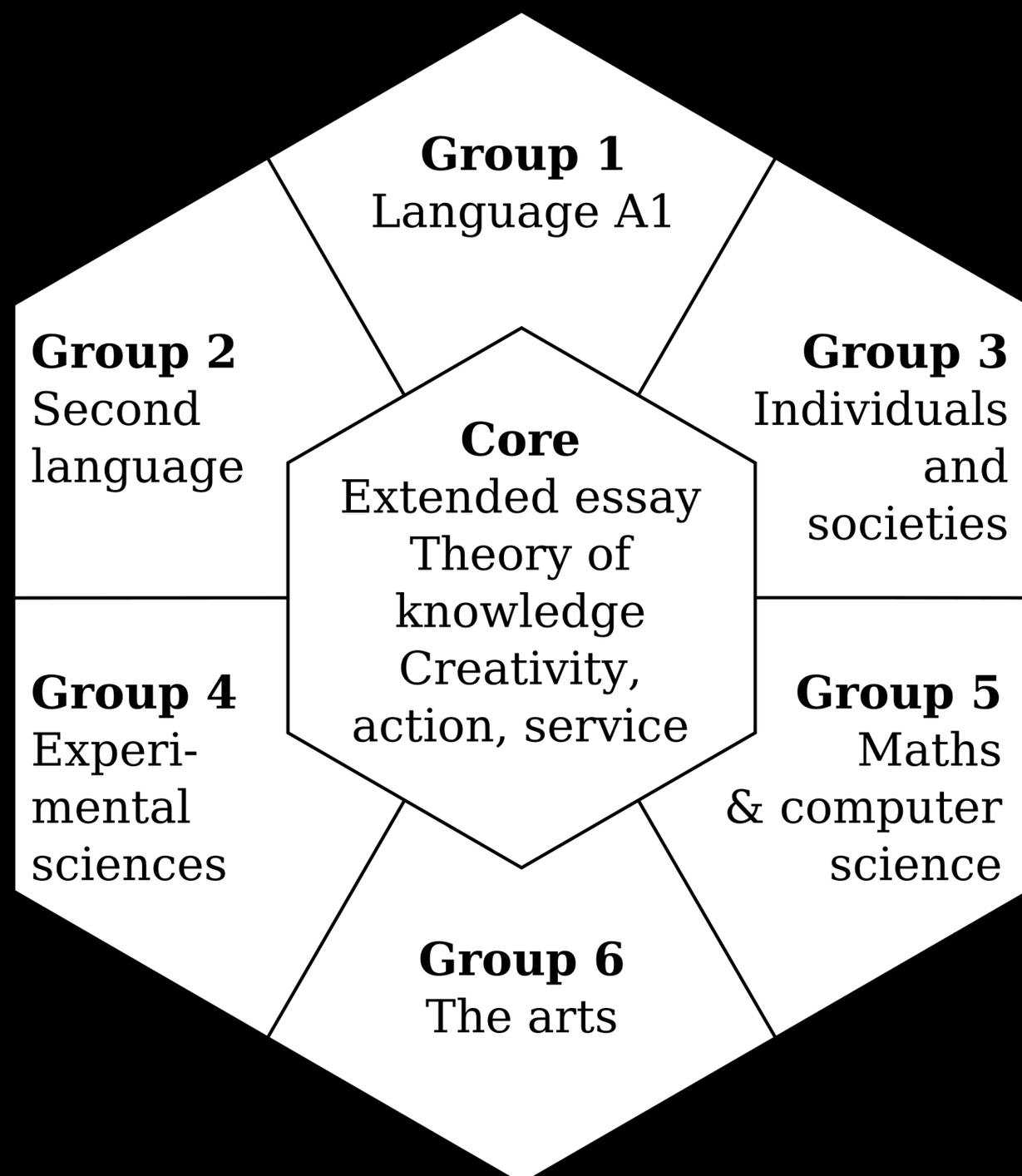
The IB Group 4 Internal Assessment (IA)



Overview

- The G4 IA is an independent lab investigation into a topic of your own choosing.
- A successful IA is one that collects sufficient quantitative and qualitative data to support a conclusion to your research question.
- 10 hours of class time will be given to work on and discuss your IA.

- The final report should be 6-12 pages long (using reasonable font size, margins and spacing).
- Students will be penalized for needless or repetitive information, or for going beyond 12 pages.
- Do not include an appendix, but cite sources when used.

All reports need to be digital and must be submitted to turnitin.com

Due: Friday, March 16

For IB Candidates, the IA counts as 20% of your final score (1-7)

[Reports may be revised and resubmitted after scored…]

However, all students will receive three class scores:

<u>Quarter 1</u>

i) 96 points possible for preparation and participation

Quarter 2

ii) 96 points for preparation and participation*

* requires submission of a completed, written report!

ii) 200 points for the written IA report

IA Assessment Criteria

1. Personal Engagement (8%)
2. Exploration (25%)
3. Analysis (25%)
4. Evaluation (25%)
5. Communication (17%)

Personal Engagement (8%)

- Demonstrate personal interest or curiosity in the choice of the research question or topic under investigation.
- Show clear evidence of independent thinking or creativity in how you went about your investigation.

Exploration (24%)

- A fully focused research question is clearly stated.
- Background information is provided that enhances the understanding and context of the investigation.
- The methodology of the investigation clearly addresses the stated research question.
- The report shows evidence of full awareness of the significant safety, ethical or environmental issues surrounding the investigation.

Analysis (24%)

- The report includes sufficient quantitative and qualitative raw data that supports a detailed and valid conclusion to the research question.
- Sufficient data processing is carried out to form a valid conclusion to the research question.
- Appropriate consideration of the impact of measurement uncertainty on the analysis.
- The processed data is correctly interpreted to form a conclusion to the research question.

Evaluation (24%)

- A detailed conclusion is described and justified which is entirely relevant to the research question and fully supported by the data presented.
- A conclusion is correctly described and justified through relevant comparison to the accepted scientific context.
- Weaknesses of the investigation, such as limitations of the data and sources of error, are discussed.
- Realistic and relevant suggestions are made for improvements and extensions of the investigation.

Communication (17%)

- The presentation of the investigation is clear. Any errors do not hamper understanding of the investigation, analysis or conclusion.
- The report is well structured and presented in a coherent, linear manner.
- The report is relevant and concise, containing little or no needless information.
- The report uses correct and appropriate scientific terminology.

Before you begin your IA:

- Your research question must be approved.
- The methodology of your investigation must be approved.
- All needed equipment and materials are readily available and/or has been ordered.
- All relevant background information has been researched.
- The basic science underlying your investigation is needs to be well understood.

- You should clearly know what data you will be collecting and be able to identify your independent, dependent and controlled variables:

  i. independent variable: those you change

  ii. dependent variable: those affected by the independent variable

  iii. controlled variables: those that could affect the dependent variable and must remain constant

Types of Variables

Independent

The one thing you change. Limit to only one in an experiment.

Example:
The liquid used to water each plant.

Dependent

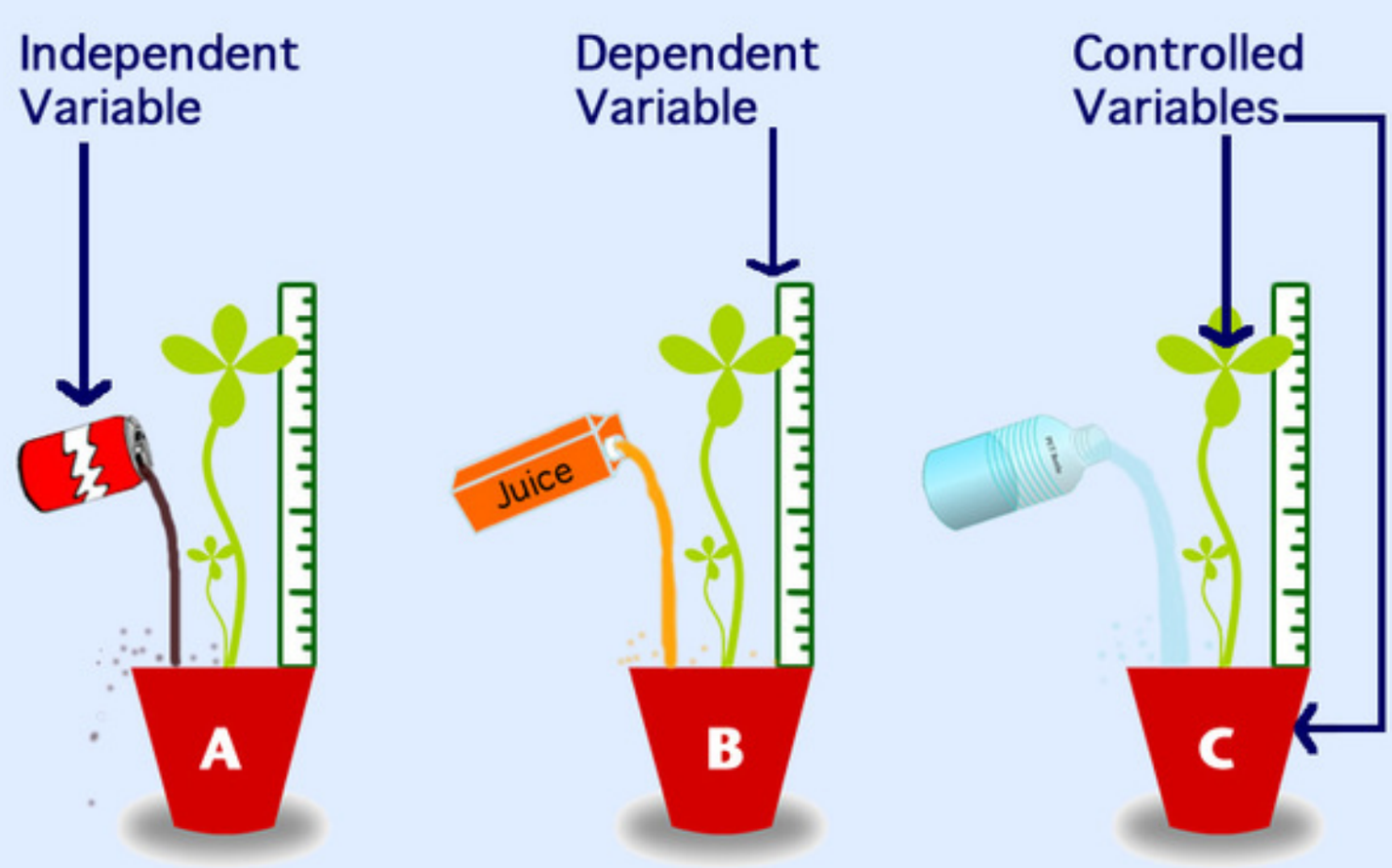
The change that happens because of the independent variable.

Example:
The height or health of the plant.

Controlled

Everything you want to remain constant and unchanging.

Example:
Type of plant used, pot size, amount of liquid, soil type, etc.



- You should understand how to use the equipment needed and how to record accurate measurements (see handout: Uncertainties)
- Coordinate with Mr. Massey any long-term setup that needs to remain up for a prolonged period of time.

And do try to have fun!