

# Dissolution of Ionic Compounds & ATSI Knowledge

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

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- Dissolution can be endothermic or exothermic depending on the relative energy of lattice breaking vs hydration
- Why some endothermic dissolutions are spontaneous (entropy-driven)

## 2. Success Criteria

By the end, you should be able to:

- Dissolution can be endothermic or exothermic depending on the relative energy of lattice breaking vs hydration
- A saturated solution is a dynamic equilibrium between dissolved and undissolved solute
- ATSI knowledge of cycad detoxification uses solubility equilibria in practice

## 3. Key Terms

### Dynamic equilibrium

A state where forward and reverse reaction rates are equal.

### Le Chatelier's Principle

A system at equilibrium shifts to minimise applied disturbances.

### Equilibrium constant ( $K_{eq}$ )

The ratio of product to reactant concentrations at equilibrium.

### Reaction quotient ( $Q$ )

The ratio of product to reactant concentrations at any instant.

### Closed system

A system where neither matter nor energy can escape to surroundings.

### Reversible reaction

A reaction that can proceed in both forward and reverse directions.

## 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: "Dissolution can be endothermic or exothermic depending on the relative energy of lattice breaking vs hydration". Use one specific example from the lesson.

**BAND 3** **2 MARKS**

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2. Apply this idea to a new example: "A saturated solution is a dynamic equilibrium between dissolved and undissolved solute". Show your reasoning clearly.

**BAND 4** **3 MARKS**

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3. Analyse why this idea matters for understanding Dissolution of Ionic Compounds & ATSI Knowledge: "ATSI knowledge of cycad detoxification uses solubility equilibria in practice".

**BAND 5** **4 MARKS**

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## 6. Extend: Apply the Idea

BAND 5/6

5 MARKS

**A student gives a memorised answer about Dissolution of Ionic Compounds & ATSI Knowledge 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.

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## 7. Multiple Choice

1. What is the best first step when answering a question about Dissolution of Ionic Compounds & ATSI Knowledge?

- 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 Dissolution of Ionic Compounds & ATSI Knowledge?

- 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: Dissolution can be endothermic or exothermic depending on the relative energy of lattice breaking vs hydration**

**BAND 3** **2 MARKS**

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### SUCCESS CRITERION 2

**Prove that you can: A saturated solution is a dynamic equilibrium between dissolved and undissolved solute**

**BAND 4** **3 MARKS**

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### SUCCESS CRITERION 3

**Prove that you can: ATSI knowledge of cycad detoxification uses solubility equilibria in practice**

**BAND 5** **4 MARKS**

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**One thing I still need help with:**

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