

PISA 2022 Technical Report



8 Field Operations

Overview of roles and responsibilities

PISA was coordinated in each participating country/economy by a National Project Manager (NPM)¹ who carried out the procedures specified by the international contractors responsible for the implementation of PISA. Each NPM typically had several assistants working from a base location that is referred to throughout this report as a National Centre. For the school-level operations, the NPM coordinated activities with school-level staff, referred to in PISA as School Coordinators.² Trained Test Administrators administered the PISA assessment in schools.

National Project Managers

NPMs were responsible for implementing the project within their own country/economy. Major tasks carried out by the NPM included, but were not limited to:

- attending NPM meetings (in-person and virtual) and receiving training in all aspects of PISA operational procedures;
- participating in relevant webinars, such as webinars related to improving school and student participation;
- negotiating with the international contractors about local aspects of the implementation of PISA, such as national and international options, oversampling for regional comparisons, additional analyses and reporting (e.g., by language group, etc.);
- establishing procedures for maintaining the security and confidentiality of materials during all phases of the assessment implementation;
- determining the general suitability of using school computers to conduct the computer-based assessment (CBA countries/economies only) and determining the need to use laptops completely or as a supplement to school computers;
- preparing a series of sampling forms documenting sampling-related aspects of the national educational structure;
- preparing the school sampling frame and submit this to the international sampling contractor for the selection of the school sample;
- organising for the preparation of national versions of the test instruments, questionnaires, school-level materials (i.e., manuals, scripts, and forms), and coding guides;
- identifying School Coordinators from each of the sampled schools (nominated by the school principal or school staff normally responsible for testing) and working with them on school preparation activities;
- using software to select the student sample from the lists of eligible students provided by the School Coordinators;
- using software to select the teacher sample from the lists of eligible teachers provided by the School Coordinators (if applicable);

- recruiting and training Test Administrators to administer the assessments in schools;
- nominating suitable persons to work on behalf of the international contractors as external PISA Quality Monitors (PQMs) to observe the assessment administration in a selection of schools during the Main Survey only;
- monitoring the completion of School Questionnaires;
- monitoring the completion of Teacher Questionnaires (if applicable);
- monitoring the completion of Parent Questionnaires (if applicable);
- monitoring the Field Trial and Main Survey school and student participation;
- arranging for the transmission of School Questionnaire and Teacher Questionnaire (if applicable) responses completed online;
- arranging for the coding, data management, and reporting on the Parent Questionnaire (if applicable) or other national options (if applicable);
- recruiting and training coders to code the open-ended test items and the occupational data on questionnaires;
- arranging for the data entry of the test responses, Student Questionnaire responses, and School Questionnaire responses completed on hard copy in countries/economies where paper-based assessment (PBA) were administered;
- submitting the national database to the international contractor;
- submitting a written review (Field Trial Review Questionnaire and Main Survey Review Questionnaire) of PISA implementation activities after each task or following the assessment.

A National Project Manager's Manual provided detailed information about the duties and responsibilities of the NPM. Supplementary manuals, with detailed information about specific aspects of the project, such as sampling, were also provided and are described in the relevant chapters.

School Coordinators

School Coordinators were responsible for organizing school-related activities with the National Centre and the Test Administrators. A School Coordinator's Manual, prepared by the international contractors, described in detail the activities and responsibilities of the School Coordinator.

Major tasks carried out by the School Coordinator included the following:

- established the school assessment date and time, in consultation with the NPM;
 - ran a systems diagnostic tool provided by the international contractors to determine if school computers were suitable for the assessment;
 - prepared the student list with the names of all PISA-eligible students in the school and sent it to the National Centre so that the NPM could select the student sample using the ACER Maple software;
 - prepared the teacher list with the names of all eligible teachers in the school and sent it to the National Centre so that the NPM could select the teacher sample using ACER Maple (if applicable);
 - received the list of sampled students from the NPM on the Student Tracking Form (a form designed to record sampled students with their background data) and updated it if necessary (e.g., identifying students with disabilities or limited assessment language proficiency who could not take the assessment according to criteria established by the international contractors and the PISA Technical Standards)³;

- received the list of sampled teachers on the Teacher Tracking Form from the NPM (if applicable) and updated it (e.g., identifying teachers who refused to complete the questionnaire, no longer taught at the school, or were otherwise ineligible);
- received, distributed, and collected the School Questionnaire, if on hard copy, or monitored the completion of the School Questionnaire if completed online;
- distributed instructions for completing the Teacher Questionnaire online and monitored the completion online (if applicable);
- received and distributed the Parent Questionnaire (if applicable);
- informed school staff, students, and parents of the nature of the assessment and the assessment date by sending a letter or organising a meeting in the school;
- secured parental permission for students to sit the assessment, if required by the school or education system;
- liaised with the Test Administrator to establish the time and other logistics of the assessment;
- informed the NPM, Test Administrator, PISA Quality Monitor of any assessment date or time changes;
- arranged for technical support if administering the assessment on computers;
- assisted the Test Administrator with room arrangements for the assessment day.

On the assessment day, the School Coordinator was expected to ensure that the sampled students attended the assessment session(s). If necessary, the School Coordinator also made arrangements for a follow-up session and ensured that absent students attended the follow-up session.

Test Administrators

The Test Administrators were primarily responsible for administering PISA in accordance with international standards and PISA procedures. To maintain some level of impartiality, a Test Administrator could not be the science, reading, or mathematics teacher of the students being assessed, and according to the PISA Technical Standard 8.2, it was preferred that they not be a staff member at any participating school. Prior to the test date, Test Administrators were trained by National Centres. Training included a thorough review of the Test Administrator's Manual and the Student Delivery System Manual in CBA countries/economies.

Additional responsibilities included, among others:

- ensuring receipt of the testing materials from the NPM and maintaining their security;
- contacting the School Coordinator one to two weeks prior to the test to confirm plans;
- completing final arrangements on the test day;
- reviewing and updating the Student Tracking Form;
- completing the Session Report Form (a form designed to summarise session times, any disturbance to the session, etc.);
- in PBA countries/economies ensure that the number of test booklets and questionnaires collected from students tallied with the number sent to the school;
- in CBA countries/economies ensure that all the USB sticks used for the assessment were accounted for;
- in PBA countries/economies, collect the School Questionnaire from the School Coordinator;
- collecting Parent Questionnaires (if applicable);
- debriefing with the School Coordinator (if applicable);
- conducting a follow-up session, if needed, in consultation with the School Coordinator;

- returning the School Questionnaire, Student Questionnaires, Parent Questionnaires (if applicable), and all test materials (both used and unused) to the National Centre.

The selection of the school sample

NPMs used the detailed instructions in the School Sampling Preparation Manual to document their school sampling plan and to prepare their school sampling frame.

The national target population was defined, school- and student-level exclusions were identified, and aspects such as the number of small schools and the homogeneity of students within schools were considered in the preparation of the school sampling plan. A school was defined as small when the approximate enrolment falls below the target cluster size. Specific details on the target population and target cluster size are presented in the sampling chapter of this technical report.

For all but one participating country/economy, the sampling frame was submitted to the international contractor, who selected the school sample. Having the international contractor select the school sample minimised the potential for errors in the sampling process and ensured uniformity in the data file outputs for more efficient data processing later (student sampling, data analysis, etc.). It also relieved the burden of this task from National Centres. NPMs worked closely with the international contractor throughout the process of preparing the sampling documentation, ensuring that all country/economy-specific considerations related to sampling were thoroughly documented and incorporated into the school sampling plan.

Preparation of school-level materials

School-level materials include the School Coordinator's Manual, Test Administrator's Manual, Test Administrator's Script, the *Une Heure* (UH) Script (a national option used with Special Needs Students), and key forms (Assessment Date Form, Session Report Form, Student List, Student Tracking Form, and Worksheet for Calculating the Assessment Rate). Only English source versions of the manuals, scripts, and forms were provided by the international contractors. NPMs were required to make adaptations to these materials using the New Comment and Track Changes functions in Microsoft Word. Following approval of the adaptations, the materials were translated in the national test language(s).

In countries/economies with multiple assessment languages, the school-level materials were translated into each assessment language unless all Test Administrators and School Coordinators were multilingual. However, scripts, were required to be translated into the language of the test. After translation, the scripts underwent linguistic verification by the international contractors to ensure that they were equivalent to the source version. This verification was only done for the Field Trial. The translation of manuals and forms was not verified.

Various checking procedures were employed to review how closely national translations of the school-level materials (i.e., manuals, scripts, forms) adhered to the Technical Standards. Key elements of the adapted national language versions were reviewed in approximately 10% of countries/economies. No significant deviations were noted that might affect data validity and reliability.

The selection of the student sample

Following the selection of the school sample by the international contractor, the list of sampled schools was returned to National Centres. NPMs then contacted these schools and requested a list of all PISA-eligible students from each school. This was used by NPMs to select the student sample.

NPMs were required to select the student sample using Maple, the PISA student sampling software prepared by the international contractor, ACER. ACER Maple generated the Student Tracking Form (STF) which listed the sampled students for each school. The STF served as the central administration documents for the study and linked students, test booklets (PBA) or test forms (CBA), and student questionnaires. The form was also used to record student attendance (the Session Attendance Form used in prior cycles was not used for PISA 2022).

Packaging and shipping materials

The following key documents and items needed to be sent either to the Test Administrator or to the school:

- test booklets and Student Questionnaires for the number of students sampled plus extra unassigned booklets and questionnaires (PBA countries/economies only);
- student Tracking Form;
- session Report Form;
- test delivery USB sticks (CBA countries/economies only);
- Student Login Forms (CBA countries/economies only);
- teacher Login Forms (if applicable);
- materials Reception Form;
- materials Return Form;
- additional materials (e.g., COVID-19 prevention items, pens and calculators).

In PBA countries/economies, for both the Field Trial and the Main Survey, ACER Maple software pre-assigned a test booklet to each sampled student from a random starting point in each school. The software then generated the school's Student Tracking Form that contained the number of the allocated booklet alongside each sampled student's name. This information was used by the Test Administrators when distributing the booklets to students.

For CBA countries/economies, computer-based forms were assigned automatically by the ACER Maple software based on the integrated design.

Field Operations Procedures for PBA countries/economies

The procedures recommended that National Centres print removable labels, each with a student identification number and his or her specific test booklet number, as well as the student's name. Two or three copies of each student's label could be printed and used to identify the test booklet and the questionnaire. Instructions were provided in the Test Administrator's Manual on how to apply labels as a quality control method to help ensure that students received the correct booklet and questionnaire. After the assessment, labels were removed and destroyed to maintain the confidentiality of students' responses.

NPMs were allowed some flexibility in how the materials were packaged and distributed, depending on national circumstances. In most countries/economies, materials were shipped directly to the Test Administrator rather than to the school. It was specified, however, that the test booklets for a school be packaged so that they remained secure such as sealing them in clear plastic or by wrapping them in paper and applying a seal. Countries/economies bundled booklets specific to a school and the Test Administrator applied the removable student labels prior to the test date. Procedures for preparing test booklets and student questionnaires were described in the Test Administrator's Manual.

Field Operations Procedures for CBA countries/economies

It was highly recommended that Test Administrators test the USB sticks prior to the test day to detect any that were defective. Directions for testing the USB sticks were provided in the Student Delivery System Manual.

Test Administrators prepared the Student Login Forms by placing them in the order that the students appeared on the Session Tracking Form, numbering the Student Login Forms, and then crosschecking that the password listed on the Student Tracking Form matched the password listed for that student on the Student Login Form.

Test administration

After arriving at the school on assessment day, Test Administrators were required to review the Student Tracking Form with the School Coordinator and update the form as necessary. Once the form was updated, the Test Administrator set up the room and materials for the assessment session following the steps described in the Test Administrator's Manual:

Steps for setting up CBA test administration

1. allocated a workspace and computer to each participating student.
2. set up computers for each student expected to be tested.
3. distributed Student Login Forms to students, ensuring that each student receives only the login form assigned to that student on the Student Tracking Form.
4. set aside the materials for students who had any non-participant codes recorded on the Student Tracking Form or did not attend the assessment session from the very beginning.

Steps for setting up PBA test administration

1. allocated a workspace to each participating student.
2. distributed test booklets (and later Student Questionnaires) to students, ensuring that each student received only the test booklet assigned on the Student Tracking Form.
3. wrote the testing date on a board or sheet of paper visible to all students.
4. asked the students to write the test date on their test booklet covers (and later the Student Questionnaire).
5. set aside the materials for students who had any non-participant codes recorded on the Student Tracking Form or did not attend the assessment session from the very beginning.

Administering and monitoring the test

To obtain comparable and reliable data, Test Administrators were required to strictly follow the timing of the paper-based assessment, especially the administration of the test sessions (2 sessions of exactly 1 hour each). The timings were the same for CBA test sessions, with additional time added if one or more of the optional questionnaires was administered. Although CBA test sessions were timed by the student delivery system, Test Administrators were still required to enforce the timing and not move students forward prematurely. The timing of the is shown in Figure 8.1 below.

Figure 8.1. Timing of the CBA and PBA assessment sessions

Activity	Timing
Distributing materials and reviewing general directions	15 minutes (approximately)
First 60 minutes of test	60 minutes (exactly)
Short break	Generally, no more than 5 minutes
Second 60 minutes of test	60 minutes (exactly)
Break	15 minutes*
Student Questionnaire	35 minutes (approximately) + additional time for any optional questionnaires
Collecting the materials and ending the session	15 minutes (approximately)
Total	Student Time: 3 hours 30 minutes (approximately)

* The amount of break time before beginning the Student Questionnaire is not strict. The recommended amount of time is 15 to 30 minutes, but the time can be adjusted at the discretion of the National Centre, and school's circumstances.

NPMs were allowed to adapt the length of the short break between the two testing sessions. Most countries/economies allowed only the recommended 5-minute break. In a few cases, countries/economies did not offer a break between test sections in all of their schools as they felt this would be too disruptive. Some countries/economies required a longer break usually up to 15 minutes.

No changes to the timing of the test sessions were allowed. Adaptation to the timing of the Student Questionnaire session (for both CBA and PBA) was possible in order to allow students to finish answering the questionnaires and maximise the contextual data obtained from students. If a few students were still working at the end of the allotted time for the questionnaire session, 10 additional minutes were given to allow completing it.

The test scripts for both CBA and PBA sessions had to be read to the students word-for-word to maintain standardised assessment procedures across all participating countries/economies. For PBA sessions, the Test Administrators were required to read the practice exercises and other key instructions to the students. Therefore, if a student arrived after these instructions were read, the student could not participate in the session and was marked absent. However, for CBA sessions, the key instructions and exercises were presented by the SDS. If students arrived within about 5 minutes after other students started the assessment introduction, the Test Administrators informed the student about the purpose of the test and would allow the student to begin.

For both CBA and PBA sessions, students were not allowed to leave during the session unless it was absolutely necessary. If a student could not complete the session for any reason, the Test Administrator had to log the student out of the session (CBA sessions) or collect the student's test material (PBA sessions). If the student was present for any part of the assessment, they were recorded as participating even if they did no work at all.

For both CBA and PBA sessions, Test Administrators were not allowed to provide any help with the test items. For CBA sessions, the Test Administrator referred students who had questions to the "Help" function built into the SDS. For PBA sessions, the Test Administrator was instructed to inform them to do the best they could. However, for both CBA and PBA sessions, the Test Administrator could answer questions about items in the Student Questionnaire following specific instructions in the explanatory notes for Student Questionnaire items provided to them by the international contractors.

Observers during the testing sessions were generally limited to necessary staff members and the international PISA Quality Monitors. National Centre staff were encouraged to observe assessments when

possible. National Centres were responsible for ensuring that confidentiality arrangements were in place. In most cases, it was national policy to require observers to sign a confidentiality agreement.

At the end of the computer-based administration (cognitive test, Student Questionnaire, and other international and national options), Test Administrators logged out any students still logged in to the test and collected and destroyed (or returned to the National Centre) all login forms. The Test Administrator then collected all USB sticks (if used) and conducted a quality-control check on the number of USB sticks and the information on the Student Tracking Form and Session Report Form. Test Administrators also transmitted the test data following data-transmission procedures outlined by the National Centre. The assessment material from each administration session was then bundled together with the corresponding Student Tracking Form, and Session Report Form and shipped to the National Centre, typically within 24 hours of completing the assessment, or the follow-up session.

At the end of the paper-based administration, Test Administrators collected all assessment materials and the completed School Questionnaire from the School Coordinator. The assessment material from each administration session were bundled together with the corresponding Student Tracking Form, Session Report Form, unused test booklets, and Student Questionnaires. These were shipped to the National Centre, typically within 24 hours of completing the assessment or follow-up session.

Any missing secure and confidential material had to be reported to the Survey Operations team at Westat and to the National Centre as soon as possible, and no later than 24 hours after the discovery of the missing data. National Centres are asked to use a standard form to report missing items and what was done to recover them.

Receipt of materials at the national centre after testing

The procedures recommended that the National Centre establish a database of sampled schools before testing began to record the shipment of materials to and from schools, tallies of materials sent and returned, and to monitor the progress of the materials return, including completion of online questionnaires, throughout the various steps in processing materials (for CBA countries/economies).

The procedures also recommended that upon receipt of materials back from schools, the counts of completed and unused booklets or USB sticks also be checked against the participation status information recorded on the Student Tracking Form.

Field Trial and Main Survey reviews

NPMs were required to complete a structured review of their Field Trial and Main Survey operations. These were submitted via SurveyMonkey (an online survey platform) preferably on an on-going basis after the completion of each activity. The complete review questionnaire was due 4 weeks after the submission of the national database.

These reviews were an opportunity to provide feedback to the National Centres, international contractors, and the OECD on the various aspects of the implementation of PISA and to provide suggestions for areas that could be improved either for the Main Survey or for future cycles.

The data from these two questionnaires were compiled into reports, which were released after the Field Trial and after the Main Survey.

Notes

1. Some participating countries/economies had more than one National Project Manager.
2. Throughout this document, the terms “School Coordinator” and “Test Administrator” are used when discussing the administration of the test in schools. However, please note that some countries/economies use the term School Associates. These are individuals who simultaneously fulfil the role of both School Coordinator and Test Administrator. School Associates received a School Associate’s Manual and were trained by the National Centre. For the sake of simplicity, we do not refer to School Associates specifically in the text.
3. Some participating countries/economies chose to use the Une Heure (UH) option, which is a 1-hour version of the PISA assessment meant for students who are considered unable to take the full PISA assessment. These students were assessed in separate sessions. Some countries/economies also provide other PISA-approved accommodations.

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Note by the Republic of Türkiye

The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Türkiye recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Türkiye shall preserve its position concerning the “Cyprus issue”.

Note by all the European Union Member States of the OECD and the European Union

The Republic of Cyprus is recognised by all members of the United Nations with the exception of Türkiye. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

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