

90934



NEW ZEALAND QUALIFICATIONS AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD  
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

1

SUPERVISOR'S USE ONLY

## Level 1 Chemistry, 2016

### 90934 Demonstrate understanding of aspects of chemical reactions

2.00 p.m. Monday 21 November 2016  
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of aspects of chemical reactions.	Demonstrate in-depth understanding of aspects of chemical reactions.	Demonstrate comprehensive understanding of aspects of chemical reactions.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

**You should attempt ALL the questions in this booklet.**

A periodic table and other reference material are provided in the Resource Booklet L1–CHEMR.

If you need more room for any answer, use the extra space provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

**YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.**

TOTAL

ASSESSOR'S USE ONLY

**QUESTION ONE**

- (a) Name the precipitate that is formed when the following solutions are mixed together.  
You may use the solubility rules provided in the resource booklet.

(i) Zinc nitrate and sodium carbonate

---

(ii) Barium chloride and sodium sulfate

---

- (b) (i) Copper sulfate solution and sodium hydroxide solution react to form a precipitate.

Complete the following equation showing the formation of the precipitate.



- (ii) Why is this reaction classified as a precipitation reaction?

---

---

---

---

---

---

---

---

---

---

- (iii) Describe any observations that would be seen during this reaction, and link these to the reactants and products.

---

---

---

---

---

---

---

---

---

---



**QUESTION TWO**

(a) Iron can be reacted with sulfur when a mixture of powdered iron and powdered sulfur is heated in a test tube.

(i) What type of reaction occurs?

---

(ii) Describe any observations that would be seen during this reaction, and link these to the reactants and products.

---

---

---

---

(iii) Write a balanced symbol equation for the reaction occurring.

(b) When magnesium is heated with oxygen, a bright light is produced and a white-grey solid forms (**Reaction 1**).

When magnesium metal is added to a solution of copper sulfate, the blue colour of the solution fades and a pinky-brown solid forms (**Reaction 2**).

What are the similarities and differences between **Reaction 1** and **Reaction 2**?

In your answer, you should include:

- the types of reactions occurring
- reference to electron transfer, where appropriate
- word equations for the reactions occurring.

---

---

---

---

---

---

Word equation for **Reaction 1**:

Word equation for **Reaction 2**:



Balanced symbol equations:

