VCE Units 3 and 4 Environmental Science: Performance descriptors

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| **VCE ENVIRONMENTAL SCIENCE****SCHOOL-ASSESSED COURSEWORK** |
| **Assessment task: ‘Analysis and evaluation of a case study, secondary data or a media communication, concerning sustainability principles and stakeholder perspectives’** |
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| ***Unit: <insert>******Outcome: <insert no.>******<insert outcome statement>*** |  | **DESCRIPTOR: typical performance in each range** |
| **Key Science Skills** |  **Increasing levels of performance**  |
| ***Develop aims and questions, formulate hypotheses and make predictions*** | * Identifies the scientific concepts relevant to the case study or media communication.
 | * Identifies the stakeholders involved in the case study or media communication.
 | * Explains the sustainability principles relevant to the case study or media communication.
 | * Discusses the contestable elements of the case study or media communication.
 | * Suggests further research that could be undertaken to respond to the case study.
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| ***Plan and conduct investigations*** | * States the problem or issue that will be explored through data analysis.
 | * Identifies the scientific concepts relevant to the data.
 | * Outlines how data will be analysed and evaluated to investigate stakeholder perspectives.
 | * Outlines how data will be analysed and evaluated to investigate sustainability principles.
 | * Suggests further data that could be collated to respond to the problem or issue.
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| ***Generate, collate and record data*** | * Organises secondary data into a table
* Identifies relevant data to be plotted on a graph.
 | * Constructs a representation from tabled data
* Labels graph axes including units.
 | * Follows scientific conventions in constructing a data representation
* Plots data using a suitable scale.
 | * Explains the selection of the representation
* Uses a bar chart to present discrete data or a line graph to represent continuous data.
 | * Discusses aspects of the representation that will be used to draw conclusions
* Shows patterns or relationships in graphs.
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| ***Analyse and evaluate data and investigation methods*** | * Identifies discrepancies in data.
 | * Describes how the discrepant data were identified.
 | * Discusses further data that may be obtained to resolve discrepant data.
 | * Explains how further data may be obtained to draw valid conclusions.
 | * Explains how discrepant data may limit conclusions.
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| ***Construct evidence-based arguments and draw conclusions*** | * Identifies an opinion
* Describes the nature of scientific evidence.
 | * Identifies an anecdote
* Identifies scientific evidence about the case study, secondary data or media.
 | * Distinguishes between an opinion and an anecdote
* Distinguishes between weak and strong evidence.
 | * Discusses opinions and anecdotes in terms of the nature of scientific evidence
* Uses scientific evidence to support their analysis and evaluation.
 | * Discusses opinions and anecdotes in terms of their value in scientific arguments
* Discusses the strength of the evidence used to support their analysis and evaluation.
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| ***Analyse, evaluate and communicate scientific ideas*** | * Identifies the science concepts involved in the case study, secondary data or media communication.
 | * Describes the science concepts involved in the case study, secondary data or media communication.
 | * Makes links between science concepts central to the case study, secondary data or media communication.
 | * Explains the relationships between different concepts involved in analysing the case study, secondary data or media communication.
 | * Discusses how evidence was used in providing a personal response to the case study or media communication.
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| * Identifies different stakeholder values
* Identifies stakeholder claims / conclusions
* Outlines how secondary data is relevant to understanding stakeholder views.
 | * Summarises the different stakeholder values
* Summarises stakeholder claims / conclusions
* Interprets data in relation to stakeholder views.
 | * Compares different stakeholder values
* Compares stakeholder claims / conclusions
* Compares the degree to which data support different stakeholder conclusions.
 | * Explains how different value systems may lead to different stakeholder perspectives
* Analyses stakeholder claims / conclusions in terms of sustainability principles
* Suggests counterarguments to stakeholder conclusions.
 | * Discusses how different stakeholder values may affect perspectives of what may be a sustainable environmental action
* Uses criteria to evaluate stakeholder claims / conclusions in terms of sustainability principles
* Discusses why a preferred stakeholder conclusion is supported.
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| * Selects data relevant to the case study, secondary data or media communication
* Interprets data in relation to sustainability.
 | * Outlines how data is relevant to the case study, secondary data or media communication
* Draws a conclusion from the data related to sustainability.
 | * Identifies trends or patterns in data
* Explains how data were used to draw a conclusion about sustainability.
 | * Analyses assumptions in data
* Explains what data trends indicate about sustainability in the future.
 | * Evaluates the quality of data
* Discusses the limitations of data in drawing conclusions about sustainability.
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| * States how sustainability principles relate to the case study, secondary data or media communication.
 | * Explains why sustainability principles are important in analysing the case study, secondary data or media communication.
 | * Analyses the case study, secondary data or media communication concerning sustainability principles.
 | * Evaluates the case study, secondary data or media communication concerning sustainability principles.
 | * Discusses how sustainability principles may apply to the case study, secondary data or media communication in future years.
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| * Responds to a case study, secondary data or media communication.
 | * Uses clear expression to respond to a case study, secondary data or media communication.
 | * Shows consideration of audience in responding to a case study, secondary data or media communication.
 | * Clarifies the sustainability context in responding to a case study, secondary data or media communication.
 | * Explains how stakeholder perspectives were resolved in responding to a case study, secondary data or media communication.
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