

<b>Title</b>	<b>Demonstrate knowledge of the behaviour of gases</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>2</b>

<b>Purpose</b>	People credited with this unit standard are able to: demonstrate knowledge of the relationships among pressure, volume, temperature, and the amount of a gas; and compare real gases and ideal gas behaviour.
----------------	---

<b>Classification</b>	Science > Chemistry
-----------------------	---------------------

<b>Available grade</b>	Achieved
------------------------	----------

---

### Guidance Information

None.

---

### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of the relationships among pressure, volume, temperature, and the amount of a gas.

#### Performance criteria

- 1.1 Normal Temperature and Pressure (NTP) and Standard Temperature and Pressure (STP) are defined in terms of reference conditions.
- 1.2 Calculations involving gases are performed using methods consistent with the processes of algebra, the gas laws, and the required value.
- 1.3 Gas behaviour to Dalton's Law of Partial Pressure and Graham's Law of Diffusion are described in terms of their relationship.

#### Outcome 2

Compare real gases and ideal gas behaviour.

#### Performance criteria

- 2.1 The assumptions underlying an ideal gas are described in terms of gas behaviour.

- 2.2 The Van der Waals equation is used to explain the deviation of real gases from ideal behaviour.

**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	24 September 1996	31 December 2014
Revision	2	19 February 1998	31 December 2014
Review	3	23 November 1999	31 December 2014
Review	4	18 June 2010	31 December 2022
Rollover	5	27 January 2015	31 December 2022
Rollover and Revision	6	15 June 2017	31 December 2022
Revision	7	26 October 2017	31 December 2022
Review	8	22 October 2020	31 December 2022

**Consent and Moderation Requirements (CMR) reference**

0113

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.