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1

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Level 1 Chemistry 2021

90934 Demonstrate understanding of aspects of chemical reactions

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.

Check that this booklet has pages 2–11 in the correct order and that none of these pages is blank.

Do not write in any cross-hatched area (). This area may be cut off when the booklet is marked.

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

QUESTION ONE

You may use the solubility rules provided in the resource booklet.

(a) Magnesium sulfate solution and barium chloride solution react together to form a precipitate.

(i) Write a balanced ionic equation for this reaction.

(ii) What would be observed during this reaction?

Link the observations to the species involved.

(iii) Why is this reaction classified as a precipitation reaction?

QUESTION TWO

- (a) A teacher showed digital recordings of three different reactions.

Reaction	Description of procedure
1	A piece of magnesium was added to a solution of aluminium nitrate.
2	A spatula of manganese dioxide was added to a solution of hydrogen peroxide.
3	A heated spatula of sulfur was added to a jar of oxygen gas.

- (i) What are the types of reactions occurring?

Reaction	Type of reaction occurring
1	
2	
3	

- (ii) Give the expected observations for Reaction 1 and link these to the species involved. Include a balanced symbol equation for the reaction occurring.

Balanced symbol equation for Reaction 1:

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- (iii) Complete the following word equation for Reaction 2:

hydrogen peroxide →

Explain why Reaction 2 is the type you described in part (i).

- (iv) Give the expected observations for Reaction 3 and link these to the species involved. Include a balanced symbol equation for the reaction occurring.

Balanced symbol equation for Reaction 3:

90934