

## Achievement Standard

**Subject Reference** Chemistry 2.7

**Title** Describe oxidation-reduction reactions

**Level** 2 **Credits** 3 **Assessment** External

**Subfield** Science

**Domain** Chemistry

**Registration date** 20 October 2004 **Date version published** 20 October 2004

---

This achievement standard involves describing oxidation-reduction reactions.

### Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"><li>Describe oxidation-reduction reactions.</li></ul>	<ul style="list-style-type: none"><li>Apply oxidation-reduction principles.</li></ul>	<ul style="list-style-type: none"><li>Discuss oxidation-reduction processes.</li></ul>

### Explanatory Notes

- 1 This achievement standard is derived from achievement objectives 7.1, 7.2 and 7.3 in *Chemistry in the New Zealand Curriculum*, Learning Media, Ministry of Education, 1994, p. 23.
- 2 Knowledge of appearance and state of the following reactants and their products is required. Oxidants are limited to:  $O_2$ ,  $I_2$ ,  $Cl_2$ ,  $H^+$ ,  $Fe^{3+}$ ,  $H_2O_2$ ,  $MnO_4^-$  (aq)/ $H^+$ ,  $Cr_2O_7^{2-}$  (aq)/ $H^+$ . Reductants are limited to metals, C, CO,  $H_2$ ,  $Fe^{2+}$ ,  $Br^-$ ,  $I^-$ ,  $SO_2$ ,  $(HSO_3^-)$ . Appropriate information relating to any other oxidants or reductants will be provided.
- 3 Aspects of oxidation-reduction include:
  - determine oxidation numbers
  - write balanced oxidation-reduction equations
  - identify oxidants and/or reductants
  - recognise the ability of halogens to act as oxidants in reactions with other elements, water or halide ions.
- 4 Oxidation-reduction reactions may be assessed in the context of simple electrolytic cells. Knowledge of preferential discharge is not required.

## 5 Terms:

- *Describe* requires the student to identify, name, draw, give characteristics of, or an account of.
  - *Discuss* requires the student to show understanding as to how or why something occurs by linking chemistry ideas/principles. It may involve students in justifying, relating, evaluating, comparing and contrasting, analysing.
- 

**Quality Assurance**

- 1 Providers and Industry Training Organisations must be accredited by the Qualifications Authority before they can register credits from assessment against achievement standards.
- 2 Accredited providers and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Accreditation and Moderation Action Plan (AMAP) reference

0226