**Biodiversity and Threatened Species**

**Student**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This task is based on a class excursion to a revegetation site in order to assess whether a nationally endangered species, the Southern Brown Bandicoot (*Isoodon obesulus obesulus),* is likely to become extinct in South Australia’s Mt Lofty Ranges.

The community in which this species is found encompasses parts of the Southern Mt Lofty Ranges, characterised by a patchwork of remnant vegetation, conservation parks, pasture, weed infestation, rural living, and urbanisation.

This task exemplifies aspects of Science as a Human Endeavour. Students examine the effectiveness of current practices, which are based on scientific knowledge and understanding, in assisting the survival of this endangered species. *“They observe how decision-making about socio-scientific issues often involves consideration of multiple lines of evidence and a range of needs and values. As critical thinkers they appreciate science as an ever-evolving body of knowledge that frequently informs public debate, but is not always able to provide definitive answers”.*

While visiting the re-vegetation site, students work in groups of 2-4 in order to observe and listen to experts address the group. Students record information and observations, including photographs and sketches, in a field note book.

Key sources of secondary information include:

<http://www.surlg.org.au/>

[Southern Brown Bandicoot - naturalresources.sa.gov.au](http://www.naturalresources.sa.gov.au/files/sharedassets/public/plants_and_animals/threatened_species/pa-fact-southernbrownbandicoot.pdf)

<http://www.surlg.org.au/faunaguide/FactSheet_KLong.pdf>

Present your findings individually as an infographic. Include:

* A description of the biotic and abiotic factors that act in the atmosphere, geosphere, hydrosphere, and biosphere, and how they affect the distribution and abundance of the bandicoot in this region. (KA2)
* Relevant data and illustrations obtained from field observations and secondary research.
* Positive and negative outcomes of the current practices used to encourage survival of the bandicoot. (KA3)
* A conclusion addressing the effectiveness of practices, including community involvement, to help the survival of the bandicoot. (KA3)

Data should be presented using appropriate conventions and formats (IAE2).Information should be communicated effectively, including acknowledgement of primary and secondary sources (KA4).

**Assessment Conditions**

Students have some class time and some homework time to complete their presentation.

**Performance Standards for Stage 1 Earth and Environmental Science**

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|  | Investigation, Analysis, and Evaluation | Knowledge and Application |
| A | Designs a logical, coherent, and detailed earth and environmental science investigation.  Obtains, records, and represents data, using appropriate conventions and formats accurately and highly effectively.  Systematically analyses and interprets data and evidence to formulate logical conclusions with detailed justification.  Critically and logically evaluates procedures and their effects on data. | Demonstrates deep and broad knowledge and understanding of a range of earth and environmental science concepts.  Develops and applies earth and environmental science concepts highly effectively in new and familiar contexts.  Critically explores and understands in depth the interaction between science and society.  Communicates knowledge and understanding of earth and environmental science coherently with highly effective use of appropriate terms, conventions, and representations. |
| B | Designs a well-considered and clear earth and environmental science investigation.  Obtains, records, and represents data, using appropriate conventions and formats mostly accurately and effectively.  Logically analyses and interprets data and evidence to formulate suitable conclusions with reasonable justification.  Logically evaluates procedures and their effects on data. | Demonstrates some depth and breadth of knowledge and understanding of a range of earth and environmental science concepts.  Develops and applies earth and environmental science concepts mostly effectively in new and familiar contexts.  Logically explores and understands in some depth the interaction between science and society.  Communicates knowledge and understanding of earth and environmental science mostly coherently with effective use of appropriate terms, conventions, and representations. |
| C | Designs a considered and generally clear earth and environmental science investigation.  Obtains, records, and represents data, using generally appropriate conventions and formats with some errors but generally accurately and effectively.  Undertakes some analysis and interpretation of data and evidence to formulate generally appropriate conclusions with some justification.  Evaluates procedures and some of their effects on data. | Demonstrates knowledge and understanding of a general range of earth and environmental science concepts.  Develops and applies earth and environmental science concepts generally effectively in new or familiar contexts.  Explores and understands aspects of the interaction between science and society.  Communicates knowledge and understanding of earth and environmental science generally effectively, using some appropriate terms, conventions, and representations. |
| D | Prepares the outline of an earth and environmental science investigation.  Obtains, records, and represents data, using conventions and formats inconsistently, with occasional accuracy and effectiveness.  Describes data and undertakes some basic interpretation to formulate a basic conclusion.  Attempts to evaluate procedures or suggest an effect on data. | Demonstrates some basic knowledge and partial understanding of earth and environmental science concepts.  Develops and applies some earth and environmental science concepts in familiar contexts.  Partially explores and recognises aspects of the interaction between science and society  Communicates basic earth and environmental science information, using some appropriate terms, conventions, and/or representations. |
| E | Identifies a simple procedure for a earth and environmental science investigation.  Attempts to record and represent some data, with limited accuracy or effectiveness.  Attempts to describe results and/or interpret data to formulate a basic conclusion.  Acknowledges that procedures affect data. | Demonstrates limited recognition and awareness of earth and environmental science concepts.  Attempts to develop and apply earth and environmental science concepts in familiar contexts.  Attempts to explore and identify an aspect of the interaction between science and society  Attempts to communicate information about earth and environmental science. |