CHEMISTRY YEAR 12 - MODULE 6 - LESSON 2

Nomenclature, Indicators & Predicting Acid Reactions

Use this worksheet after reading the lesson to practise the key ideas and prove you can meet the success criteria.

Name _____

Date _____

Class _____

1. Key Ideas

The same chemistry that makes your stomach acid dissolve food also makes antacids work — and the ability to name, identify, and predict acid reactions is the toolkit every calculation lesson in this module builds on.

- Binary acid naming rule (hydro-/ic) and oxoacid naming rule (from ion name)
- Why indicators change colour using the $HIn \rightleftharpoons H^+ + In^-$ equilibrium and Le Chatelier

2. Success Criteria

By the end, you should be able to:

- Binary acid naming rule (hydro-/ic) and oxoacid naming rule (from ion name)
- Names and formulas of the seven key acids and six key bases
- Three common indicator ranges: methyl orange, bromothymol blue, phenolphthalein

3. Key Terms

Binary acids
A substance that donates protons (H^+) or accepts electron pairs, according to context.

Oxoacids
A substance that donates protons (H^+) or accepts electron pairs, according to context.

-ate
If a system at equilibrium is disturbed, it will shift to minimise the disturbance.

-ic acid
A substance that donates protons (H^+) or accepts electron pairs, according to context.

Brønsted-Lowry acid
A proton (H^+) donor in an acid-base reaction.

Brønsted-Lowry base
A proton (H^+) acceptor in an acid-base reaction.

4. Activity: Build the Lesson Map

Use the lesson to complete the table. Keep answers brief but specific.

Prompt	Your answer
Main concept	
Important example	
Common mistake to avoid	
How this links to the next lesson	

5. Short Answer Questions

1. Explain this lesson goal in your own words: "Binary acid naming rule (hydro-/ic) and oxoacid naming rule (from ion name)". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "Names and formulas of the seven key acids and six key bases". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Nomenclature, Indicators & Predicting Acid Reactions: "Three common indicator ranges: methyl orange, bromothymol blue, phenolphthalein".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Nomenclature, Indicators & Predicting Acid Reactions but does not use evidence or reasoning.

Improve the answer by writing a stronger response that uses accurate terminology, a relevant example and a clear explanation.

7. Multiple Choice

1. What is the best first step when answering a question about Nomenclature, Indicators & Predicting Acid Reactions?

- [ ] A. Identify the key concept being tested
- [ ] B. Write every fact from memory
- [ ] C. Ignore the command word
- [ ] D. Skip examples and evidence

2. Which answer would show stronger understanding of Nomenclature, Indicators & Predicting Acid Reactions?

- [ ] A. An answer with accurate terms and reasoning
- [ ] B. A copied definition only
- [ ] C. A single-word response
- [ ] D. An answer with no example

3. What should you do if a question asks you to explain?

- [ ] A. Link the idea to a reason or cause
- [ ] B. List unrelated facts
- [ ] C. Only draw a diagram
- [ ] D. Write the shortest possible answer

8. Success Criteria Proof

Finish with evidence that you can do each success criterion.

SUCCESS CRITERION 1

Prove that you can: Binary acid naming rule (hydro-/ic) and oxoacid naming rule (from ion name)

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: Names and formulas of the seven key acids and six key bases

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: Three common indicator ranges: methyl orange, bromothymol blue, phenolphthalein

BAND 5 4 MARKS

One thing I still need help with: