# IB Biology SL Year 2: Internal Assessment

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| **Teacher(s)** | IB Biology PLC | **Subject group and course** | IB Biology SL Year 2 | | |
| **Course part and topic** | IB requirement for DP diploma | **SL or HL/Year 1 or 2** | SL; Year 2 | **Dates** | Proposal Aug-October<br>Experiment October-November<br>Rough Draft November-December<br>Final Draft Due March 4, 2023 |
| **Unit description and texts** | | **DP assessment(s) for unit** | | | |
| Students will develop and execute an individual research project. This is a requirement for the IB diploma. | | • IA Proposal<br>• IA discussion posts<br>• IA rough draft<br>• IA final draft | | | |

**INQUIRY: establishing the purpose of the unit**

| **Transfer goals**<br><br>**List here one to three big, overarching, long-term goals for this unit. Transfer goals are the major goals that ask students to "transfer" or apply, their knowledge, skills, and concepts at the end of the unit under new/different circumstances, and on their own without scaffolding from the teacher.** |
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| SWBAT:<br>Investigate an identified biological phenomenon using the following practices:<br>• Asking Questions and Defining Problems<br>• Developing & Using Models<br>• Constructing Explanations |

Students will know the following content:

Topic 1: Cell Biology

Topic 2: Molecular Biology

Topic 3: Genetics

Topic 4: Ecology

Students will develop the following skills:

- Effectively develop research questions
- Devising reliable and valid methodology
- Effectively incorporate required safety and ethical guideline into experimentation
- Construct testable hypotheses
- Organize and analyze data using prescribed statistical tests

Students will grasp the following concepts

- Systems and Models
- Interactions and Equilibrium
- Stability and Change

**ACTION: teaching and learning through inquiry**

Formative assessment: Weekly online quizzes will be conducted to determine growth of learners throughout the unit. Internal Assessment (IA) rough draft

Summative assessment: Internal Assessment (IA) proposal and Internal Assessment final report

Differentiation:

- Affirm identity—build self-esteem
- Value prior knowledge
- Scaffold learning Extend learning

Details: Growth will be monitored using formative assessments by instructor and self-assessed using provided bulls-eye rubric. Remediation/ extension will be conducted through homework activities and investigations conducted in class.

| **Approaches to learning (ATL)**<br>Check the boxes for any explicit approaches to learning connections made during the unit. For more information on ATL, please see the guide. |
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| **Thinking, Social Communication, Self Management**<br><br>Details:<br>Students will conduct their IA research project. |

| **Language and learning**<br>Check the boxes for any explicit language and learning connections made during the unit. For more information on the IB's approach to language and learning, please see the guide. | **TOK connections**<br>Check the boxes for any explicit TOK connections made during the unit | **CAS connections**<br>Check the boxes for any explicit CAS connections. If you check any of the boxes, provide a brief note in the "details" section explaining how students engaged in CAS for this unit. |
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| ☐ Activating background knowledge<br>☐ Scaffolding for new learning<br>☐ Acquisition of new learning through practice<br>☐ Demonstrating proficiency<br>Details: This unit applies vocabulary acquired through previous courses. Proficiency will be assessed through formative and summative assessments. | ☐ Personal and shared knowledge<br>☐ Ways of knowing<br>☐ Areas of knowledge<br>☐ The knowledge framework<br>Details: Natural science as an area of science will be investigated in this unit. | ☐ Creativity<br>☐ Activity<br>☐ Service<br>Details: Development and execution of the Internal Assessment requires students to think creatively. The work may not be applied to CAS projects but skills developed could be used on developing CAS activities. |

**Resources**

List and attach (if applicable) any resources used in this unit


- Damon, A.; McGonegal, R.; Tosto, P.; Ward, W. Standard level biology; Pearson Education Limited: Harlow, Essex, 2014.
- Greenwood, T.; Pryor, K.; Bainbridge-Smith, L.; Allan, R. Environmental science: student workbook; Biozone International: Hamilton, New Zealand, 2013.
- Van de Lagemaat, R. www.inthinking.net: Andorra la Vella, Andorra, 2019.
- IB Biology Schoology Course

**Reflection—considering the planning, process and impact of the inquiry**

| **What worked well**<br>List the portions of the unit (content, assessment, planning) that were successful | **What didn't work well**<br>List the portions of the unit (content, assessment, planning) that were not as successful as hoped | **Notes/changes/suggestions:**<br>List any notes, suggestions, or considerations for the future teaching of this unit |
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| Providing students with a variety of resources | Hybrid learning provided many challenges for students to adequately finish the IA – the use of databases and simulations created issues and students were weak in analysis and drawing conclusions from their investigations | More work needs to be put into creating Modules to show students in person or online how to properly carry out an investigation, use data to interpret, analyze, and draw proper conclusions. This is much easier to do when all students are in person. Even with resources students were overwhelmed and lost interest. |