

Effects of Exercise on the Body

Assessment Type

Inquiring, designing, processing, and evaluating scientific investigations

MYP Criterion Level

MYP 3

MYP Assessment Criteria

Criterion B: Inquiring and designing
Criterion C: Processing and evaluating

MYP Command Terms Used

describe, outline, explain, design, select, collect, organize, transform, present, interpret, discuss

MYP Global Context

Identities and Relationships: Physical Development, Health, and Wellbeing

MYP Key Concept(s)

Systems

MYP Related Concept(s)

Function, Interaction

MYP Branch of Science

Biology

MYP Topics and Skills

- Scientific writing
- Designing logical and safe methods
- Analysing data
- Evaluating methodologies

Prior Knowledge Needed

- Body systems
- Cardiovascular and respiratory systems
- Respiration

Assessment Description

In this assessment, students inquire and design a scientific investigation looking into how acute exercise can affect the cardiovascular or respiratory systems. Students will then complete the experiment based on the method they have planned and collect, process, and evaluate the data and methodology to produce a written report.

Materials Needed

- Lab report template, if needed, particularly for learning support students.
- Practical equipment list and experimental recommendations can be found in the task specific instructions.


Task-specific instructions / Recommendations

- It is recommended that students work in pairs for this experiment, but an individual written report should be produced.
- The Criterion B report could be submitted before beginning the C, or done as one project.
- A variety of scaffolded lab report templates are available in the support documents if needed.
- Heart rate can be measured using a heart-rate monitor, oximeter, or manually measuring pulse.

Inquiry Statement

The components in a **system** perform specific **functions** and **interact** with one another to allow for effective **physical development and wellbeing**.

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| ATL Skill(s): | Critical Thinking |
| Key Concept(s): | Systems |
| Related Concept(s): | Functions, Interactions |
| Global Context and Exploration: | Identities and Relationships: Physical Development, Health, and Wellbeing |

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|--------------------|---|
| (G)goal | The goal is to investigate the relationship between the circulatory or respiratory systems during different intensities of exercise. |
| (R)ole | You are a sports scientist working with elite athletes for the volleyball team, "Setters of Catan".  |
| (A)udience | Your audience are the athletes of the team. |
| (S)ituation | The Setters of Catan are interested in understanding more about the effect of exercise on different body systems in order to improve their performance. In order to help explain, you are to perform an investigation on the athlete to show them how the circulatory system <u>or</u> respiratory system are affected when the intensity of acute exercise is increased or decreased. |
| (P)roduct | You will investigate how increased, acute exercise can affect the circulatory <u>or</u> respiratory systems. You will produce a lab report that processes and evaluates your findings. |
| (S)tandards | Your performance needs to meet all of the MYP 3, Criteria B and C. |

| Possible choices for Independent Variable | Possible choices for Dependent Variable |
|--|--|
| <ul style="list-style-type: none"> The number of repeats of a specific exercise The time a specific exercise is done for | <ul style="list-style-type: none"> Heart rate Breathing rate Skin temperature |

Do you have another idea? Ask your teacher!