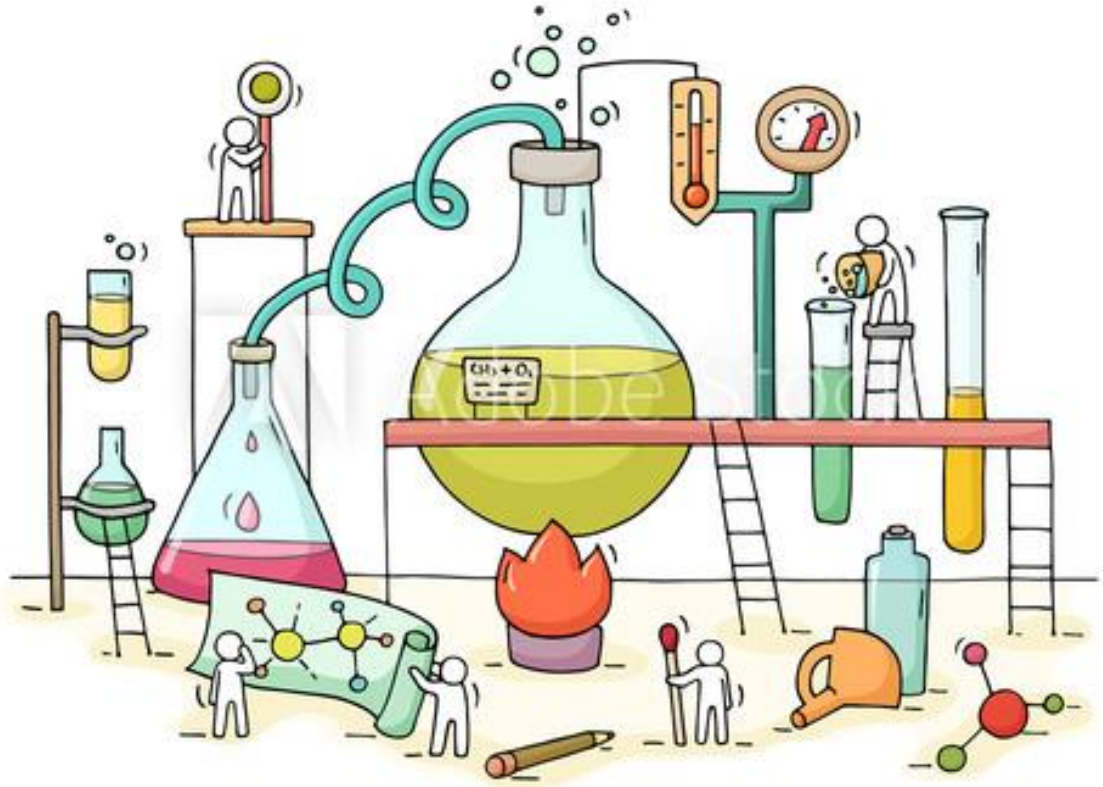
STUDENT NAME: _____ TEACHER NAME:_____ CLASS _____

PRACTICAL PORTFOLIO



CONTENTS:

Practical Tasks:

- Comparing the Heating Rate of Bunsen Flames
- Tracing Transpiration of Celery
- Mining a Cookie

Due Date:

15th March by 3.20pm to teacher Week 7 Term 1 2024

MARKING CRITERIA:

PRACTICAL REPORTS:

	Criteria	Bunsen Flame Heat	Cookie Mining	Transpiration
1	Aim			
1	Hypothesis			
1	Prediction			
	Materials			
1	Correct quantities			
1	All listed			
	Method:			
3	Steps listed with verbs			
3	Controlled Variables			
1	Independent Variables			
1	Dependent Variables			
3	Risks and Precautions			
3	Drawn a diagram of apparatus			
2	Labelled the diagram			
	Results			
2	Written observations			
2	Table contains headings (units)			
3	Table contains relevant and concise data			
	Graph			
2	Titles and units on axis			
2	Increments on axis			
2	Correct data			
1	Correct type of graph			
		/35	/35	/35
	Discussion			
	Question 1	/5	/3	/2
	Question 2	/1	/2	/2
	Question 3	/2	/4	/2
	Question 4	0	0	/2
	Question 5	0	0	/2
1	Conclusion summarises trends			
	TOTAL FOR EACH PRACTICAL SECTION	/43	/44	/45
	ASSESSMENT TOTAL		**/132**	

Teacher Comment:

_____
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Teacher Signature: _____ Date: _____

Bunsen Flame Heat

Activity Description:

In this experiment you will measure the number of gauze squares heated by the 2 different types of Bunsen burner flame. You should compare the number of squares heated by each flame in a graph and conclude which flame is hotter.

Aim:

_____

_____

Hypothesis:

I believe…

_____

Because…

_____

Prediction:

If your hypothesis is true, what would you observe?

_____

_____

Materials:

List all materials needed, including sizes and quantities

_____

_____

_____

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Variables:

Identify the:

Independent variable: _____

Dependent variable: _____

Controlled variables: _____

_____

_____

Method:

List the steps required to perform this experiment:

- ☐ Start with a number
- ☐ Start with a verb
- ☐ Use impersonal language
- ☐ Be specific in times, amounts etc

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Risk Assessment:

Risk What could go wrong?	**Precaution** How do I keep safe?

Diagram:

Provide a labelled diagram of your apparatus for this experiment:

Results:

Qualitative Results (words/sketches):

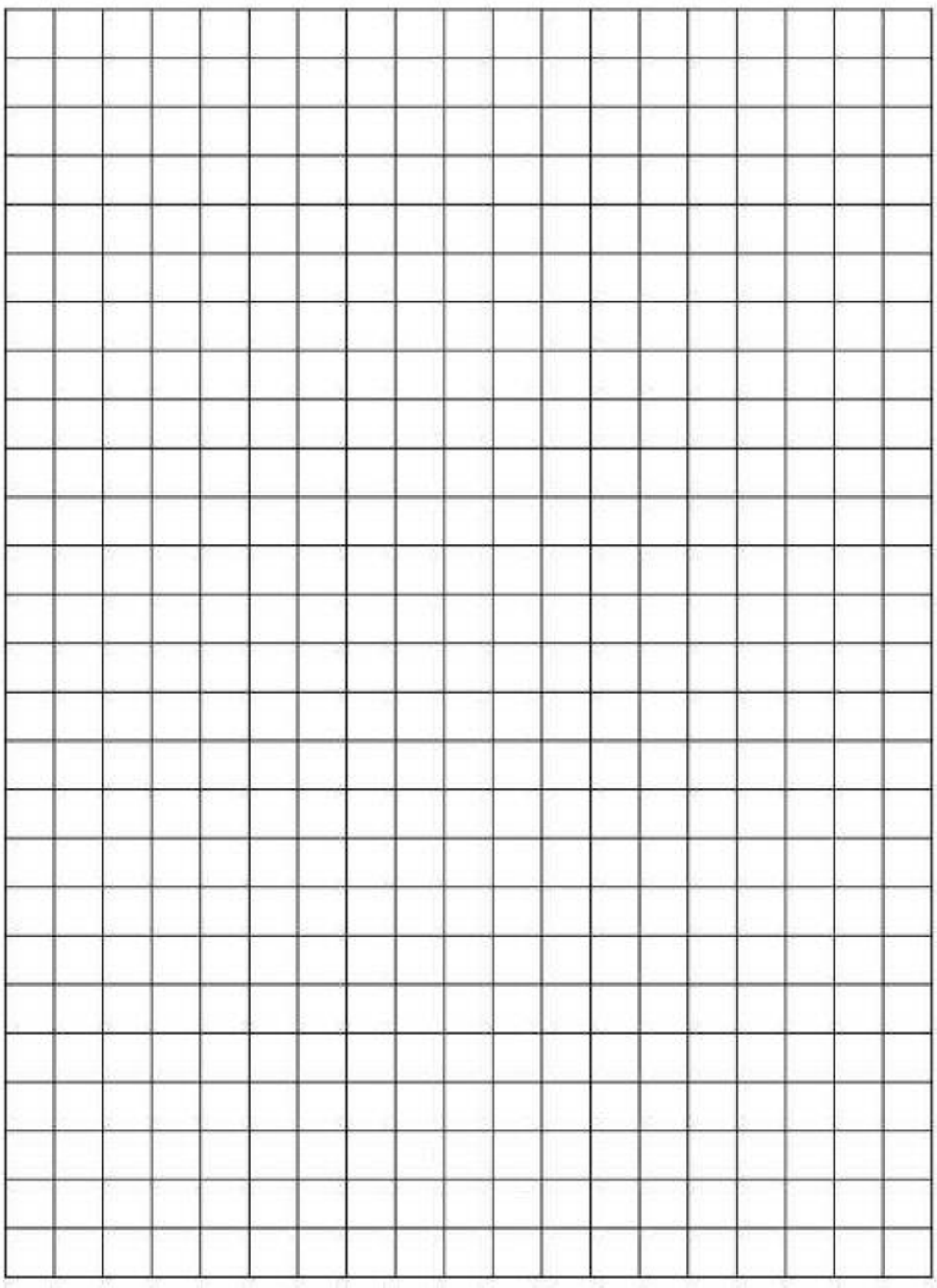
_____
_____
_____
_____
_____
_____
_____
_____

Quantitative Results (numbers):

Tabulate your data in the space below

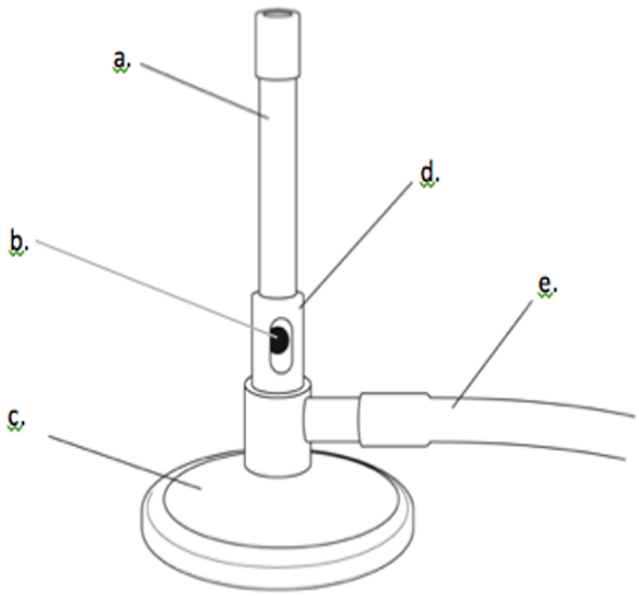
Graph:

- ☐ Rule in the axis
- ☐ Labels (title, x = independent, y = dependent)
- ☐ Increments
- ☐ Plot the data:
  - 2 sets of numbers – line graph
  - Number and a name – column graph



Discussion:

1. Label the following diagram of a Bunsen Burner



a. _____

b. _____

c. _____

d. _____

e. _____

2. What was the purpose of using the gauze mat to measure the heating efficiency of the flame?

_____

_____

3. Propose another method that you could use to quantify the heat of a Bunsen Flame

_____

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Conclusion:

What was the overall trend in this experiment? Does is answer your aim?

_____

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Tracing Transpiration

Activity Description:

In this experiment you will compare the transpiration rate of a plant by measuring the movement of dyed water throughout the xylem. You will compare the transpiration rate of a plant both with and without leaves. You will observe the vascular bundles of the plant under a microscope and draw them.

Background Research: (this section does not have marks attached to it)

Using the internet, research the following:

1. What is transpiration?

_____

_____

_____

_____

_____

_____

_____

2. Sketch a labelled diagram of the transpiration process.

Aim:

_____

_____

Hypothesis:

I believe…

_____

Because…

_____

Prediction:

If your hypothesis is true, what would you observe?

_____

_____

Materials:

List all materials needed, including sizes and quantities

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Variables:

Identify the:

Independent variable: _____

Dependent variable: _____

Controlled variables: _____

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Method:

List the steps required to perform this experiment:

- ☐ Start with a number
- ☐ Start with a verb
- ☐ Use impersonal language
- ☐ Be specific in times, amounts etc

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Risk Assessment:

Risk What could go wrong?	**Precaution** How do I keep safe?

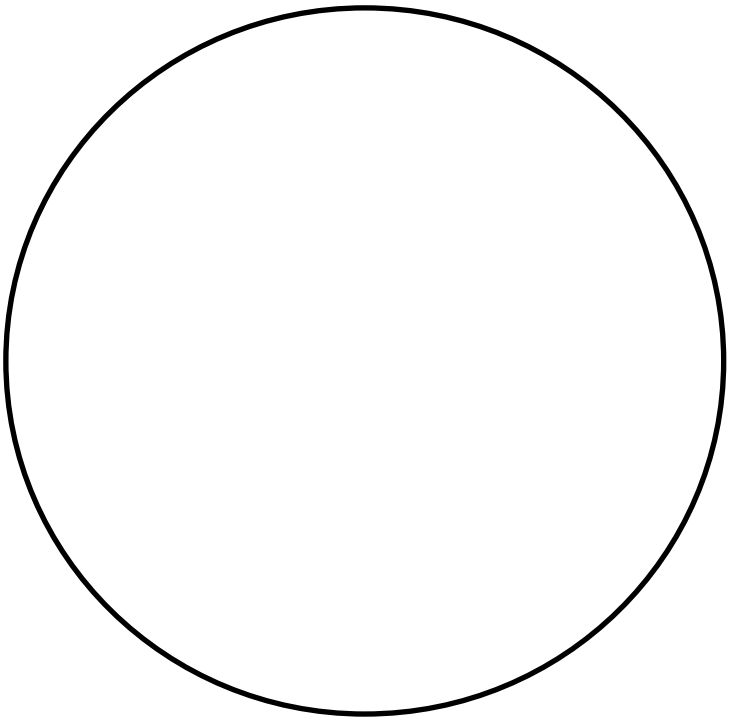
Diagram:

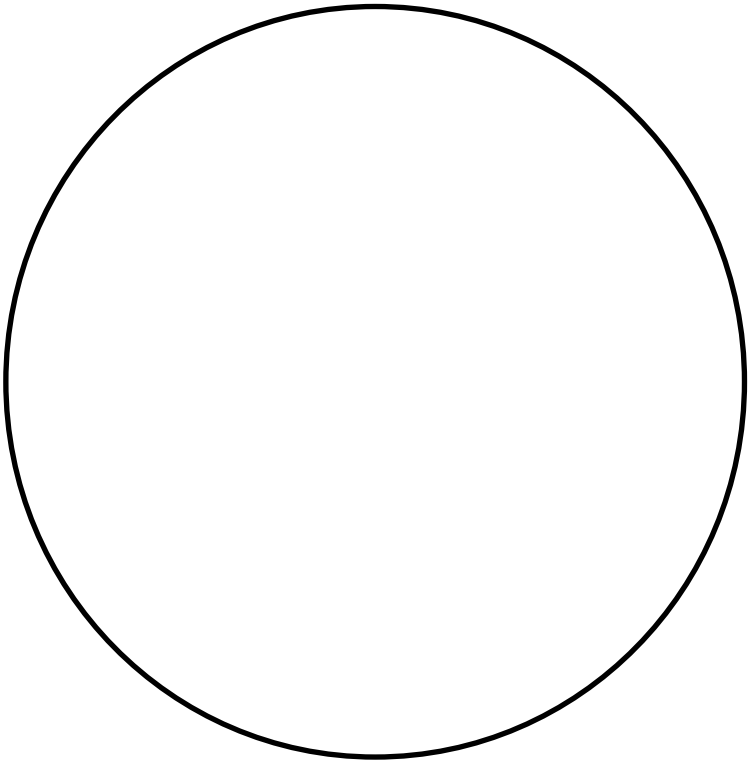
Provide a labelled diagram of your apparatus for this experiment:

Results:

Qualitative Results (words/sketches):

_____
_____
_____
_____





Quantitative Results (numbers):

Tabulate your data in the space below

Discussion *(continued from initial internet research):*

1. Explain the transpiration rates of the different plants by referring to the qualitative results collected.

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2. Referring to your diagrams of the plant slides, explain why only part of the vascular bundle was dyed.

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3. Discuss another TWO ways to test the rate of transpiration in plants

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Conclusion:

What was the overall trend in this experiment? Does it answer your aim?

_____

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Cookie Mining

Activity Description:

In this experiment you will need to measure the total weight of the cookie, and then the weight of the chocolate chips. From this you will be able to calculate the %Yield = (weight of chips/weight of cookie) x 100. Repeating this experiment will improve the reliability of your results. You can do this to different brands of cookies to see which is best value for money based on how much chocolate you are getting.

Aim:

_____

_____

Hypothesis:

I believe…

_____

Because…

_____

Prediction:

If your hypothesis is true, what would you observe?

_____

_____

Materials:

List all materials needed, including sizes and quantities

_____
_____
_____
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_____
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_____
_____

Variables:

Identify the:

Independent variable: _____

Dependent variable: _____

Controlled variables: _____

_____

_____

Method:

List the steps required to perform this experiment:

- ☐ Start with a number
- ☐ Start with a verb
- ☐ Use impersonal language
- ☐ Be specific in times, amounts etc

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Risk Assessment:

Risk What could go wrong?	**Precaution** How do I keep safe?

Diagram:

Provide a labelled diagram of your apparatus for this experiment:

Results:

Qualitative Results (words/sketches):

_____
_____
_____
_____
_____
_____
_____
_____

Quantitative Results (numbers):

Tabulate your data in the space below

Graph:

- ☐ Rule in the axis
- ☐ Labels (title, x = independent, y = dependent)
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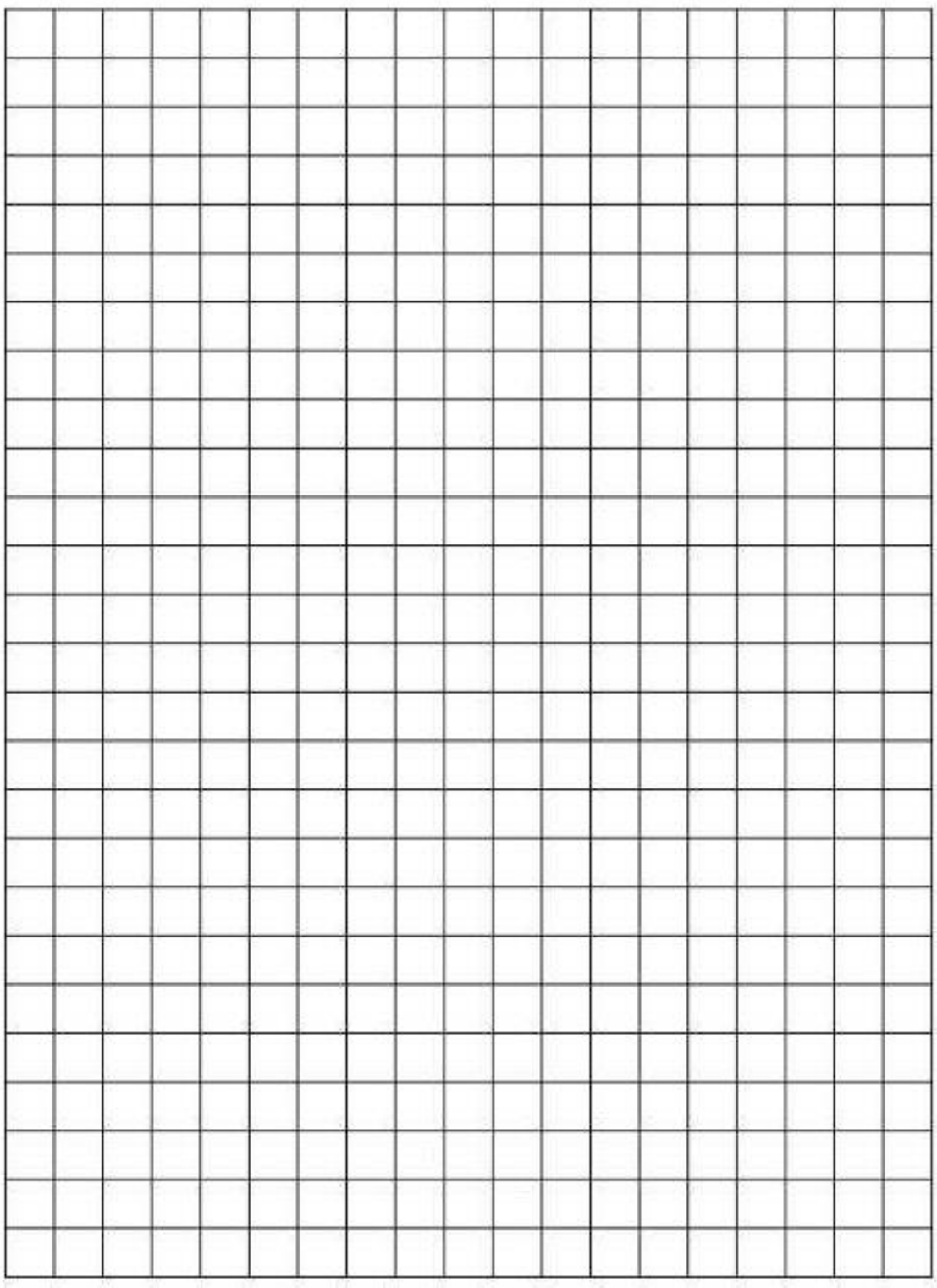

Discussion:

Calculate the percentage yield for:

1. BRAND A: _____

_____
_____
_____
_____

2. BRAND B: _____

_____
_____
_____
_____

3. BRAND C: _____

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4. Which brand of cookie provides the best value for money and why?

_____
_____

5. What is one source of error in this experiment?

_____
_____

Conclusion:

What was the overall trend in this experiment? Does is answer your aim?

_____
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