

Guidelines for the host country

The organizer of the IBO ensures equal participation of all delegations and invites all countries accepted as members of the competition. The organizer can invite, on the recommendation of the CC, delegations from other countries as observers. These countries can be accepted as regular members in the General Assembly (GA), after fulfilling all conditions for membership (see figure 1, chap. 4 in the IBO Guide).

The official language of the IBO is English. During official ceremonies the organizing country can also use the language requested by the protocol of the host country. The host country will also provide a translation of the tasks in Russian.

A. Becoming a Host Country

A country, which has been participating in the IBO, must state within a reasonable time after its acceptance as member its intention to host an IBO in a certain year. This official statement must be sent to the IBO CC at least two years before the intended year to host the IBO. The approval of a host country is made at the General Assembly at least two years in advance.

Criteria for accepting a future IBO host are:

- An official letter of Ministry of Education or similar governmental body confirming the willingness of the country to host an IBO;
- Naming the organizations and involved bodies (e.g. universities) with their main tasks;
- Naming the institution(s), that guarantees the availability of the required finance necessary to carry out the IBO;
- The year, prospective site and fee.

Future organizers accepted as IBO hosts will inform the CC regularly about the state of preparation and report about important deadlines and milestones. They will attend at least two Advisory Board meetings before the actual IBO. Future hosts are encouraged to distribute relevant information during a GA brief presentation, focusing only on IBO relevant issues.

B. Setting up an IBO

The Organizing Committee

The Ministry of Education (or an analogous institution) represents the official authority of the host country. The host country appoints an organizing committee, and sends official invitation letters, including information about financial conditions and other duties related to the IBO membership.

The committee is responsible for the preparation and the activities of the IBO, the site, excursions, etc.

Main responsibilities of the Organizing Committee

The organizing committee has the following responsibilities:

- Sending information about the IBO to IBO member countries and observers by the end of the year before the IBO year, including details such as amount of and procedure to pay the fee, declaration of competitors, etc.
- Preparation of the tasks in English;

- Provision of a Russian translation of the tests,
- Organizing the IBO, which includes Opening and Closing ceremonies and conducting the jury meetings in English;

Jury meetings and IBO procedure

The organizing committee and its subcommittees have the following responsibilities:

- Conduct of the competition, both theoretical and practical;
- Excursions;
- Reasonable conditions for the work of the international jury;
- Preparation of medals and certificates for the competitors (winners of gold, silver and bronze medals should have some indication about their medal on their certificate)
- Conducting all IBO activities in English;
- Providing the CC after the competition with a copy of the files of the complete English and Russian final version of the tests;
- Providing each country not only with a copy of the completed answers sheets of their competitors before the moderation meeting, and with the ranking and final scores after the closing ceremony;
- Storing the originals of the translated tests for at least two years and perform a random check on the quality and integrity of the translations of countries belonging to the gold and/or silver medals. For evaluation and checking purposes these originals are available for others after approval by the CC;
- Checking the translations of 5 to 10 countries (selected randomly after the IBO) and reporting on the quality and integrity of test translations;
- Looking for any statistical inconsistency in final results (i.e. laboratory / theory correlation) that could indicate possible cheating. All light should be shed as soon as possible on such a case, preferably before the end of August of the IBO year.
- Instruction about the testing procedure should be described clearly in the tasks itself, so no additional verbal instruction and/or explanation about the testing procedure are necessary during the test session.

Logistics

The host country is committed to:

- Providing food, accommodation and transportation to and from the Airport and/or the Railway Station for all participating members and observers;
- Securing optimum health and safety requirements of the competitors in relation to travel, communication, lodging, food supply, fulfilling experiments and practical examinations, recreation activities etc.
- Appointing a Chairperson to chair the Jury sessions, which include translation, approval and evaluation of test questions, and approval of test scores and awards;
- Arranging facilities, such as photocopying, photo and/or video documentation, computer processing of achieved results;
- Distributing a new updated version of the addresses list including email of all coordinators and team leaders;
- Preparing a final report within one year after the competition.

In general the following items should be included in an IBO report.

IBO report (The sequence of these points is somehow arbitrary.)
<ul style="list-style-type: none">• IBO in a nutshell (e.g. see 2001 report)• Organization: organizing, scientific, and other assisting groups/committees: their tasks, and how they were recruited• Program with some focus upon social and cultural activities• Result + medals• Statistical considerations: average + max + min score per question and per subtest, some distribution of scores (histogram), inter correlation between subtests, mean + SD• Evaluation and reflection, including recommendations concerning important milestones and deadlines for future organizers• List of participating countries,• Members of Local Task Committee• International Jury, participants, observers and students guides• Address (speeches) of special VIP's• Theoretical Test + answers• Practical test + answers• Patronage committee• List of sponsors

Meeting other goals of the IBO

The IBO affords an opportunity to learn about issues in education across the world. One of the goals of the IBO is stimulating the international exchange of ideas and materials about syllabuses, curricula, topics, didactic approach and skills in relation to biology education. So every three years the host country will hold an education session.

Another IBO goal is establishing friendly relations among young people from different countries. So the host country is recommended to offer facilities for competitors to socialize. A prize can be awarded for especially "social" delegations.

Financial Responsibility of the Host Country

The IBO fee will be proposed three years before and fixed one year before the actual IBO. The fee has to be paid according to the directives specified by the host country in an official letter. The host country must pay for all activities of the hosted IBO during the specified week, except for the travel expenses of the participating members and the observers to and from the city or town where the IBO takes place.

The host country also determines the fee for the extra jury members and informs the countries in advance. Extra guests not involved in future IBOs or not rendering assistance in translations are just visitors and may be charged extra. Conditions for extra days at the competition site before and after the Olympiad have to be clearly specified in the invitation letter sent to all countries.

Preparation of the IBO tasks

The Scientific Committee

The host country must appoint a committee of authors responsible for the construction of the IBO tests, the design of the proposed tasks and how each question is to be evaluated (marking procedure). The members of this committee should include specialists in Biology, secondary school biology and assessment and evaluation.

The committee needs to be conversant with the IBO, familiar with previous IBO test questions, and understand the Content of the theoretical part of IBO (see IBO Guide, Appendix I), Basic skills for the Practical part of the IBO (see IBO Guide, Appendix II). In particular, the scientific committee needs to understand the principles in relation to the design of valid and reliable tasks.

In the current year of the IBO the group responsible for training the national team of the host country for the IBO should be strictly separated from the expert committee of the host country responsible for the design of the IBO tasks.

Checklist (in progress)

The test time for both Theory and Practical part should in between four and six hours. The marks for the tasks should reflect time and efforts of the competitors. Theoretical and Practical tasks have separate answer sheets.

Questions should be designed and developed with assessment experts have to be involved in designing the tests/questions and answer sheets, determining the mark allocation and scoring. Previous IBO hosts will be helpful as resource personnel.

Tasks and test questions should not focus upon factual knowledge directly derived from textbooks. Questions should focus on reasoning, problem solving and understanding. Knowledge-only questions are discouraged.

Tasks should be designed in such a way that the answers are precise and can be objectively evaluated. The number of points for each question should be indicated on the examination papers. Difficult questions should have more points than simple questions. In the case of questions consisting of several sub-questions a subdivision should be applied in the marking (no all-or-nothing principle). The 'piling up' questions leading to possible cascade mistakes should be marked in a way that is fair to the competitors (avoiding consequential errors). The host country will present the marking scheme and evaluation procedure for each question to be approved by the Jury during the jury session.

Biological notions and principles necessary for solving the tasks should be included in general (not specialized) biology textbooks. Textbooks should be used as reference, not a resource for questions in IBO tests. Tests should be presented in graphic form as much as possible: graphs, diagrams pictures, drawings. The use of video and audio is encouraged.

The English and Russian versions of the tasks should be checked by a native speaker (preferably a biologist). In order to facilitate the translation process, tests should be as concise as possible. The host country is encouraged to avoid unnecessary words. Use digits or codes instead of words in graphs or pictures, which have to be translated.

The questions should be pretested with an appropriate target group different from IBO competitors, but still representative.

Throughout the tests competitors have to mark specific answers in applying just one consistent “tick” system.

If hosts use paper copies, to facilitate the translation procedure and make it possible to write translations in between the lines, tasks will be word-processed with double spacing. The host country should provide ample copying facilities in order to avoid queuing up.

In order for anonymous marking, code numbers will be used instead of student names. An explanation of the coding procedure will be included in the written instruction on the front page of the tasks in native languages. Oral instruction at the start of test sessions should be avoided.

Calculators to be used in the tasks will be provided with simple statistical functions and distributed among competitors at their arrival at the competition site. Competitors will be informed that they have to bring and use these calculators only during the tasks.

During tests refreshments will be available for competitors.

Taking video shots during IBO practical tasks is allowed as long as it will not interfere with the competitors. Students participating in IBO are through the Declaration Form that they should agree to be filmed/photographed during IBO for non-commercial purposes.

Theoretical Task

The total number of IBO theoretical questions should not exceed 100. The questions in the Theory test should be grouped by domains in about the following percentages: Cell Biology (20%), Animal anatomy & Physiology (25%), Plant Anatomy and Physiology (15%), Ethology (5%), Genetics & Evolution (20%), Ecology (10%), Biosystematics (5%).

A strict separation of domains is not necessary. Cross-domain questions are most welcome. In order to improve the quality of the Theoretical Test all countries are encouraged to provide questions to the host country.

Practical Task

The practical test must follow the Basic skills of the practical part of IBO (see Appendix II). Any skill and biological scientific term beyond the approved Basic skills and Content, if required, must be specified in a preparatory text, sent by the organizers to the coordinators of the participating countries by the end of March.

The following suggestions may be useful for the preparation of the practical part:

- The practical part is divided into several sections in which competitors take turns. In that case the organizing committee must ensure that all groups and all competitors are provided with equal laboratory materials, equipment and instructions;
- Testing procedures have to provide all competitors with identical conditions and equipment;
- Prior to the examination competitors should be allowed to become acquainted with specific or unusual equipment to ensure fairness;
- During the test there should be no need for additional instruction from laboratory attendants;
- The laboratories should be spatially arranged in order to avoid meeting among competitors during room switching or breaks;
- In practical tasks dealing with ethology the use of video and/or audio are acceptable options.

- Competitors must wear laboratory coats and, if requested, gloves and eye protection.
- Pipetting liquids by mouth is strictly forbidden: each competitor must be provided with a pipette ball or filler.
- The use of very toxic substances (e.g. KCN) is strictly forbidden. The use of toxic substances (e.g. EtBr) is not recommended, but may be allowed if special precautions are taken.
- The GHS hazard symbols (Globally Harmonized System of Classification and Labelling of Chemicals) are to be clearly seen on the product container and noted in the task text. See appendix VI.
- Competitors and leaders of participating countries in IBO should accept the safety recommendations, rules and directions valid for scientific work in the IBO host country (safety rules for secondary education do not apply but comply with the requirements governing animal ethics).
- The international jury carries the responsibility for the IBO tests. The host country should offer the International Jury a list of materials and chemicals to be used in the Practical Task, with their potential risks.

Operational matters of the jury

The host country appoints a Chairperson. This person is the one and only person directing the sessions of the International Jury. S/he should be familiar with all IBO regulations and procedures, so s/he should attend a previous IBO. The Chairperson supervises the process, taking care that discussions proceed productively and smoothly. Defending questions is not his/her task.

The Subgroup

The host country may invite a Subgroup of at least six jury members to review the practical and theoretical examinations for at least three working days prior to the IBO week. In cooperation with representatives from the host country the Subgroup will review the practical and the theoretical examinations, focusing on the quality of the questions in terms of scientific correctness and conceptual formulation. They will additionally check the marking allocation, the rationale for marks and the balance of topics of the theoretical examination according to the IBO Guide. Practical materials should be made available to the Subgroup.

The host country from the year of the election of the Subgroup and the host country for the IBO following the one in which the Subgroup will function can each be represented by one member of the Subgroup. The Subgroup will be chaired by the chairperson of the International Jury, who is appointed by the host country of that year. The remaining members will be chosen according to the Rules.

Operations in the jury room

The host country is advised to ensure a practical distribution of all countries over the seats in the room during Jury sessions, e.g. IBO chairperson positioned near Jury chairperson, equal or similar languages together. All coordinators will be asked to state their wishes concerning collaboration with other countries through their application form.

The local task committee responsible for the tasks should be present at Jury meetings and be prepared to defend the questions and answer keys. It is helpful if the authors of the tests are obliged to be present during the task discussions. In this respect it is necessary that the questions sent for theoretical tasks should be provided with suggested solutions and explanations.

To speed up discussion of proposals during jury meetings, adjusting of test questions should be first discussed individually with experts from the local task committee about the tasks and only afterwards in the plenary session. In the event of a 'tricky' question it is recommended to dedicate the task of transforming it into a proper question to a small team of Jury members.

Reading time

The time period allowed for the familiarization of jury members with the pack of questions should be strictly fixed and all the related questions should be discussed and voted one by one in a sequence. Repeated discussions in the Jury of questions after having voted should be strongly discouraged. In the case of disagreement in the Jury about the validity of an answer of a question, this question should be rejected automatically.

The organizers have the duty to show during the first jury session the equipment and materials to be used by the competitors during the practical task and give a presentation of the task.

Questions about the tasks should be communicated (either orally or on written form) to the Chairperson of the jury during the reading period. Members of the Subgroup and the jury members who submitted the questions should discuss suggestions and present no more than two variants to the international Jury for voting.

Translation time

During the translation procedure and approval of the answer key of the theoretical task a list should be available showing who is the author of each question. Experts and interpreters involved in the translation of tasks, taking care of the (word) processing corrections during Jury meetings and processing the statistical evaluation of the results should have a biological background.

While translating every delegation will check the answer key provided by the organizers. The approval of the answer key and the discussion and translation of the IBO theoretical tasks by the International Jury will be in one session.

The quality and integrity of the translations will be checked on a random basis. Student guides or local experts could be involved in this process but only after the actual test session. The host country may display a selection of printed versions of translated test papers in Jury Room. After IBO the CC will archive soft copies of all translated IBO tests.

Discussion time

Discussion of IBO tasks will focus only upon the biological content and/or assessment aspects. Spelling and grammar mistakes in the English (or Russian) version of the tasks, being not relevant for understanding the particular question will not be discussed.

IT facilities

The IBO host is strongly advised to have the proper functioning of IT facilities checked by members of the International Jury on the day of registration and to have plenty of IT experts available as helpdesk.

It is recommended that web access is available during the jury sessions. During the competition the use of electronic communication devices is completely forbidden for competitors. They have to sign a declaration about this (appendix IV).

Countries willing to use computer for translation of the tasks should bring their own keyboard. IBO encourages all countries to type their translations. Native English speakers will check the correctness of all questions from the assessment point of view and check the correctness of the answer key. The answer key of IBO tests will be checked on correctness of significant figures.

If for a certain country, no official names in the local language are available in the topic Biosystematics, competitors should use correct scientific names.

Voting

In order to reduce possible confusion during voting about the number of votes it is advised that every country will be provided with special voting cards; the use of an electronic voting system is preferred.

A Jury vote regarding more than two options demands several voting rounds going step by step in a logical order.

Inspection of the examination

During the tests objective inspectors appointed by the jury should be present to check whether the testing conditions are in accordance with the Rules. Inspectors will be recruited among jury members of past and near future IBO organizers and among newcomers attending the IBO as observer without a team. Supervisors of the organizers should be informed beforehand about the existence and attendance of the inspectors. Inspectors should be identifiable by a special badge and not interrupt or interfere with the assessment procedure.

Check points for inspectors
<ul style="list-style-type: none">• Start & finish: no disturbing (too) long lasting announcements. The instruction on the tasks itself should be sufficient;• Condition in the room: temperature, smell, noise, light;• Quality of equipment and materials (inspectors should have the possibility to check this, e.g. quality of slides with a microscope);• Solving problems by supervisors in case of failing or lacking materials;• Positioning of the competitors (spatial arrangement, enough room on their tables);• Irregularities:<ul style="list-style-type: none">- coping with superfluous or unnecessary questions of competitors- cheating or cribbing- possibility of competitors to observe manipulations of other competitors

- too much (in between) announcements
- competitors talking with each other
- Availability of refreshments;
- Shift procedure in between labs;
- Differences in speed/progress of competitors with their tasks;
- Available time for competitors in relation to the length of the tasks.

Competitors are not allowed to bring any bag in the test facilities. They must leave all papers in the exam rooms. Directly after the tests the inspectors will assist the organizers in photocopying all answer sheets and save these copies in a sealed envelope.

The practical examination

At the start of each session of the practical task competitors should be provided with fresh materials and proper functioning equipment. On the front page of the tasks competitors will be told/reminded to ask supervisors for substitution of inadequate materials or equipment and the organizers should have spare materials and equipment available.

In case of complaints about equipment and specimen competitors should indicate their objection on their paper and have it signed and commented by a lab assistant. In case of an unjust complaint a competitor will lose all points for the experiment concerned.

Misconduct during the examination

During the exams, assistants can conveniently use a yellow card as a non-verbal warning to a suspect competitor. In case of proven or suspected cheating the IBO SC will set up a specialized committee being in charge of processing the case.

- Competitor names shall never be revealed.
- as long as there is suspicion only, no country name shall be revealed.
- once there is a verdict of guilty, the country names will become public.
- IBO will then publish on its website, in the ranking list only, that “... competitors from country ... were disqualified.”

Answer key, marking, ranking

Once the Jury members have met the competitors, no deleting of questions or changes can be accepted in the evaluation criteria unless 2/3 of the Jury members accept to discuss the modification.

Organizers should be aware that it is essential to ensure having enough markers plus experts for producing the preliminary scores + statistical results. The presentation of results of the different parts of the tests to the International Jury should include:

- Scores and means as a %;
- Scatter diagrams in % of Th – Pr, Th(A) – Th (B);
- Correlation between different Th and Pr test parts;
- Histograms (distribution of scores).

Checking of competitors' scores

Team leaders will check competitors' scores. To facilitate this, the local marking team will indicate their awarded scores on the answer sheets of the competitors and the total score on the front page. During the checking procedure, copies of the translated test papers and copies of the marked answer sheets of the competitors will be used. While checking the awarded scores, team leaders will only have access to copies of the papers of their own students plus their awarded scores and nothing more. No lists should be available or distributed with total scores and/or names of the competitors. While checking awarded scores to their students, leaders also should check whether competitor codes are correct. After having checked the marking made by the organizer's marking team each delegation leader will sign for approval of his/her national team results (presented on a sheet containing only the raw results of the 4 country competitors). *The Jury chairperson, the Coordinating Center representative and the Coordinators chairperson will sign a document summarizing the medal awarding criteria.*

The final ranking of the competitors is based upon their equally weighted scores for theory and practical tasks according to the t-score method (see the organization rules).

During the decision procedure of the awarding of medals delegation leaders will only have a list with adjusted scores (original scores multiplied by a secret factor and no names of the competitors or countries). The final ranking and medal distribution will be secret until the official announcement in the closing ceremony.

What does an IBO program look like?

1st day (Sunday)	Arrival of delegations Opening ceremony in the afternoon
2nd day (Monday)	Jury session: <ul style="list-style-type: none"> - presentation of the team of authors - general concept of the competition - explanation of the structure of the tests - total proposed number of points for the theoretical and practical tests - presentation of the practical test with evaluation procedure including demonstration of the materials and equipment necessary to fulfil the practical tasks - appointing inspectors, recruited from future and past organizers and observers, who will witness at random the actual practical test session - discussion and approval in portions of the practical test and its marking procedure - translation of the practical task into native languages - checks on translations
3rd day (Tuesday)	Practical test for competitors in shifts Jury session: <ul style="list-style-type: none"> - report of inspectors present during practical test - presentation of the theoretical test questions and evaluation procedure - discussion and approval in portions of the theoretical test, its answer key and its marking procedure

	- translation of the theoretical test into native languages
4th day (Wednesday)	Jury session: <ul style="list-style-type: none"> - appointing inspectors who will witness at random the actual theoretical test session - discussion and approval in portions of the theoretical test, its answer key and its marking procedure - translation of the theoretical test into native languages. - checks on translations
5th day (Thursday)	Theoretical test for competitors (after the test reunion of delegation leaders and competitors) Jury session (in the afternoon): <ul style="list-style-type: none"> - checking the marking process: team leaders analyze, discuss and approve the awarded scores by the marking team and the statistical evaluation of the results of the practical test. Remark: for team leaders the test papers and copies of the marked answer sheets of their competitors should be available. - reporting from inspectors present during theoretical test General Assembly in the evening
6th day (Friday)	Jury session in the afternoon or evening: <ul style="list-style-type: none"> - checking the marking process: team leaders analyze, discuss and approve the awarded scores by the marking team and the statistical evaluation of the results of the theoretical test. Remark: for team leaders the test papers and copies of the marked answer sheets of their competitors should be available. - determining balance in scores for theoretical and practical test (normally 50% - 50%) in the final ranking. A change in the 50:50 ratio should be based upon the statistical evaluation.
7th day (Saturday)	Jury session in the morning (or Friday night): Approval of the competition results and awarding of medals Afternoon: Closing ceremony
8th day (Sunday)	Departure of delegations

Note: Excursions and cultural activities are organized for competitors, jury members and observers during their free times throughout the course of the IBO. Separation of Jury members from competitors must be assured between the Jury session and the theoretical or practical competition respectively.

What is the usual protocol during the opening and closing ceremonies?

Opening:

1. Entry and presentation of the IBO cup and IBO flag.
2. Lining up of all participating teams with their national flags, in alphabetical order.
3. Opening address and words of welcome by invited prominent Master of Ceremonies and other speakers alternated with cultural and/or musical performances.
4. Oath by the competitors' representative while all competitors are standing and raising their right hand.

Oath *We, competitors of this International Biology Olympiad solemnly swear that we will answer the theoretical and practical competition questions in the most responsible way and we will compete honestly according to the principles of "Fair Play".*

5. Oath by a representative of the International Jury while all delegation leaders are standing and raising their right hand.

Oath *We, the members of this International Biology Olympiad Jury, solemnly swear to judge the competition according to the valid Rules accepted for this Olympiad and according to the principles of "Fair Play".*

Closing:

1. Entry of all participating teams (flags are already on the stage).
2. Address by the main author or president of the IBO about the competition and other speakers.
3. Announcement of awards and medal presentation in reverse order, with a clear distinction between Certificate of Merit, bronze, silver and gold. The overall winners ranked 1, 2 and 3 will receive special attention during the medal award ceremony.
4. Interval with musical and/or cultural performances
5. Distribution among each national team the certificates of attendance while lining up on the stage.
6. Handing over the IBO cup and IBO flag to the host country of the next year.
7. Closing addresses.

Directly after the closing ceremony copies of the final ranking and results will be available for Jury, competitors and the media.