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. |
| ***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. |
| ***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. |
| ***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. |
| ***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. |
| ***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. |
| * 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. |
| * 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. |
| * 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. |
| * 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. |