

ST4

Name:

Lab Test Review

I) Parts of a lab report:

A) Aim:

MUST always start with **TO** and describes the purpose of the lab

To determine

To calculate

To identify

To find

To NEUTRALIZE

B) Hypothesis:

A prediction of what will occur or how you will accomplish the experiment, supported with scientific reasoning.

Starts with **If....Then** (because) or The hypothesis is....

If the substance to be neutralized is an acid, then a base must be used

If unknown is an base, then an acid must be used to neutralize it.

If the substance is neutralized then it will be yellow.

How will you neutralize it

*** How will you know it is neutral??***

C) Materials:

A list of all materials used, using proper scientific names, volumes, quantities.

Point form, (NO NUMBERS)

Specific quantities

Include size of materials

D) Procedure:

NUMBER your steps (one step per line)

Specific-include sizes, quantities

ACTION WORDS (Do, pour, put, drop, swirl, etc.)

Should sound like a recipe!!!

USE REPEAT STEPS- do not write all the steps again

MUST WRITE - RECORD OBSERVATIONS or results

******* DO NOT USE STIRRING ROD FOR SWIRL!!!!**

***** NO PERSONAL PRONOUNS IN A LAB (I, WE, YOU, etc)**

E) Results:

Table drawn with a ruler Neat

Must have title for the entire table

Headings for all columns or rows

Units (drops/ml/g)

MUST BE SPECIFIC OBSERVATIONS

EX: Light turned on, turned RED, Gas escaped, formed bubbles etc...

F) Conclusion:

5 steps

1-Restate aim.....word for word

2.Restate hypothesis....word for word

3. Was hypothesis correct/incorrect and explain

4. EXPLAINING THE RESULTS- describe the results, provide answers, discuss the results with purpose of lab

5. ERRORS: At least 2- must not be personal pronouns.

NO PERSONAL PRONOUNS!!!!!! I WE YOU US

II) Labs to know:

- **Using indicators to identify the pH of solutions.**
- **Neutralizing a solution.**

Task 1	To identify the pH of an unknown solution using Universal indicator.
Material	Buffer solutions of known pH (1-12) Unknown solution 96 well plate Universal indicator
Procedure	<ol style="list-style-type: none">1. Place 3 drops of buffer solutions 1-12 in wells 1-12 respectively2. Place one drop of Universal indicator in each buffer solution3. Record Colors in chart4. Place 3 drops of unknown in well5. Place 1 drop of Universal indicator in unknown6. Match colour of unknown to colour of buffer solutions to determine pH7. Record ph of unknown
Results	Make a colour chart to represent all the colours of the buffer solutions and their respective pH. Give it a descriptive title. Indicate the colour of your unknown and which pH value it corresponds with

Task 2	To neutralize an unknown solution using the indicator phenol red.
Material	<ul style="list-style-type: none"> ● Phenol Red ● Spot plate ● Stirring rod ● 10ml beaker ● Pipette with Acid: HCl ● Pipette with Base: NaOH ● Pipette with Neutral/ Salt: NaCl ● Pipette with UNKNOWN
Procedure	<ol style="list-style-type: none"> 1. Place 5 drops of HCl in spot plate 2. Add 1 drops of phenol red to HCl 3. Note colour change 4. Repeat steps 1-4 for NaOH and NaCl and unknown 5. Match colour of unknown to determine its nature (acid, base or salt) 6. Add required number of drops of unknown to 10 ml beaker 7. Add 2 drops of phenol red to unknown 8. Neutralize unknown using the appropriate solution (if your unknown is an acid then add a BASE, if your unknown is a base then add an ACID) 9. Add appropriate solution one drop at a time and swirl after each drop 10. Stop adding drops when the solution matches the colour of the NaCl (neutral solution)
Results	<p>In a table, list the following things:</p> <ol style="list-style-type: none"> 1. The colour each solution turned with the indicator (acid, base, salt) 2. The colour your unknown turned with the indicator 3. The nature of your unknown (acid, base or salt) 4. What you used to neutralize your unknown (give the molecular formula of the acid or the base) 5. How many drops were needed to neutralize your unknown (drops needed to achieve the same colour as the neutral (NaCl) solution)