Diploma Programme

Physics assessed student work

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IB mission statement

The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

IB learner profile

The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.

As IB learners we strive to be:

INQUIRERS
We nurture our curiosity, developing skills for inquiry and research. We know how to learn independently and with others. We learn with enthusiasm and sustain our love of learning throughout life.

KNOWLEDGEABLE
We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.

THINKERS
We use critical and creative thinking skills to analyse and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.

COMMUNICATORS
We express ourselves confidently and creatively in more than one language and in many ways. We collaborate effectively, listening carefully to the perspectives of other individuals and groups.

PRINCIPLED
We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere. We take responsibility for our actions and their consequences.

OPEN-MINDED
We critically appreciate our own cultures and personal histories, as well as the values and traditions of others. We seek and evaluate a range of points of view, and we are willing to grow from the experience.

CARING
We show empathy, compassion and respect. We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.

RISK-TAKERS
We approach uncertainty with forethought and determination; we work independently and cooperatively to explore new ideas and innovative strategies. We are resourceful and resilient in the face of challenges and change.

BALANCED
We understand the importance of balancing different aspects of our lives—intellectual, physical, and emotional—to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.

REFLECTIVE
We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

The IB learner profile represents 10 attributes valued by IB World Schools. We believe these attributes, and others like them, can help individuals and groups become responsible members of local, national and global communities.

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Overview

These examples are intended to illustrate the internal assessment component of the course and to inform teachers about how the assessment criteria are interpreted and applied. They are taken from recent assessment sessions with adjustments to account for the change in the internal assessment criteria and the shift from a page limit to a word count. The examples are based on authentic work submitted for assessment so they may include spelling, grammatical and other inconsistencies or errors.

Please note that these marks and comments are to be used for guidance. They are not definitive and have not been generated through the IB's process of standardization.

These examples will be replaced with authentic examination examples following first assessment in 2025.

Notes on the comments on assessed work

Strands

In the annotated assessed work, each comment indicates the criterion and strand that best describes this part of the work. Figure 1 is a reminder of how strands relate to the markscheme and level descriptors for each criterion.

Figure 1

Research design

This criterion assesses the extent to which the student effectively communicates the methodology (purpose and practice) used to address the research question.

Marks	Level descriptor
0	The report does not reach the standard described by the descriptors below.
1–2	• The research question is stated without context. • Methodological considerations associated with collecting data relevant to the research question are stated. • The description of the methodology for collecting or selecting data lacks the detail to allow for the investigation to be reproduced.
3–4	• The research question is outlined within a broad context. • Methodological considerations associated with collecting relevant and sufficient data to answer the research question are described. • The description of the methodology for collecting or selecting data allows for the investigation to be reproduced with few ambiguities or omissions.
5–6	• The research question is described within a specific and appropriate context. • Methodological considerations associated with collecting relevant and sufficient data to answer the research question are explained. • The description of the methodology for collecting or selecting data allows for the investigation to be reproduced.

First strand

In this "Research design" criterion there are three **strands**.

The first strand concerns the research question. The second and third strands are the next two items in the markband.

Each strand repeats in each markband, incrementally differentiated each time.

In "Research design" the three strands appear three times each, in markbands 1–2, 3–4, 5–6.

Material highlighted in grey

In the overall comments on the work submitted for assessment, different strands in different level descriptors are highlighted in grey. These indicate the strands that best match the submitted work for that criterion. The final mark is determined by weighing up the contribution of each strand.

Internal assessment

Example 1: Hydrodynamics

Title of experiment: Hydrodynamics of a water rocket

Work submitted for assessment (PDF)

Annotated assessed work (PDF)

Comments on assessed work (PDF)

Example 2: Tension and frequency

Title of experiment: How does the tension in a string affect the fundamental frequency of that string?

Work submitted for assessment (PDF)

Annotated assessed work (PDF)

Comments on assessed work (PDF)

Example 3: Dynamics of a spring

Title of experiment: Dynamics of a spring

Work submitted for assessment (PDF)

Annotated assessed work (PDF)

Comments on assessed work (PDF)

Example 4: The age of the universe

Title of experiment: Calculating the age of the universe using type 1a supernovae

Work submitted for assessment (PDF)

Annotated assessed work (PDF)

Comments on assessed work (PDF)

Example 5: Drag coefficient

Title of experiment: Drag coefficient of a falling cupcake liner

Work submitted for assessment (PDF)

Annotated assessed work (PDF)

Comments on assessed work (PDF)

Example 6: Drop and rebound height

Title of experiment: How does the drop height of a tennis ball relate to the rebound height when dropped on different surfaces?

Work submitted for assessment (PDF)

Annotated assessed work (PDF)

Comments on assessed work (PDF)

Example 7: Harmonic motion oscillations

Title of experiment: The relationship between mass and period in simple harmonic motion oscillations

Work submitted for assessment (PDF)

Annotated assessed work (PDF)

Comments on assessed work (PDF)