

Title	Demonstrate knowledge of the basic principles of fire science		
Level	2	Credits	1

Purpose	<p>This unit standard is primarily for personnel whose duties involve fire and emergency response in the workplace and will also be relevant to other learners who anticipate the need to use hand-held fire extinguishers in industrial or domestic situations.</p> <p>People credited with this unit standard are able to demonstrate knowledge of:</p> <ul style="list-style-type: none"> - the basic principles of the chemistry of combustion; and - the basic principles of the physics of fire.
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Classification	Community and Workplace Fire and Emergency Management > Workplace Fire and Emergency Response
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Available grade	Achieved
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Guidance Information

None.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the basic principles of the chemistry of combustion.

Performance criteria

1.1 Factors that must be present for combustion are identified in terms of the triangle of fire.

1.2 The chemical chain reaction is explained in terms of combustion.

1.3 Methods of extinguishing a fire are described in terms of the removal of fire factors.

Range cooling, removing fuel, smothering, starving, interruption of the chemical chain reaction.

Outcome 2

Demonstrate knowledge of the basic principles of the physics of fire.

Performance criteria

- 2.1 Heat and fire travel are described in terms of one practical example.
- Range includes but is not limited to – convection, conduction, radiation, direct burning, ember transport.
- 2.2 The concept of upper and lower flammability limits is explained in relation to a mix of flammable gas and air.
- 2.3 Fire terms are defined.
- Range flashpoint, firepoint, ignition temperature, spontaneous combustion, miscibility, combustion.

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 June 1995	31 December 2023
Review	2	27 May 1998	31 December 2023
Revision	3	2 August 1999	31 December 2023
Review	4	25 March 2004	31 December 2023
Review	5	20 November 2009	31 December 2023
Review	6	30 September 2021	N/A

Consent and Moderation Requirements (CMR) reference	0039
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact The Skills Organisation reviewcomments@skills.org.nz if you wish to suggest changes to the content of this unit standard.