Guide to MYP eAssessment

First examinations May and November 2017

Middle Years Programme
Guide to MYP eAssessment

Published July 2016

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.

Table of contents

Introduction

The Middle Years Programme (MYP) is a framework for teaching and learning, organized around teachers' judgment of achievement against pre-published criteria. Formal recognition of achievement for MYP year 5 students is provided by the IB via eAssessment.

eAssessment comprises three strategies for assessing what students know and are able to do:

- **ePortfolios** of carefully defined coursework in language acquisition, arts, design and physical and health education, using a process of dynamic sampling to moderate results to a global standard

- **on-screen examinations** (two hours in duration) for selected courses in language and literature, individuals and societies, sciences, mathematics, and interdisciplinary learning

- **personal project**; a student-centred and age-appropriate extended project in which students consolidate their learning throughout the programme. While other eAssessments are optional for schools, all MYP year 5 students must take part in personal project eAssessment.
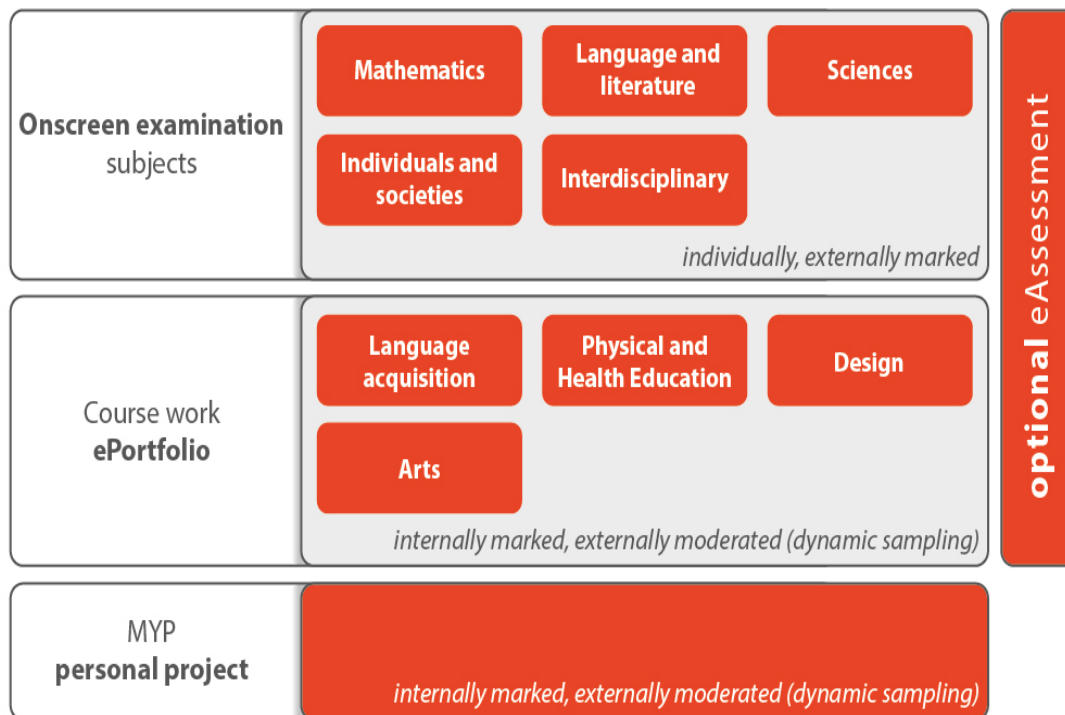
Figure 1

MYP eAssessment model

How to use this guide

This document gathers together all of the information needed by teachers and MYP Coordinators to prepare students for eAssessment from May 2016. The first section outlines how on-screen examinations and ePortfolios are organized, with emphasis on structures that promote consistency across subjects. There then follows subject-specific detail for each MYP subject group.

The document should be read in conjunction with MYP subject group guides and the document *MYP: From principles into practice* (2014).

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Other documents useful in planning for MYP eAssessment

- MYP*: From principles into practice*

- MYP *subject guides*

- MYP *projects guide*

- *Handbook of procedures for the Middle Years Programme*

- *School IT requirements for conducting MYP on-screen examinations from 2015 onwards*

- MYP *fees and pricing framework*

- The familiarization activities for on-screen examinations

- *Specimen on-screen examinations*

- Specimen unit planners and supporting documents

- MYP projects supporting document

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

On-screen examinations comprise three extended tasks and a series of stimulus materials or background resources to engage students with interesting scenarios and problems. Background resources are available in a range of multimedia formats, and students will be able to respond in various ways using tool sets selected to support subjects and question types.

Each task targets at least one assessment criterion, and each question is carefully written to stimulate a response that demonstrates student achievement with respect to strands within those criteria. The tasks pose a range of questions—from open-ended prompts that cover multiple strands within a criterion to shorter strand-specific questions. Tasks are designed to offer students opportunities to reach the highest levels of achievement and to distinguish performance across those levels. Each examination has an equal distribution of demand and marks across the four MYP subject-group criteria.

Each task begins by explicitly identifying its key and related concepts. Each task has a single key concept, but may engage multiple related concepts. At least two different key concepts will be covered somewhere in each on-screen examination.

The MYP structures sustain inquiry by developing conceptual understanding in global contexts. Each examination series will focus on a specified global context. At least one task on each assessment will be developed in light of this global context. The global context for each session will be published in November for schools undertaking assessment in May, and May for those assessed in November.

Topic lists

For the purpose of external assessment, the MYP identifies a range of subject-specific topics that constitute one of the variables that authors consider when they create on-screen examinations. These topics are at a lower level of specification than the formal syllabus of a similar subject in the IB Diploma Programme, and they leave considerable leeway for schools to develop their own written curriculum according to MYP requirements.

These topics define the examinable subject matter for MYP on-screen examinations. In their local development of the MYP curriculum, schools are not limited to these topics. This list does not constitute an exclusive IB-approved curriculum for MYP years 4–5.

For mathematics, on-screen examinations are written with the expectation that students have completed the skills framework.

Examination blueprints

MYP on-screen examinations are constructed as a series of tasks that sample, simulate or replicate internal assessment practices. The assessments follow an agreed structure that provides a clear framework for developing each examination. The distribution of marks within each eAssessment may vary by no more than three marks from those displayed in the blueprint.

As part of an ethical assessment model, these assessment blueprints ensure consistency and transparency, and they guarantee a balanced approach in measuring students' achievement with respect to MYP objectives. MYP on-screen examination blueprints document the close connection of large-scale assessment with subject-group objectives, classroom learning engagements and the programme's rigorous internal assessment requirements.

These blueprints enable teachers and students to review the nature and purpose of MYP eAssessment. They provide an important resource for helping students to prepare for on-screen examinations, focusing attention on subject-group criteria and assessment strategies in each subject group.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Subject-specific grade descriptors

Subject-specific grade descriptors serve as an important reference in the assessment process. Through careful analysis of subject-group criteria and the general grade descriptors, they have been written to capture and describe in a single descriptor the performance of students at each grade for each MYP subject group.

For on-screen examination subjects, teachers are required to submit predicted grades. When considering predicted grades, teachers should consider their own assessment of students during MYP 4 and the first part of MYP 5 and allowing for subsequent academic development, teachers are asked to predict the outcome of eAssessment for their students with reference to the subject-specific grade descriptors. This prediction helps the IB to check the alignment between teachers' expectations and the IB's assessment outcome and, as such, forms an essential strategy for ensuring reliable results.

Subject-specific grade descriptors are also the main reference used to select grade boundaries for each discipline in each assessment session. During this process, the grade award team compares student performance against descriptors of achievement at grades 2 and 3; 3 and 4; and 6 and 7 (other boundaries are set at equal intervals between these key transitions). The grade award process is able to compensate for variations in challenge between examinations and in standards applied to marking (both between subjects and for a particular subject across sessions) by setting boundaries for each discipline and examination session, with reference to real student work.

Subject-specific grade descriptors tie eAssessment to criterion-related assessment and to MYP assessment criteria and level descriptors which put the programme's criterion-related assessment philosophy into practice.

Preparing for MYP on-screen examinations

Teachers are encouraged to be familiar with the contents of this document and the relevant documents listed in the section "Other documents useful in planning for MYP eAssessment" and ensure that students are familiar with the requirements for assessment for their subject group. As they progress through MYP years 4 and 5, students benefit from analysis of specimen materials and materials from previous sessions, as well as multiple opportunities to practice using the on-screen environment to communicate their knowledge, understanding and ideas. However, as the examinations are designed to be highly valid MYP assessments, the best preparation for students is good MYP classroom practice that helps students to:

- understand and demonstrate achievement against all strands of MYP subject-specific criteria

- generate and answer their own factual, conceptual and debatable questions

- develop confidence in applying what they know in unfamiliar situations

- think critically and creatively about MYP key and related concepts and the relationships among them

- practise approaches to learning (ATL) skills in communication and presentation on-screen, and under examination conditions

- explore multiple facets of ideas and phenomena within a range of global contexts

- use multiple perspectives to analyse issues and challenges

- adapt, modify and expand on what they already know, based on additional information

- learn how to generalize, generate new methods, and use procedural knowledge flexibly to solve complex problems

- attend to, and be able to explain, their reasoning and problem-solving process.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Possible response objects

A response object is the space where students produce their answers to the questions or tasks posed in MYP on-screen examinations. Response objects may be linked so that a candidate's response dynamically influences another object (for example, completing a table may populate a graph or bar chart).

Response objects may include:

- rich text boxes (the size of the text box indicates the length of an expected or typical response; some tasks may have recommendation regarding length of response in words or characters, in which case a word count will be provided)

- equation editors (for writing equations for STEM subjects)

- scientific calculator screen captures

- tables (designating structure, adding data, labelling)

- graphs (designating type, labelling)

- drawing tools with default standard shapes and according to the context of the question, an additional shape library. The drawing tool is used for a number of purposes where constructing a visual response is required such as in electrical circuits, chemical bonds, drag and drop, equipment drawing tool, flow charts, energy cycles and constructing infographics

- MCQs (multiple-choice question responses)

- text highlight

- match two items (such as image and label)

- link (connecting with a defined relationship).

On-screen examinations will include a spell-check function, and some operating systems will provide their own version to which candidates will have access. In an on-screen environment, the use of various spell-check operations is a contemporary communications skill that requires its own management, flexible thinking and critical analysis of results.

Marks versus levels

MYP classroom assessments use a wide range of assessment strategies which can be effectively and holistically assessed using achievement level descriptors and totals. In large-scale assessment, based on examinations, marks instead of criterion levels are typically used to make judgments about student performance on specific questions. Marks allow for a discrete analysis of performance on individual questions and optimizes reliability between examiners.

The award of marks is made with close reference to task-specific markschemes, which in turn have been interpreted from the particular strand(s) from the subject-group criteria being assessed. Through careful construction, on-screen examinations assess and award marks to candidates across all the subject-group criteria in proportion to the level of achievement demonstrated in those criteria.

Quality assurance

Marking is carefully quality checked through a rigorous qualification and seeding process. The principal examiner and a small number of their senior team of examiners mark a number of eScripts before live marking begins. The marks awarded by these examiners, the definitive marks, are recorded in the e-marking system and these eScripts

International Baccalaureate
Baccalauréat International
Bachillerato Internacional

are then used in order to monitor examiners' marking accuracy. Before examiners begin live marking, they are required to demonstrate that they are able to appropriately apply the markscheme and must qualify to mark. They have the opportunity to mark some practice eScripts first, but must then complete qualification eScripts and mark these within a pre-determined tolerance in order to be able to live mark. If examiners are unable to mark within tolerance, it is likely that they will not be allowed to mark any live eScripts. Examiner-marking accuracy is also monitored once an examiner is live marking. An examiner who marks out of tolerance will have their marking reviewed, where it may be deemed necessary to stop them from further marking.

Seeding and its preceding practice and qualification stages ensures that examiners are all marking to the same standard as the principal examiner; that is, they adjust their own marking to the principal's marking standard.

Reliability is further enhanced through the use of question item grouping (QIGing), which separates each candidate's responses into groups. This helps examiners focus on specific areas of the examination and promotes objectivity.

Academic honesty

Participation in on-screen examinations requires careful planning by IB World Schools offering the MYP to safeguard the integrity of the examination. For further details, refer to the publication *Handbook of procedures for the Middle Years Programme.*

The publication *The conduct of IB Middle Years Programme on-screen examinations* provides full details for the preparation and requirements for the on-screen examination and includes a list of incidents that could represent academic misconduct.

Candidates with assessment access requirements

The on-screen examinations are designed and developed in a manner that they are accessible to a diverse spectrum of candidates with learning support requirements. The examinations are built with a range of accessibility features such as extra time, compatibility with a screen reader, alternative accessible font and change of background with font colour changes. Requests for these arrangements have to be made to the IB Assessment Centre. For more details on the procedure for requests and the details on the criteria for eligibility for inclusive assessment arrangements, please refer to the document *Candidates with assessment access requirements (MYP)* on the IB information system (IBIS), the online curriculum centre (OCC) and the *Handbook of Procedures for the Middle Years Programme.*

Preparing for and administering on-screen examinations

On-screen examination packages are made available for download from IBIS in advance of the subject examination date, and are subsequently deployed to all candidate devices by the coordinator or designated IT specialist. Schools are required to administer the on-screen examinations in accordance with the booklet *Conduct of IB MYP on-screen examinations*. This document provides rules and regulations pertinent to the administration of examinations, such as examination room layout, candidate seating, invigilation and academic misconduct.

Each time a candidate completes an on-screen examination, an output file—known as a "response file"—will be generated. If the device running the examination is connected to the internet, the response file will automatically upload and save to a secure repository. If there is no internet connection, it will be necessary to upload it manually via the Administration Console, which is a secure website accessible via a link on IBIS.

Schools undertaking on-screen examinations for the first time must ensure that sufficient IT infrastructure is in place. The document *School IT requirements for conducting MYP on-screen examinations from 2015 onwards* provides the minimum specification requirements for administering on-screen examinations.

Schools should consult both documents mentioned above, which are available on the OCC, in preparation for an examination session.

Subjects assessed by ePortfolio require an extended coursework product or a performative element to their assessment and, as such, are less amenable to assessment by examination. For these subjects, partially completed unit planners are presented in each session to support teachers as they plan for and deliver a final unit of work to be completed in April (for a May assessment session) or October (for a November session). The partially completed unit planners are designed to allow for flexibility so that teachers can meet the needs of their own school context while still ensuring the evidence submitted to the IB for assessment allows for fair and valid judgments to be made against the criteria.

ePortfolios are marked by teachers and externally moderated by the IB, so teachers must make judgments about their own students' performance against the published criteria for the subject. Judgments about each of the four subject criteria are added together to produce a criterion level total (called teacher assessed totals on IBIS) which, when entered into IBIS, results in a sample of ePortfolios being requested by the IB. ePortfolios are then distributed to MYP examiners for moderation—that is, to either establish that the work has been marked to the correct standard or (where necessary) to produce another criterion level total that accurately reflects the students' achievement. The moderation process will adjust the achievement level totals submitted by each school mathematically to one global standard, ensuring that achievement is recognized fairly across the community.

Using partially completed unit planners

Partially completed unit planners contain the following completed sections which must remain unchanged in their development by schools:

- Global context and exploration
- Key concept
- Related concept(s)
- Statement of inquiry
- A factual, conceptual and debatable inquiry question (indicative of additional questions which may be developed and added to by teachers and students)
- Summative assessment task(s)
- Relationship between summative assessment tasks and statement of inquiry

Upon their publication, the IB unit plans are to be completed by the teacher responsible for teaching the unit and managing the summative assessment. Where more than one teacher is involved, this should be done collaboratively.

The completed unit plan then forms the basis of teaching and assessment between January and April (for a May session) or between July and October (for assessment in November). During the teaching period, teachers should support the learning process as usual, providing appropriate formative feedback that guides students in developing and improving their work. In order to ensure fairness and to prevent undue influence, care should be taken that advice and guidance given to students on assessment tasks is non-specific in nature, that is, directing students how generally to approach and complete the work. The recommended teaching time for the unit is 20 hours.

Teacher judgment leading to the award of criterion level totals must be based entirely on the completed candidate work that is to be presented for moderation. Reported achievement levels should not be influenced by the teacher's previous experience with the candidate or by work that is not represented in the candidate's ePortfolio.

If more than one teacher is responsible for assessment, an internal standardization process should be used to ensure that all candidates are marked to the same standard. Teachers are encouraged to keep a record of their comments about the candidate's work to explain the levels they have awarded (especially where marginal judgments are made) as they help the examiner support the teacher's judgments. Teacher comments should be uploaded with work that is selected as part of the moderation sample.

Once criterion level totals have been submitted for all candidates, IBIS will select which ePortfolios must be uploaded for moderation by the IB. The content of each ePortfolio is limited to the summative assessment task(s) required by the IB's partially completed unit planner for the relevant session.

Submission file types

All ePortfolio subjects use the same tool to upload students' work. The file types and the maximum sizes that may be submitted are shown below. **Please note** that each ePortfolio subject has subject-specific requirements regarding the nature and size of material which is to be uploaded, this information can be found in the subject sections in this document.

File type:	Maximum file size
Text file (DOC, DOCX, PDF, RTF, TXT)	50 Mb
Audio file (AAC, M4A, MP3)	60 Mb
Video file (F4V, FLV, M4V, MOV, MP4)	500 Mb
Image file (JPG, GIF)	5 Mb

Quality assurance

Examiners appointed and trained by the IB will carefully analyse each ePortfolio and establish whether work submitted meets the standards required for each level awarded. The examiner will recognize where the teacher's judgment is supported by the evidence presented to them in the ePortfolio. If the examiner disagrees with the teacher's judgment, three outcomes are possible depending on the size and consistency of the disagreements.

- Each subject or discipline will have a tolerance level set by the IB. Where disagreements for the initial sample are small and within that tolerance, the IB will accept the teacher's levels awarded for all candidates. For example, where a tolerance of two has been set by the IB, the teacher's criterion level total can differ by up to two for the initial sample without a moderation factor being applied to the teacher's totals. Only if one or more of the level totals are outside of that tolerance, will further work be considered.

- Where disagreements are outside of the tolerance, but show a consistent pattern, a moderation factor will be generated and applied to the teacher's level totals for all candidates (including those not seen in the moderation sample), so that the new total is consistent with the global standard. No additional upload is required for this to take place.

- Where disagreement between the teacher and examiner are beyond the set tolerance and an unpredictable pattern is found between these two judgments, further samples may be requested from the school to enable a suitable adjustment to be found, or all work may be re-marked by the examiner. This outcome is likely to be the least satisfactory as the grades awarded for candidates will differ from the teacher's, and students' expectations.

Academic honesty

Academic honesty in the MYP is a set of values and behaviours informed by the attributes of the learner profile. In teaching, learning and assessment, academic honesty serves to promote personal integrity, engender respect for the integrity of others and their work, and ensure that all students have an equal opportunity to demonstrate the knowledge and skills they acquire during their studies.

All coursework submitted for assessment is to be authentic, based on the student's individual and original ideas with the ideas and work of others fully acknowledged. Assessment tasks that require teachers to provide guidance to

students or that require students to work collaboratively must be completed in compliance with the guidelines provided by the IB.

Teachers play an important role during both the planning stage and the period when students are preparing their work. It is the responsibility of teachers to ensure that all students understand the basic meaning and significance of concepts that relate to academic honesty, especially authenticity and intellectual property.

For further information on academic honesty in the IB including the MYP, please consult the IB publications:

- MYP*: From principles into practice*
- *Handbook of procedures for the Middle Years Programme*
- *General regulations: Middle Years Programme*
- *Academic honesty in the IB educational context*
- *Effective citing and referencing*

Candidates with assessment-access requirements

Accessibility and inclusion have been considered during the design and conceptualization of ePortfolio summative assessment tasks. Candidates who require access to any of the ePortfolio summative assessment tasks, such as speaking and listening, can be authorized inclusive assessment arrangements. For more details, please refer to the document, *Candidates with assessment access requirements (MYP)* on IBIS and the OCC.

Uploading ePortfolios

Criterion level totals (referred to as teacher assessed totals on IBIS) are entered into IBIS when the unit and assessment is complete for all candidates. On receipt of these level totals, IBIS will automatically generate a list of samples for upload. Once samples have been selected by IBIS, the programme coordinator or the teacher will upload the relevant candidate files. The eCoursework system will be used to upload the ePortfolios, and is only accessible via IBIS.

Further detail about this process will be available in the document *Handbook of procedures for the Middle Years Programme*.

International Baccalaureate
Baccalauréat International
Bachillerato Internacional

Language and literature

eAssessment in Language and literature is offered in a limited range of languages. Please see the *Handbook of procedures for the Middle Years Programme* for a list of languages available. Language and literature is assessed by on-screen examination.

Language and literature topic list

MYP language and literature courses feature a flexible and culturally sensitive approach to determining the nature and complexity of students' engagement with the subject. There are no prescribed texts; teachers choose literary and non-literary texts that:

- suit the needs and interests of their students
- broaden their students' experiences and perspectives
- increase historical and intercultural understanding
- model linguistic competency in communicating effectively with an increasing variety of audiences and purposes
- include geographical diversity and translations from other languages.

Forms of literature in MYP language and literature courses typically include poetry, prose (short stories and novels from a variety of genres), mythology and drama. Additional literary and non-literary texts include:

- multimedia texts, including screenplays, film, television programmes and drama series
- biography and autobiography
- essays, letters, narrative non-fiction and informational text
- speeches, oral traditions
- graphic novels.

MYP teachers choose written and multimedia texts of sufficient complexity that allow students to encounter a range of age-appropriate styles in which they can explore linguistic, literary and visual devices, as well as supportive tools.

Works of literature and non-literary texts studied in MYP language and literature courses must provide vocabulary, syntax, depth and levels of meaning and styles of language of appropriate sophistication. Ideas and issues typically explored in the classroom might include:

- identity, heritage, culture, diversity
- communities, globalization, migration, displacement
- social history, civilizations, journeys
- media and mass communication
- childhood, adolescence, youth, rebellion, innocence and experience
- families, friendships, relationships
- systems, power and protest, justice, peace and conflict, freedom and independence

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

- health and well-being, environment, lifestyle

- social roles, norms and expectations, gender, inclusion, minorities, class

- utopias, dystopias, survival

- religion, faith, values, ritual, spirituality, taboos

- allegiance, betrayal, revenge, atonement, forgiveness.

Language and literature examination blueprint

Overview

The following table illustrates how a language and literature assessment will be structured.

Task	Marks	Main criteria assessed	Criterion marks
Analysing – Communication and Connections	50	A	30
		B	10
		D	10
Producing literary text – Creativity	35	B	10
		C	15
		D	10
Producing non-literary text – Perspective	35	B	10
		C	15
		D	10
Total	120		

Sources

A variety of sources will feature in each assessment and will include the following:

- a written extract from a literary or non-literary text

- a multimedia text

- static image(s).

Tools

Most questions will be answered using a standard text tool set. Other tools to facilitate different response types such as flow charts will be made available as they are required.

Task details

Analysing task

This task assesses students' ability to analyse, then compare and contrast two unseen text extracts (one written text and one multimedia text). It is made up of a series of short response questions which focus on criterion A, followed by an extended response question which is assessed using criteria A, B and D. The task assesses students' ability to:

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

- analyse techniques used in written **and** multimedia texts, giving justifications for their opinions (criterion A)

- organize their work in a coherent and logical manner (criterion B)

- produce text, demonstrating the ability to write in an appropriate register with grammatical accuracy (criterion D).

Producing literary text task

This is an extended creative writing task, with a stimulus of two static images provided. The task assesses students' ability to:

- organize their work in a coherent and logical manner (criterion B)

- produce a literary text which demonstrates imagination or sensitivity and an awareness of impact on audience (criterion C)

- produce text, demonstrating the ability to write in an appropriate register with grammatical accuracy (criterion D).

Producing non-literary text task

This is an extended non-literary writing task and it is connected to the global context focus for the session and year of study. The task assesses students' ability to:

- organize their work in a coherent and logical manner (criterion B)

- produce a non-literary text which demonstrates imagination or sensitivity and an awareness of impact on audience (criterion C)

- produce text, demonstrating the ability to write in an appropriate register with grammatical accuracy (criterion D).

Language and literature subject-specific grade descriptors

Grade	Subject-specific descriptor
1	The student: • analyses texts in a very limited way, rarely justifying opinions and ideas with examples or relevant terminology; provides very little comparison and contrast of works • produces texts with little imagination, sensitivity and creativity, offering no new perspectives; demonstrates no sensitivity to context and intention; rarely makes stylistic choices • demonstrates limited accuracy in spelling/writing, pronunciation, grammar, syntax and punctuation, which frequently hinders communication; demonstrates very limited organization of opinions and ideas, often incoherent; demonstrates very limited or inappropriate use of language-specific conventions.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

2	The student:
	• analyses texts at a basic level, occasionally justifying opinions and ideas with few examples or relevant terminology; provides little comparison and contrast of works
	• produces texts with limited imagination, sensitivity and creativity, offering few new perspectives; demonstrates minimal sensitivity to context and intention; makes few stylistic choices
	• demonstrates limited accuracy in spelling/writing, pronunciation, grammar, syntax and punctuation, which frequently hinders communication; demonstrates limited organization of opinions and ideas with little coherence and logic; demonstrates limited or inappropriate use of language-specific conventions.
3	The student:
	• analyses texts at a basic level, occasionally justifying opinions and ideas with basic examples and relevant terminology; superficially compares and contrasts works
	• produces texts with some imagination, sensitivity and creativity, offering new perspectives; demonstrates limited sensitivity to context and intention; makes some stylistic choices
	• demonstrates adequate accuracy in spelling/writing, pronunciation, grammar, syntax and punctuation but with errors that sometimes hinder communication; organizes opinions and ideas with some coherence and logic; accurately uses language-specific conventions.
4	The student:
	• analyses texts satisfactorily, inconsistently justifying opinions and ideas with examples and relevant terminology; satisfactorily compares and contrasts works
	• produces texts with a satisfactory degree of imagination, sensitivity and creativity, offering new perspectives; demonstrates some sensitivity to context and intention; makes stylistic choices
	• demonstrates generally good accuracy in spelling/writing, pronunciation, grammar, syntax and punctuation, although some errors may hinder communication; organizes opinions and ideas with satisfactory coherence and logic; accurately uses language-specific conventions.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

5	The student:
	• analyses texts competently, justifying opinions and ideas with sufficient examples, explanations and terminology; competently compares and contrasts works
	• produces texts with a considerable degree of imagination, sensitivity and creativity, offering new perspectives; demonstrates some sensitivity to context and intention; makes stylistic choices that reflect appreciation for the ways in which language, structure, technique and style shape meaning and impact an audience
	• demonstrates accuracy in spelling/writing, pronunciation, grammar, syntax and punctuation so communication is not hindered; organizes opinions and ideas coherently and logically; accurately uses language-specific conventions.
6	The student:
	• analyses texts thoughtfully, justifying opinions and ideas with appropriate examples, explanations and terminology; thoughtfully compares and contrasts works
	• produces texts with a substantial degree of imagination, sensitivity and creativity, offering new perspectives; demonstrates considerable sensitivity to context and intention; makes stylistic choices that reflect considerable appreciation for the ways in which language, structure, technique and style shape meaning and impact an audience
	• communicates appropriately and with a substantial degree of accuracy in spelling/writing, pronunciation, grammar, syntax and punctuation; organizes opinions and ideas effectively; consistently and effectively uses language-specific conventions.
7	The student:
	• analyses texts perceptively, justifying opinions and ideas thoroughly with effective examples, explanations and terminology; perceptively compares and contrasts texts
	• produces texts with a high degree of imagination, sensitivity and creativity, consistently offering new perspectives; demonstrates considerable sensitivity to context and intention; makes stylistic choices that reflect considerable appreciation of the ways in which language, structure, technique and style shape meaning and impact an audience
	• communicates effectively and with a high degree of accuracy in spelling/writing, pronunciation, grammar, syntax and punctuation; organizes opinions and ideas coherently, logically and with sophistication; consistently and effectively uses language-specific conventions.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Language acquisition

eAssessment in language acquisition is offered in a limited range of languages. Please see the *Handbook of procedures for the Middle Years Programme* for a list of languages available. Language acquisition is assessed by ePortfolio.

Topic list

For language acquisition, the MYP identifies a range of topics that constitute one of the variables that authors consider when they create the partially-completed unit planners. These topics are at a lower level of specification than the formal syllabus of a similar subject in the IB Diploma Programme, and they leave considerable leeway for schools to develop their own written curriculum according to MYP requirements.

In their local development of the MYP curriculum, schools are not limited to these topics. This list does not constitute the exclusive IB-approved curriculum for MYP years 4-5.

At emergent level, themes will be independent of the global context developed on the published unit plan.

At capable and proficient level, themes are associated with the chosen global context for the eAssessment session.

Emergent	Capable/Proficient	
My personal world	**The world around us**	**Ideas and issues of global significance***
Self, family and friends Introductions Personal information Descriptions	Personal relationships Appearance and character	Love and friendship Youth Generations and the generation gap Conflict and peace
House and home Pets Extended families	Home life	Migrants and migration Racism and prejudice Social and political structures
Daily activities Dates Telling time	Routines, responsibilities and lifestyles	Rites of passage Beliefs and superstitions Politeness and etiquette
School life and school routine	School life and school matters Peer pressure	Education Matters of equality, access and inclusion

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Weekend and leisure activities Weather Seasons Clothing	Sports, pastimes and entertainment Inventors and inventions Fashion	New technologies Science and technology Sports and ethics Drugs
Culture of food, eating and drinking Healthy choices	Food, health and fitness Taking care of myself and others	Health and well-being Medicine and ethics Poverty and famine
My neighbourhood and community	City life and rural life The environment Taking care of my neighbourhood Natural disasters	Community life and service as action Social justice The global village Global conservation initiatives Global warming
Celebrations and traditions Special days and festivals Food for special occasions	Cultural and intercultural connections Culture and identity Social and religious events	Cultural diversity Stereotypes Discrimination
The World Wide Web Language tools online	The role of the internet	e-learning 21st-century skills The world of work
In and around town Travel and transport Shopping—transacting and interacting in different places	Holidays Studying and living abroad Traveller abroad scenarios Travel and tourism	Our future Ecology Sustainability Conservation
Pen pals and the (Spanish / French / Chinese / Arabic / English / Dutch/ Indonesian / Italian / Hindi / German)-speaking world	Personal narratives and storytelling Myths, legends and folk tales Personal histories and journeys	Writer's craft Poetry and song Novel and film study
Language First language and additional language connections Language-learning skills Facts and artifacts of the target language and culture	Media Advertising Reporting on the news Current affairs and past events Bias in the media	Oratory as a genre for personal, social and political communication World events and issues Propaganda Censorship

* Current matters and future scenarios that have an impact at a regional, national and/or international level.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Overview

Three partially completed unit planners are published by the IB each examination session for emergent, capable and proficient level learners. The planners provide the parameters of the summative assessment tasks. Sample unit planners are available on the OCC.

The summative assessment tasks are assessed by the teacher using the criteria published in the Language acquisition guide (2014) as follows;

Emergent level—Phase 2 criteria

Capable level—Phase 4 criteria

Proficient level—Phase 5 criteria

With the exception of emergent level learners, all tasks developed from the unit planners must be linked to the global context for the session.

All summative assessment tasks must be conducted under assessment conditions, and the **use of dictionaries or digital aids is not permitted**. It is not necessary that the tasks are completed consecutively. However, for all tasks, students should be made aware of the date, time and location of their assessment.

Planning the unit and assessment

Teachers should develop the planners to create a unit of work that is appropriate to their students and local context. They will need to choose the written, visual and audio texts required for task one and task two and create questions which allow achievement at the highest levels of the appropriate criterion. A markscheme should be created for each of these tasks.

Teachers should ensure that students are aware of the specific expectations of each task, the assessment criteria and the achievement levels against which their work will be assessed.

Assessment conditions

The following conditions must be maintained for all of the assessments:

- All assessments must be completed under direct teacher supervision. Students must not communicate or collaborate with each other during any of the assessments.

- The **use of dictionaries is not permitted in any task**; if the task is word processed then **spell-checkers must be disabled**.

- The interactive oral must take place between the student and the teacher on an individual basis.

- Every effort should be made to ensure the recording of the interactive oral is of a good quality with minimal background noise.

- Teachers must ensure that all material used for the aural and written comprehension tasks is fully acknowledged.

- Students must not have access to or see the assessment material in advance of their assessment.

Schools should put measures in place to prevent communication between students who have performed an assessment and those who are yet to do so.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Summative assessment tasks

There are four distinct summative assessment tasks for each session as follows:

Task 1: Aural comprehension task

This task is assessed against all strands of criterion A (Comprehending spoken and visual text). The spoken and visual texts and comprehension questions are selected and developed by the school and are unseen/unheard by the student in advance of the assessment. The texts chosen should be appropriate to the students' phase of language acquisition and allow achievement at the highest levels of criterion A. The texts chosen must be linked to each other and the global context for the session (with the exception of emergent level texts), and one of the texts must contain one or more visual element(s).

The questions and responses must be in written form and emphasis should be placed on the students' ability to communicate their understanding rather than on how accurately they use the target language. The questions must address all texts. There is no time limit prescribed for the completion of this task, and students may listen to the audio text as many times as required.

For each of the phases, the following conditions apply:

	Emergent	Capable	Proficient
Number of texts *at least one must contain visual element(s)	1 or 2	1 or 2	2 or 3
Total length of spoken text	5 minutes	7 minutes	10 minutes
Question and response language	May be in mother tongue, language of instruction or target language	Must be in target language	Must be in target language

Task 2: Written comprehension task

This task is assessed against all strands of criterion B (Comprehending written and visual text). The written and visual texts and comprehension questions are selected and developed by the school and are unseen/unheard by the student in advance of the assessment. The texts chosen should be appropriate to the students' phase of language acquisition and allow achievement at the highest levels of criterion B. The texts chosen must be linked to each other and the global context for the session (with the exception of emergent level texts), and one of the texts must contain one or more visual element(s). For proficient level only, one of the texts must be literary in nature.

The questions and responses must be in written form and emphasis should be placed on the students' ability to communicate their understanding rather than on how accurately they use the target language. The questions must address all texts.

For each of the phases, the following conditions apply:

	Emergent	Capable	Proficient
Number of texts *at least one must contain visual element(s)	1 or 2	1 or 2	2 or 3 *one must be a literary text
Total length of written text	Roman alphabetical: 400–500 words Chinese: 250–400 characters	Roman alphabetical: 800–900 words Chinese: 600–700 characters	Roman alphabetical: 900–1000 words Chinese: 700–850 characters

	Non-Roman alphabetical: 240–400 words	Non-Roman alphabetical: 560–720 words	Non-Roman alphabetical: 720–800 words
Time allowance	50 minutes	60 minutes	70 minutes
Question and response language	May be in mother tongue, language of instruction or target language	Must be in target language	Must be in target language

Task 3: Interactive oral task

This task is assessed against all strands of criterion C (Communicating in response to spoken and/or written and/or visual text) and criterion D (Using language in spoken and/or written form). The six tasks will be created by the IB and published in the partially completed unit planner for each examination session.

The interactive oral must take place between the student and the teacher on an individual basis and the tasks must not be seen by the student prior to the assessment. Each task will be presented in a different format consisting of one written text, one visual text and one written-visual text.

A ten-minute preparation period should precede the recording of each student's interactive oral. During this time, students must decide which **one** of the tasks they wish to discuss. They may make notes to refer to during the recording.

Teachers should ensure that the conversation allows students to demonstrate communication skills at the highest levels of achievement for criteria C and D and that the student speaks for the required length of time. The audio recording must be a single, genuine and uninterrupted conversation and should be of good quality with minimal background noise.

For each of the phases, the following conditions apply:

	Emergent	Capable	Proficient
Preparation time	10 minutes	10 minutes	10 minutes
Total length of recording	5 minutes —of which 2–3 minutes must be the student	6 minutes —of which 3–4 minutes must be the student	7 minutes —of which 4–5 minutes must be the student

Task 4: Writing task

This task is assessed against all strands of criterion C (Communicating in response to spoken and/or written and/or visual text) and criterion D (Using language in spoken and/or written form). The tasks will be created by the IB and published in the partially completed unit planner for each examination session.

Each task will be presented in a different format with one written text, one visual text and one written–visual text which must not be seen by the student prior to the assessment. Students choose **one** text to respond to—it is not necessary that all students in a class or school complete the same task. The writing task may be literary (for example, writing a short story) or non-literary (for example, writing an article, letter, editorial, speech, brochure or essay).

The work produced should be entirely the student's own with no formative input from others. If the task is completed using word processing software, **all spell-checkers should be disabled**. There is no time limit for the completion of this task.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

For each of the phases, the following conditions apply:

	Emergent	Capable	Proficient
Word range	Roman alphabetical: 100–150 words Chinese: 100–150 characters Non-Roman alphabetical: 80–140 words	Roman alphabetical: 200–250 words Chinese: 250–350 characters Non-Roman alphabetical: 160–220 words	Roman alphabetical: 300–400 words Chinese: 350–400 characters Non-Roman alphabetical: 220–280 words

Language acquisition subject-specific grade descriptors

Language acquisition: Emergent

Grade	Emergent
1	The student: • demonstrates very limited understanding of messages, facts and ideas across spoken, visual and written texts • demonstrates very limited understanding of aspects of format and style, and author's purpose for writing • rarely interacts to share basic information on everyday topics and exchanges very few ideas and minimal information • lacks organization of basic information and ideas. Writes and speaks with very limited command of vocabulary and grammatical accuracy.
2	The student: • demonstrates limited understanding of messages, facts and ideas across spoken, visual and written texts • demonstrates limited understanding of aspects of format and style, and author's purpose for writing • interacts occasionally to share basic information on some everyday topics and in some familiar situations by exchanging few ideas and minimal information • organizes basic information and ideas on some topics of personal interest. Writes and speaks with a basic command of vocabulary and grammar.
3	The student: • demonstrates some understanding of messages, facts and ideas across spoken, visual and written texts • demonstrates some understanding of conventions including aspects of format and style, and author's purpose for writing • interacts to share basic information on some everyday topics and in some familiar situations • organizes messages, facts and ideas occasionally. Writes and speaks with a basic command of vocabulary and grammar.
4	The student:

	• demonstrates satisfactory understanding of messages, facts, opinions, feelings and ideas across spoken, visual and written texts
	• demonstrates satisfactory understanding and ability to interpret conventions including aspects of format and style, and author's purpose for writing
	• interacts adequately to share basic information on everyday topics, in a range of familiar situations
	• organizes simple text adequately to communicate some ideas and feelings. Writes and speaks using some basic language conventions; demonstrates inconsistent command of a basic range of vocabulary and grammatical accuracy.
5	The student:
	• demonstrates good understanding of messages, facts, opinions, feelings and ideas across spoken, visual and written texts
	• demonstrates good understanding and ability to interpret conventions including aspects of format and style, and author's purpose for writing
	• interacts sufficiently to share information on everyday topics, in a range of familiar situations
	• organizes simple text well to communicate some ideas and feelings. Writes and speaks using some basic language conventions accurately; demonstrates sufficient command of a basic range of vocabulary and grammatical accuracy.
6	The student:
	• demonstrates very good understanding of messages, facts, opinions, feelings and ideas across spoken, visual and written texts
	• demonstrates very good understanding and ability to analyse conventions including aspects of format and style, and author's purpose for writing
	• interacts substantially to share information on everyday topics, in a range of familiar situations
	• organizes simple text very well to communicate some ideas and feelings. Writes and speaks using basic language conventions accurately; demonstrates a considerable command of a basic range of vocabulary and grammatical accuracy.
7	The student:
	• demonstrates excellent understanding of messages, facts, opinions, feelings and ideas across spoken, visual and written texts
	• demonstrates excellent understanding and ability to interpret the author's choice of style, format and ideas to suit an intended audience and purpose
	• interacts confidently to share information on everyday topics, in a range of familiar situations
	• organizes simple text effectively to communicate ideas and feelings. Writes and speaks using basic language conventions accurately; demonstrates an excellent command of a basic range of vocabulary and grammatical accuracy.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Language acquisition: Capable

Grade	Capable
1	The student: • demonstrates very limited understanding of information and ideas across spoken, visual and written texts • demonstrates very limited understanding of aspects of format and style, and author's purpose for writing • rarely engages in basic conversations about topics of personal interest and exchanges very few ideas and minimal information • lacks organization of basic information and ideas. Writes and speaks with very limited command of vocabulary and grammatical accuracy.
2	The student: • demonstrates limited understanding of information and ideas and rarely interprets them across spoken, visual and written texts • demonstrates limited understanding of aspects of format and style, and author's purpose for writing • engages in basic conversations about topics of personal interest by exchanging few ideas and minimal information • organizes basic information and ideas on some topics of personal interest. Writes and speaks with a basic command of vocabulary and grammar.
3	The student: • demonstrates some understanding of information and ideas and interprets them to a limited degree across spoken, visual and written texts • demonstrates some understanding of conventions including aspects of format and style, and author's purpose for writing • engages occasionally in conversations about topics of personal interest and some topics of global significance by exchanging basic relevant information and ideas • organizes information and ideas occasionally. Writes and speaks with a basic command of vocabulary and grammar.
4	The student: • demonstrates satisfactory understanding of a range of information and ideas and interprets them to a limited degree, across spoken, visual and written texts • demonstrates satisfactory understanding and ability to interpret conventions including aspects of format and style, and author's purpose for writing • engages adequately in conversations about topics of personal interest and some topics of global significance by exchanging some relevant information and ideas • organizes information and ideas adequately in a structured text on topics of personal interest in a range of interpersonal and cultural contexts. Writes and speaks with an inconsistent command of vocabulary and grammar.

5	The student:
	• demonstrates good understanding of a range of information and ideas and interprets them to some degree across spoken, visual and written texts
	• demonstrates good understanding and ability to interpret conventions including aspects of format and style, and author's purpose for writing
	• engages sufficiently in conversations about topics of personal interest and some topics of global significance by exchanging relevant information and ideas with adequate detail
	• organizes information and ideas well in a structured text in a range of interpersonal and cultural contexts. Writes and speaks with a sufficient command of vocabulary and grammatical accuracy.
6	The student:
	• demonstrates very good understanding of a range of information and ideas and interprets them to a considerable degree across spoken, visual and written texts
	• demonstrates very good understanding and ability to analyse conventions including aspects of format and style, and author's purpose for writing
	• engages substantially in conversations about topics of personal interest and some topics of global significance by exchanging relevant and detailed information and ideas
	• organizes information and ideas very well in a structured text in a range of interpersonal and cultural contexts. Writes and speaks with a considerable command of vocabulary and grammatical accuracy.
7	The student:
	• demonstrates excellent understanding of a range of information and ideas and interprets them thoroughly across spoken, visual and written texts
	• demonstrates excellent understanding and ability to interpret the author's choice of style, format and ideas to suit an intended audience and purpose
	• engages actively in conversations about topics of personal interest and some topics of global significance by initiating and maintaining an effective exchange of information and ideas.
	• organizes information and ideas effectively in a structured text in a range of interpersonal and cultural contexts. Writes and speaks with a clear sense of audience and purpose; demonstrates a sophisticated command of vocabulary and grammatical accuracy.

Language acquisition: Proficient

Grade	Proficient
1	The student:
	• demonstrates very limited understanding of information and ideas across spoken, visual and written texts
	• demonstrates very limited understanding of aspects of format and style, and author's purpose for writing

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

	• rarely engages in basic conversations in social and some academic situations and exchanges very few ideas and minimal information • lacks organization of basic information and ideas. Writes and speaks with very limited command of vocabulary and grammatical accuracy.
2	The student: • demonstrates limited understanding of information and ideas and rarely evaluates them across spoken, visual and written texts • demonstrates limited understanding of aspects of format and style, and author's purpose for writing • engages in basic conversations in some social and some academic situations by exchanging few ideas and minimal information • organizes basic information and ideas, for a limited range of audiences and purposes. Writes and speaks with a basic command of vocabulary and grammar.
3	The student: • demonstrates some understanding of information and ideas and evaluates them to a limited degree across spoken, visual and written texts • demonstrates some understanding of conventions including aspects of format and style, and author's purpose for writing • engages occasionally in conversations in social and some academic situations by exchanging basic relevant information and ideas • organizes information and ideas occasionally, sometimes communicating an opinion or perspective for a range of audiences and purposes. Writes and speaks with a basic command of vocabulary and grammar.
4	The student: • demonstrates satisfactory understanding of a range of information and ideas and evaluates them to a limited degree across spoken, visual and written texts • demonstrates satisfactory understanding and ability to interpret conventions including aspects of format and style, and author's purpose for writing • engages adequately in conversations in social and some academic situations by exchanging some relevant information and ideas • organizes information and ideas adequately, sometimes communicating an opinion or perspective for a range of audiences and purposes. Writes and speaks with an inconsistent command of vocabulary and grammar.
5	The student: • demonstrates good understanding of a range of information and ideas and evaluates them to some degree across spoken, visual and written texts • demonstrates understanding and ability to interpret conventions including aspects of format and style, and author's purpose for writing • engages sufficiently in conversations in social and some academic situations by exchanging relevant information and ideas with adequate detail

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

		•	organizes information and ideas well to communicate opinions and perspectives for a range of audiences and purposes. Writes and speaks coherently with a sufficient command of vocabulary and grammatical accuracy.

6	The student:
	• demonstrates very good understanding of a wide range of information and ideas and evaluates them to a considerable degree across spoken, visual and written texts
	• demonstrates good understanding and ability to interpret conventions including aspects of format and style, and author's purpose for writing
	• engages substantially in conversations in social and some academic situations by exchanging relevant and detailed information and ideas
	• organizes information and ideas very well to communicate thoughtful opinions and perspectives for a wide range of audiences and purposes. Writes and speaks with a considerable command of vocabulary and grammatical accuracy.

7	The student:
	• demonstrates excellent understanding of a wide range of information and ideas and evaluates them across spoken, visual and written texts
	• demonstrates excellent understanding and ability to interpret the author's choice of style, format and ideas to suit an intended audience and purpose
	• engages actively in conversations in social and some academic situations by initiating and maintaining an effective exchange of information and ideas
	• organizes information and ideas logically and effectively to communicate understanding, opinions and perspectives for a wide range of audiences and purposes. Writes and speaks with clarity and fluency; demonstrates a sophisticated command of vocabulary and grammatical accuracy.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Individuals and societies

eAssessment in individuals and societies is offered in geography, history and integrated humanities (economics, geography and history) and is assessed by on-screen examination.

Topic lists for individuals and societies

Geography

- Demographics and human movements

- Settlement and urban morphology

- Pioneering and discovery

- Trade, aid and exchange

- Tourism and development

- Atmosphere, weather and climate

- Process and management of land and river or coastal environments

- Process and management of two biomes (aquatic, deserts, forests, grasslands, tundra)

- Impacts and management of resource extraction, production and consumption

- Impacts and management of natural disasters

- Impacts and management of tectonically active areas

- The use and outputs of technology to revolutionize geography

History

- Superpowers, empires and supra-national alliances and organizations

- Significant individuals

- Warfare and peacekeeping

- Independence and national identity

- Rights and social protest

- Industrialization, industry and labour

- Trade, aid and exchange

- Intellectual and ideological movements/developments

- Pioneers, innovators and developers

- Medicine and health

- Individual, household and daily life

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

- Social, cultural and artistic developments

Integrated humanities

- Demographics and human movements

- Settlement and urban morphology

- Superpowers, empires and supra-national alliances and organizations

- Significant individuals

- Warfare and peacekeeping

- Rights and social protest

- Trade, aid and exchange

- Economic agents, their interests and role in the economy: consumers, producers, governments, banks

- Measurements and trends

- Ecological relationships

- Industrialization and technological developments

- Resource management

Individuals and societies examination blueprint

Overview

The following table illustrates how on-screen examinations in individuals and societies are structured.

Task	Marks	Main criteria assessed	Criterion marks
Investigating	40	A	10
		B	30
Communicating	30	A	10
		C	20
Thinking critically	50	A	10
		C	10
		D	30
Total	120		

Please note that the model above is different to that featured in the history pilot examination and the geography and integrated humanities specimen examinations.

Sources

A variety of sources will feature throughout each assessment and could include the following.

- Primary/secondary text sources
- Articles
- Journals
- Blogs
- Data tables
- Maps

- Static images
- Photomations
- Videos
- Animations
- Charts
- Graphs

Tools

Most questions are answered using a standard text tool set. Other tools to facilitate different response types such as flow charts, graphing tools and data tables are made available as they are required.

Task details

Investigating

While it is difficult to replicate an entire investigation within the constraints of the assessment, some of the discrete skills involved in completing the investigating task include:

- formulate and justify research questions

- formulate action plans, or sections of an action plan (identification of media, stakeholders, research methods, sources of information and presentations)

- evaluate the process or results of an investigation.

Students are also asked to demonstrate knowledge and understanding, either from their course or from information presented in source material.

Communicating

The communicating task requires students to engage creatively with a given topic or context, presenting information and ideas effectively using an appropriate style for the audience and purpose and in a way that is appropriate to the specified format. Types of response could include:

- Creative writing

- Blog

- Article

- Letter

- Presentation

- Poster/infographic

- Speech

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Thinking critically

The final task assesses students' ability to think about and discuss issues, arguments and perspectives through structured questions culminating in an extended piece of writing. Students are also asked to demonstrate knowledge and understanding, either from their course or from information presented in source material.

Individuals and societies subject-specific grade descriptors

Grade	Subject-specific descriptor
1	The student: • demonstrates very limited knowledge and understanding of subject-specific content and concepts • formulates very limited research questions, which may lead to very limited action plans; collects and records very limited information; evaluates very little of the process and/or results of the investigation • communicates very limited information and ideas; may document limited sources of information, if any.
2	The student: • demonstrates limited knowledge and understanding of subject-specific content and concepts • formulates limited research questions, which may lead to limited action plans; collects and records limited information; evaluates little of the process and results of the investigation • communicates limited information and ideas, using a style and/or format that are very occasionally appropriate to the audience and purpose; documents limited sources of information in an unstructured way.
3	The student: • demonstrates some basic knowledge and understanding of subject-specific content and concepts • formulates basic research questions, which lead to limited action plans; collects and records basic information; evaluates some of the process and results of the investigation • communicates basic information and ideas, using a style and/or format that are sometimes appropriate to the audience and purpose; documents sources of information in a confusing or illogical way.
4	The student: • demonstrates adequate knowledge and understanding of subject-specific content and concepts, occasionally using terminology in context • formulates adequate research questions, which lead to suitable action plans; uses adequate research methods to collect and record information; evaluates the process and results of the investigation, but may lack depth or insight • communicates information and ideas, using a style and/or format that are appropriate to the audience and purpose; documents sources of information • analyses some sources with reference to terms of origin, purpose, value and limitation.

5	The student:
	• demonstrates substantial knowledge and understanding, often using terminology in context
	• formulates and follows clear and focused research questions and clear action plans; uses a range of research methods to collect and record relevant information; evaluates the process and results of the investigation
	• communicates information and ideas effectively, accurately and appropriately; regularly documents sources of information using a recognized convention; discusses concepts, issues, models, visual representation and theories, and synthesizes information to make valid arguments
	• analyses and evaluates a range of sources/data in terms of origin, purpose, value and limitation; interprets different perspectives and some of their implications.
6	The student:
	• demonstrates clear and detailed knowledge and understanding, regularly using a wide range of terminology in context
	• formulates and justifies clear and focused research questions and follows comprehensive action plans; uses a range of research methods to collect and record relevant information; evaluates the process and results of the investigation in detail
	• communicates information and ideas effectively, accurately and appropriately; clearly documents sources of information using a recognized convention; discusses concepts, issues, models, visual representation and theories, and synthesizes information to make valid arguments
	• analyses and evaluates a range of sources/data in terms of origin, purpose, value and limitation; interprets different perspectives and their implications in some depth.
7	The student:
	• demonstrates a wide range of knowledge and deep understanding, consistently and effectively using terminology in context
	• formulates and justifies clear and focused research questions and follows detailed comprehensive action plans; uses a wide range of research methods to effectively collect and record relevant information; thoroughly evaluates the process and results of the investigation
	• communicates information and ideas effectively, accurately and appropriately; consistently and correctly uses recognized conventions to document sources; discusses concepts, issues, models, visual representation and theories in detail, synthesizing information to make valid, well-supported arguments
	• thoroughly analyses and evaluates a range of sources/data in terms of origin, purpose, value and limitation; interprets different perspectives and their implications effectively and thoroughly.

Sciences

eAssessment in sciences is offered in biology, chemistry, physics and integrated sciences (biology, chemistry and physics) and is assessed by on-screen examination.

Topic lists for sciences

Biology

- Cells (tissues, organs, systems, structure and function; factors affecting human health; physiology; vaccination)

- Organisms (habitat, ecosystems, interdependency, unity and diversity in life forms; energy transfer and cycles [including nutrient, carbon, nitrogen]; classification)

- Processes (photosynthesis, cell respiration, aerobic and anaerobic, word and chemical equations)

- Metabolism (nutrition, digestion, biochemistry and enzymes; movement and transport, diffusion; osmosis; gas exchange; circulation, transpiration and translocation; homeostasis)

- Evolution (life cycles, natural selection; cell division, mitosis, meiosis; reproduction; biodiversity; inheritance and variation, DNA and genetics)

- Interactions with environment (tropism, senses, nervous system, receptors and hormones)

- Interactions between organisms (pathogens/parasites, predator/prey, food chains/webs; competition, speciation and extinction)

- Human interactions with environments (human influences, habitat change or destruction, pollution/conservation; overexploitation, mitigation of adverse effects)

- Biotechnology (genetic modification, cloning; ethical implications, genome mapping and application, 3D tissue and organ printing)

Chemistry

- Periodic table (metals and non-metals; transition metals, noble gases; periodic trends: groups and periods)

- International Union of Pure and Applied Chemistry (IUPAC naming and classification of: alkanes, alkenes, alcohols, carboxylic acids and esters; structural formulas)

- The atmosphere (characteristics of gases; atmospheric composition, testing and treatment; extraction, emission and environmental implications)

- Matter (states and properties of matter; particle/kinetic theory, diffusion; atomic structure [including Isotopes]; electron configuration and valency)

- Pure and impure substances (types of mixtures [solutions, oils, alloys, emulsions]; separation techniques, including: filtration, distillation [including crude oil], chromatography)

- Bonding (structure and bonding, properties, chemical formulas, chemical reactions and the conservation of mass; balancing equations, the mole concept and chemical calculations; reaction kinetics [rates, and factors affecting rates/collision theory]; equilibria/reversible reactions; energy changes in reactions, endo- and exothermicity; combustion of fuels)

- Types of chemical reaction (acids and bases, neutral solutions, acid/base reactions, pH and indicators, formation of salts, uses of salts; redox reactions, reactivity series; extraction of metals, and corrosion, electrochemical cells)

Physics

- Forces and energy (measurement in science; states and properties of matter, kinetic theory, density; forces and effects of forces; forces and motion, speed, motion graphs, Newton's laws; pressure; work and power, efficiency; gravity and gravitational fields; energy sources and resources, fuels and environmental impact; transfer and transformation of energy, conservation of energy)

- Electromagnetism (magnetism, electric and magnetic fields; static electricity; electromagnetic forces and induction, AC & DC; current, voltage, power, generation and transmission of electricity; electric circuits)

- Astrophysics (the solar system, planets and satellites, the Big Bang theory)

- Heat, light and sound (thermal physics; heat transfer, condensation and evaporation)

- Waves (longitudinal and transverse waves, sound waves; wave phenomena including reflection, refraction, diffraction; wave equation; electromagnetic spectrum, imaging and applications)

- Atomic physics (atomic structure, particles, charges and masses; radioactivity, decay and half-life, forms of radiation; uses and dangers)

Integrated sciences

- Atoms (atomic structure [including Isotopes, electron configuration and valency])

- Bonding (word and chemical reactions and formulas; reaction kinetics—energy changes, enzymes, rates; factors affecting rates/collision theory; structure and bonding; acids and bases, pH and indicators, reactivity series and corrosion)

- Cells (tissues, organs, systems, structure and function)

- Cycles (nutrient, carbon, nitrogen)

- Electromagnetism (magnetism, electric [including static] and magnetic fields; circuits, voltage, current and resistance; generation and transmission of electricity, cells and transformers)

- Evolution (cell division, mitosis, meiosis; reproduction, inheritance; variation, including natural selection and adaptation)

- Forces (motion, force and motion graphs, Newton's laws, pressure; energy sources and conservation of energy; power and efficiency; energy transfer and transformation [including heat])

- Fuels (extraction, combustion, emission and environmental implications, alkanes/alkenes/alcohols; nuclear energy, radioactivity and decay)

- Interactions between organisms (pathogens/parasites, predator/prey, food chains/webs)

- Matter (states and properties of matter, particles/kinetic theory, diffusion/osmosis)

- Metabolism (nutrition, digestion, gas exchange and enzymes, homeostasis; healthy living: physical and emotional development and well-being)

- Organisms (habitat, ecosystems, interdependency, classification, unity and diversity in life forms)

- Periodic table (trends, groups and periods)

- Systems (photosynthesis and cell respiration; nervous system; receptors and hormones)

- Waves (longitudinal and transverse waves, sound waves, wave phenomena and wave equation)

On-screen tools

Candidates will have access to the following tools providing a range of information to support them in the on-screen examinations.

- An age-appropriate interactive version of the IUPAC periodic table used in Diploma Programme examinations. With the exceptions of copper and chlorine, the relative atomic masses of all elements will be rounded to the nearest whole number.

1	2											3	4	5	6	7	0
H																	He
Li	Be		**Copper** **Cu** Atomic number: 29 Relative atomic mass: 63.5									B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La†	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Ac‡	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg							

- A list of equations

Any other data required will be provided within questions.

Standardized symbols, notation and terminology for the sciences

MYP eAssessments will use the standards adopted by the IB from a system of notation based on ISO 80000 (International Organization for Standardization, 2009). Students are expected to recognize this notation in science disciplines, and teachers should introduce this notation as a regular part of MYP courses as appropriate.

For on-screen examinations in the sciences, symbols, units and equations—where appropriate—will be provided to ensure consistent usage and authentic age-appropriate scientific communication. If an examination question requires additional symbols or notations, they will be defined and explained within the context of the relevant task.

Candidates must always use correct mathematical notation, not calculator notation. Candidates should be familiar with scientific notation, also referred to as standard form, as follows:

$$a \times 10^k \text{ where } 1 \le a \le 10 \text{ and } k \in \mathbb{Z}$$

Answers will require an appropriate use of significant figures or decimal places based on the demands of the question. Unless otherwise indicated, final answers are to be given correct to three significant figures. Estimation is to be completed by rounding; truncation will not be rewarded.

Correct use of subscript and superscript is expected in all relevant scientific and mathematical contexts.

Candidates are expected to use the on-screen tools to present chemical formulas appropriately. Chemical formulas with missing subscripts and superscripts are incorrect and will not be rewarded.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

In the sciences, numerical values usually relate to physical quantities and will therefore have associated units; candidates are expected to include appropriate units in their answers. Units used for measurement and calculation will refer to the SI units (*Système international d'unités*) where possible. Candidates must also be familiar with metric (SI) multipliers and more demanding derived units (mol dm^{-3}, J g^{-1}°C^{-1}, kJmol^{-1}, gdm^{-3}, ms^{-1}, ms^{-2}).

Exceptions:

- Mass is measured in kg but may also be given in g, particularly in laboratory conditions. The tonne (t), which is equivalent to 1000 kg, will be used for larger masses.

- Volume is measured in dm^3 but also in cm^3, particularly in laboratory conditions.

- Temperature is measured in °C.

- Pressure is measured in Pa (Pascal).

For the purposes of eAssessment, the updated CLP hazard symbols used will be taken from www.unece.org.

Equation list

density	$\text{density} = \dfrac{\text{mass}}{\text{volume}}$	$\rho = \dfrac{m}{v}$
force	$\text{force} = \text{mass} \times \text{acceleration}$	$F = m\,a$
motion	$\text{final velocity} = \text{initial velocity} + (\text{acceleration} \times \text{time})$	$v = u + a\,t$
	$\text{distance} = (\text{initial velocity} \times \text{time}) + \dfrac{1}{2} \times \text{acceleration} \times (\text{time})^2$	$s = ut + \dfrac{1}{2}a\,t^2$
	$(\text{final velocity})^2 = (\text{initial velocity})^2 + 2 \times \text{acceleration} \times \text{distance}$	$v^2 = u^2 + 2as$
	$\text{distance} = \dfrac{(\text{final velocity} + \text{initial velocity}) \times \text{time}}{2}$	$s = \dfrac{(v + u)t}{2}$
momentum	$\text{momentum} = \text{mass} \times \text{velocity}$	$p = m\,v$
pressure	$\text{pressure} = \dfrac{\text{force}}{\text{area}}$	$p = \dfrac{F}{A}$
work	$\text{work} = \text{force} \times \text{distance}$	$W = F\,s$
kinetic energy	$\text{kinetic energy} = \dfrac{1}{2} \times \text{mass} \times (\text{velocity})^2$	$E_K = \dfrac{1}{2}mv^2$

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

gravitational field strength	gravitational field strength $= \dfrac{\text{force}}{\text{mass}}$	$g = \dfrac{F}{m}$
gravitational potential energy	change in gravitational potential energy $= \text{mass} \times g \times \text{change in height}$	$\Delta E_p = mg\,\Delta h$
efficiency	efficiency $= \dfrac{\text{useful energy out}}{\text{total energy in}} \times 100$	
power	power $= \dfrac{\text{work done}}{\text{time}}$	$P = \dfrac{W}{t}$
current	current $= \dfrac{\text{flow of charge}}{\text{time}}$	$I = \dfrac{\Delta Q}{t}$
power	power $= \text{voltage} \times \text{current}$	$P = IV$
voltage	voltage $= \text{current} \times \text{resistance}$	$V = IR$
transformers	$\dfrac{\text{primary voltage}}{\text{secondary voltage}} = \dfrac{\text{turns on primary coil}}{\text{turns on secondary coil}}$	$\dfrac{V_p}{V_s} = \dfrac{N_p}{N_s}$
wave speed	wave speed $= \text{frequency} \times \text{wavelength}$	$v = f\lambda$
time period	time period $= \dfrac{1}{\text{frequency}}$	$T = \dfrac{1}{f}$

Sciences examination blueprint

Overview

The following table illustrates how on-screen examinations in the sciences assessment are structured.

Task	Marks	Main criteria assessed	Criterion marks
Knowing and understanding	30	A	30
Investigation skills	60	B	30
		C	30
Applying science	30	D	30
	120		

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Sources

A variety of sources feature in each assessment and could include the following.

- Data tables
- Static images
- Videos

- Animations
- Simulations
- Graphs

Tools

A variety of response tools are available to students, including but not limited to an on-screen calculator, a measuring tool, drawing canvases, a graph plotter and a table drawing tool.

Tasks

Knowing and understanding
The first task assesses students' knowledge and understanding of science; however, marks may be awarded against the other criteria when appropriate to the skills used in answering a question. For example, a question assessing knowledge and understanding may also involve interpretation of data. In this situation marks are awarded against criteria A and C.

Investigation skills
The second task assesses the skills needed in scientific investigations (criteria B and C). The task may involve a single investigation or it may assess specific skills in a number of discrete scenarios. A variety of rich media will be used to present different challenges. Students should expect to formulate hypotheses, plan investigations, collect data from simulations, present data appropriately and interpret and evaluate data and hypotheses.

Applying science
The third task requires students to explain how science is used to address a real-life issue. This task will be assessed against criterion D, but there may be occasions when marks are also awarded against the other three criteria when this is appropriate for the question. Students should expect to write extended responses which consider one or more of the factors indicated in the subject guide.

Sciences subject-specific grade descriptors

Grade	Subject-specific descriptor
1	The student: - has a very limited understanding of scientific concepts; rarely selects or applies knowledge to solve simple familiar problems - incorrectly states a problem or question; cannot identify variables or hypotheses; attempts to design experimental methods, incomplete and of limited quality - presents or interprets data incorrectly; cannot comment on outcomes of investigations; states no improvements or extensions to experiments - very occasionally outlines basic understanding to address how science is used to solve problems or issues; applies scientific language with very limited success.
2	The student: - has a limited understanding of scientific concepts; sometimes selects or applies knowledge to solve problems in familiar situations; makes simple judgments, without scientific support

	• states a problem or question simply; outlines hypotheses and variables in a limited simple way; designs experimental methods with limited success
	• collects, presents and interprets data in a very simple way; comments simply on methods or outcomes of investigation; occasionally states irrelevant or incorrect improvements or extensions to experiments
	• outlines simple understanding to address how science is used to address problems or issues, with little or no reference to the implications; occasionally applies scientific language to communicate understanding but does so with limited success.
3	The student:
	• has a basic understanding of scientific concepts; selects and applies knowledge to solve problems in familiar situations; interprets information to make simple scientific judgments
	• outlines a problem or question with some misunderstandings; formulates simple hypotheses; designs simple experimental methods to collect data, with materials and equipment clearly chosen
	• sometimes collects, presents and interprets data; comments on methods, hypotheses or outcomes of experiments, occasionally with significant misunderstandings; outlines basic improvements or extensions to experiments, with increasing relevance
	• uses basic understanding to address how science is applied and used to address problems or issues; simply describes the implications, with significant gaps; sometimes applies scientific language to communicate understanding, although frequently incorrect.
4	The student:
	• has a good understanding of scientific concepts; selects and applies scientific knowledge to solve problems in familiar situations; interprets information to make scientifically supported judgments
	• outlines problems or questions, with minor gaps; formulates hypotheses using scientific reasoning; designs safe experimental methods to collect relevant data with materials and equipment clearly chosen
	• collects, presents and interprets data, although frequently disorganized; correctly discusses hypotheses and methods based on the outcomes; describes simple relevant improvements or extensions to experiments
	• summarizes the ways in which science is applied and used to address problems or issues with success; attempts to discuss the implications of using science; sometimes applies scientific language to communicate understanding correctly.
5	The student:
	• consistently understands scientific concepts; selects and applies scientific knowledge to solve problems in familiar situations, requiring support in unfamiliar situations; analyses information to make scientifically supported judgments
	• describes problems or questions in detail; explains hypotheses using scientific reasoning; designs safe experimental methods with appropriate materials and equipment to collect sufficient relevant data

	•	correctly generates relevant data to transform and interpret in a useful way; discusses validity of hypotheses and methods in detail; describes beneficial improvements or extensions to experiments
	•	describes the ways in which science is applied and used to address problems or issues including its implications; usually applies scientific language to communicate understanding clearly and precisely.
6	The student:	
	•	demonstrates a broad and extensive understanding of scientific concepts; regularly selects and applies scientific knowledge to solve problems in both familiar and unfamiliar situations; evaluates information to make scientifically supported judgments
	•	explains problems or questions clearly; explains hypotheses using correct scientific reasoning; designs complete and safe methods with appropriate materials and equipment to collect sufficient relevant data
	•	correctly generates relevant data to transform and interpret in a correct and useful way, with scientific reasoning; evaluates validity of hypotheses and methods in depth and in detail; describes detailed beneficial improvements or extensions to experiments
	•	explains the ways in which science is applied and used to address specific problems or issues with its correct implications; consistently applies scientific language to communicate understanding clearly and precisely.
7	The student:	
	•	thoroughly understands scientific concepts; independently selects and applies sophisticated scientific knowledge to solve a variety of problems, with independence and expertise; evaluates information to make complex scientifically supported judgments
	•	explains problems or questions in a comprehensive way; explains hypotheses using high-quality correct scientific reasoning; designs a logical, complete and safe method with appropriate materials and equipment to collect relevant sufficient data for sophisticated analysis
	•	correctly and clearly generates relevant data; accurately interprets data and explains results using sophisticated scientific reasoning; clearly evaluates the validity of hypotheses or methods; provides detailed valid and beneficial improvements and extensions to the method
	•	clearly explains the ways in which science is applied and used to address problems or issues; discusses the implications in a sophisticated way; consistently applies complex scientific language to communicate understanding clearly and precisely.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Mathematics

eAssessment in mathematics is offered in mathematics and extended mathematics and is assessed by on-screen examination.

Mathematics skills framework

For mathematics, on-screen examinations are written with the expectation that students have completed the mathematics skills framework.

Number

Topic	Skills
Standard and extended mathematics	
Forms of numbers: integers, fractions, decimals, exponents, absolute value, standard form (scientific notation), recurring decimals and surds/radicals Number systems: set of positive integers and zero (N), integers (Z), rational numbers (Q), irrational numbers (Q'), and real numbers (R)	Ordering numbers Absolute value of a number Transformation between different forms of numbers Simplification of numerical expressions in the number systems and forms of number Recognizing and classifying numbers in different number systems, including recurring decimals
Sets Venn diagrams	Basic vocabulary (element, subset, null set, and so on) Performing operations Properties of sets (commutative, associative, distributive) Drawing and interpreting Venn diagrams Using Venn diagrams to solve problems in real-life contexts
The four number operations	Using the four number operations (addition, subtraction, multiplication and division) with integers, decimals and fractions
Prime numbers and factors, including greatest common divisor and least common multiple	Representing a number as the product of its prime factors and using this representation to find the greatest common divisor and least common multiple
Number lines	Expressing the solution set of a linear inequality on the number line (as well as set notation)

Estimation	Using different forms of rounding; decimal approximation and significant figures
	Using appropriate forms of rounding to estimate results
Units of measurement	Converting between different units of measurement and between different currencies
Ratio, percentage; direct and inverse proportion	Dividing a quantity in a given ratio
	Finding a constant of proportionality, setting up equations and graphing direct and inverse relationships
Number sequences	Predicting the next term in a number sequence (linear, quadratic, triangular, Fibonacci)
Integer exponents	Evaluating numbers with integer exponents
Extended mathematics	
Fractional exponents	Using the rules of indices to simplify numerical expressions involving radicals and exponents
Logarithms	Evaluating the logarithm of a number and simplifying numerical expressions
Number bases	Performing operations with numbers in different bases

Algebra

Topic	Skills
Standard and extended mathematics	
Addition, subtraction, multiplication and division of algebraic terms	Expanding and simplifying algebraic expressions
Factorization of algebraic expressions	Factorizing linear and quadratic expressions

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Substitution	Using substitution to evaluate expressions
Rearranging algebraic expressions	Changing the subject of the formula
Algebraic fractions	Solving equations involving algebraic fractions
Integer and fractional exponents (including negative number exponents)	Using the laws of exponents
Patterns and sequences	Finding and justifying or proving general rules/formulae for sequences
Algorithms	Analysing and using well-defined procedures for solving complex problems

Functions
 	
• Types of functions: linear, quadratic, exponential, sine and cosine
 	
• Domain and range
 	
• Transformations
	The linear function, $f(x) = mx + c$, its graph, gradient and y-intercept
	
	Parallel and perpendicular lines and the relationships between their gradients
	
	Describing transformed linear, quadratic, exponential, and sine and cosine functions
	
	    Example: $f(x) = a(x - h)^2 + k$
	
	    Note: Sine and cosine functions are limited to the form $f(x) = a\sin(bx) + c$
	
	Graphing different types of functions and understanding their characteristics
	
	Determining the range, given the domain
	
	Translating, reflecting and dilating functions

Equations: • Linear • Quadratic • Simultaneous	Solving equations algebraically and graphically
Inequalities	Solving and graphing linear inequalities Linear programming
Extended mathematics	
Logarithms with different base number (including natural logarithms)	Using the laws of logarithms

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Functions and graphs	Graphing different types of functions and understanding their characteristics
• Sine and cosine, logarithmic and rational (of the form $f(x) = 1/x$) functions	Addition and subtraction of functions
• Inverse and composite functions	Determining inverse and composite functions and their graphs
	Solving equations algebraically and graphically
Inequalities	Solving non-linear inequalities
Transformations of functions	Describing and analysing transformed logarithmic, rational (of the form $f(x) = 1/x$), and sine and cosine functions
	Example: $f(x) = a \sin(bx - c) + d$
Arithmetic and geometric series	Developing, and justifying or proving, general rules/formulae for sequences
	Finding the sum of the series, including infinite series

Geometry and trigonometry

Topic	Skills
Standard and extended mathematics	
Geometrical elements and their classification	Naming and classifying different geometrical elements (point, line, plane, angle, regular and irregular planar figures, solids)
Distance	Measuring the distance between two points, and between a line and a point
Angle properties	Solving problems using the properties of:
	angles in different figures or positions
	acute, right and obtuse angles in triangles
	angles in intersecting and parallel lines
	angles in regular and irregular polygons
	angles in circles
Triangle properties	Solving problems involving triangles by using:
	Pythagoras' theorem and its converse
	properties of similar triangles
	properties of congruent triangles

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Perimeter/area/volume	Finding the perimeter (circumference), area and volume of regular and irregular two-dimensional (2D) and three-dimensional (3D) shapes
	Compound shapes
The Cartesian plane	Identifying the different components of the Cartesian plane: axes, origin, coordinates *(x, y)* and points
	Understanding and using the Cartesian plane, plotting graphs and finding distances between points, finding the midpoint
Trigonometric ratios in right-angled triangles	Relating angles and sides of right-angled triangles using sine, cosine and tangent
	Solving problems in right-angled triangles using trigonometric ratios
Simple transformations, including isometric transformations	Transforming a figure by rotation, reflection, translation and enlarging
Circle geometry	Using circle theorems to find:
	lengths of chords
	measures of angles and arcs
	perimeter and area of sectors
Extended mathematics	
Three-dimensional coordinate geometry	Distance, section and midpoint formulae
Similarity and congruency	Justifying and proving using theorems of similarity and congruency
Vectors and vector spaces	Addition, subtraction and scalar multiplication of vectors, both algebraically and graphically
	Dot product
Sine and cosine rules	Using the sine and cosine rules to solve problems
Trigonometric identities	Using simple trigonometric identities to simplify expressions and solve equations where $0° \leq \vartheta \leq 360°$
	Note: Simple trigonometric identities expected are:
	$\sin^2(x) + \cos^2(x) = 1$
	$\tan(x) = \sin(x)/\cos(x)$
Angle measures	Converting angles between degrees and radians
	Using radians to solve problems, where appropriate

Note: Radians are not required in standard mathematics.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Statistics and probability

Topic	Skills
Standard and extended mathematics	
Graphical analysis and representation (pie charts, histograms, line graphs, scatter plots, box-and-whisker plots)	Data collection Constructing and interpreting graphs Drawing the line of best fit
Population sampling	Selecting samples and making inferences about populations
Measures of central tendency/location (mean, mode, median, quartile, percentile) for discrete and continuous data	Calculating the mean, median and mode, and choosing the best measure of central tendency
Measures of dispersion (range, interquartile range) for discrete and continuous data	Calculating the interquartile range
Probability of an event Probability of independent, mutually exclusive and combined events Probability of successive trials	Calculating probabilities of simple events, with and without replacement Calculating probabilities of independent events, mutually exclusive events and combined events Solving problems using tree diagrams and Venn diagrams
Extended mathematics	
Standard deviation	Making inferences about data given the mean and standard deviation
Conditional probability	Calculating conditional probability

Standardized symbols, notation and terminology for mathematics

MYP eAssessments use the standards adopted by the IB from a system of notation based on ISO 80000 (International Organization for Standardization, 2009). Students are expected to recognize this notation in mathematics, and teachers should introduce this notation as a regular part of MYP courses in these subject groups as appropriate.

For on-screen examinations, symbols, units and equations—where appropriate—are provided on a toolbar to ensure consistent usage and authentic age-appropriate mathematical communication. If an examination question requires additional symbols or notations, they will be defined and explained within the context of the relevant task.

Candidates must always use correct mathematical notation, not calculator notation. Candidates should be familiar with scientific notation, also referred to as standard form as follows:

$$a \times 10^{k} \quad \text{where} \quad 1 \leq a \leq 10 \quad \text{and} \quad k \in \mathbb{Z}$$

Answers will require an appropriate use of significant figures or decimal places based on the demands of the question. Unless otherwise indicated, final answers are to be given correct to three significant figures. Estimation is to be completed by rounding; truncation will not be rewarded.

Correct use of subscript and superscript is expected in all relevant mathematical contexts.

Where specific currency symbols are required, they will be provided as a button on the toolbar.

The following list does not constitute additional curriculum specifications beyond the MYP mathematics framework published in the subject-group guide. Rather, the symbols below depict the universe of mathematical symbols that could be used in relevant questions and the symbols that will be available for students to use in their responses. They provide a common shared communication convention for MYP eAssessment.

Symbol	Meaning
$\mathbb{N}$	The set of positive integers and zero, {0, 1, 2, 3, ...}
$\mathbb{Z}$	The set of integers, {0, ±1, ±2, ±3, ...}
$\mathbb{Q}$	The set of rational numbers
$\mathbb{R}$	The set of real numbers
$+$	Plus
$-$	Minus
$\pm$	Plus or minus
$a \times b$	a multiplied by/times b Note: also accepted $a \cdot b$ (half-high dot) ab Not accepted: a b
$\dfrac{a}{b}$ a/b	Divided by Note: also accepted $a \times b^{-1}$
$=$	Is equal to
$\neq$	Is not equal to
$\equiv$	Is identical to
$\approx$	Is approximately equal to
$\sim$	Is proportional to
$<$	Less than
$\leq$	Less than or equal to
$>$	Greater than
$\geq$	Greater than or equal to
∞	Infinity
$0.\dot{8}\dot{1}$	Recurring decimal, where the dot appears over the first and last repeating numeral
$\sphericalangle ABC$	Angle at vertex B in the triangle ABC Note: the angle is not oriented, it holds that $\sphericalangle$ABC = $\sphericalangle$CBA
$\overline{AB}$	Line segment from A to B
$\overrightarrow{AB}$	Vector from A to B

a	Vector a Note: An arrow above the letter symbol can be used instead of bold face type to indicate a vector ($\vec{a}$).
a • b	Dot product of a and b Note: Must be in bold to distinguish from simple multiplication
Σ	Sigma, sum of
$\sum_{i=1}^{n} a_i$	$a_1 + a_2 + \ldots\ldots + a_n$, sum of $a_1, a_2, \ldots\ldots, a_n$
a^p	a to the power of p Note: use of calculator terminology ^ will not be accepted
$\sqrt{a}$	Square root Note: $a^{1/2}$ will also be accepted.
$\sqrt[n]{a}$	Nth root of a Note: If the symbol acts on a composite expression, parentheses or brackets must be used to avoid ambiguity Also accepted $a^{1/n}$
$\bar{x}$	Mean value of x
σ	Standard deviation
$\lvert a \rvert$	Absolute value of a Also: vector magnitude
$f, g, h \ldots$	Functions, models, eg $f(x) =$ Note: $y =$ also accepted where not dictated by stimulus or question
f^{-1}, g^{-1}	Inverse functions
$g \circ f$	Composite function Note: $(g \circ f)(x) = g(f(x))$
e	Base of natural logarithm
$\log_2(x)$	Logarithm to the base a of argument x
$\ln(x)$	Natural logarithm of x

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Symbol	Meaning
π	Pi, ratio of the circumference of a circle to its diameter
$\sin(x)$ $\cos(x)$ $\tan(x)$ $\sin^{-1}(x)$ $\cos^{-1}(x)$ $\tan^{-1}(x)$	Sine of x, cosine of x, tangent of x Inverse functions of above Note: arcsin, etc will be accepted but not provided on the calculator or toolbar.
$\in$	Is an element of
$\notin$	Is not an element of
$\varnothing$	The empty (null) set
$n(A)$	The number of elements in the finite set A
$\mathbb{U}$	The universal set
$\cup$	Union
$\cap$	Intersection
$\subset$	Is a proper subset of
$\subseteq$	Is a subset of
A'	The complement of the set A

Mathematics examination blueprint

Overview

The following table illustrates how on-screen examinations in mathematics assessment are structured.

Task	Marks	Main criteria assessed	Criterion Marks
Knowing and understanding	40	A	30
		C	10
Applying mathematics in real-life contexts	40	C	10
		D	30
Investigating patterns	40	B	30
		C	10
	120		

Sources

A variety of sources will feature in each assessment and could include the following.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

- Data tables
- Static images
- Videos
- Animations
- Simulations
- Graphs

Tools

A variety of response tools will be available to students including but not limited to an on-screen calculator, a measuring tool, drawing canvasses, a mathematics canvas, a graph plotter and a table drawing tool.

Tasks

Knowing and understanding
The first task assesses students' knowledge and understanding of mathematics but marks may be awarded against the other criteria when appropriate to the skills used in answering a question. For example, a question assessing knowledge and understanding may also require students to move between different forms of mathematical representation.

Applying mathematics in real-life contexts
The second task assesses students' ability to apply mathematics in a real-life context, which is typically connected to the global context for the session. Students may be required to produce pieces of extended writing to evaluate and justify the validity of mathematics models.

Investigating patterns
Investigative skills in mathematics will be assessed in the final task. The abstract questions in this task will contain a greater degree of scaffolding than would be appropriate in the classroom to allow students of different abilities to access the task.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Mathematics subject-specific grade descriptors

Grade	Subject-specific descriptor
1	The student: • has a very limited understanding of mathematical concepts; rarely selects or applies appropriate mathematics to solve simple familiar problems • recognizes simple mathematical patterns but does not investigate • very rarely uses appropriate mathematical language or notation; cannot construct arguments or draw conclusions • attempts to create simple models to solve real-life problems, with very limited success.
2	The student: • has a limited understanding of mathematical concepts; sometimes selects and applies appropriate mathematics to solve simple familiar problems • uses limited strategies to investigate simple mathematical patterns • occasionally uses appropriate mathematical language and moves between forms of notation and representation; draws conclusions that are difficult to interpret • creates models to solve real-life problems, with limited success.
3	The student: • has a basic understanding of mathematical concepts; selects and applies appropriate mathematics to solve simple familiar problems, with frequent mistakes • selects and uses strategies to investigate simple mathematical patterns • uses some appropriate mathematical language and begins to move between forms of notation and representation; constructs incomplete arguments and occasionally draws conclusions • creates and explains models to solve real-life problems, with some success.
4	The student: • has a good understanding of mathematical concepts; selects and applies appropriate mathematics to solve simple familiar problems, requires support for challenging problems • selects and uses appropriate strategies to investigate mathematical patterns • usually uses appropriate mathematical language and moves between forms of notation and representation • constructs basic logical arguments and draws conclusions; creates and explains relevant models to solve real-life problems.

5	The student:
	• consistently understands mathematical concepts well; selects and applies appropriate mathematics to solve challenging familiar problems; requires support for unfamiliar problems
	• develops and uses a range of strategies to investigate mathematical patterns
	• uses appropriate mathematical language and frequently moves between forms of notation and representation
	• constructs arguments and draws conclusions, sometimes containing mistakes; creates and explains relevant models to solve real-life problems.
6	The student:
	• demonstrates a broad and extensive understanding of mathematical concepts; regularly selects and applies appropriate mathematics to solve challenging familiar and unfamiliar problems, often with independence
	• develops and uses a range of strategies to investigate complex mathematical patterns
	• consistently uses appropriate mathematical language and frequently moves between forms of notation and representation; constructs detailed arguments and draws conclusions
	• creates and justifies sophisticated models to solve real-life problems.
7	The student:
	• thoroughly understands mathematical concepts; independently selects and applies appropriate mathematics to solve challenging familiar and unfamiliar problems
	• develops and uses a wide range of strategies to investigate complex mathematical patterns
	• consistently uses appropriate mathematical language and flexibly moves between forms of notation and representation; constructs rigorous arguments and draws sensible conclusions
	• creates and justifies sophisticated models to solve real-life problems.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Arts

eAssessment in arts is offered in performing arts (dance, drama, music, integrated performing arts) and visual arts (media, visual arts, integrated visual arts) and is assessed by ePortfolio.

One common partially completed unit planner will be published by the IB for each examination session for development by teachers toward the pathways in the MYP Arts guide. An exemplar unit plan is available on the OCC.

Summative assessment tasks

The partially completed unit planner provides the summative assessment tasks (which will assess all strands of all criteria) for the session.

An example of an ePortfolio summative assessment for MYP arts :

Task 1—Presentation (criteria A and D), an individual presentation of investigations into the work of master artists, theorists/practitioners; critical appreciation of completed work by an artist studied in the unit and the relationship between the work and its context

Task 2—Proposal (criterion C), a carefully chosen selection of process journal extracts to show evidence of the student's artistic intention and demonstrate a range of creative-thinking behaviours related to the statement of inquiry

Task 3—Process and product (criteria B and C), evidence of skills and techniques acquired, developed and applied; exploration of artistic ideas; evidence of product created, performed or presented

Task 4—Commentary (criteria A and D), the student's understanding of the unit and the possible application to new settings; evidence of the application of investigation on the development of the student's own artwork; critical appreciation of the student's own work and its impact on the world.

Planning the unit

Teachers complete the unit planner, comprising about 20 hours teaching time, according to their own local contexts and curriculum requirements. This approach allows a teacher who is restricted to a particular teaching area for the duration of teaching the unit to plan appropriately for the resources available to them. An example might be that two visual arts classes run simultaneously for MYP year 5, one in a digital studio and one in a print room. Each teacher can complete the content of their unit to allow for the use of those facilities and the general resources available, as well as from their own background and the cultural context of the school.

Planning for assessment

It is essential that all summative assessment undertaken by the teacher is set against the criteria for MYP year 5 as published in the MYP arts guide in conjunction with the task specific clarification published within *Further guidance for arts*. Submissions will be student work only – background information, including the completed unit planner or task-specific clarifications (used for the benefit of student learning) will not be submitted to the IB.

The work produced for summative assessment must be the student's own work. However, teachers play an important role as students plan for and complete the required tasks. Teachers should ensure that students are familiar with:

- the requirements of the type of work to be internally assessed
- the assessment criteria (students must ensure that the work submitted addresses the objectives effectively).

If a student is not able to complete the work without substantial support, teachers should note the circumstances and nature of support provided in their comments justifying the levels awarded.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Requirements for assessment

Students complete a portfolio of evidence from the body of work undertaken during the unit responding to the prescribed summative assessment tasks.

Where a prescribed summative assessment task or the teaching context of the school results in students working within groups or collaboratively, students must only be assessed for their individual contribution to the submission. It is essential that the work of each student is clearly identifiable for the assessment process, both to the teacher and to IB examiners.

Care must be taken in the selection of evidence for group activities that each student features prominently enough to allow for only his or her contribution to be assessed. Students and their contribution to an activity must be clearly identifiable. Some examples of how this might be achieved follow:

- text evidence—students record their personal contribution, ensuring they carefully identify their role in the development and any eventual outcome, paying particular attention to documenting their individual approach, investigation and contribution made to the collaborative process.

- video and photographic evidence—each student ensures that he or she is clearly identifiable for example by wearing a coloured top which contrasts with other members of the group so he or she can be recognized as the focus of assessment.

- audio evidence—audio evidence is not generally recommended for collaborative or group work because it is not possible to identify each individual contributor.

To allow for the flexibility of assessed work in subject/disciplines within the arts, this sliding scale establishes the maximum limits of student work submitted as an MYP ePortfolio. Work exceeding the maximum must not be considered in assessment by teachers or examiners.

Submission of the ePortfolio

Submission maximum limits for an entire student sample		
Audio/visual evidence		**Text/image evidence**
0 minutes		30 A4 pages
3 minutes	and	24 A4 pages
6 minutes	and	18 A4 pages
9 minutes	and	12 A4 pages
12 minutes	and	6 A4 pages
15 minutes		0 pages

A suggestion of how students might present their unit evidence follows:

Summative assessment task	Recommended maximum recording or page limits		
1. Presentation	5 minutes video recording	or	10 pages

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

2.	Proposal	3 minutes audio or video recording	or	6 pages
3.	Process and product	3 minutes audio or video recording	or	6 pages
4.	Commentary	4 minutes audio or video recording	or	8 pages

Arts subject-specific grade descriptors

Grade	Subject-specific descriptor
1	The student: • demonstrates very limited knowledge or understanding of the art form; develops limited and superficial critical appreciation of artworks; rarely identifies links between knowledge and artistic decisions. • states a very limited artistic intention; practical work is minimal or disengaged, and in most cases does not reach a point of realization; skills and techniques are very limited, and rarely developed or applied to create or present artworks • constructs limited meaning but rarely transfers learning; creates disconnected responses.
2	The student: • demonstrates limited knowledge or understanding of the art form; develops confused or oversimplified critiques of artwork; only occasionally uses knowledge to inform artistic decisions • develops a very basic artistic intention; demonstrates limited creative thinking behaviours and limited practical explorations of ideas, which may not reach a point of realization; acquires, develops and/or applies limited skills and techniques to create or present artworks • constructs limited meaning and occasionally transfers learning; creates limited artistic responses.
3	The student: • demonstrates areas of knowledge and understanding of the role of the art form in one context; develops clear, but oversimplified, critiques of artwork; sometimes uses knowledge to inform artistic decisions • develops an artistic intention which is sometimes clear; demonstrates some creative thinking behaviours and practically explores some ideas through to a point of realization; acquires, develops and applies some skills and techniques to create or present artworks • constructs some meaning and is sometimes able to transfer learning; creates basic artistic responses.
4	The student: • demonstrates general knowledge and understanding of the role of the art form in various contexts; develops clear and adequate critiques of artwork; uses knowledge to inform artistic decisions • develops an artistic intention, which is clear but predictable or infeasible; demonstrates several creative thinking behaviours and often demonstrates a practical exploration of ideas through to a point of realization; acquires, develops and applies some skills and techniques to create or present artworks

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

	• constructs meaning and is often able to transfer learning to new settings; creates artistic responses which often intend to reflect or impact the world.
5	The student: • demonstrates substantial knowledge and understanding of the role of the art form in original and displaced contexts; develops focused and accurate critiques of artwork; uses knowledge to accurately inform artistic decisions • develops a clear and consistent artistic intention which may not be fully developed or feasible; demonstrates substantial creative thinking behaviours and demonstrates a suitable practical exploration of ideas to shape artistic intention through to a point of realization; acquires, develops and applies substantial skills and techniques to create or present artworks • constructs meaning and regularly transfers learning to new settings; creates artistic responses which suitably intend to reflect or impact the world.
6	The student: • demonstrates very good knowledge and understanding of the role of the art form in original and displaced contexts; develops critiques of artwork which often show depth and insight; uses knowledge to purposefully inform artistic decisions • develops a clear, imaginative and coherent artistic intention; demonstrates a range and depth of creative thinking behaviours and demonstrates a full practical exploration of ideas to purposefully shape artistic intention through to a point of realization; acquires, develops and applies a range of skills and techniques to create or present artworks • constructs meaning with clarity and purposefully transfers learning to new settings; creates very good artistic responses which purposefully intend to reflect or impact the world.
7	The student: • demonstrates excellent knowledge and understanding of the role of the art form in original and displaced contexts; develops insightful critiques of artwork; uses knowledge to purposefully and effectively inform artistic decisions • consistently demonstrates a clear, imaginative and coherent artistic intention; demonstrates a range and depth of creative thinking behaviours and demonstrates a full and extensive practical exploration of ideas; acquires, develops and applies a range of skills and techniques effectively to create or present artworks • constructs meaning with depth and insight, and effectively transfers learning to new settings; creates excellent artistic responses which purposefully intend to reflect or impact the world.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Physical and health education

eAssessment in physical and health education is assessed by ePortfolio.

One common partially completed unit planner will be published by the IB for each examination session for development by teachers for physical and health education. An exemplar unit plan is available on the OCC.

Summative assessment tasks

The partially completed unit planner will describe summative assessment tasks (which will assess all strands of all criteria) for the session. The tasks will be approached through a client/coach model to develop and deliver a performance improvement plan offering opportunities for healthy personal and interpersonal development. This model is not appropriate for group-coaching situations.

An example of an ePortfolio summative assessment for MYP physical and health education:

- Task 1—as coach: client interview and video analysis, and benchmark testing (criteria A and D)
- Task 2—as coach: training plan and interim analysis of results (criteria A, B and D)
- Task 3—as client: demonstration of the skills, techniques and/or strategies developed as part of the improvement plan (criterion C)
- Task 4—as coach: evaluation of the coaching plan and of interpersonal skills; and as client: evaluation of performance and interpersonal skills (criteria A, B and D).

Planning the unit

Teachers complete the unit planner, comprising about 20 hours teaching time, according to their own local contexts and curriculum requirements. This approach allows a teacher who is restricted to a particular teaching area for the duration of teaching this unit to plan appropriately for the resources available to them. An example might be that two PHE classes run simultaneously for MYP year 5, one in a basketball court and one in the swimming pool. Each teacher can complete the content of their unit to allow for the use of those facilities and the general resources available, as well as from their own background and the cultural context of the school.

Planning for assessment

It is essential that all summative assessment undertaken by the teacher is against the criteria for MYP year 5 as published in the MYP PHE guide only. Submissions will be of student work only—background information, including the completed unit planner or task-specific clarifications used for the benefit of student learning, will not be submitted to the IB.

The work produced for summative assessment must be the student's own work. However, teachers play an important role as students plan for and complete the required tasks. Teachers should ensure that students are familiar with:

- the requirements of the type of work to be internally assessed
- the assessment criteria; (students must ensure that the work submitted addresses the objectives effectively).

If a student is not able to complete the work without substantial support, teachers should note the circumstances and nature of support provided on the assessment comments form.

Requirements for assessment

Students complete a portfolio of evidence of the completion of a performance improvement task including aspects of health and physical education. Each student will submit work as coach (part one) and as client (part two).

Where a prescribed summative assessment task or the teaching context of the school result in students working collaboratively or in groups/teams, students must only be assessed for their individual contribution to the submission.

International Baccalaureate
Baccalauréat International
Bachillerato Internacional

It is essential that the work of each student is clearly identifiable for the assessment process, both to the teacher and to IB examiners.

Care must be taken in the selection of evidence for group activities so that each student features prominently enough to allow for only his or her contribution to be assessed. Students and their contribution to an activity must be clearly identifiable. Some examples of how this might be achieved follow:

- text evidence—students record their personal contribution, ensuring they carefully identify their role in the development and any eventual outcome, paying particular attention to documenting their individual approach, investigation and contribution made to the collaborative process.
- video and photographic evidence—each student ensures that he or she is clearly identifiable for example by wearing a coloured top which contrasts with other members of the group so he or she can be recognized as the focus of assessment.
- audio evidence—audio evidence is not generally recommended for collaborative or group work because it is not possible to identify each individual contributor.

Submission of the ePortfolio

Submission limits (examiners will not read beyond these limits)	
Video	3 minutes
Written work	15 A4 pages

A suggestion of   how a student might can present their unit evidence follows:

Summative assessment task	Recommended maximum recording or page limits
1. Description of activity/performance Client interview and video analysis Benchmark testing	5 pages
2. Establish goals and designing an action plan Training plan Interim analysis of results	5 pages
3. Final performance/playing situation	3 minutes video recording*
4. Pre- and post-performance analysis Evaluation of coaching plan Evaluation of client performance Evaluation of interpersonal skills	5 pages

*the video recording provides evidence to support assessment of the final performance/playing situation from the client and coach's analysis of improvement.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Physical and health education subject-specific grade descriptors

Grade	Subject-specific descriptor
1	The student: • produces work of very limited quality; conveys many significant misunderstandings or lacks understanding of most concepts and rarely uses knowledge or skills.
2	The student: • states physical and health education factual, procedural and conceptual knowledge; applies physical and health education knowledge to investigate issues and suggest solutions to problems set in familiar situations; applies physical and health terminology to communicate understanding with limited success • constructs and outlines a plan to improve physical performance or health; outlines the effectiveness of a plan based on the outcome • demonstrates and applies skills and techniques with limited success; demonstrates and applies strategies and movement concepts with limited success; recalls information to perform • identifies and demonstrates strategies to enhance interpersonal skills. Identifies goals to enhance performance; outlines and summarizes performance.
3	The student: • lists physical and health education factual, procedural and conceptual knowledge; applies physical and health education knowledge to investigate issues and to solve problems set in familiar situations; applies physical and health terminology to communicate understanding with some success • constructs and describes a plan to improve physical performance or health, with limited guidance; describes the effectiveness of a plan based on the outcome • demonstrates and applies skills and techniques with some success; demonstrates and applies strategies and movement concepts with some success; recalls and applies information to perform • outlines and demonstrates strategies to enhance interpersonal skills with some success; outlines goals and demonstrates strategies to enhance performance; describes and summarizes performance with limited guidance.

International Baccalaureate
Baccalauréat International
Bachillerato Internacional

4	The student:
	• outlines physical and health education factual, procedural and conceptual knowledge; applies physical and health education knowledge to analyse issues and to solve problems set in familiar situations; applies physical and health terminology to communicate understanding
	• constructs and describes a plan to improve physical performance or health; explains the effectiveness of a plan based on the outcome; demonstrates and applies skills and techniques
	• demonstrates and applies strategies and movement concepts; identifies and applies information to perform
	• outlines and demonstrates strategies to enhance interpersonal skills; outlines goals and applies strategies to enhance performance; describes and summarizes performance.
5	The student:
	• identifies physical and health education factual, procedural and conceptual knowledge with limited guidance; applies physical and health education knowledge to analyse issues to solve problems set in familiar and unfamiliar situations with limited guidance; applies physical and health terminology to communicate understanding with some consistency
	• constructs and explains a plan to improve physical performance or health; analyses the effectiveness of a plan based on the outcome with some success
	• demonstrates and applies several skills and techniques; demonstrates and applies several strategies and movement concepts; analyses and applies information to perform with some success
	• describes and demonstrates strategies to enhance interpersonal skills with some success; describes goals and applies strategies to enhance performance; describes and evaluates performance.
6	The student:
	• identifies physical and health education factual, procedural and conceptual knowledge; applies physical and health education knowledge to analyse issues to solve problems set in familiar and unfamiliar situations; applies physical and health terminology consistently to communicate understanding
	• designs and explains a plan to improve physical performance or health; analyses the effectiveness of a plan based on the outcome
	• demonstrates and applies a range of skills and techniques; demonstrates and applies a range of strategies and movement concepts; analyses and applies information to perform
	• describes and demonstrates strategies to enhance interpersonal skills; explains goals and applies strategies to enhance performance; explains and evaluates performance.
7	The student:
	• explains physical and health education factual, procedural and conceptual knowledge; applies physical and health education knowledge to analyse complex issues to solve complex problems set in familiar and unfamiliar situations; applies physical and health terminology consistently and effectively to communicate understanding
	• designs, explains and justifies a plan to improve physical performance or health; analyses and evaluates the effectiveness of a plan based on the outcome
	• demonstrates and applies a range of complex skills and techniques; demonstrates and applies a range of complex strategies and movement concepts; analyses and applies information to perform effectively
	• explains and demonstrates strategies to enhance interpersonal skills; develops goals and applies strategies to enhance performance; analyses and evaluates performance.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Design

eAssessment in design is offered in design, digital design and product design and is assessed by ePortfolio.

One common partially completed unit planner is published by the IB for each examination session for development by teachers toward each of the pathways in the design guide. An exemplar unit plan is available on the OCC.

Summative assessment tasks

The design cycle requires students to present their work for each unit through the headings of the four criteria. The partially completed unit planner for design requires students to submit work following the design cycle (encompassing all strands of all criteria) to create a solution (or range of solutions) in respect of a particular response, such as an inclusive community. Students will be guided toward perspectives they may consider in relation to that response and some ideas which may be explored for final solutions.

Planning the unit

Teachers complete the unit planner, comprising about 20 hours teaching time, according to their own local contexts and curriculum requirements. This approach allows a teacher who is restricted to a particular teaching area for the duration of teaching this unit to plan appropriately for the resources available to them. An example might be that two product design classes run simultaneously for MYP year 5, one in computer-aided manufacturing and one in food product design. Each teacher can complete the content of their unit to allow for the use of those facilities and the general resources available, as well as from their own background and the cultural context of the school.

Planning for assessment

It is essential that all summative assessment undertaken by the teacher is against the criteria for MYP year 5, as published in the MYP design guide only. Submissions will be of student work only—background information, including the completed unit planner or task-specific clarifications used for the benefit of student learning will not be submitted to the IB.

The work produced **for summative assessment** must be the student's own work. **However,** teachers **play** an important role **as students plan for and complete the required** tasks. Teachers should ensure that students are familiar with:

- the requirements of the type of work to be internally assessed
- the assessment criteria **(**students must **ensure** that the work submitted **addresses** the **objectives** effectively).

If a student is not able to complete the work without substantial support, teachers should note the circumstances and nature of support provided on the assessment comments form.

Requirements for assessment

Students complete a portfolio of work in the form of a design project, following the design cycle.

Where a prescribed summative assessment task or the teaching context of the school result in students working within groups or collaboratively, students must only be assessed for their individual contribution to the submission. It is essential that the work of each student is clearly identifiable for the assessment process, both to the teacher and to **IB examiners**.

Care must be taken in the selection of evidence for group activities that each student features prominently enough to allow for only his or her contribution to be assessed. Students and their contribution to an activity must be clearly identifiable. Some examples of how this might be achieved follow:

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

- text evidence—students record their personal contribution, ensuring they carefully identify their role in the development and any eventual outcome, paying particular attention to documenting their individual approach, investigation and contribution made to the collaborative process

- video and photographic evidence—each student ensures that he or she is clearly identifiable, for example, by wearing a coloured top which contrasts with other members of the group, so he or she can be recognized as the focus of assessment

- audio evidence—audio evidence is not generally recommended for collaborative or group work because it is not possible to identify each individual contributor.

Submission of the ePortfolio

Submission limits (examiners will not read beyond these limits)	
Written work	40 A4 pages
Appendix (unassessed)*	10 A4 pages

*An appendix can be used to demonstrate supporting research or raw data which would otherwise impact upon the overall maximum page count. It will not be formally assessed, but may be referred to in order to confirm specific parts of the report.

A suggestion of how how students might present their unit evidence follows:

Criterion A: Inquiring and analysing		Criterion B: Developing ideas	
Strand	**A4 pages** *recommended maximum*	**Strand**	**A4 pages** *recommended maximum*
(i) explain and justify the need for a solution to a problem for a specified client/target audience.	1	(i) develop a design specification which clearly states the success criteria for the design of a solution.	1–2
(ii) identify and prioritize the primary and secondary research needed to develop a solution to the problem.	1	(ii) develop a range of feasible design ideas which can be correctly interpreted by others.	6–7
(iii) analyse a range of existing products that inspire a solution to the problem.	2–4	(iii) present the final chosen design and justify its selection.	1–2
(iv) develop a detailed design brief which summarizes the analysis of relevant research.	1–2	(iv) develop accurate and detailed planning drawings/diagrams and outline the requirements for the creation of the chosen solution.	3–4

Criterion C: Creating the solution		Criterion D: Evaluating	
Strand	**A4 pages** *recommended maximum*	**Strand**	**A4 pages** *recommended maximum*
(i) construct a logical plan, which describes the efficient use of time and resources, sufficient for peers	1–3	(i) design detailed and relevant testing methods, which generate data, to	2

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

to be able to follow to create the solution.		measure the success of the solution.	
(ii) demonstrate excellent technical skills when making the solution.	6 pages total for these two strands	(ii) critically evaluate the success of the solution against the design specification.	2
(iii) follow the plan to create the solution, which functions as intended.		(iii) explain how the solution could be improved.	1
(iv) fully justify changes made to the chosen design and plan when making the solution.	2 pages	(iv) explain the impact of the solution on the client/target audience.	1

Design subject-specific grade descriptors

Grade	Subject-specific descriptor
1	The student: • produces work of very limited quality; conveys many significant misunderstandings or lacks understanding of most concepts and rarely uses knowledge or skills.
2	The student: • states the need for solutions; develops basic design briefs, which states the findings of relevant research • lists some basic design specifications for the design of a solution; presents one design, which can be interpreted • creates incomplete planning drawings/diagrams; demonstrates minimal technical skills when making the solution; creates solutions, which function poorly and are presented in an incomplete form • designs at least one testing method; states the success of solutions.
3	The student: • identifies the need for solutions; outlines research plans, stating primary and secondary research, with some guidance; highlights main features of existing products; develops basic design briefs, based on relevant research • lists some design specifications, relating to a solution's success criteria; presents one feasible design, using appropriate mediums or annotation, which can be interpreted; selects designs, referencing design specifications; lists manufacturing requirements for solutions • constructs plans that are difficult to follow; demonstrates satisfactory technical skills when creating solutions; states changes made to designs and plans • designs at least one relevant testing method; states the success of a solution against design specifications; identifies improvements and states the impact of solutions.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

4	The student:
	• describes the need for solutions; constructs research plans, stating and ordering primary and secondary research, with some guidance; analyses existing products; develops design briefs, listing the relevant research findings
	• develops design specifications, stating a solution's success criteria; develops feasible designs, using appropriate mediums and annotation, which can be interpreted; presents selected designs, referencing design specifications; develops planning drawings/diagrams and lists manufacturing requirements
	• constructs plans that consider resources; demonstrates some competent technical skills when creating generally functional solutions; outlines changes to designs and plans
	• designs at least one relevant testing method; outlines the success of solutions against design specifications; outlines improvements and describes the impact of solutions with guidance.
5	The student:
	• explains the need for solutions; constructs research plans, identifying and prioritizing primary and secondary research, with some guidance; analyses ranges of existing products; develops design briefs, explaining analysis of relevant research
	• develops design specifications, outlining success criteria for solutions; develops ranges of feasible designs, using appropriate mediums and annotation, which can be interpreted; presents designs, justifying their selection; develops accurate planning drawings/diagrams and lists manufacturing requirements
	• constructs logical plans that consider resources; demonstrates competent technical skills when creating functioning solutions; describes changes made to designs and plans
	• designs relevant testing methods; explains the success of solutions against design specifications; describes improvements and explains the impact of solutions with guidance.
6	The student:
	• explains fully the need for solutions; constructs detailed research plans, identifying and prioritizing primary and secondary research; analyses ranges of existing products, highlighting key features; develops detailed design briefs that explain the analysis of relevant research
	• develops design specifications, outlining success criteria for solutions; develops ranges of feasible designs, using appropriate mediums and annotation, which are generally interpreted correctly; presents designs, critically justifying their selection; develops accurate planning drawings/diagrams, and identifies manufacturing requirements
	• constructs logical plans that identify the efficient use of resources; demonstrates some excellent technical skills; generally follows plans to create functioning solutions; explains changes to designs and plans
	• designs ranges of relevant testing methods; evaluates the success of solutions against design specifications; suggests improvements and explains the impact of solutions with limited guidance.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

7	The student:
	• explains and justifies the need for solutions; independently constructs detailed research plans, identifying and prioritizing primary and secondary research; analyses ranges of existing products in detail; develops detailed design briefs that summarize the analysis of relevant research
	• develops detailed design specifications, explaining success criteria for solutions; develops ranges of feasible designs, using appropriate media and detailed annotation, which are interpreted correctly; presents designs, justifying fully and critically their selection; develops accurate, detailed planning drawings/diagrams and outlines manufacturing requirements
	• constructs detailed, logical plans that describe the efficient use of resources; demonstrates excellent technical skills when following plans and creating solutions that function as intended; fully justifies any changes to designs or plans
	• designs ranges of detailed, relevant testing methods; critically evaluates the success of solutions against design specifications; explains improvements and the impact of solutions independently.

International Baccalaureate
Baccalauréat International
Bachillerato Internacional

Interdisciplinary learning

eAssessment of interdisciplinary learning is by on-screen examination.

Overview

The interdisciplinary learning on-screen examination is based around an exploration of the global context chosen for each assessment session through disciplinary and interdisciplinary lenses of two of the following subject groups:

- language and literature

- individuals and societies

- sciences

- mathematics

These two subjects are explored in detail in the examination, although questions may feature which require another subject to be considered and include the opportunity to incorporate arts, design, PHE and language acquisition.

Pre-release material will be published on the OCC on 1 April for May sessions and on 1 October for November sessions to facilitate a deep analysis of the global context, and to provide a focus for the interdisciplinary learning on-screen examination. The two subject groups, which will be the focus of the session's interdisciplinary examination, will be announced with the pre-release material.

The pre-release material comprises multimedia stimulus material and/or case studies related closely to the session's global context. Through the pre-release material, students can engage with the global context and begin making connections with what they have studied in MYP subject groups and their own individual learning.

Interdisciplinary learning examination blueprint

The following table illustrates how interdisciplinary assessment is structured.

Task	Marks	Main criteria assessed	Criterion marks
Disciplinary grounding	30	A	30
Synthesis and communication of interdisciplinary understanding	60	B	30
		C	30
Reflecting	30	D	30
Total	120		

Sources

A variety of sources will feature in both the assessment and the pre-release material and could include the following.

- Primary/secondary
- Fiction/non-fiction
- Articles
- Journals
- Blogs
- Data tables

- Static images
- Photomations
- Videos
- Animations
- Charts
- Graphs

Task details

Disciplinary grounding
The first task assesses students' ability to demonstrate relevant disciplinary, conceptual and/or procedural knowledge (It will make reference to key concepts and related concepts from language and literature, individuals and societies, mathematics and sciences as appropriate.

Synthesis and communication of interdisciplinary understanding
The second task assesses students' ability to synthesize disciplinary knowledge to demonstrate interdisciplinary understanding and their ability to use appropriate strategies to communicate interdisciplinary understanding effectively.

Students analyse the interdisciplinary work and/or approach of someone else through source material. They create their own, original, interdisciplinary piece(s) of work and explain the approach they have taken in doing so.

Reflecting
The final task assesses students' ability to evaluate the benefits and limitations of disciplinary and interdisciplinary knowledge and ways of knowing. Questions in this task could require students to:

- reflect on learning experiences from relevant subject groups

- justify their choice of disciplines

- describe what discipline(s) brings to bear on a global challenge, how they challenge/complement each other

- outline the nature of new understanding

- apply new subject combinations to new contexts or topics/themes

- apply existing subject combinations to related context or topics/themes

- evaluate their own strengths and weaknesses as a learner

- identify areas for future growth.

Interdisciplinary learning subject-specific grade descriptors

Grade	Subject-specific descriptor
1	The student: • demonstrates very limited disciplinary grounding • suggests few or superficial connections between disciplines • communicates interdisciplinary understanding with little structure, clarity or coherence • demonstrates limited reflection on personal development of interdisciplinary understanding.
2	The student: • demonstrates limited disciplinary grounding • suggests connections between disciplines • communicates interdisciplinary understanding with some structure, clarity and coherence

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

		• demonstrates limited reflection on personal development of interdisciplinary understanding, superficially describing the limitations or benefits of disciplinary and interdisciplinary knowledge in specific situations.
3	The student:	
	• demonstrates some disciplinary grounding	
	• describes connections between disciplines	
	• communicates interdisciplinary understanding with some organization and coherence, listing sources	
	• demonstrates some reflection on personal development of interdisciplinary understanding, superficially describing the limitations and benefits of disciplinary and interdisciplinary knowledge in specific situations.	
4	The student:	
	• demonstrates some relevant disciplinary grounding	
	• describes significant connections between disciplines	
	• communicates interdisciplinary understanding with some organization and coherence, listing sources and recognizing appropriate forms or media	
	• demonstrates adequate reflection on personal development of interdisciplinary understanding, describing some benefits and limitations of disciplinary and interdisciplinary knowledge in specific situations.	
5	The student:	
	• demonstrates most necessary disciplinary grounding	
	• synthesizes disciplinary knowledge to demonstrate interdisciplinary understanding	
	• communicates interdisciplinary understanding that is generally organized, clear and coherent, documenting sources and using appropriate forms or media	
	• demonstrates significant reflection on personal development of interdisciplinary understanding, explaining some benefits and limitations of disciplinary and interdisciplinary knowledge in specific situations.	
6	The student:	
	• demonstrates all necessary disciplinary grounding	
	• synthesizes disciplinary knowledge to demonstrate consistent and thorough interdisciplinary understanding	
	• communicates interdisciplinary understanding that is organized, clear and coherent, documenting relevant sources using a recognized convention and beginning to use selected forms or media effectively	
	• demonstrates thorough reflection on personal development of interdisciplinary understanding, evaluating benefits and limitations of	

		disciplinary and interdisciplinary knowledge and ways of knowing in specific situations.
7	The student:	
	•	demonstrates extensive disciplinary grounding
	•	synthesizes disciplinary knowledge to demonstrate consistent, thorough and insightful interdisciplinary understanding
	•	communicates interdisciplinary understanding that is consistently well structured, clear and coherent, documenting relevant sources using a recognized convention and consistently using selected forms or media effectively
	•	demonstrates thorough and nuanced reflection on personal development of interdisciplinary understanding, evaluating thoroughly and with sophistication the limitations and benefits of disciplinary and interdisciplinary knowledge and ways of knowing in specific situations.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Personal Project

The personal project is a student-centred and age-appropriate extended project in which students consolidate their learning throughout the programme. The personal project formally assesses students' approaches to learning skills for self-management, research, communications, critical and creative thinking, and collaboration. Students submit their individual personal project report in written, oral, visual, or multimedia form.

The personal project is offered in a limited range of languages and may be available in other languages through a special request process. Please refer to the *Handbook of procedures for the MYP* for details.

Submission requirements

The report, organized in identifiable sections that follow the project objectives will be assessed against all strands of all criteria. In addition to the maximum time and/or word limits for the report, students should include an appendix, bibliography and evidence of the product/outcome.

The appendix to the report will consist of a maximum of 10 pages/screenshots containing:

- carefully selected process journal extracts that exemplify the knowledge, process and skills developed through the project
- (in the case of oral reports only) visual aids used when delivering the report.

Evidence of the product/outcome may be one of the following:

- a copy of the product/outcome
- extracts from the product/outcome
- up to 5 images or 30 seconds of video from the product/outcome.

Each student must also include:

- the completed academic honesty form
- the personal project cover sheet.

Maximum size of report

Where a student completes a report in a language other than Arabic, Chinese, English, French, Japanese, Korean and Spanish, the school must advise the student on appropriate word limits for that language. The following table has been prepared for your guidance using the principles for word equivalence from language acquisition.

Format	Roman alphabetical languages, including English, French and Spanish	Chinese language	Korean language	Japanese language	Non-Roman alphabetical languages, including Arabic
	Words	Characters	Characters	Kana/kanji	Words

International Baccalaureate
Baccalauréat International
Bachillerato Internacional

Text: written or electronic (website, blog, slideshow)	1,500–3,500	1,800– 4,200	1,800–4,000	3,000–7,000	1,400–3,500
Oral (podcast, radio broadcast, recorded) or Visual (film)	13–15 minutes	13–15 minutes	13–15 minutes	13–15 minutes	13–15 minutes

Requirements for assessment

The personal project report is assessed against the personal project criteria published in the *MYP projects guide.*

The personal project must be the student's own work but the student's supervisor should play an important role supporting the student through the minimum of three meeting sessions that will be reported on the academic honesty form. It is the responsibility of the supervisor to ensure that students are familiar with:

- the requirements of the project
- the assessment criteria; students must understand that the work submitted must address the criteria effectively.

Personal project subject-specific grade descriptors

Grade	Subject-specific descriptor
1	• The personal project report states a very limited personal goal for the project, within a global context. Subject-specific knowledge is rarely identified and may lack relevance to the project. • The report states very limited recording of research, thinking, communication and social skills and/or self-management skills. The criteria created by the student are very limited or inappropriate, and may have very little relevance to the product/outcome. The project outcome/product may be incomplete or greatly oversimplified. • The report presents very limited reflection on the student's knowledge, understanding, and development as an IB learner through the project. • The report is largely incomplete.
2	• The personal project report states a limited personal goal for the project, within a global context. Limited subject-specific knowledge is identified and occasionally applied to aspects of the project. • The report states limited evidence of research, thinking, communication, social, and self-management skills. Student-created criteria are cursory and have limited relevance to the product/outcome. The project outcome/product may be limited or incomplete. • The report presents limited reflection on the student's knowledge, understanding, and development as an IB learner through the project.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

	• The report has limited coherence.
3	• The personal project report outlines a basic personal goal for the project, within a relevant global context. Some basic subject-specific knowledge is identified and is superficially applied to the project.
	• The report demonstrates some evidence of appropriate research, thinking, communication, social and self-management skills. Student-created criteria are basic and imprecise. The product/outcome is basically complete (realized).
	• The report presents basic reflections on the student's knowledge, understanding, and development as an IB learner through the project.
	• The report follows a logical order but needs further development in order to describe the project effectively.
4	• The personal project report outlines a clear and appropriate personal goal for the project, within a relevant global context. Subject-specific knowledge is identified and applied broadly throughout the project.
	• The report demonstrates general research, thinking, communication, social and self-management skills. Student-created criteria are appropriate and have been applied to the development of a product/outcome. The product/outcome is of reasonable quality.
	• The report presents reflections on the student's knowledge and understanding, and development as an IB learner through the project, although these may be overly broad and general.
	• The report is adequately developed and organized.
5	• The personal project report defines a clear and challenging personal goal for the project, within a relevant global context. Relevant subject-specific knowledge is identified to support and inform the project.
	• The report demonstrates specific research, thinking, communication, social and self-management skills. Student-created criteria are clearly defined and have been applied to the development of a product/outcome. The product/outcome is of good quality.
	• The report presents specific reflections on the student's knowledge and understanding, and development as an IB learner through the project, demonstrating the student's self-awareness of strengths and limitations.
	• The report is organized and coherent.
6	• The personal project report defines a clear and challenging personal goal for the project, within a relevant global context. Relevant prior learning and subject-specific knowledge support and inform the project.
	• The report details systematic research, thinking, communication and social skills as well as self-management skills. The criteria created by the student are detailed and exact, and have been applied to the development of a product/outcome. The product/outcome is of very good quality.
	• The report presents detailed reflections on the student's knowledge and understanding, and development as an IB learner through the project.
	• The report is organized, detailed and carefully reasoned.
7	• The personal project report defines a clear and highly challenging personal goal for the project, within a relevant global context. The goal consistently remains the focus during the development of the project. Relevant prior learning and subject-specific knowledge effectively support and inform the project.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

	• The report details systematic and effective research, thinking, communication, social and self-management skills. Student-created criteria are detailed and rigorous, and have been applied to the development of a product/outcome. The product/outcome is of high quality.
	• The report presents thorough reflections on the student's knowledge and understanding, and development as an IB learner through the project.
	• The report is clearly structured, logically sequenced, carefully presented, and compelling.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

These resources provide background knowledge regarding implementation, design and development of MYP eAssessment.

Pedagogy and theoretical frame for eAssessment with links to the MYP

Carpenter, S. 2012. "Testing enhances the transfer of learning". *Current Directions in Psychological Science.* **Vol 21, number 5. Pp 279–83. [Available online]**

This article describes the positive effects of testing during learning and offers a rationale for the design of MYP eAssessment. The MYP's focus on conceptual learning allows students to organize ideas within and across subject areas, which is at the heart of learning transfer. This article describes a recently growing body of research that has examined how testing can promote knowledge retention over time (temporal transfer), across testing formats (same knowledge, different testing situations) and across knowledge domains. The MYP eAssessment designs seek to promote learning transfer that will extend beyond the classroom and beyond the summative testing point to future learning.

Davies, R. 2011. "Understanding technology literacy: A framework for evaluating educational technology integration". *TechTrends.* **Vol 55, number 5. Pp 45–52. [Available online]**

This article provides an introduction to technology integration using *frameworks* or systematic approaches based on good educational theory and practice. The author advocates *technology literacy*, which he argues needs to be taught rather than assumed among students. The article contains a concise overview of the reasons for needing technology education (primarily in the US context), then outlines the case for a framework based on "(1) awareness, (2) praxis (i.e., training), and (3) phronesis (ie, practical competence and practical wisdom)" (p 45). The framework is presented as a series of levels, where phronesis indicates mastery of technology-related tasks and full understanding of the technology's value to learning to both students and teachers. The author also includes a discussion of TPACK (technological pedagogical content knowledge), a framework that helps to identify where particular types of knowledge may be lacking in a given context.

Pellegrino, JW, Wilson, MR, Koenig, JA and Beatty, AS (eds). 2013. *Developing Assessments for the Next Generation Science Standards.* **Washington DC, Maryland, USA. National Academies Press. [Available online]**

This report outlines assessment implications from two recent documents (both can be found online): "A Framework for K-12 science education" and "The next generation science standards (NGSS)". These important recent works indicate science learning across three dimensions: a) core discipline ideas; b) science practice; and c) key cross-cutting concepts that link the science disciplines. This tripartite represents an important alignment with MYP written and taught curriculum, and calls for assessment design that includes multiple interconnected items, an interpretive system for evaluating a range of student products, and the ability to locate students on a continuum of abilities starting from core ideas to progressively more complex understandings. This report includes examples within specific domains.

Pellegrino, JW and Hilton, ML (eds). 2012. *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century.* **Washington DC, Maryland, USA. National Academies Press. [Available online]**

This report outlines emerging research on teaching and assessing transferable knowledge. Transferable knowledge can be applied in various situations and goes beyond the situated nature of typical instructional practice. Of particular relevance for MYP on-screen examinations are the sections on teaching and assessing for transfer, and systems for supporting deeper learning. The report details key elements of assessment design incorporated into MYP on-screen examinations, including the importance of tasks that give students an opportunity to solve complex problems

through exposure and manipulation of varied representations of information (multimedia). The report underscores the challenges of teaching and learning for transferable knowledge and skills.

On-screen examination implementation and design

Deutsch, T, Herrmann, K, Frese, T and Sandholzer, H. 2012. "Implementing computer-based assessment – A web-based mock examination changes attitudes". *Computers & Education*. **Vol 58, number 4. Pp 1068–75. [Available with subscription]**

This article investigates students' attitudes and reservations about computer-based assessment and the potential for attitudinal change. This article describes the benefit of providing a web-based or mock examination or user interface try-out before implementation of a summative or formative computer-based assessment to aid students in alleviating reservations. Barriers to acceptance include student concerns about security and the possibilities of cheating. Other influencing factors to acceptance of computer-based assessments include the systems' perceived ease of use, perceived usefulness, perceived playfulness, computer self-efficacy (see Terzis et al 2013 in this section for definitions of these constructs) and gender. This study reports how the implementation of a mock examination or user interface try-out in preparation for on-screen examinations moderately changed attitudes. The researchers found that computer self-efficacy had a significant effect on attitude with female students being less likely than their male counterparts to claim computer self-efficacy but that the mock examination and user interface try-out helped to change their attitudes. Overall student attitudes towards computer-based assessment changed positively after use of the mock examination and user interface. It is a useful article for teachers and schools to determine what barriers students might face in preparation for the on-screen examinations and a possible method for alleviating concerns.

Ifenthaler, D, Eseryel, D and Ge, X (eds). 2012. *Assessment in Game-based Learning: Foundations, Innovations, and Perspectives.* **New York, New York, USA. Springer. [Book]**

Emerging game-based learning technologies are giving rise to new and alternative ways to assess learning that is taking place in virtual worlds and informal settings. This volume looks at the current state of research, methodology, assessment, and technology of game-based learning in three parts: (1) foundations of game-based assessment, (2) technological and methodological innovations for assessing game-based learning, and (3) realizing assessment in game-based learning. This book is a useful volume for orienting to emerging assessment research with new technologies, providing examples and guided practice to situate research in applied settings.

Quellmalz, ES, Timms, MJ, Silberglitt, MD and Buckley, BC. 2012. "Science assessments for all: Integrating science simulations into balanced state science assessment systems". *Journal of Research in Science Teaching*. **Vol 49, number 3. Pp 363–93. [Available with subscription]**

This state-of-the-art research study investigates the potential for the use of simulations in science assessment systems. The project looked at "the psychometric quality, feasibility and utility of simulation-based science assessments designed to serve formative purposes during a unit and to provide summative evidence of end-of-unit proficiencies" (p 363). The study is helpful for understanding how technology-rich assessment can both scaffold inquiry learning and help students to build their conceptual understanding with technology. It includes specific examples of the use of simulations in science learning linked to assessment.

Sharpe, R, Beetham, H, Benfield, G, DeCicco, E and Lessner, E. 2009. *Learners Experiences of E-learning Synthesis Report: Explaining Learner Differences.* **London, UK. JISC (JISC Learner Experience of E-learning Programme Report). [Available online]**

This report describes research by project funded under the JISC Learner Experience of E-learning Programme. The report describes students' experience with e-learning over time both in formal and informal settings and use of technology. It identifies some key supports that students need to learn in order to demonstrate their learning through digital media and in the digital world. The report concludes with a list of enablers and barriers to teaching and learning with technology. These enablers and barriers are organized by theme in a developmental framework. The themes include: access, skills, practices, and creative appropriation. It is a useful report for understanding how digital learners use technology both formally and informally, and aspects within an environment that promote or inhibit its use.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Terzis, V, Moridis, CN and Economides, A. 2013. "Continuance acceptance of computer based assessment through the integration of user's expectations and perceptions". *Computers & Education.* **Vol 62. Pp 50–61. [Available with subscription]**

This study investigates student expectations before and after interaction with learning management systems (LMSs) and computer-based assessments (CBAs). It discusses six factors in students' continued acceptance of an LMS or CBA: a) playfulness—student perceptions about how well an LMS or CBA stimulates curiosity and exploration; b) usefulness—how well the system enhances job/study performance; c) ease of use—how much effort it takes to be capable of using the system; d) facilitating conditions—how effectively online help and cues, as well as help from teachers, facilitate ease of use; e) goal setting—how well a system helps students to set and track goals; f) content—the difficulty, usefulness or interest in the academic content of an LMS or CBA. Similar to the Deutsch et al (2013) study this article is useful for understanding how students can be aided in preparing for the MYP on-screen examinations.

Warburton, B. 2013. "CAA—Whither and Whence? The last decade and the next decade". *Proceedings for 17th CAA Conference.* **Loughborough, UK. Loughborough University. [Available online]**

This paper analyses a decade of Computer Assisted Assessment (CAA) conference papers. The papers were analysed according to five conference themes: 1) evaluation of CAA; 2) reporting in CAA; 3) innovation in CAA; 4) assessing skills/enhancing learning in CAA; and 5) strategic development of CAA. The article presents a higher order review of the state of CAA, identifying the drivers, obstacles and design principles for the uptake of CAA by learning organizations. It is a useful article to aid in orientation to the complexities of adopting an on-screen examination approach.

Teaching with technology and digital literacy

Eyal, L. 2012. "Digital assessment literacy: The core role of the teacher in a digital environment". *Educational Technology & Society.* **Vol 15, number 2. Pp 37–49. [Available online]**

This article discusses digital assessment literacy, a construct that encompasses many competencies: interpreting test results, choosing assessment methods, and increasing student motivation. In the digital world, this article argues for teachers who understand their role as assessors in a technology-rich environment. Building on digital literacy, teachers can think about how student express themselves through technology media and how that expression affords an artefact that can stand as a point of assessment. This article discusses how online tasks, digital portfolios, forums, online peer assessment, blogs, and wikis as collaborative writing provide opportunities for learning and perspectives from which to draw both formative and summative assessments for complex problem-solving and self-regulation.

Littlejohn, A, Beetham, H and McGill, L. 2012. "Learning at the digital frontier: A review of digital literacies in theory and practice". *Journal of Computer Assisted Learning.* **Vol 28, number 6. Pp 547–56. [Available with subscription]**

This article describes a large-scale three-phase research project that included an extensive literature review, institutional audit, and analysis of practice in the provision for digital literacy within the UK. It highlights key practices to develop lifelong digital learners including: a) provision of authentic tasks in multiple domains; b) inclusion of digital technology; c) explicit enactment of academic and professional tasks in digital environments; d) time and opportunity for the staff of learning organizations to develop expertise; e) inclusion of critical affordance of various media types and how they can be used to persuade, argue, and make claims; and f) recognition of learners' existing knowledge and practice as resources for their own learning. This is a useful article for examining how organizations can support the use of technology in teaching and learning.

Voogt, J, Erstad, O, Dede, C and Mishra, P. 2013. "Challenges to learning and schooling in the digital networked world of the 21st century". *Journal of Computer Assisted Learning.* **Vol 29, number 5. Pp 403–13. [Available with subscription]**

This article describes the implications and challenges of a digitally literate curriculum implementation with regard to 21st century competencies. It gives an overview of current international frameworks for describing these competencies with special attention to digital literacy. An analysis of current approaches, which are considered

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

appropriate for these competencies, is also provided. The article concludes that, in spite of consensus building activities, research shows globally that digital teaching strategies are often not implemented in educational practice. Reasons include the lack of curriculum and assessment alignment and integration with 21st century competencies, insufficient teacher preparation and "the absence of any systematic attention for strategies to adopt at scale innovative teaching and learning practices" (p 403). Recommendations to address these challenges include: a) 21st century competencies and digital literacy should not be disjointed from core school subjects and should be discussed within and across curriculum; b) the potential for new technologies for informal learning and how young people engage with these technologies should be utilized in formal learning situations; c) new assessment frameworks for 21st century competencies such as *Assessment and Teaching of 21st Century Skills* (Griffin, Care and McGraw 2012) need further development and attention. This article is useful for teachers and schools to examine how and in what ways they can integrate 21st century competencies within curriculum planning and policy.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Glossary

Term	Definition
Achievement level	The level given when the student work reflects the corresponding descriptor. Achievement levels are shown in the left-hand column of the assessment criteria.
Aggregated examination period	The period comprising the pre examination session, the examination session and the post examination session defined by the IB on an annual basis. Normally this will be 15 March–15 October (for the May examination session) and the 15 September–15 April the following year (for the November examination session).
Alignment	Agreement in principle and practice between shared values and aspirations for learning (written curriculum), how teachers actually work (taught curriculum) and what students actually learn (assessed curriculum).
Assessment	The collection of evidence in order to make judgments about teaching and learning. See MYP Assessment and MYP eAssessment.
Assessment component	An assessment component is made up of one or more tasks that are collected together, comprising part of the overall assessment. For example, an examination paper, portfolio of work, project or research assignment.
Assessment criteria	Criteria against which a student's performance is measured. Subject-group guides provide the assessment criteria that will be used for final assessment for each subject group, and for the personal project.
Assessment response	A term used to describe all material produced by a candidate in response to assessment material.
Assessment rubric	The grid that connects levels and descriptors.
Assessment strategy	The method or approach that is used when gathering information about student learning, for example, observation, open-ended tasks, selected responses.
Assessment task	The activity or series of activities with which students engage in order for assessment to take place.
Assessment tool	A method of collecting information about a learner's performance and understanding.
At-risk checking	The process of re-marking a candidate's response where a candidate has performed significantly lower than predicted and whose marks fall close to a grade boundary for a higher grade.
Atypical response	An answer to a task which is significantly different to those usually received. Examples of atypical responses include incomplete work, noncompliant work, unanticipated responses, problematic work or malpractice.
Authentication	Process and proof that the work has been undertaken by the candidate. Examples include signatures from the teacher and candidate that provide provenance for the candidate's response.
Bias	If one group (ie, a racial or ethnic group or gender) performs lower on a specific question, than the average, then the question is biased against that particular group.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Bilingual Certificate	See IB MYP Bilingual Certificate.
Candidate	A student registered for assessment.
Candidate registration	Process undertaken by MYP coordinator to register candidates for external assessment.
Chief examiner	The most senior examiner who is responsible for ensuring that standards are maintained over time and between disciplines within a subject group (for example, sciences).
Comparability	The degree to which a particular outcome can be considered the same as another outcome. It is typically used between years—ie, is a grade 8 this year the same as a grade 8 last year—or between subjects—ie is a grade 5 in mathematics the same as a grade 5 in art. It can also be used between IB qualifications and other qualifications—ie, is a top grade in an IB subject more or less demanding than a top grade in other subjects.
Construct relevance	The degree to which the assessment actually tests the skills and knowledge that it is intended to. An example of a low level of construct relevance would be testing a student's practical skills with a written exam.
Course	A prescribed number of classes, lessons or teaching hours within a defined period of study. Schools organize teaching and learning of MYP subjects through disciplinary and interdisciplinary courses.
Course Results	See IB MYP Course Results.
Coursework	Internal assessment work undertaken by a student over the duration of the course.
Criterion levels total	The sum of the final levels awarded for each individual criterion in any given subject group.
Criterion-related assessment	An assessment process based on determining levels of achievement against previously agreed criteria. The standard is therefore fixed rather than depending on the achievement of entire cohort of students. MYP assessment is criterion-related.
Definitive mark	The mark which the principal examiner awards for a particular piece of student work. This represents the mark that every other examiner should be aiming to replicate. (See also the Quality model.)
Descriptors	Achievement level descriptors describe the features of student work that would expect to be seen at each achievement level.
Differentiation (in assessment)	To distinguish between candidates demonstrating different levels of competency.
Differentiation (in teaching and learning)	Modifying teaching strategies to meet the needs of diverse learners, through varied content, process and products.
Discipline	A branch of learning or field of academic study; a way of ordering knowledge for the purpose of instruction; (known generally for practical purposes of assessment in the MYP, and DP, as subjects.) Some MYP subject groups and subjects can comprise multiple disciplines. For example, the MYP arts subject group includes disciplines like visual arts, drama, music, media and dance. The subject-integrated sciences includes three disciplines: biology, chemistry, and physics.
Discipline registrations—excluding withdrawals	The total number of individual subject-level registrations made by candidates for the examination session, excluding any candidates who might have withdrawn.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Discipline registrations—including withdrawals	The total number of individual subject level registrations made by candidates for the examination session, including any candidates who might have withdrawn.
Dynamic sampling	A refinement of the moderation process which allows better use of quality checks. It applies the "tolerance" quality model to both teacher marks and examiners. For teachers, if the initial sample is within tolerance, then no moderation factor will be applied. It also means moderators (examiners) receive student work individually, which allows for "seed scripts" to be included to maintain a consistent standard. It also permits examiners to be allocated the necessary additional scripts if there is evidence that the teacher marking does not match the overall standard.
eAssessment	Assessment carried out though a computer or similar device. See MYP eAssessment.
eAssessment instructions	Candidate instructions on which and how many questions to answer. For example: "Answer 3 questions from 5".
eAssessment language	The language in which the examination is sat.
E-Marking	The process by which examiners mark examination material directly on the computer screen.
Enquiry upon results (EUR)	Review of levels (marks) undertaken at a school's request.
ePortfolio coversheet	The first page of an ePortfolio package containing candidate details, which is attached to a candidate's response to provide provenance to the content of the coursework. There is more than one type of coversheet depending on the coursework component.
ePortfolio response	A term used to describe all material produced by a candidate in response to the ePortfolio assessment material. This will usually be electronic files that the MYP coordinator or the teacher has uploaded to the IB eCoursework system.
ePortfolios	The system/process by which the MYP coordinator or the teacher uploads the internally assessed examination/coursework material to be externally moderated by the IB.
eScript	The candidate's responses (answers) to an e-assessment.
Examination invigilator	The role that supervises and controls the exam environment.
Examination session	The period during which exams are taken and marked. The IB has two MYP sessions a year, in May and November.
Examiner	Individual who assigns marks to the candidate's external assessment.
Examiner re-mark	The process of re-marking an examiner's allocation of eResponses where their marking is found to be inconsistent or deviates significantly from the required standard. This often occurs as a result of moderation failure.
Exemplar	Sample of work that demonstrates the characteristics of performance to meet particular criteria.
External assessment	Assessment that is set and marked by the IB and not by a student's teacher.
External moderation	See moderation.
Externally assessed	Work that is assessed/marked wholly by the IB.
Familiarization tool	A generic simulation of an examination that candidates can take in order to learn how to use the on-screen examination environment and toolsets.

Final assessment	The summative assessment of student work at the end of the fifth year of the MYP.
Formative assessment	Ongoing assessment aimed at providing information to guide teaching and improve student performance.
Grade (MYP)	The description of student achievement. Final grades for student work in the MYP range from 1 (lowest) to 7 (highest). The grade represents the IB's judgment on the overall qualities that the candidate has demonstrated and is consistent between years and subjects.
Grade award	Meetings held, usually at the IB in the month following the examination session during which senior examiners decide the grade boundaries for each subject/component.
Grade award team	The team responsible for establishing grade boundaries and at-risk marking.
Grade boundary	The point at which student achievement moves from one grade to another. It is often used to indicate the lowest or highest criterion levels totals or marks which correspond to a particular grade.
Grades	The number or letters assigned to standards of student achievement.
IB MYP Bilingual Certificate	An MYP Certificate that indicates a candidate has successfully fulfilled at least one of the following: • achievement in two language and literature courses at grade 3 or above achievement in any MYP subject (other than Language acquisition) or interdisciplinary learning or personal project at grade 3 or above in a response language that is not the same as that chosen language and literature
IB MYP Certificate	The MYP Certificate recognizes that the student has achieved all aspects of the MYP programme. To achieve the certificate, a candidate must:· • achieve a total of at least 28 points, with no grade 1 or grade 2 in any MYP eAssessment • study the programme for preferably the recommended two years at least, with a minimum of one year, and complete requirements in Year 5 • complete the internal assessments and examinations (ePortfolios for language acquisition) for a minimum of five disciplines from different subject groups and a maximum of eight disciplines from the eight subject groups, which must include the required subjects • complete at least one disciplinary ePortfolio from the arts, physical & health education or design groups • complete the interdisciplinary examination • complete and submit a personal project • complete the IB's minimum requirements for community service.
IB MYP course results	The IB MYP Course Results is the primary MYP document. It shows each discipline the candidate has taken and the grade achieved (1–7). It also shows the grade achieved in the personal project, Interdisciplinary assessment and that the Community Service has been completed. Finally, the document records the candidate's name, personal code, session number, session in which the awards were made, date of issue,

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

	name of school registering the candidate (and replacement, if appropriate). The results document only shows positive achievement.
IBIS	The system that allows MYP coordinators to complete administrative procedures and obtain news and information from the IB via a password-protected web server.
Interactive	Candidate responses in interactive media form such as web spaces, portals, executable files or physical/tangible artefacts such as sculpture, painting or construction.
Interdisciplinary assessment	Combining or involving two or more branches of learning or fields of academic study within a single assessment. In the MYP, interdisciplinary study can be developed both within and between/among subject groups. MYP external interdisciplinary assessment always involves multiple subject groups.
Internal assessment	Assessment carried out by teachers in the school. In the MYP, internal assessment is required in each subject group. For MYP on-screen examination subjects, teachers use internal assessment to determine predicted grades. For MYP ePortfolio subjects, teachers submit internal assessment for moderation.
Internal standardization	The process by which all teachers of a particular subject in a school ensure they are assessing to the same standard.
Internally assessed	Work that is marked (assessed) by the students' teachers.
Issue of results	The process of students receiving grades from the IB, based on their assessments.
Judgment	The consideration of a student's work against an individual assessment criterion.
Language capability	The language in which the examiner can mark exam papers.
Malpractice	Any practice which subverts the principles of academic honesty, eg plagiarism.
Manageability	The degree to which the assessment and individual tasks place a burden on the student or school. Examples of manageability include the length of the assessments, the equipment or material required to deliver the assessment or the number of assessments required in a qualification.
Markscheme	Guidance for awarding criterion levels for a given piece of work. In some cases, the markscheme may be the MYP criteria as published. In other cases, the teacher may need to provide an answer key, indicate question levels on a reading comprehension, or provide criteria that have been clarified to be task specific.
MCQ	Multiple choice question.
Media based response	Candidate responses in audio, video, photographic or presentation form.
Middle Years Programme (MYP)	The IB Middle Years Programme, for students aged 11–16, provides a framework of academic challenge that encourages students to embrace and understand the connections between traditional subjects and the real world, and become critical and reflective thinkers.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Missing mark procedure	A mechanism for providing a grade for students where the IB is not able to access an accurate or fair mark based on the work the candidate has completed. It is appropriate in those circumstances where the reason for the lack of evidence is due to the actions of the IB or third parties (not including the school) where it would not be reasonable for the student to be asked to complete the assessment on another occasion
Moderation	A process to ensure that a common standard of assessment is achieved through review of samples of assessed student work and adjusting assessors' assessments, where necessary. The procedure by which sample assessed personal projects and ePortfolios from teachers are reviewed and adjusted externally to ensure assessment has been carried out according to agreed interpretations of MYP assessment criteria.
Moderation factor	An arithmetic adjustment applied to an assessor's criterion levels total to bring them in line with the common assessment standard.
Moderation failure	An examiner may fail moderation if his or her marking does not match the common assessment standard. In some cases, it may be possible to apply a moderation factor rather than remark an examiner's scripts.
Moderation sample	The required sample of student work submitted to a moderator.
Modified paper	Changes made to an assessment to allow a student (with specific needs) to be able to take the assessment on an equal footing with students who do not have these needs. Examples include changing the shape or style of the type font. Such adjustments must not change the nature of the question being asked.
MYP assessment	Assessment of learning in the Middle Years Programme. It covers ongoing, internal, formative and summative assessments. (See also MYP eAssessment).
MYP Bilingual Certificate	See IB MYP Bilingual Certificate
MYP Certificate	See IB MYP Certificate
MYP coordinator	The **pedagogical** leader of the MYP in the school who oversees the effective development of the programme. The MYP coordinator ensures effective communication about the programme within the school, and between the school and the IB. For assessments, this is the person responsible for registering students and understanding the *Handbook of procedures for the Middle Years Programme*, meeting deadlines, etc.
MYP course results	See IB MYP course results
MYP eAssessment	General term for the MYP external assessments that are taken or submitted though a computer or similar device. See also MYP on-screen examination and MYP ePortfolio.
MYP ePortfolio	An electronic collection of work that demonstrates student learning across the aims and assessment objectives of the course, resulting in a formal assessment. Arts, PHE and design will be assessed by internally assessed ePortfolios, samples are uploaded electronically and moderated by the IB.
MYP on-screen examination	A formal, timed, externally produced, media-rich examination comprising a series of tasks related to the subject designed to be answered in a secure exam environment.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

MYP record of participation	The MYP record of participation recognizes that the student has participated in a MYP that ends before MYP Year 5. To achieve the IB MYP record of participation, a candidate must:·
	• participate in the programme for at least two years and complete requirements in MYP Year 3 or Year 4 (rather than at the end of Year 5)
	• study a minimum of six disciplines, from eight different subject groups, including their internal assessment if completing MYP in year 4 or study a minimum of eight disciplines from eight different subjects groups if completing in year 3.
	• complete a school-based Community Project. The school-based record of participation is a document issued by the school based on an IB template available online. Schools do not register for the Record of Participation.
MYP Subject group	The programme model for the MYP includes eight subject groups. They are:
	• language and literature
	• language acquisition
	• individuals and societies
	• sciences
	• mathematics
	• arts
	• design
	• physical and health education
Objective	One of a set of statements describing the skills, knowledge and understanding that will be assessed. MYP objectives are aligned with assessment criteria for subject groups, interdisciplinary learning and projects.
Online curriculum centre (OCC)	A curriculum information and resources web application for all teachers delivering one or more of the four IB programmes. Its mission is to develop and nurture an international online community, which in turn fosters a culture of collaborative learning and exchange. It is one source for news, special events and information provided by the IB. It requires a log in and can be found at www.occ.ibo.org
On-screen examination	Any examination which is delivered though a computer or similar device. See also MYP e-Assessment.
On-screen sat date	The date on which an on-screen assessment is sat.
Pass rate	The percentage of candidates receiving an MYP Certificate. This is calculated by counting the number of candidates receiving a passing result and divided by the number of students who received a pass result or a fail result. This will not include students who were not given a result of any kind.
Personal project	A project that is the culmination of the students' experience in the MYP and shows their experience of approaches to learning (ATL) and global contexts. It is completed in the final year of the programme. All registered MYP students complete the personal project (internally marked and externally moderated).

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Personal project supervisor	The member of staff within a school who is responsible for working directly with the student on the completion of the personal project.
Pilot	A project to test or "prove" a new qualification, process or system.
Pilot subject	A subject undergoing evaluation; and pending successful evaluation will become generally available.
Points system	The award of the MYP certificate depends (in part) on the candidate achieving points (which match the grades for each discipline) which add up to 28. The maximum that can be achieved with six disciplines (the minimum required) is 56 points (6 disciplines × grade 7, plus 7 for the interdisciplinary and 7 for the personal project), but a candidate can register for six, seven or eight disciplines that all contribute to the achievement of the Certificate.
Post examination session	A period of time immediately following each examination session during which any issues arising from the examination session are resolved. Normally this will be 16 July–15 September for the May session and 16 January–15 March the following year for the November session.
Practice script	Examples of student work which is identified and marked during standardization and then given to examiners to explain that this is the standard that they should be marking to.
Principal examiner	In MYP, the role of principal examiner is slightly different to other exam systems. They are the head of a particular discipline and are responsible for leading the team designing the assessment, for setting and maintaining standards and mentoring examiner team leaders.
Programme coordinator	See MYP coordinator.
QIG	See Question item group.
Qualification script	Examples of student work selected by the principal examiner which are used to formally check that examiners have understood the required standard of marking before they are allowed to mark live student scripts.
Quality model	The approach that the IB takes to ensure that students receive the correct assessment outcome. The principal examiner sets the correct standard of response for each question and each examiner needs to reproduce this standard. For externally marked assessments, this is done by providing guidance to examiners though standardization, checking their understanding of the standard with qualification scripts and then monitoring their marking regularly through seed scripts.
Question item group (QIG)	One or more related questions within an examination paper are considered as a group. Examiners are then asked to mark individual QIGs rather than whole papers. This approach provides more reliable marking than whole script approaches.
Reliability	The degree to which the candidate will receive the same outcome every time their work is assessed. It can refer to the reliability between examiners, ie do they give the same outcome for the student, or the reliability of a single examiner, ie do they give the same outcome every time they look at the students work.
Retake	A second or subsequent attempt at one or more examinations in the hope of obtaining an MYP Certificate or increasing the total mark on an MYP Certificate already received.
RM Assessor	An electronic marking system supplied by the RM Group. Previously known as Scoris
School code	A six digit unique identifier of a school within IB systems.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

School contact	Head of school, DP, CP, MYP or PYP Coordinator, emergency contact
Scoris	See RM assessor.
Seed	A seed is a script which has already been marked by the principal examiner which is randomly added to a batch of scripts allocated to an examiner for marking. It looks like any other script, so the examiner cannot tell it is a seed. The marks the examiner awards the seed will be checked against those given by the principal examiner, with a certain tolerance to check the examiner is marking to the set standard. Dynamic sampling moderation seeds are used in the same way as part of the moderation process.
Seeding	The process of randomly introducing a number of preselected electronic candidate responses or seeds into the examiner's work list with a view to checking the quality and consistency of their marking.
Senior examiner	A role describing experienced examiners who support the principal examiner.
Session	The IB has two examination sessions, in May and November. IB World Schools must declare which of these two sessions is their main session. **NOTE** currently on IBIS, the two MYP sessions are labelled as June and December.
Special consideration	When a candidate is affected by adverse circumstances, they may be eligible for special consideration, provided that this would not give an advantage in comparison with other candidates. In such cases, if the candidate is within one or two scaled marks of the next higher grade boundary, the candidate's grade in the affected discipline(s) will be raised. This is the only possible accommodation for candidates in the event of adverse circumstances. If a candidate's marks are not within the required range, then no adjustment will be made.
Standard	The performance which is expected to achieve a particular score, grade or outcome.
Standardization meeting	A meeting held by the principal examiners to describe the required standard for marking and set seed scripts.
Standardization team	The team responsible for supporting the principal examiner in describing the required standard and producing marking exemplars.
Standardization	The collaborative process by which a common standard of assessment is achieved among moderators or examiners.
Student registration	See candidate registration.
Subject group	See MYP subject group.
Subject-group guide	A guide, published by the IB for each of the subject groups, stating the mandated objectives and assessment details.
Submission	The student handing in their final work to the teacher. This is certified by the candidate signing the declaration of authenticity for their work. Once a student has submitted the final version to the teacher for assessment, it cannot be retracted
Summative assessment	Assessment aimed at determining the competency or level of achievement of a student generally at the end of a course of study or a unit of work.
Synergistic thinking	The interplay between factual and conceptual thinking.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Task-specific rubric	An example of one type of task-specific clarification. An assessment grid adapted by the teacher or IB examiner, which better identifies how the general achievement level descriptors can be addressed by the students for a given task. Task-specific rubrics are useful in every year of the MYP. Task-specific rubrics are not meant to replace the subject-specific criteria and students should also have access to the originals. The task-specific rubric will help the students to gain further understanding of the generic descriptors.
Teacher support material	Additional information to help teachers understand what is required by the MYP. Teacher support material published by the IB includes examples of assessed student work for the subject groups and the personal project. This material may appear as paper documents or online publications. It is intended to give practical help to aid understanding and implementation of the theory in the subject-group guides.
Teaching hour	The length of teaching periods varies from school to school. For practical reasons, the IB refers to one teaching hour as the equivalent of 60 minutes.
Team leader	An examiner who leads a team of examiners.
Tolerance	The small variation from the principal examiners definitive mark which the IB believes is close enough to show the examiner is still marking to the correct standard. Tolerances are necessary because marking is a matter of judgment and even experienced markers will vary slightly when remarking the same piece of student work. Tolerances vary according to the number of marks, the kind of question and the subject.
Total score	See Points system.
Translation	The conversion of an exam paper into a preferred language for a non-language component.
Unannounced visit	A visit to a school to confirm that particular elements of the programme are being conducted appropriately.
Validity	The overall term which describes whether an assessment, or if the purpose the assessment results are being used for, is fit for purpose.
Withdrawn candidate	A candidate who initially registered for the session, but gave advance notice that some or all of the exams would not be taken.
Working language	The languages in which the IB communicates with its stakeholders and in which it is committed to providing a range of services for the implementation of the programmes. They are currently English, French and Spanish.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional