VCE Biology: Performance descriptors

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| **VCE BIOLOGY****SCHOOL-ASSESSED COURSEWORK** |
| **Performance descriptors: ‘Analysis and evaluation of generated primary and/or collated secondary data’** |
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| ***Unit: <insert>******Outcome: <insert no.>******<insert outcome statement>*** |  | **DESCRIPTOR: typical performance in each range** |
| **Key Science Skill**  | **Very Low** | **Low** | **Medium** | **High** | **Very high** |
| *Generate, collate and record data* | Limited ability to generate primary data, collate secondary data and appropriately record and summarise qualitative and quantitative data relevant to the topic under investigation in the student logbook. | Some ability to generate primary data, collate secondary data and appropriately record and summarise qualitative and quantitative data relevant to the topic under investigation in the student logbook. | Sound ability to generate primary data, collate secondary data and appropriately record and summarise qualitative and quantitative data relevant to the topic under investigation in the student logbook. | Competent ability to generate primary data, collate secondary data and appropriately record and summarise qualitative and quantitative data relevant to the topic under investigation in the student logbook. | Highly proficient ability to generate primary data, collate secondary data and appropriately record and summarise qualitative and quantitative data relevant to the topic under investigation in the student logbook. |
| Identifies some appropriate data to construct diagrams, flow charts, tables and graphs relevant to the topic under investigation, including graphs that show linear and non-linear relationships | Selects and organises some appropriate data to construct diagrams, flow charts, tables and graphs relevant to the topic under investigation, including graphs that show linear and non-linear relationships | Selects and organises appropriate data to construct useful and meaningful diagrams, flow charts, tables and graphs relevant to the topic under investigation, including graphs that show linear and non-linear relationships | Effective selection and organisation of appropriate data to construct useful and meaningful diagrams, flow charts, tables and graphs relevant to the topic under investigation, including graphs that show linear and non-linear relationships | Proficient selection and organisation of data to construct useful and meaningful diagrams, flow charts, tables and graphs relevant to the topic under investigation, including graphs that show linear and non-linear relationships |
| *Analyse end evaluate data and investigation methods* | Limited processing of quantitative data using appropriate mathematical relationships and units and limited identification of outliers and contradictory or provisional data. | Some appropriate processing of quantitative data using appropriate mathematical relationships and units and some identification of outliers and contradictory or provisional data. | Appropriate processing of quantitative data using appropriate mathematical relationships and units and sound identification of relevant outliers and contradictory or provisional data. | Detailed processing of quantitative data using appropriate mathematical relationships and units and detailed identification of outliers and contradictory or provisional data. | Highly proficient processing of quantitative data using appropriate mathematical relationships and units and comprehensive identification of outliers and contradictory or provisional data. |
| Identifies some trends, patterns and relationships in qualitative and quantitative data relevant to the topic under investigation. | Some identification and analysis of trends patterns and relationships in qualitative and quantitative data relevant to the topic under investigation. | Accurate analysis of trends patterns and relationships in qualitative and quantitative data relevant to the topic under investigation with some identification of limitations in the data available. | Detailed analysis trends patterns and relationships in qualitative and quantitative data relevant to the topic under investigation with appropriate identification of some limitations in the data available. | Highly proficient analysis trends patterns and relationships in qualitative and quantitative data relevant to the topic under investigation with through identification of a range of limitations in the data available. |
| *Construct evidence-based arguments and draw conclusions* | Very limited use of qualitative and/or quantitative data and reasoning to construct scientific arguments and draw conclusions relevant to the topic under investigation, consistent with data and evidence available. | Some appropriate selection and use of qualitative and/or quantitative data and reasoning to construct scientific arguments and draw conclusions relevant to the topic under investigation, consistent with data and evidence available. | Appropriate selection and use of qualitative and/or quantitative data and reasoning to construct scientific arguments and draw conclusions relevant to the topic under investigation, consistent with data and evidence available. | Effective use of qualitative and/or quantitative data and reasoning to construct scientific arguments and draw conclusions relevant to the topic under investigation, consistent with data and evidence available. | Insightful selection and use of qualitative and/or quantitative data and reasoning to construct scientific arguments and draw conclusions relevant to the topic under investigation, consistent with data and evidence available. |
| Very limited evaluation of the data to determine the degree to which the evidence available supports or refutes the initial prediction or hypothesis. Very limited identification of further evidence required. | Some evaluation of the data to determine the degree to which the evidence available supports or refutes the initial prediction or hypothesis. Limited identification of further evidence required. | Accurate evaluation of the data to determine the degree to which the evidence available supports or refutes the initial prediction or hypothesis. Some identification of further evidence required. | Detailed evaluation of the data to determine the degree to which the evidence available supports or refutes the initial prediction or hypothesis. Detailed identification of further evidence required. | Sophisticated evaluation of the data to determine the degree to which the evidence available supports or refutes the initial prediction or hypothesis. Comprehensive identification of further evidence required. |
| *Analyse, evaluate and communicate scientific ideas* | Very limited use of appropriate biological terminology, representations and conventions including graphing conventions and units of measurement. | Limited use of appropriate biological terminology, representations and conventions including graphing conventions and units of measurement. | Mostly appropriate biological terminology, representations and conventions including graphing conventions and units of measurement. | Effective and appropriate biological terminology, representations and conventions including graphing conventions and units of measurement. | Proficient and highly appropriate biological terminology, representations and conventions including graphing conventions and units of measurement. |
| Limited interpretation and discussion of connections between relevant biological information, concepts, relationships, theories and models, including limited explanation of how these can be used to organise and understand observed biological phenomena and concepts related to the selected topic of investigation.  | Some appropriate interpretation and discussion of connections between relevant biological information, concepts, relationships, theories and models, including some explanation of how these can be used to organise and understand observed biological phenomena and concepts related to the selected topic of investigation. | Appropriate interpretation and discussion of connections between relevant biological information, concepts, relationships, theories and models, including largely appropriate explanation of how these can be used to organise and understand observed biological phenomena and concepts related to the selected topic of investigation. | Detailed interpretation and discussion of connections between relevant biological information, concepts, relationships, theories and models, including well-considered explanation of how these can be used to organise and understand observed biological phenomena and concepts related to the selected topic of investigation. | Insightful interpretation and discussion of connections between relevant biological information, concepts, relationships, theories and models, including comprehensive explanation of how these can be used to organise and understand observed biological phenomena and concepts related to the selected topic of investigation. |

KEY to marking scale based on the outcome contributing 40 marks

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| Very Low 1-8 | Low 9–16 | Medium 17–24 | High 25–32 | Very High 33–40 |