SKILLS AND APPLICATIONS TASK

SUMMATIVE ASSESSMENT TASK

TOPIC: Cells as the Basis of Life and Evolution

Purpose and Background Information of the Assessment Task:

To have the opportunity to collaborate in pairs to prepare and present 2 workshops on your chosen/allocated topics\* from the Stage 2 Biology subject outline.

You will be the lead researcher and presenter for one workshop and then assist your partner with the other workshop.

The workshop should be 30 minutes in length plus up to 20 minutes for questions and feedback.

Requirements for each workshop:

* For the topic chosen/allocated cover each of the science understandings (see table below) accurately with relevant information using an appropriate mode of communication (PowerPoint presentation, notes etc.)
* Construct a handout with a summary of relevant points for all students
* Set a short in class activity that gives students in your class the opportunity to demonstrate or extend the learning associated with your lesson
* Provide a set of revision questions for students in the class to do as homework (2 multiple choice, 2 short answer questions and one extended response type). In the following lesson, allow time for the class to respond to some or all of questions and go through solutions. Give your teacher a set with detailed answers.
* Give your teacher *either* one possible practical activity that could be undertaken **or** one SHE aspect that could be incorporated (with some details on how it is connected to your workshop) to support your topic. These *do not* need to be orally presented to the class but must be submitted with your materials after the workshop is delivered.

Possible Resources that may assist preparation: SACE Biology Subject Outline, past examinations, Study Guides, Internet, text books etc.

Assessment Conditions:

* 3 weeks for research and presentation preparation.
* Class time will be provided, plus homework time.
* Students are able to get feedback. Step 2 in the timeline that follows will enable students to draft their work.
* Workshop with in class activity should be delivered in 30 minutes plus time (up to 20 minutes in the next lesson) for answering of questions and feedback

Timeline:

|  |  |  |
| --- | --- | --- |
| Step | Key Information | Due Date in Term 3 |
| 1:Workshop preparation: commencing  | Research, planning and presentation preparation including hand-outs, activities and questions. | Week 3 |
| 2: Show your teacher your progress | Drafting opportunity | Week 5 |
| 3: Presentation of workshop: | After your presentation you must submit a copy of your workshop and all associated materials including practical/SHE component for assessment. | Week 6 |

Possible topics and subject outline page reference:

|  |  |
| --- | --- |
| Possible Topics | Page Reference in Subject Outline (pg.) |
| EnergyHeterotrophs and AutotrophsPhotosynthesisCellular RespirationATP CycleChances of SurvivalNatural SelectionSuccessionExtinction and Human Activity | 2132-3333-34 |

\*All topics will need to be covered by the class. So topic researched and presented may be negotiated with students to ensure all topics are covered.

Assessment Design Criteria

Knowledge and Application: 1, 2 and 4

Performance Standards

| - | Investigation, Analysis, and Evaluation | Knowledge and Application |
| --- | --- | --- |
| A | Critically deconstructs a problem and designs a logical and coherent biological investigation with detailed justification.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 effect on data. | Demonstrates deep and broad knowledge and understanding of a range of biological concepts.Applies biological 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 biology coherently, with highly effective use of appropriate terms, conventions, and representations. |
| B | Logically deconstructs a problem and designs a well-considered and clear biological investigation with reasonable justification.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 effect on data. | Demonstrates some depth and breadth of knowledge and understanding of a range of biological concepts.Applies biological 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 biology mostly coherently, with effective use of appropriate terms, conventions, and representations. |
| C | Deconstructs a problem and designs a considered and generally clear biological investigation with some justification.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 effect on data. | Demonstrates knowledge and understanding of a general range of biological concepts.Applies biological concepts generally effectively in new or familiar contexts.Explores and understands aspects of the interaction between science and society.Communicates knowledge and understanding of biology generally effectively, using some appropriate terms, conventions, and representations. |
| D | Prepares a basic deconstruction of a problem and an outline of a biological 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 biological concepts.Applies some biological concepts in familiar contexts.Partially explores and recognises aspects of the interaction between science and society.Communicates basic biological information, using some appropriate terms, conventions, and/or representations. |
| E | Attempts a simple deconstruction of a problem and a procedure for a biological 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 biological concepts.Attempts to apply biological concepts in familiar contexts.Attempts to explore and identify an aspect of the interaction between science and society.Attempts to communicate information about biology. |

|  |
| --- |
| Note for teachers:This format of this skills and application task enables students to work collaboratively in small groups or pairs. It may be appropriate to allocate:* Students to a pair
* topics to pairs.

Depending on class size, teachers may choose to add topics that would be suitable for students to teach to their peers. It is suggested that teachers use the drafting opportunity to ensure the accuracy and relevance of the information being presented to the class.Teachers may choose to have checklists to assess the collaboration and presentation skills (KA4) of the student. Teachers may wish to focus on the presentation skills of the student (engaging, eye contact, knowledge of content etc.) in addition to the collaboration skills (team work, effort, allocated tasks completed in timely manner etc. |
|  |