

## Achievement Standard

**Subject Reference** Biology 3.6

**Title** Describe applications of biotechnological techniques

**Level** 3 **Credits** 3 **Assessment** Internal

**Subfield** Science

**Domain** Biology

**Registration date** 1 November 2005 **Date version published** 1 November 2005

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This achievement standard involves the description of applications of biotechnological techniques to meet human needs and demands.

### Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"><li>Describe applications of biotechnological techniques to meet human needs and demands.</li></ul>	<ul style="list-style-type: none"><li>Explain applications of biotechnological techniques to meet human needs and demands.</li></ul>	<ul style="list-style-type: none"><li>Discuss applications of biotechnological techniques to meet human needs and demands.</li></ul>

### Explanatory Notes

- 1 This achievement standard is derived from *Biology in the New Zealand Curriculum*, Learning Media, Ministry of Education, 1994, p. 28, achievement objective 8.3 (b).
- 2 *Techniques* must be relevant to the application and may include: PCR, ligation, use of restriction enzymes, gel electrophoresis, DNA sequencing, DNA chips, tissue culture. Techniques will be considered in the context of a relevant application.
- 3 *Applications* will be selected from: gene cloning, transgenesis, DNA profiling, genome analysis, stem cell research, xenotransplantation. Applications are to be considered in the context of meeting human needs or demands.

## 4 Terms

- *Describe* requires the student to define, use annotated diagrams, give characteristics of, or an account of.
  - *Explain* requires the student to provide a reason as to how or why something occurs.
  - *Discuss* requires the student to show understanding by linking biological ideas. It may involve students in justifying, relating, evaluating, comparing and contrasting, and analysing.
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**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