

## BACKGROUND QUESTIONNAIRES

Annex A provides the background questionnaires used in the PISA 2012 survey to obtain information about the participating schools, students and parents.
The school questionnaire is administered to school principals and covers the structure and organisation of: the school; the student and teacher body; the school's resources; the school's instruction, curriculum and assessment; the school climate; the school's policies and practices; financial education at school, and comprises one additional question for the online school questionnaire.
The student questionnaire addresses: the student characteristics and educational career; family context and home resources; mathematics learning; experience with different kinds of mathematics problems at school; mathematics experiences; classroom and school climate; and problem solving experiences.
Two optional questionnaires are administered to students: an educational career questionnaire covering the students' educational histories, their career aspirations and questions on language learning; and a questionnaire about students' access to information and communication technologies (ICTs) and student's use of ICTs and attitude towards computers.
A third optional questionnaire for parents covers: parental background; the cost of educational services; parents' attitudes to their child's school; parents' involvement with school; school choice; parental support for learning at home; mathematics in child's future career and job market; academic and professional expectations in mathematics; child's past academic performance; child's career interests; and parents' immigration background.

## SCHOOL QUESTIONNAIRE

The school questionnaire is administered to the school principal and takes about 30 minutes to complete. It covers a variety of school-related aspects:

- Structure and organisation of the school
- Student and teacher body
- School's resources
- School's instruction, curriculum and assessment
- School climate
- School's policies and practices
- Financial education at school
- Additional question for ONLINE school questionnaire

Technical terms are given in <brackets> and are adapted to the national context by the national data collection centre of the participating country or economy. In this annex, an explanation of the technical terms is given below the questionnaire item.

## The structure and organisation of the school

## Q1 Is your school a public or a private school?

(SC01) (Please tick only one box.)

| A public school <br> (This is a school managed directly or indirectly by a public education authority, government agency, or governing board appointed by government or elected by public franchise.) | $\square_{1}$ |
| :---: | :---: |
| A private school <br> (This is a school managed directly or indirectly by a non-government organisation; e.g. a church, trade union, business, or other private institution.) | $\square_{2}$ |


| $\begin{gathered} \text { Q2 } \\ (\mathrm{SC} 02) \end{gathered}$ | About what percentage of your total funding for a typical school year comes from the following sources? <br> (Please write a number in each row. Write 0 (zero) if no funding comes from that source.) |  |
| :---: | :---: | :---: |
|  |  | \% |
| a) | Government (includes departments, local, regional, state and national) |  |
| b) | Student fees or school charges paid by parents |  |
| c) | Benefactors, donations, bequests, sponsorships, parent fundraising |  |
| d) | Other |  |
|  | Total | 100 \% |

Q3 Which of the following definitions best describes the community in which your school is located?
(SC03) (Please tick only one box.)

| A village, hamlet or rural area (fewer than 3000 people) | $\square_{1}$ |
| :--- | :---: |
| A small town (3 000 to about 15000 people) | $\square_{2}$ |
| A town (15 000 to about 100000 people) | $\square_{3}$ |
| A city (100 000 to about 1000000 people) | $\square_{4}$ |
| A large city (with over 1000 000 people) | $\square_{5}$ |

We are interested in the options parents have when choosing a school for their children.
Q4
(SC04)
Which of the following statements best describes the schooling available to students in your location? (Please tick only one box.)

| There are two or more other schools in this area that compete for our students | $\square_{1}$ |
| :--- | :---: |
| There is one other school in this area that competes for our students | $\square_{2}$ |
| There are no other schools in this area that compete for our students | $\square_{3}$ |

Q5 What is the average size of <test language> classes in <national modal grade for 15-year-olds> in your school?
(Please tick only one box.)

| 15 students or fewer | $\square \square_{1}$ |
| :---: | :---: |
| 16-20 students | $\square_{2}$ |
| 21-25 students | $\square_{3}$ |
| 26-30 students | $\square 4$ |
| 31-35 students | $\square_{5}$ |
| 36-40 students | $\square 6$ |
| 41-45 students | $\square_{7}$ |
| 46-50 students | $\square_{8}$ |
| More than 50 students | $\square 9$ |

Notes: <national modal grade for $\mathbf{1 5}$-year-olds> is the name of the grade attended by most $\mathbf{1 5}$-year-olds in the participating country or economy. <test language> is replaced with the name of the language used in the PISA mathematics literacy test.

## The student and teacher body

| $\begin{gathered} \text { Q6 } \\ (\mathrm{SC07}) \end{gathered}$ | As at <month <br> (Please write a n |
| :---: | :---: |
| a) | Number of boys |
| b) | Number of girls |

Q7 How many of the following teachers are on the staff of your school?
Include both full-time and part-time teachers. A full-time teacher is employed at least $90 \%$ of the time as a teacher for the
full school year. All other teachers should be considered part-time.
(Please write a number in each space provided. Write 0 (zero) if there are none.)

| art-time |  |  |  |
| :---: | :--- | :---: | :---: |
| a) | Teachers in TOTAL | Full-time | Part |
| b) | Teachers fully certified by <the appropriate authority> |  |  |
| c) | Teachers with an <ISCED 5A> qualification |  |  |

Notes: <the appropriate authority> refers to the government agency which is empowered to certify that a person is permitted to work as a school teacher.
<ISCED 5A> refers to qualification obtained from a tertiary study programme with a strong theoretical foundation typically with a minimum duration of three years' full time equivalent, providing entry into a profession with high skills requirements or an advanced research programme.

| Q8 How many of the following are on the <mathematics staff> of your school? |
| :--- |
| Q8 <br> (SC10) <br> Include both full-time and part-time teachers. A full-time teacher is employed at least $90 \%$ of the time as a teacher for the <br> full school year. All other teachers should be considered part-time. <br> Please count only those teachers who have taught or will teach mathematics during the current school year. <br> (Please write a number in each space provided. Write 0 (zero) if there are none.) |
| a) |
| b) |
| Teachers of mathematics in TOTAL |
| Teachers of mathematics with an <ISCED 5A> qualification |
| d) |
| Teachers of mathematics with an <ISCED 5A> qualification <with a major> in mathematics |
| e) |
| Teachers of mathematics with an <ISCED 5A> qualification in <pedagogy> |
| Notes: For a definition of <ISCED 5A> see Q7. |
| <ISCED 5B> refers to qualification obtained in tertiary programmes that are generally more practical/technical/occupationally specific and typically |
| shorter than ISCED 5A programmes. Typically, these programmes have a minimum of two years' full-time equivalent duration and prepare students to |
| enter a particular occupation. |
| <with a major> refers to the focus of study in an undergraduate university degree. A major in mathematics is a complete sequence of mathematics in |
| an ISCED 5A qualification. |

## The school's resources

The goal of the following set of three questions is to gather information about the student-computer ratio for students in the $<$ national modal grade for 15 -year-olds $>$ at your school.

|  | Number |  |
| :--- | :--- | :--- |
| Q9a <br> (SC11) | At your school, what is the total number of students in the <national modal grade <br> for 15-year-olds>? |  |
| Q9b <br> (SC11) | Approximately, how many computers are available for these students for educational <br> purposes? |  |
| Q9c | Approximately, how many of these computers are connected to the Internet/ <br> (SC11) | World Wide Web? |

Note: For a definition of <national modal grade for $\mathbf{1 5}$-year-olds> see Q5.

In all subjects taken together, for how much of the work does the school expect <national modal grade for 15-year-olds> students to access the Internet/ World Wide Web?
(Please tick only one box in each row.)

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | Work during lessons | $<\mathbf{1 0 \%}$ | $\mathbf{1 0 - 2 5 \%}$ | $\mathbf{2 6 - 5 0 \%}$ | $\mathbf{5 1 - 7 5 \%}$ | $>75 \%$ |
| b) | Homework | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square \square_{5}$ |
| c) | Assignments or projects | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square$ |

Note: For a definition of <national modal grade for $\mathbf{1 5}$-year-olds> see Q5.

Q11 Is your school's capacity to provide instruction hindered by any of the following issues?
(SC14) (Please tick one box in each row.)

|  |  |  |  |  |  |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | A lack of qualified science teachers | Not at all | Very little | To some <br> extent | A lot |
| b) | A lack of qualified mathematics teachers | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | A lack of qualified <test language> teachers | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | A lack of qualified teachers of other subjects | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| e) | Shortage or inadequacy of science laboratory equipment | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| f) | Shortage or inadequacy of instructional materials (e.g. textbooks) | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| g) | Shortage or inadequacy of computers for instruction | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |
| h) | Lack or inadequacy of Internet connectivity | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| i) | Shortage or inadequacy of computer software for instruction | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |
| j) | Shortage or inadequacy of library materials | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| k) | Shortage or inadequacy of school buildings and grounds | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| I) | Shortage or inadequacy of heating/cooling and lighting systems | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| m) | Shortage or inadequacy of instructional space (e.g. classrooms) | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

Note: For a definition of <test language> see Q5.

## School instruction curriculum and assessment

| Q12 <br> (SC15) |  |  |  |  |  |  | Schools sometimes organise instruction differently for students with different abilities and interests in mathematics. <br> Which of the following options describe what your school does for <national modal grade for <br> 15-year-olds> students in mathematics classes? <br> (Please tick one box in each row.) |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | For all <br> classes | For some <br> classes | Not for <br> any classes |  |  |  |
| a) | Mathematics classes study similar content, but at different levels of difficulty | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |  |  |  |
| b) | Different classes study different content or sets of mathematics topics that have <br> different levels of difficulty | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |  |  |  |
| c) | Students are grouped by ability within their mathematics classes | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |  |  |  |
| d) | In mathematics classes, teachers use pedagogy suitable for students with <br> heterogeneous abilities (i.e. students are not grouped by ability) | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |  |  |  |

Note: For a definition of <national modal grade for $\mathbf{1 5}$-year-olds> see Q5.

Q13 (SC16)
(Please tick one box in each row.)

|  |  |  |  |  | Yes | No |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| a) | Band, orchestra or choir | $\square_{1}$ | $\square_{2}$ |  |  |  |
| b) | School play or school musical | $\square_{1}$ | $\square_{2}$ |  |  |  |
| c) | School yearbook, newspaper or magazine | $\square_{1}$ | $\square_{2}$ |  |  |  |
| d) | Volunteering or service activities, e.g. <national examples> | $\square_{1}$ | $\square_{2}$ |  |  |  |
| e) | Mathematics club | $\square_{1}$ | $\square_{2}$ |  |  |  |
| f) | Mathematics competitions, e.g. <national examples> | $\square_{1}$ | $\square_{2}$ |  |  |  |
| g) | Chess club | $\square_{1}$ | $\square_{2}$ |  |  |  |
| h) | Club with a focus on computers/ Information and Communication Technology | $\square_{1}$ | $\square_{2}$ |  |  |  |
| i) | Art club or art activities | $\square_{1}$ | $\square_{2}$ |  |  |  |
| j) | Sporting team or sporting activities | $\square_{1}$ | $\square_{2}$ |  |  |  |
| k) | <country specific item> | $\square_{1}$ | $\square_{2}$ |  |  |  |

Notes: <This academic year> refers to the year of schooling which is not necessarily the calendar year.
For a definition of <national modal grade for $\mathbf{1 5}$-year-olds> see Q5.

In your school, are assessments of students in <national modal grade for 15-year-olds> used for any of the following purposes?
(Please tick one box in each row.)

| a) | To inform parents about their child's progress | Yes | No |
| :---: | :--- | :---: | :---: |
| b) | To make decisions about students' retention or promotion | $\square_{1}$ | $\square_{2}$ |
| c) | To group students for instructional purposes | $\square_{1}$ | $\square_{2}$ |
| d) | To compare the school to <district or national> performance | $\square_{1}$ | $\square_{2}$ |
| e) | To monitor the school's progress from year to year | $\square_{1}$ | $\square_{2}$ |
| f) | To make judgements about teachers' effectiveness | $\square_{1}$ | $\square_{2}$ |
| g) | To identify aspects of instruction or the curriculum that could be improved | $\square_{1}$ | $\square_{2}$ |
| h) | To compare the school with other schools | $\square_{1}$ | $\square_{2}$ |

Notes: For a definition of <national modal grade for $\mathbf{1 5}$-year-olds> see Q5.
<district or national> performance refers to comparison with a larger administrative region which could be the district, region, province and/or the country as a whole.

## Q15 <br> (SC19)

In your school, are achievement data used in any of the following <accountability procedures>?
Achievement data include aggregated school or grade-level test scores or grades, or graduation rates.
(Please tick one box in each row.)

|  |  | Yes | No |
| :---: | :--- | :---: | :---: |
| a) | Achievement data are posted publicly (e.g. in the media) | $\square_{1}$ | $\square_{2}$ |
| b) | Achievement data are tracked over time by an administrative authority | $\square_{1}$ | $\square_{2}$ |

Note: <accountability procedures> means the regular use of school-level statistics on student achievement to report on the quality of the school functioning to parents or external authorities.

Does your school offer mathematics lessons in addition to the mathematics lessons offered during the usual school hours?
(Please tick only one box.)

| Yes | $\square_{1}$ | go to the next question |
| :--- | :--- | :--- |
| No | $\square_{2}$ | go to Q18 |

## Q17 What is the purpose of these additional mathematics lessons?

(SC21) (Please tick only one box.)

| <Enrichment mathematics> only | $\square_{1}$ |
| :--- | :---: |
| <Remedial mathematics> only | $\square_{2}$ |
| Both <enrichment mathematics> and <remedial mathematics> | $\square_{3}$ |
| Without differentiation depending on the prior achievement level of the students | $\square_{4}$ |

Notes: <Enrichment mathematics> is mathematics offered outside of normal class time to extend/stimulate/challenge students who are of higher ability.
$<$ Remedial mathematics> is mathematics offered outside of normal class time to help students who have fallen behind the performance level of their peers to catch up.

## School climate

Q18 In your school, to what extent is the learning of students hindered by the following phenomena?
(SC22) (Please tick one box in each row.)

|  |  | Not at all | Very little | To some extent | A lot |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | Student truancy | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| b) | Students skipping classes | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| c) | Students arriving late for school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square_{4}$ |
| d) | Students not attending compulsory school events (e.g. sports day) or excursions | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| e) | Students lacking respect for teachers | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square_{4}$ |
| f) | Disruption of classes by students | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square_{4}$ |
| g) | Student use of alcohol or illegal drugs | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square_{4}$ |
| h) | Students intimidating or bullying other students | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square_{4}$ |
| i) | Students not being encouraged to achieve their full potential | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| j) | Poor student-teacher relations | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| k) | Teachers having to teach students of heterogeneous ability levels within the same class | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| I) | Teachers having to teach students of diverse ethnic backgrounds (i.e. language, culture) within the same class | $\square \square_{1}$ | $\square \square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |
| m) | Teachers' low expectations of students | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square_{4}$ |
| n) | Teachers not meeting individual students' needs | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| o) | Teacher absenteeism | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square_{4}$ |
| p) | Staff resisting change | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| q) | Teachers being too strict with students | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square_{4}$ |
| r) | Teachers being late for classes | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| s) | Teachers not being well prepared for classes | $\square \square_{1}$ | $\square \square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |

Note: 'Student truancy' is used differently in PISA 2012 and refers ONLY TO THE UNAUTHORISED failure to attend classes, whereas in previous cycles 'student absenteeism' included the unauthorised AND authorised (e.g. illness) absence of students from school.

Q19 During <the last academic year>, what proportion of students left your school without a \% <certificate or qualification that allows students to enter post-school destinations such as university, technical, further or vocational education, apprenticeships or employment>?

Note: <the last academic year> refers to the previous year of schooling, not necessarily the previous calendar year.

Q20 Which statement below best characterises parental expectations towards your school?
(Please tick only one box.)

| There is constant pressure from many parents, who expect our school to set very high academic standards <br> and to have our students achieve them | $\square_{1}$ |
| :--- | :---: |
| Pressure on the school to achieve higher academic standards among students comes from a minority of <br> parents | $\square_{2}$ |
| Pressure from parents on the school to achieve higher academic standards among students is largely absent | $\square_{3}$ |


|  | During <the last academic year>, what proportion of students' parents participated in the following <br> Q21 |
| :--- | :--- |
| school-related activities? |  |
| (SC25) | (Please write a number in each row. Write 0 (zero) if no parents participated in the activity. Write 100 (one hundred) if all | parents participated in the activity.)


|  |  |  |
| :---: | :--- | :--- |
| a) | Discussed their child's behaviour with a teacher on their own initiative | $\%$ |
| b) | Discussed their child's behaviour on the initiative of one of their child's teachers |  |
| c) | Discussed their child's progress with a teacher on their own initiative |  |
| d) | Discussed their child's progress on the initiative of one of their child's teachers |  |
| e) | Volunteered in physical activities, e.g. building maintenance, carpentry, gardening or yard work |  |
| f) | Volunteered in extra-curricular activities, e.g. book club, school play, sports, field trip |  |
| g) | Volunteered in the school library or media centre |  |
| h) | Assisted a teacher in the school |  |
| i) | Appeared as a guest speaker |  |
| j) | Participated in local school <government>, e.g. parent council or school management committee |  |
| k) | Assisted in fundraising for the school |  |
| l) | Volunteered in the school <canteen> |  |
| Note: For a definition of <the last academic year> see Q19. |  |  |

Q22 Think about the teachers in your school. How much do you agree with the following statements?
(SC26) (Please tick one box in each row.)

|  |  |  |  |  |  |  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | The morale of teachers in this school is high | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |  |
| b) | Teachers work with enthusiasm | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |  |
| c) | Teachers take pride in this school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |  |
| d) | Teachers value academic achievement | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |  |

Q23 How much do you agree with these statements about teachers in your school?
(SC27) (Please tick one box in each row.)

| Strongly |  |  |  |  |  |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | Mathematics teachers are interested in trying new methods and <br> teaching practices | Strongly <br> agree | Agree | Disagree | Sisagree |
| b) | There is a preference among mathematics teachers to stay with well- <br> known methods and practices | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

## Q24 How much do you agree with these statements about teachers in your school?

(SC28) (Please tick one box in each row.)
(Please tick one box in lan.
c) There is consensus among mathematics teachers that academic
d) There is consensus among mathematics teachers that it is best
to adapt academic standards to the students' levels and needs

|  | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| :---: | :---: | :---: | :---: | :---: |
| $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |

Q25 How much do you agree with these statements about teachers in your school?
(SC29) (Please tick one box in each row.)
There is consensus among mathematics teachers that the social
e) and emotional development of the students is as important as their acquisition of mathematical skills and knowledge in mathematics classes
There is consensus among mathematics teachers that the development
f) of mathematical skills and knowledge in students
is the most important objective in mathematics classes

|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
|  | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

During the last year, have any of the following methods been used to monitor the practice of mathematics teachers at your school?
(Please tick one box in each row.)

|  |  | Yes |
| :--- | :--- | :---: |
| a) | Tests or assessments of student achievement | $\square_{1}$ |
| b) | Teacher peer review (of lesson plans, assessment instruments, lessons) | $\square \square_{2}$ |
| c) | Principal or senior staff observations of lessons | $\square_{1}$ |
| d) | Observation of classes by inspectors or other persons external to the school | $\square_{2}$ |

Q27 To what extent have appraisals of and/or feedback to teachers directly led to the following?
(SC31) (Please tick one box in each row.)
$\left.\begin{array}{c|l|c|c|c|c}\text { A large } \\ \text { change }\end{array}\right]$

## School policies and practices

## Q28 How often are the following factors considered when students are admitted to your school?

(SC32) (Please tick one box in each row.)

| a) | Student's record of academic performance (including placement tests) | Never | Sometimes | Always |
| :---: | :--- | :---: | :---: | :---: |
| b) | Recommendation of feeder schools | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |
| c) | Parents' endorsement of the instructional or religious philosophy of the school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |
| d) | Whether the student requires or is interested in a special programme | $\square_{2}$ | $\square_{3}$ |  |
| e) | Preference given to family members of current or former students | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |
| f) | Residence in a particular area | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |
| g) | Other | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |

Q29 Regarding your school, who has a considerable responsibility for the following tasks?
(SC33) (Please tick as many boxes as appropriate in each row.)

|  |  | Principal | Teachers | <School governing board> | <Regional or local education authority> | National education authority |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | Selecting teachers for hire | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| b) | Firing teachers | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| c) | Establishing teachers' starting salaries | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| d) | Determining teachers' salary increases | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| e) | Formulating the school budget | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| f) | Deciding on budget allocations within the school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| g) | Establishing student disciplinary policies | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| h) | Establishing student assessment policies | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| i) | Approving students for admission to the school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| j) | Choosing which textbooks are used | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| k) | Determining course content | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square_{5}$ |
| I) | Deciding which courses are offered | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |

Notes: <school governing board> is a board directly responsible for the governance of the school. This board may be totally external to the school or may have staff and student representation.
$<$ Regional or local education authority> is an authority that is not a national authority and does not directly govern the school.

Below are statements about your management of this school. Please indicate the frequency of the following activities and behaviours in your school during <the last academic year>.
(Please tick only one box in each row.)

|  |  | Did not occur | 1-2 times during the year | 3-4 times during the year | Once a month | Once a week | More than once a week |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | I work to enhance the school's reputation in the community | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| b) | I use student performance results to develop the school's educational goals | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square 5$ | $\square_{6}$ |
| c) | I make sure that the professional development activities of teachers are in accordance with the teaching goals of the school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| d) | I ensure that teachers work according to the school's educational goals | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| e) | I promote teaching practices based on recent educational research | $\square_{1}$ | $\square_{2}$ | $\square 3$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| f) | I praise teachers whose students are actively participating in learning | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| g) | When a teacher has problems in his/her classroom, I take the initiative to discuss matters | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| h) | I draw teachers' attention to the importance of pupils' development of critical and social capacities | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| i) | I pay attention to disruptive behaviour in classrooms | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| j) | I provide staff with opportunities to participate in school decision-making | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| k) | I engage teachers to help build a school culture of continuous improvement | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| I) | I ask teachers to participate in reviewing management practices | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| m) | When a teacher brings up a classroom problem, we solve the problem together | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square 5$ | $\square_{6}$ |
| n) | I discuss the school's academic goals with teachers at faculty meetings | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| o) | I refer to the school's academic goals when making curricular decisions with teachers | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| p) | I discuss academic performance results with the faculty to identify curricular strengths and weaknesses | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| q) | I lead or attend in-service activities concerned with instruction | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| r) | I set aside time at faculty meetings for teachers to share ideas or information from in-service activities | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| s) | I conduct informal observations in classrooms on a regular basis (informal observations are unscheduled, last at least 5 minutes, and may or may not involve written feedback or a formal conference) | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| t) | I review work produced by students when evaluating classroom instruction | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ | $\square_{6}$ |
| u) | I evaluate the performance of staff | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square \square_{4}$ | $\square 5$ | $\square_{6}$ |

[^0]During the last three months, what percentage of teaching staff in your school has attended a programme of professional development with a focus on mathematics?
A programme of professional development here is a formal programme designed to enhance teaching skills or pedagogical practices. It may or may not lead to a recognised qualification. The programme must last for at least one day in total and have a focus on mathematics teaching and education.

|  |  | $\%$ |
| :---: | :--- | :---: |
| a) | All staff at your school |  |
| b) | Staff who teach mathematics at your school |  |

Q32 Which of the following measures aimed at quality assurance and improvement do you have in your school?
(SC39)
(Please tick one box in each row.)

|  |  |  |  |  |
| :---: | :--- | :---: | :---: | :---: |
| a) | Written specification of the school's curricular profile and educational goals | Yes | No |  |
| b) | Written specification of student performance standards | $\square_{1}$ | $\square_{2}$ |  |
| c) | Systematic recording of data including teacher and student attendance and graduation rates, test <br> results and professional development of teachers | $\square_{1}$ | $\square_{2}$ |  |
| d) | Internal evaluation/self-evaluation | $\square_{1}$ | $\square_{2}$ |  |
| e) | External evaluation | $\square_{1}$ | $\square_{2}$ |  |
| f) | Seeking written feed-back from students (e.g. regarding lessons, teachers or resources) | $\square_{2}$ |  |  |
| g) | Teacher mentoring | $\square_{1}$ | $\square_{2}$ |  |
| h) | Regular consultation aimed at school improvement with one or more experts over a period of at <br> least six months | $\square_{1}$ | $\square_{2}$ |  |
| i) | Implementation of a standardised policy for mathematics (i.e. school curriculum with shared <br> instructional materials accompanied by staff development and training) | $\square_{1}$ | $\square_{2}$ |  |

## Which of the following statements apply in your school?

A policy refers to written rules known to those concerned with the policy. (Please tick one box in each row.)

|  |  |  |  |  |  |  | Yes | No |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | The school has a policy on how to use computers in mathematics instruction (e.g. amount of <br> computer use in mathematics lessons, use of specific mathematics computer programs) | $\square_{1}$ | $\square_{2}$ |  |  |  |  |  |
| b) | All <national modal grade for 15-year-olds> mathematics classes in the school use the same <br> textbook | $\square_{1}$ | $\square_{2}$ |  |  |  |  |  |
| c) | Mathematics teachers in the school follow a standardised curriculum that specifies content at <br> least on a monthly basis | $\square_{1}$ | $\square_{2}$ |  |  |  |  |  |

Note: For a definition of <national modal grade for $\mathbf{1 5}$-year-olds> see Q5.

In your school, how likely is it that a student in <national modal grade for 15-year-olds> would be transferred to another school for the following reasons?
(Please tick one box in each row.)

|  |  |  |  |  |
| :---: | :--- | :---: | :---: | :---: |
| a) | Low academic achievement | Not likely | Likely | Very likely |
| b) | High academic achievement | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |
| c) | Behavioural problems | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |
| d) | Special learning needs | $\square_{1}$ | $\square_{2}$ | $\square$ |
| e) | Parents' or guardians' request | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |
| f) | Other | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |

[^1]
## Financial education at school

The following five questions are about financial education/personal finance in your school. Financial education/personal finance involves the development of students' knowledge, confidence and skills relating to topics such as money and income; budgeting and long term planning; saving and spending; credit and debt; investment and insurance; the potential risks and benefits of financial products; and the financial landscape (including consumer rights and responsibilities and understanding of the wider financial, economic and social system).

| Q35 | Which of the statements below best describes the situation for students in <national modal grade for |
| :--- | :--- | :--- |
| (SC47) | 15-year-olds> regarding the availability of financial education in your school? |
| (Please tick only one box.) |  |

Q36 Is financial education compulsory in your school?
(SC45)
(Please tick only one box.)

| Yes | $\square_{1}$ |
| :--- | :---: |
| No | $\square_{2}$ |


| $\begin{aligned} & \text { Q37 } \\ & \text { (SC46) } \end{aligned}$ | Which of the statements below describe the teaching of financial education in your school? <br> For each statement, please indicate the number of hours of financial education of this type for students in <national modal grade for 15 -year-olds> during <the last academic year>. <br> (Please tick as many boxes as appropriate in each row.) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Not at all | 1-4 hours a year | 5-19 hours a year | 20-49 <br> hours <br> a year | 50 or more hours a year |
| a) | It is taught as a separate subject | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square$ |
| b) | It is taught as a cross-curricular subject | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| c) | It is taught as part of <business or economics> courses | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| d) | It is taught as part of mathematics | $\square \square_{1}$ | $\square$ | $\square^{3}$ | $\square \square_{4}$ | $\square_{5}$ |
| e) | It is taught as part of other social sciences and humanities subjects and/or literature/language (e.g. history, geography, <home economics>, <citizenship>) | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| f) | It is available as an <extra-curricular activity> | $\square 1$ | $\square 2$ | $\square$ | $\square 4$ | 5 |
| g) | It is taught as part of <class teacher lessons> | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |

Notes: For a definition of <national modal grade for $\mathbf{1 5}$-year-olds> see Q5.
For a definition of <the last academic year> see Q19.
<Extra-curricular activity> is an activity sponsored by and usually held at school but that is not part of the academic curriculum.
<class teacher lessons> refers to regularly scheduled time that students have with their class teacher, often for administrative or organisational purposes rather than specific subject content.

Q38 Who provides financial education in your school?
(SC52)
(SC46)
(Please tick one box in each row.)

|  |  | Yes | No |
| :---: | :--- | :---: | :---: |
| a) | Teachers | $\square_{1}$ | $\square_{2}$ |
| b) | People from private sector institutions (e.g. commercial bank, insurance company) | $\square_{1}$ | $\square_{2}$ |
| c) | People from public sector institutions (e.g. <ministry of finance>, <reserve bank>) | $\square_{1}$ | $\square_{2}$ |
| d) | People from non-government organisations, (e.g. <national examples>) | $\square_{1}$ | $\square_{2}$ |


| During the last twelve months, what percentage of teaching staff in your school has attended a <br> programme of professional development with a focus on financial education? |  |  |  |  |  |  |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: |
| (SC51) | A programme of professional development here is a formal programme designed to enhance teaching skills or pedagogical <br> practices. It may or may not lead to a recognised qualification. The programme must last for at least one day in total and have <br> a focus on the teaching of financial education. |  |  |  |  |  |
| a) | Staff who teach financial education in your school | $\%$ |  |  |  |  |
| b) | All other teaching staff in your school |  |  |  |  |  |

## Additional Question for ONLINE school questionnaire

Q40 Is there any final comment that you wish to make regarding any aspect of the survey (e.g. content, mode of delivery)?

## STUDENT QUESTIONNAIRE

The student questionnaire is administered after the literacy assessment and takes students about 30 minutes to complete. The core questions on home background are similar to those used in the previous PISA assessments. The questionnaire covers the following aspects:

- Student characteristics and educational career
- Family context and home resources
- Learning mathematics
- Experience with different kinds of mathematics problems at school
- Mathematics experiences
- Classroom and school climate
- Problem solving experiences

Technical terms are given in <brackets> and are adapted to the national context by the national data collection centre of the participating country or economy. In this annex, an explanation of the technical terms is given below the questionnaire item.

## Student characteristics and educational career

| $\begin{gathered} \text { Q1 } \\ \text { (ST01) } \\ \hline \end{gathered}$ | What <grade> are you in? |
| :---: | :---: |
|  | Grade |


| Q2 <br> (ST02) | Which one of the following <programmes> are you in? <br> (Please tick only one box.) |  |
| :--- | :--- | :--- |
|  | <Programme 1> | $\square_{1}$ |
|  | <Programme 2> | $\square_{2}$ |
|  | <Programme 3> | $\square_{3}$ |
|  | $\square_{4}$ |  |
|  | $\square_{5}$ |  |
|  | <Programme 6> | $\square_{6}$ |



## Q4 Are you female or male?

(ST04)

| Female | $\square_{1}$ |
| :--- | :---: | :---: |
| Male | $\square_{2}$ |

Q5 Did you attend <ISCED 0>?
(ST05)

| No | $\square_{1}$ |
| :--- | :---: |
| Yes, for one year or less | $\square_{2}$ |
| Yes, for more than one year | $\square_{3}$ |

Note: <ISCED $0>$ refers to pre-primary education defined as the initial stage of organised instruction designed primarily to introduce very young children to a school-type environment. Instruction is school-based or centre-based, typically for children between 3 and 6 years.
Q6
(ST06) How old were you when you started <ISCED $\mathbf{1 >}$ ? OECD countries). Primary education is designed to provide a sound basic education in reading, writing and mathematics along with an elementary understanding of other subjects.

## Q7 Have you ever repeated a <grade>? <br> (ST07) (Please tick only one box in each row.)

| Yes, <br> twice or more |  |  |  |  |  |  |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| a) | At <ISCED 1> | No, never | Yes, once | $\square_{3}$ |  |  |
| b) | At <ISCED 2> | $\square_{1}$ | $\square_{2}$ |  |  |  |
| c) | At <ISCED 3> | $\square_{1}$ | $\square_{2}$ |  |  |  |

Notes: For a definition of <Grade> see Q1.
For a definition of <ISCED $1>$ level, see Q6.
<ISCED 2> refers to lower secondary level of education. Programmes at the start of level 2 should correspond to the point where programmes are beginning to be organised in a more subject-oriented pattern, using more specialised teachers conducting classes in their field of specialisation.
<ISCED 3> refers to upper secondary level of education. The final stage of secondary education in most OECD countries. Instruction is often more organised along subject-matter lines than at ISCED 2 and teachers typically need to have a higher level, or more subject-specific, qualification than at ISCED 2.
<ISCED 3A> is designed to provide direct access to ISCED 5A. <ISCED 3B> is designed to provide direct access to ISCED 5B. <ISCED 3C> is not designed to lead directly to ISCED 5A or 5B. These programmes lead directly to labour market, ISCED 4 programmes or other ISCED 3 programmes.

Q8 In the last two full weeks of school, how many times did you arrive late for school?
(ST08)
(Please tick only one box.)

| None | $\square \square_{1}$ |
| :--- | :---: |
| One or two times | $\square_{2}$ |
| Three or four times | $\square_{3}$ |
| Five or more times | $\square_{4}$ |

Q9 In the last two full weeks of school, how many times did you <skip> a whole school day?
(ST09)
(Please tick only one box.)

| None | $\square_{1}$ |
| :--- | :---: |
| One or two times | $\square_{2}$ |
| Three or four times | $\square_{3}$ |
| Five or more times | $\square_{4}$ |

Note: <Skip> refers to unauthorised failure to attend classes.

Q10 In the last two full weeks of school, how many times did you <skip> some classes?
(ST115) (Please tick only one box.)

| None | $\square_{1}$ |
| :--- | :---: |
| One or two times | $\square_{2}$ |
| Three or four times | $\square_{3}$ |
| Five or more times | $\square_{4}$ |

Note: For a definition of <Skip> see Q9.

## Family context and home resources

Q11 Who usually lives at <home> with you?
(ST11) (Please tick one box in each row.)

|  |  | Yes | No |
| :---: | :--- | :---: | :---: |
| a) | Mother (including stepmother or foster mother) | $\square_{1}$ | $\square_{2}$ |
| b) | Father (including stepfather or foster father) | $\square_{1}$ | $\square_{2}$ |
| c) | Brother(s) (including stepbrothers) | $\square_{1}$ | $\square_{2}$ |
| d) | Sister(s) (including stepsisters) | $\square_{1}$ | $\square_{2}$ |
| e) | Grandparent(s) | $\square_{1}$ | $\square_{2}$ |
| f) | Others (e.g. cousin) | $\square_{1}$ | $\square_{2}$ |


| Q12a <br> (ST12) | What is your mother's main job? <br> (e.g. school teacher, kitchen-hand, sales manager) <br> (If she is not working now, please tell us her last main job.) |
| :--- | :--- |
|  | Please write in the job title: |

## Q12b What does your mother do in her main job?

(e.g. teaches high school students, helps the cook prepare meals in a restaurant, manages a sales team)

Please use a sentence to describe the kind of work she does or did in that job:

What is the <highest level of schooling> completed by your mother?
If you are not sure which box to choose, please ask the <test administrator> for help.
(Please tick only one box.)

| <ISCED 3A> | $\square_{1}$ |
| :--- | :---: |
| <ISCED 3B, 3C> | $\square_{2}$ |
| <ISCED 2> | $\square_{3}$ |
| <ISCED 1> | $\square_{4}$ |
| She did not complete <ISCED 1> | $\square_{5}$ |

Notes: For a definition of $<$ ISCED $1>$ see Q6.
For a definition of <ISCED 2> and <ISCED 3> see Q7.
$<$ Highest level of schooling> - should be adapted to refer to the sections of schooling that correspond to <ISCED $1>$ to <ISCED $3>$ levels.

Does your mother have any of the following qualifications?
If you are not sure how to answer this question, please ask the <test administrator> for help.
(Please tick one box in each row.)

|  |  |  |  |
| :---: | :--- | :---: | :---: |
| a) | <ISCED 6> | Yes | No |
| b) | <ISCED 5A $>$ | $\square_{1}$ | $\square_{2}$ |
| c) | <ISCED 5B> | $\square_{1}$ | $\square_{2}$ |
| d) | <ISCED 4> | $\square_{1}$ | $\square_{2}$ |

Notes: <ISCED 6> refers to advanced research qualification, devoted to advanced study and original research, requiring submission of a thesis or dissertation of publishable quality.
<ISCED 5A> refers to qualification obtained from a tertiary study programme with a strong theoretical foundation typically with a minimum duration of three years' full time equivalent, providing entry into a profession with high skills requirements or an advanced research programme.
<ISCED 5B> refers to qualification obtained in tertiary programmes that are generally more practical/technical/occupationally specific and typically shorter than ISCED 5A programmes. Typically, these programmes have a minimum of two years' full-time equivalent duration and prepare students to enter a particular occupation.
<ISCED 4> refers to qualification obtained in programmes that overlap the boundary between upper-secondary and post-secondary education. They are typically not significantly more advanced than programmes at ISCED 3 (see Q7) and have a full-time equivalent duration of between 6 months and 2 years.

## Q15 What is your mother currently doing?

(ST15) (Please tick only one box.)

| Working full-time <for pay> | $\square \square_{1}$ |
| :--- | :---: |
| Working part-time <for pay> | $\square \square_{2}$ |
| Not working, but looking for a job | $\square \square_{3}$ |
| Other (e.g. home duties, retired) | $\square \square_{4}$ |


| Q16a <br> (ST16) | What is your father's main job? <br> (e.g. school teacher, kitchen-hand, sales manager) <br> (If she is not working now, please tell us her last main job.) |
| :--- | :--- |
|  | Please write in the job title: |

## Q16b What does your father do in his main job?

(ST16) (e.g. teaches high school students, helps the cook prepare meals in a restaurant, manages a sales team)
Please use a sentence to describe the kind of work he does or did in that job:

| $\begin{gathered} \text { Q17 } \\ \text { (ST17) } \end{gathered}$ | What is the <highest level of schooling> completed by your father? <br> If you are not sure how to answer this question, please ask the <test administrator> for help. (Please tick only one box.) |  |
| :---: | :---: | :---: |
|  | <ISCED 3A> | $\square_{1}$ |
|  | <ISCED 3B, 3C> | $\square \square_{2}$ |
|  | <ISCED 2> | $\square 3$ |
|  | <ISCED 1> | $\square 4$ |
|  | He did not complete < ISCED 1> | $\square_{5}$ |
| Notes: For a definition of <ISCED 1> see Q6. |  |  |
| For a definition of <ISCED 2> and <ISCED 3> see Q7. |  |  |
| For a definition of <Highest level of schooling> see Q13. |  |  |

Q18
(ST18)

Does your father have any of the following qualifications?
If you are not sure which box to choose, please ask the <test administrator> for help.
(Please tick one box in each row.)

|  |  |  |  |  | Yes | No |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| a) | $<$ ISCED 6> | $\square_{1}$ | $\square_{2}$ |  |  |  |
| b) | $<$ ISCED 5A $>$ | $\square_{1}$ | $\square_{2}$ |  |  |  |
| c) | $<$ ISCED 5B> | $\square_{1}$ | $\square_{2}$ |  |  |  |
| d) | $<$ ISCED 4> | $\square_{1}$ | $\square_{2}$ |  |  |  |

Note: For a definition of $<$ ISCED $4>$ to $<$ ISCED $\mathbf{6}>$ levels see Q14.

## Q19 What is your father currently doing?

(ST19)
(Please tick only one box.)

| Working full-time <for pay> | $\square_{1}$ |
| :--- | :---: |
| Working part-time <for pay> | $\square_{2}$ |
| Not working, but looking for a job | $\square_{3}$ |
| Other (e.g. home duties, retired) | $\square_{4}$ |

Q20 In what country were you and your parents born?
(ST20)
(Please tick one box in each column.)

|  | <Country A> | You | Mother | Father |
| :--- | :--- | :---: | :---: | :---: |
|  | <Country B> | $\square_{1}$ | $\square_{1}$ | $\square_{1}$ |
|  | <Country C> | $\square_{2}$ | $\square_{2}$ | $\square_{2}$ |
|  | $\square_{3}$ | $\square_{3}$ | $\square_{3}$ |  |
|  | <...etc.> | $\square_{4}$ | $\square_{4}$ | $\square_{4}$ |
|  | Other country | $\square_{5}$ | $\square_{5}$ | $\square_{5}$ |

Note: Usually <Country A> is the country of the test. The final variable is usually 'Other country'. Between these two variables, each country or economy may choose certain countries of origin for this question.

If you were NOT born in <country of test>, how old were you when you arrived in <country of test>? If you were less than 12 months old, please write zero (0).
If you were born in <country of test> please skip this question and go to Q22.

Q22 What language do you speak at home most of the time?
(ST25)
(Please tick only one box.)

| $<$ Language 1> $\gg$ | $\square_{1}$ |
| :--- | :---: |
| <Language 2> | $\square \square_{2}$ |
| $<$ Language $3>$ | $\square \square_{3}$ |
| $<\ldots$ etc. $>$ | $\square_{4}$ |
| Other language | $\square_{5}$ |

Q23 Which of the following are in your home?
(Please tick one box in each row.)

|  | (Please tick one box in each row.) | Yes | No |
| :---: | :--- | :---: | :---: |
| a) | A desk to study at | $\square_{1}$ | $\square_{2}$ |
| b) | A room of your own | $\square_{1}$ | $\square_{2}$ |
| c) | A quiet place to study | $\square_{1}$ | $\square_{2}$ |
| d) | A computer you can use for school work | $\square_{1}$ | $\square_{2}$ |
| e) | Educational software | $\square_{1}$ | $\square_{2}$ |
| f) | A link to the Internet | $\square_{1}$ | $\square_{2}$ |
| g) | Classic literature (e.g. <Shakespeare>) | $\square_{1}$ | $\square_{2}$ |
| h) | Books of poetry | $\square_{1}$ | $\square_{2}$ |
| i) | Works of art (e.g. paintings) | $\square_{1}$ | $\square_{2}$ |
| j) | Books to help with your school work | $\square_{1}$ | $\square_{2}$ |
| k) | <Technical reference books> | $\square_{1}$ | $\square_{2}$ |
| l) | A dictionary | $\square_{1}$ | $\square_{2}$ |
| m) | A dishwasher | $\square_{1}$ | $\square_{2}$ |
| n) | A <DVD> player | $\square_{1}$ | $\square_{2}$ |
| o) | $<$ Country-specific wealth item 1> | $\square_{1}$ | $\square_{2}$ |
| p) | <Country-specific wealth item 2> | $\square_{1}$ | $\square_{2}$ |
| q) | $<$ Country-specific wealth item 3> | $\square_{1}$ | $\square_{2}$ |
|  |  |  |  |

Q24 How many of these are there at your home?
(ST27) (Please tick only one box in each row.)
$\left.\begin{array}{c|l|c|c|c|c}\text { Three or } \\ \text { more }\end{array}\right]$

## How many books are there in your home?

There are usually about 40 books per metre of shelving. Do not include magazines, newspapers, or your schoolbooks.
(Please tick only one box.)

| 0-10 books | $\square_{1}$ |
| :--- | :---: |
| 11-25 books | $\square_{2}$ |
| $26-100$ books | $\square_{3}$ |
| $101-200$ books | $\square_{4}$ |
| $201-500$ books | $\square_{5}$ |
| More than 500 books | $\square_{6}$ |

## Learning mathematics

Q26 Thinking about your views on mathematics: to what extent do you agree with the following statements?
(ST29) (Please tick only one box in each row.)

|  |  | Strongly agree | Agree | Disagree | Strongly disagree |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | I enjoy reading about mathematics | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| b) | Making an effort in mathematics is worth it because it will help me in the work that I want to do later on | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| c) | I look forward to my mathematics lessons | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| d) | I do mathematics because I enjoy it | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| e) | Learning mathematics is worthwhile for me because it will improve my career <prospects, chances> | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| f) | I am interested in the things I learn in mathematics | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| g) | Mathematics is an important subject for me because I need it for what I want to study later on | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| h) | I will learn many things in mathematics that will help me get a job | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |

Thinking about how people important to you view mathematics: how strongly do you agree with the following statements?
(Please tick only one box in each row.)

|  |  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | Most of my friends do well in mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square$ |
| b) | Most of my friends work hard at mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | My friends enjoy taking mathematics tests | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square$ |
| d) | My parents believe it's important for me to study <br> mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| e) | My parents believe that mathematics is important for my <br> career | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| f) | My parents like mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square$ |

Q28 How confident do you feel about having to do the following mathematics tasks?
(ST37)
(Please tick only one box in each row.)

|  |  | Very confident | Confident | Not very confident | Not at all confident |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | Using a <train timetable> to work out how long it would take to get from one place to another | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |
| b) | Calculating how much cheaper a TV would be after a 30\% discount | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| c) | Calculating how many square metres of tiles you need to cover a floor | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| d) | Understanding graphs presented in newspapers | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| e) | Solving an equation like $3 x+5=17$ | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| f) | Finding the actual distance between two places on a map with a 1:10,000 scale | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square_{4}$ |
| g) | Solving an equation like $2(x+3)=(x+3)(x-3)$ | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| h) | Calculating the petrol consumption rate of a car | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |

Q29 Thinking about studying mathematics: to what extent do you agree with the following statements?
(Please tick only one box in each row.)

|  |  | Strongly agree | Agree | Disagree | Strongly disagree |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | I often worry that it will be difficult for me in mathematics classes | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square_{4}$ |
| b) | I am just not good at mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | I get very tense when I have to do mathematics homework | $\square_{1}$ | $\square_{2}$ | $\square 3$ | $\square \square_{4}$ |
| d) | I get good < grades> in mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |
| e) | I get very nervous doing mathematics problems | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square_{4}$ |
| f) | I learn mathematics quickly | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| g) | I have always believed that mathematics is one of my best subjects | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| h) | I feel helpless when doing a mathematics problem | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| i) | In my mathematics class, I understand even the most difficult work | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| j) | I worry that I will get poor < grades> in mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

Q30 Thinking about your mathematics lessons: to what extent do you agree with the following statements?
(ST43) (Please tick only one box in each row.)

|  |  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | If I put in enough effort I can succeed in mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | Whether or not I do well in mathematics is completely up to me | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | Family demands or other problems prevent me from putting <br> a lot of time into my mathematics work | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | If I had different teachers, I would try harder in mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| e) | If I wanted to, I could do well in mathematics | $\square$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |
| f) | I do badly in mathematics whether or not I study for my exams | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square$ |

## Suppose that you are a student in the following situation:

Each week, your mathematics teacher gives a short quiz. Recently you have done badly on these quizzes. Today you are trying to figure out why.

## How likely are you to have these thoughts or feelings in this situation?

(Please tick only one box in each row.)

|  |  |  |  |  |  |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | I'm not very good at solving mathematics problems | Very likely | Likely | Slightly likely | Not at all <br> likely |
| b) | My teacher did not explain the concepts well this week | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | This week I made bad guesses on the quiz | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |
| d) | Sometimes the course material is too hard | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| e) | The teacher did not get students interested in the material | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| f) | Sometimes I am just unlucky | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |


|  |  | Strongly agree | Agree | Disagree | Strongly disagree |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | I finish my homework in time for mathematics class | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| b) | I work hard on my mathematics homework | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| c) | I am prepared for my mathematics exams | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| d) | I study hard for mathematics quizzes | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| e) | I keep studying until I understand mathematics material | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| f) | I pay attention in mathematics class | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| g) | I listen in mathematics class | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| h) | I avoid distractions when I am studying mathematics | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| i) | I keep my mathematics work well organised | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |


| Q33 <br> (ST48) | For each pair of statements, please choose the item that best describes you. |
| :---: | :--- | :---: |
| (Please tick only one of the following two boxes.) |  |

[^2]Q34 How often do you do the following things at school and outside of school?
(ST49)
(Please tick only one box in each row.)

| Always <br> or almost <br> always |  |  |  |  |  |  | Often | Sometimes | Never or <br> rarely |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | I talk about mathematics problems with my friends | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |
| b) | I help my friends with mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |
| c) | I do mathematics as an <extracurricular> activity | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |
| d) | I take part in mathematics competitions | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |
| e) | I do mathematics more than 2 hours a day outside of school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |
| f) | I play chess | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |
| g) | I program computers | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |
| h) | I participate in a mathematics club | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |

Note: <Extracurricular> refers to activities performed by students that fall outside the realm of the normal curriculum of school education.

Q35 For each group of three items, please choose the item that best describes your approach to mathematics
(ST53) (Please tick only one of the following three boxes.)

| a) | When I study for a mathematics test, I try to work out what the most important parts to learn are | $\square 1$ |
| :---: | :---: | :---: |
|  | When I study for a mathematics test, I try to understand new concepts by relating them to things I already know | $\square \square_{2}$ |
|  | When I study for a mathematics test, I learn as much as I can off by heart | $\square \square_{3}$ |
| b) | When I study mathematics, I try to figure out which concepts I still have not understood properly | $\square \square_{1}$ |
|  | When I study mathematics, I think of new ways to get the answer | $\square_{2}$ |
|  | When I study mathematics, I make myself check to see if I remember the work I have already done | $\square 3$ |
| c) | When I study mathematics, I try to relate the work to things I have learnt in other subjects | $\square_{1}$ |
|  | When I study mathematics, I start by working out exactly what I need to learn | $\square \square_{2}$ |
|  | When I study mathematics, I go over some problems so often that I feel as if I could solve them in my sleep | $\square \square_{3}$ |
| d) | In order to remember the method for solving a mathematics problem, I go through examples again and again | $\square \square_{1}$ |
|  | I think about how the mathematics I have learnt can be used in everyday life | $\square \square_{2}$ |
|  | When I cannot understand something in mathematics, I always search for more information to clarify the problem | $\square \square_{3}$ |

How many hours do you typically spend per week attending <out-of-school-time lessons> in the following subjects?
These are only lessons in subjects that you are also learning at school, which you spend learning extra time on outside of normal school hours. The lessons may be given at your school, at your home or somewhere else.
(Please tick only one box in each row.)

|  |  | I do not attend <out-of-school-time lessons> in this subject | Less than 2 hours a week | 2 or more but less than 4 hours a week | 4 or more but less than 6 hours a week | 6 or more hours a week |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | <Test language> | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| b) | Mathematics | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| c) | <Science> | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| d) | Other Subjects | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |

Notes: <Out-of-school-time lessons> refers to any lessons in the student's school subjects that he or she spends extra time learning outside of normal school hours. The lessons might be held at school, at home, or elsewhere.
For a definition of <test language> and <science> see Q33.

Q37 Thinking about all school subjects: on average, how many hours do you spend each week on the following?

| Hours per <br> week |  |  |  |  |  |  |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| a) | Homework or other study set by your teachers |  |  |  |  |  |
| b) | Out of the time spent in (a), how many hours do you work on your homework with somebody overlooking <br> and providing help if necessary ("guided homework"), either at school or elsewhere? |  |  |  |  |  |
| c) | Work with a personal <tutor> (whether paid or not) |  |  |  |  |  |
| d) | Attend <out of school> classes organised by a commercial company, and paid for by your parents |  |  |  |  |  |
| e) | Study with a parent or other family member |  |  |  |  |  |
| f) | Repeat and train content from school lessons by working on a computer (e.g. learn vocabulary with <br> training software) |  |  |  |  |  |
| Note: <Out of school> refers to any classes in the student's school subjects that he or she spends extra time learning outside of normal school hours. <br> The lessons might be held at school, at home, or elsewhere. |  |  |  |  |  |  |


| $\begin{aligned} & \text { Q38 } \\ & \text { (ST61) } \\ & \hline \end{aligned}$ | How often have you encountered the following types of mathematics tasks during your time at school? <br> (Please tick only one box on each row.) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Frequently | Sometimes | Rarely | Never |
| a) | Working out from a <train timetable> how long it would take to get from one place to another | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| b) | Calculating how much more expensive a computer would be after adding tax | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| c) | Calculating how many square metres of tiles you need to cover a floor | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| d) | Understanding scientific tables presented in an article | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| e) | Solving an equation like $6 x^{2}+5=29$ | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| f) | Finding the actual distance between two places on a map with a 1:10,000 scale | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| g) | Solving an equation like $2(x+3)=(x+3)(x-3)$ | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| h) | Calculating the power consumption of an electronic appliance per week | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| i) | Solving an equation like $3 x+5=17$ | $\square_{1}$ | $\square \square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |

Q39 Thinking about mathematical concepts: how familiar are you with the following terms?
(ST62) (Please tick only one box in each row.)

|  |  | Never heard of it | Heard of it once or twice | Heard of it a few times | Heard of it often | Know it well, understand the concept |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | Exponential Function | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| b) | Divisor | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| c) | Quadratic Function | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| d) | <Proper Number> | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| e) | Linear Equation | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| f) | Vectors | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| g) | Complex Number | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| h) | Rational Number | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| i) | Radicals | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| j) | <Subjunctive Scaling> | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| k) | Polygon | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| I) | <Declarative Fraction> | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| m) | Congruent Figure | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| n) | Cosine | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| o) | Arithmetic Mean | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| p) | Probability | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |


| $\begin{array}{r} \text { Q40 } \\ \text { (ST69) } \\ \hline \end{array}$ | How many minutes, on average, are there in a <class period> for the following subjects? |  |
| :---: | :---: | :---: |
|  |  | Minutes |
| a) | Minutes in a <class period> in < test language> |  |
| b) | Minutes in a <class period> in mathematics |  |
| c) | Minutes in a <class period> in <science> |  |
| Notes: <Class period> refers to the length of time each lesson runs for in a normal school week. For a definition of <test language> and <science> see Q33. |  |  |

Q41 How many <class periods> per week do you typically have for the following subjects? (ST70)

|  |  | <class periods> |
| :---: | :---: | :---: |
| a) | Number of <class periods> per week in <test language> |  |
| b) | Number of <class periods> per week in mathematics |  |
| c) | Number of <class periods> per week in <science> |  |
| Notes: For a definition of <class period> see Q40. | a definition of <class period> see Q40. <br> nition of <test language> and <science> see Q33. |  |

Q42 In a normal, full week at school, how many <class periods> do you have <in total>?
(ST71)

| <class <br> periods |  |  |  |  |  |  |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: |
|  | Number of ALL <class periods> |  |  |  |  |  |

Note: For a definition of <class period> see Q40.

| Q43 <br> (ST72) | On average, about how many students attend your <test language> class? |  |
| :--- | :--- | :--- | :--- |
|  | Students |  |

Note: For a definition of <test language> see Q33.

## Experience with different kinds of mathematics problems at school

| $\begin{aligned} & \text { Q44 } \\ & \text { (ST73) } \end{aligned}$ | In the box is a series of problems. Each requires you to understand a problem written in text and perform the appropriate calculations. Usually the problem talks about practical situations, but the numbers and people and places mentioned are made up. All the information you need is given. Here are two examples: |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1) <Ann> is two years older than <Betty> and <Betty> is four times as old as <Sam>. When <Betty> is 30, how old is <Sam>? <br> 2) Mr $<$ Smith $>$ bought a television and a bed. The television cost $<\$ 625>$ but he got a $10 \%$ discount. The bed cost $<\$ 200>$. He paid $<\$ 20>$ for delivery. How much money did Mr $<$ Smith $>$ spend? |  |  |  |  |
|  | We want to know about your experience with these types of word problems at school. Do not solve them! <br> (Please tick only one box in each row.) |  |  |  |  |
|  |  | Frequently | Sometimes | Rarely | Never |
| a) | How often have you encountered these types of problems in your mathematics lessons? | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |
| b) | How often have you encountered these types of problems in the tests you have taken at school? | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |


| Below are examples of another set of mathematical skills. |
| :--- |
| Q45 <br> (ST74) <br> 1) Solve $2 x+3=7$. <br> 2) Find the volume of a box with sides $3 \mathrm{~m}, 4 \mathrm{~m}$ and 5 m. <br> We want to know about your experience with these types of word problems at school. <br> Do not solve them! <br> (Please tick only one box in each row.) |

In the next type of problem, you have to use mathematical knowledge and draw conclusions. There is no practical application
provided. Here are two examples.

1) Here you need to use geometrical theorems:
Determine the height of the pyramid
Q46
(ST75)
2) Here you have to know what a prime number is:

If $n$ is any number: can $(n+1)^{2}$ be a prime number?

## We want to know about your experience with these types of problems at school.

## Do not solve them!

(Please tick only one box in each row.)

| a) | Frequently | Sometimes | Rarely | Never |  |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | How often have you encountered these types of problems in <br> your mathematics lessons? | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | How often have you encountered these types of problems in <br> the tests you have taken at school? | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |



Example 2:
For years the relationship between a person's recommended maximum heart rate and the person's age was described by the following formula:
Recommended maximum heart rate $=220$ - age
Recent research showed that this formula should be modified slightly. The new formula is as follows:
Recommended maximum heart rate $=208-(0.7 \times$ age $)$
From which age onwards does the recommended maximum heart rate increase as a result of the introduction of the new formula? Show your work.
We want to know about your experience with these types of problems at school.
Do not solve them!
(Please tick only one box in each row.)

|  | Frequently | Sometimes | Rarely | Never |
| :---: | :--- | :---: | :---: | :---: |
| a) | How often have you encountered these types of problems in <br> your mathematics lessons? | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |
| b) | How often have you encountered these types of problems in <br> the tests you have taken at school? | $\square_{1}$ | $\square_{4}$ | $\square_{3}$ |

## Mathematics experiences

Q48 How often do these things happen in your mathematics lessons?
(ST77)
(Please tick only one box in each row.)

|  |  | $\begin{aligned} & \text { Every } \\ & \text { lesson } \end{aligned}$ | $\begin{gathered} \text { Most } \\ \text { lessons } \end{gathered}$ | $\begin{gathered} \text { Some } \\ \text { lessons } \end{gathered}$ | Never or hardly ever |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | The teacher shows an interest in every student's learning | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| b) | The teacher gives extra help when students need it | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| c) | The teacher helps students with their learning | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| d) | The teacher continues teaching until the students understand | $\square \square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |
| e) | The teacher gives students an opportunity to express opinions | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square{ }_{4}$ |

## Q49 How often do these things happen in your mathematics lessons?

(ST79) (Please tick only one box in each row.)

|  |  | Every <br> lesson | Most <br> lessons | Some <br> lessons | Never or <br> hardly ever |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | The teacher sets clear goals for our learning | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | The teacher asks me or my classmates to present our <br> thinking or reasoning at some length | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | The teacher gives different work to classmates who have <br> difficulties learning and/or to those who can advance faster | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | The teacher assigns projects that require at least one week <br> to complete | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| e) | The teacher tells me about how well I am doing in my <br> mathematics class | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| f) | The teacher asks questions to check whether we have <br> understood what was taught | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |
| g) | The teacher has us work in small groups to come up with <br> joint solutions to a problem or task | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| h) | At the beginning of a lesson, the teacher presents a short <br> summary of the previous lesson | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| i) | The teacher asks us to help plan classroom activities or topics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| j) | The teacher gives me feedback on my strengths and <br> weaknesses in mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| k) | The teacher tells us what is expected of us when we get a <br> test, quiz or assignment | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| l) | The teacher tells us what we have to learn | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| m) | The teacher tells me what I need to do to become better in <br> mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

Thinking about the mathematics teacher that taught your last mathematics class: How often does each of the following happen?
(Please tick only one box in each row.)

|  |  | Always or almost always | Often | Sometimes | Never or rarely |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | The teacher asks questions that make us reflect on the problem | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square 4$ |
| b) | The teacher gives problems that require us to think for an extended time | $\square 1$ | $\square \square_{2}$ | $\square 3$ | $\square_{4}$ |
| c) | The teacher asks us to decide on our own procedures for solving complex problems | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square 4$ |
| d) | The teacher presents problems for which there is no immediately obvious method of solution | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square_{4}$ |
| e) | The teacher presents problems in different contexts so that students know whether they have understood the concepts | $\square_{1}$ | $\square_{2}$ | $\square 3$ | $\square \square_{4}$ |
| f) | The teacher helps us to learn from mistakes we have made | $\square_{1}$ | $\square \square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| g) | The teacher asks us to explain how we have solved a problem | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| h) | The teacher presents problems that require students to apply what they have learnt to new contexts | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| i) | The teacher gives problems that can be solved in several different ways | $\square 1$ | $\square_{2}$ | $\square 3$ | $\square_{4}$ |

Q51 How often do these things happen in your mathematics lessons?
(ST81) (Please tick only one box in each row.)

|  |  | Every lesson | Most lessons | Some lessons | Never or hardly ever |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | Students don't listen to what the teacher says | $\square_{1}$ | $\square_{2}$ | $\square 3$ | $\square_{4}$ |
| b) | There is noise and disorder | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | The teacher has to wait a long time for students to <quiet down> | $\square_{1}$ | $\square \square_{2}$ | $\square_{3}$ | $\square 4$ |
| d) | Students cannot work well | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| e) | Students don't start working for a long time after the lesson begins | $\square 1$ | $\square_{2}$ | $\square 3$ | $\square \square_{4}$ |

Below you will find descriptions of three mathematics teachers. Read each of the descriptions of these teachers, then let us know to what extent you agree with the final statement.
(Please tick only one box in each row.)

|  |  | Strongly agree | Agree | Disagree | Strongly disagree |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | Ms. <name> sets mathematics homework every other day. She always gets the answers back to students before examinations Ms. <name> is concerned about her students' learning | $\square 1$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |
| b) | Mr. <name> sets mathematics homework once a week. He always gets the answers back to students before examinations Mr. <name> is concerned about his students' learning | $\square 1$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| c) | Ms. <name> sets mathematics homework once a week. She never gets the answers back to students before examinations Ms. <name> is concerned about her students' learning | $\square 1$ | $\square \square_{2}$ | $\square 3$ | $\square \square_{4}$ | Thinking about the mathematics teacher who taught your last mathematics class: to what extent do you agree with the following statements?

(Please tick only one box in each row.)

|  |  | Strongly agree | Agree | Disagree | Strongly disagree |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | My teacher lets us know we need to work hard | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | My teacher provides extra help when needed | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | My teacher helps students with their learning | $\square_{1}$ | $\square_{2}$ | $\square 3$ | $\square \square_{4}$ |
| d) | My teacher gives students the opportunity to express opinions | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

Below you will find descriptions of three mathematics teachers. Read each of the descriptions of these teachers, then let us know to what extent you agree with the final statement.
(Please tick only one box in each row.)

|  |  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | The students' in Ms. <name's> class frequently interrupt her <br> lessons. She always arrives five minutes early to class <br> Ms. <name> is in control of her classroom | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b)The students' in Ms. <name's> class are calm and orderly <br> She always arrives on time to class <br> Ms. <name> is in control of her classroom | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |
| c)The students' in Mr. <name's> class frequently interrupt his <br> lessons. As a result, he often arrives five minutes late to class <br> Mr. <name> is in control of his classroom | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |

Thinking about the mathematics teacher who taught your last mathematics class: to what extent do you agree with the following statements?
(Please tick only one box in each row.)

|  |  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | My teacher gets students to listen to him or her | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square$ |
| b) | My teacher keeps the class orderly | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | My teacher starts lessons on time | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | The teacher has to wait a long time for students to <quiet down> | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

## Classroom and school climate

Q56 Thinking about the teachers at your school: to what extent do you agree with the following statements?
(ST86) (Please tick only one box in each row.)

|  |  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | Students get along well with most teachers | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | Most teachers are interested in students' well-being | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | Most of my teachers really listen to what I have to say | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | If I need extra help, I will receive it from my teachers | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| e) | Most of my teachers treat me fairly | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |

Q57 Thinking about your school: to what extent do you agree with the following statements?
(ST87) (Please tick only one box in each row.)

|  |  | Strongly agree | Agree | Disagree | Strongly disagree |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | I feel like an outsider (or left out of things) at school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| b) | I make friends easily at school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| c) | I feel like I belong at school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| d) | I feel awkward and out of place in my school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| e) | Other students seem to like me | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| f) | I feel lonely at school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| g) | I feel happy at school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| h) | Things are ideal in my school | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| i) | I am satisfied with my school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |

Q58 Thinking about what you have learnt at school: to what extent do you agree with the following statements?
(ST88) (Please tick only one box in each row.)

|  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |  |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | School has done little to prepare me for adult life when <br> I leave school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | School has been a waste of time | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | School has helped give me confidence to make decisions | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | School has taught me things which could be useful in a job | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

Q59 Thinking about your school: to what extent do you agree with the following statements?
(ST89)
(Please tick only one box in each row.)

|  |  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | Trying hard at school will help me get a good job | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | Trying hard at school will help me get into a good <college> | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | I enjoy receiving good <grades> | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | Trying hard at school is important | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square$ |

Notes: For a definition of <college> see Q33.
For a definition of <grades> see Q29.

Q60 Thinking about your school: to what extent do you agree with the following statements?
(ST91) (Please tick only one box in each row.)

|  |  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | If I put in enough effort, I can succeed in school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | It is completely my choice whether or not I do well at school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | Family demands or other problems prevent me from putting <br> a lot of time into my school work | $\square \square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | If I had different teachers, I would try harder at school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| e) | If I wanted to, I could perform well at school | $\square$ | $\square_{2}$ | $\square_{3}$ | $\square \square$ |
| f) | I perform poorly at school whether or not I study for my exams | $\square$ | $\square$ | $\square_{2}$ | $\square_{3}$ |

## Problem solving experiences

Q61 How well does each of the following statements below describe you?
(ST93)
(Please tick only one box in each row.)

|  |  | Very much like me | Mostly like me | Somewhat like me | Not much like me | Not at all like me |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | When confronted with a problem, I give up easily | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| b) | I put off difficult problems | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| c) | I remain interested in the tasks that I start | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square_{5}$ |
| d) | I continue working on tasks until everything is perfect | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| e) | When confronted with a problem, I do more than what is expected of me | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |

## Q62 How well does each of the following statements below describe you?

(ST94) (Please tick only one box in each row.)

|  |  | Very much like me | Mostly like me | Somewhat like me | Not much like me | Not at all like me |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | I can handle a lot of information | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| b) | I am quick to understand things | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| c) | I seek explanations for things | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| d) | I can easily link facts together | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| e) | I like to solve complex problems | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |

Suppose that you have been sending text messages from your mobile phone for several weeks. Today, however, you can't send text messages. You want to try to solve the problem.
(ST96) What would you do? For each suggestion, tick the option that best applies to you.
(Please tick only one box in each row.)

|  |  |  |  |  |  |  | I would <br> definitely <br> do this | I would <br> probably <br> do this | I would <br> probably not <br> do this | I would <br> definitely not <br> do this |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | I press every button possible to find out what is wrong | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |  |
| b) | I think about what might have caused the problem and what <br> I can do to solve it | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |  |
| c) | I read the manual | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |  |
| d) | I ask a friend for help | $\square$ | $\square_{2}$ | $\square_{3}$ | $\square$ |  |  |  |  |  |


| $\begin{gathered} \text { Q64 } \\ \text { (ST101) } \end{gathered}$ | Suppose that you are planning a trip to the zoo with your brother. You don't know which route to take to get there. What would you do? For each suggestion, tick the option that best applies to you. <br> (Please tick only one box in each row.) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | I would definitely do this | I would probably do this | I would probably not do this | I would definitely not do this |
| a) | I read the zoo brochure to see if it says how to get there | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | I study a map and work out the best route | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | I leave it to my brother to worry about how to get there | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | I know roughly where it is, so I suggest we just start driving | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

Suppose that you arrive at the train station. There is a ticket machine that you have never used before. You want to buy a ticket. What would you do? For each suggestion, tick the option that best applies to you.
(Please tick only one box in each row.)

|  |  | I would definitely do this | I would probably do this | I would probably not do this | I would definitely not do this |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | I check how similar it is to other ticket machines I have used | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| b) | I try out all the buttons to see what happens | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| c) | I ask someone for help | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| d) | I try to find a ticket office at the station to buy a ticket | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |

## EDUCATIONAL CAREER QUESTIONNAIRE

As in previous surveys, additional questionnaire materials were developed and offered as international options to the participating countries and economies. In PISA 2012, these are the educational career questionnaire and the ICT familiarity questionnaire for students, as well as the parent questionnaire.

The educational career questionnaire covers the following aspects:

- Educational career
- Preparation for future careers
- Support with language learning


## Educational career

Q1 Did you ever miss two or more consecutive months of <ISCED 1>?
(EC01) (Please tick only one box.)

| No, never | $\square_{1}$ |
| :--- | :---: |
| Yes, once | $\square_{2}$ |
| Yes, twice or more | $\square_{3}$ |

Note: For a definition of <ISCED 1> see the note in Q6 of the student questionnaire.

Q2 Did you ever miss two or more consecutive months of <ISCED 2>?
(EC02) (Please tick only one box.)

| No, never | $\square \square_{1}$ |
| :--- | :---: |
| Yes, once | $\square_{2}$ |
| Yes, twice or more | $\square_{3}$ |

Note: For a definition of <ISCED 2> see the note in Q7 of the student questionnaire.

## Preparation for future careers

## Q3 Have you done any of the following to find out about future study or types of work? <br> (EC03) (Please tick one box in each row.)

|  |  | Yes | No, never |
| :---: | :---: | :---: | :---: |
| a) | I did an internship | $\square_{1}$ | $\square \square_{2}$ |
| b) | I attended <job shadowing or work-site visits> | $\square_{1}$ | $\square_{2}$ |
| c) | I visited a <job fair> | $\square_{1}$ | $\square_{2}$ |
| d) | I spoke to a <career advisor> at my school | $\square_{1}$ | $\square_{2}$ |
| e) | I spoke to a <career advisor> outside of my school | $\square_{1}$ | $\square_{2}$ |
| f) | I completed a questionnaire to find out about my interests and abilities | $\square_{1}$ | $\square_{2}$ |
| g) | I researched the internet for information about careers | $\square_{1}$ | $\square_{2}$ |
| h) | I went on an organised tour in an <ISCED 3-5> institution | $\square_{1}$ | $\square_{2}$ |
| i) | I researched the internet for information about <ISCED 3-5> programmes | $\square_{1}$ | $\square_{2}$ |
| j) | <country specific item> | $\square_{1}$ | $\square_{2}$ |

Notes: A 'tour in an <ISCED 3-5> institution' is an organised visit to a college, a university or any other institution in upper secondary or tertiary education that aims at informing prospective students about studying at upper levels in general and about the specific offers of that institution.
For a definition of <ISCED 3> see the note in Q7 of the student questionnaire.
For a definition of <ISCED 4> and <ISCED 5> see the note in Q14 of the student questionnaire.

Q4 Which of the following skills have you acquired?
(EC04) (Please tick all that apply.)

|  |  | $\begin{gathered} \text { Yes, } \\ \text { at school } \end{gathered}$ | Yes, out of school | No, never |
| :---: | :---: | :---: | :---: | :---: |
| a) | How to find information on jobs I am interested in | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ |
| b) | How to search for a job | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| c) | How to write a <résumé> or a summary of my qualifications | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| d) | How to prepare for a job interview | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| e) | How to find information on <ISCED 3-5> programs I am interested in | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| f) | How to find information on student financing (e.g. student loans or grants) | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ |

Notes: For a definition of <ISCED 3> see the note in Q7 of the student questionnaire.
For a definition of $<$ ISCED $4>$ and $<$ ISCED $5>$ see the note in Q14 of the student questionnaire.

## Support with language learning

Q5 What is the first language you learned at home?
(EC05) (Please tick only one box.)

| The first language I learned at home was <test language> or <other official |
| :--- | :--- | :--- |
| national language(s) or dialect(s)> |$\quad$| Please stop here. |
| :--- |
| Thank you for your participation. |

Notes: <Test language> refers to the name of the language used in the PISA mathematics literacy test.
<Other official national language or dialect>, if there is no other official language in a country, this category should be omitted. If there are more than one official languages or dialects in a country it should be replaced by the name of the respective second (and third) official language or dialect.

| $\begin{gathered} \text { Q6 } \\ (\text { EC06 }) \end{gathered}$ | How old were you when you started learning <test language>? <br> (Please tick only one box.) |  |
| :---: | :---: | :---: |
|  | 0 to 3 years old | $\square_{1}$ |
|  | 4 to 6 years old | $\square_{2}$ |
|  | 7 to 9 years old | $\square 3$ |
|  | 10 to 12 years old | $\square_{4}$ |
|  | 13 years or older | $\square_{5}$ |

Note: For a definition of <test language> see Q5.

## Q7 Which language do you usually speak with the following people?

(EC07) (Please tick only one box in each row.)


Notes: For a definition of <test language> see Q5.
<Heritage language> refers to the language learned by the student at home which is not the test language. It is often also referred to as the 'mothertongue'.

Q8 In which language do you usually do the following activities?
(EC08) (Please tick only one box in each row.)


[^3]For a definition of <heritage language> see Q7.

Q9 Have you ever attended any of the following types of lessons at school or out of school?
(EC09) (Please tick only one box in each row.)

|  |  | Yes | No, never |
| :---: | :--- | :---: | :---: |
| a) | I have attended <remedial lessons> in <test language> | $\square_{1}$ | $\square_{2}$ |

Q10 Have you ever attended any of the following types of lessons at school or out of school?
(EC11) (Please tick only one box in each row.)
b) I have attended lessons in my <heritage language> (with a focus on reading, writing,

c) | I | I have attended instruction in school subjects through my <heritage language> |
| :--- | :--- |
| (with a focus on subject content) |  |

| ng, | $\square_{1}$ | $\square_{2}$ |
| :--- | :--- | :--- |
|  | $\square_{1}$ | $\square_{2}$ |

Notes: For a definition of <test language> see Q5.
For a definition of <heritage language> see Q7.
<Remedial lessons> refers to any lesson offered outside of normal class time to help students who have fallen behind the performance level of their peers to catch up.
<This academic year>, how many hours a week do you receive systematic support for improving your <test language> skills at school or out of school?
(Please tick only one box.)

| None | $\square_{1}$ |
| :--- | :---: |
| Less than 2 hours a week | $\square_{2}$ |
| 2 or more but less than 4 hours a week | $\square_{3}$ |
| 4 or more but less than 6 hours a week | $\square_{4}$ |
| 6 or more hours a week | $\square$ |

Notes: For a definition of <test language> see Q5.
$<$ This academic year> refers to the year of schooling which is not necessarily the calendar year.
<This academic year>, how many hours per week do you typically spend attending either lessons in your <heritage language> or instruction through your <heritage language> at school or out of school?
(Please tick only one box.)

| None | $\square \square_{1}$ |
| :--- | :---: |
| Less than 2 hours a week | $\square_{2}$ |
| 2 or more but less than 4 hours a week | $\square_{3}$ |
| 4 or more but less than 6 hours a week | $\square_{4}$ |
| 6 or more hours a week | $\square_{5}$ |

Notes: For a definition of <This academic year>see Q11.
For a definition of <heritage language> see Q7.

Q13 Was your mother born in <country of test>?
(ST22) (Please tick only one box.)

| No | $\square_{1}$ |
| :--- | :---: |
| Yes | $\square_{2}$ |
| If YES please stop here. Thank you for your participation. |  |

Below you will find statements about <host culture> and <heritage culture>. <Host culture> refers to the culture and country in which you now live. <Heritage culture> refers to the culture and country in which your mother was born.
(ST23) To what extent do you agree with the following statements?
(Please tick only one box in each row.)

|  |  |  |  |  |  |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | I like to have <host culture> friends | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| b) | I like to have <heritage culture> friends | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | I like to participate in <host culture> celebrations | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | I like to participate in <heritage culture> celebrations | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| e) | I spend a lot of time with <host culture> friends | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| f) | I spend a lot of time with <heritage culture> friends | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| g) | I participate in <host culture> celebrations | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| h) | I participate in <heritage culture> celebrations | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

The statements below are about differences between <host culture> and <heritage culture>.

|  |  |  |  |  |  |  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | The values of people in the <host culture> and in the <br> <heritage culture> are the same | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |  |
| b) | Mothers in the <host culture> and in the <heritage culture> <br> treat their children in the same way | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |  |
| c) | Pupils from the <host culture> and the <heritage culture> <br> deal with their teachers in the same way | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |  |  |  |  |  |

## ICT FAMILIARITY QUESTIONNAIRE

The Information Communication Technology (ICT) familiarity questionnaire consists of questions regarding the availability of ICT, and the student's use of, and attitudes towards computers. It is administered to students after the international student questionnaire and takes about five minutes to complete.

The questionnaire covers the following aspects:

- Availability of ICT
- General computer use
- Use of ICT outside of school
- Use of ICT at school
- Attitudes toward computer


## Availability of ICT

## Q1 Are any of these devices available for you to use at home?

(IC01) (Please tick one box in each row.)

|  |  | $\begin{aligned} & \text { Yes, } \\ & \text { and I use it } \end{aligned}$ | $\qquad$ | No |
| :---: | :---: | :---: | :---: | :---: |
| a) | Desktop computer | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| b) | Portable laptop, or notebook | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ |
| c) | <Tablet computer> (e.g. <iPad ${ }^{\text {® }}$, , <BlackBerry ${ }^{\text {® }}$ PlayBook $^{\text {TM }}>$ ) | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| d) | Internet connection | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ |
| e) | <Video games console>, e.g. <Sony ${ }^{\text {® }}$ PlayStation ${ }^{\text {® }}$ > | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| f) | <Cell phone> (without Internet access) | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| g) | <Cell phone> (with Internet access) | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| h) | Portable music player (Mp3/Mp4 player, iPod ${ }^{\circledR}$ or similar) | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| i) | Printer | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| j) | USB (memory) stick | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| k) | <ebook reader>, e.g. <Amazon ${ }^{\text {® }}$ Kindle $^{\text {TM }}$ > | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |

## Q2 Are any of these devices available for you to use at school?

(IC02) (Please tick one box in each row.)

|  |  | Yes, and I use it | Yes, but I don't use it | No |
| :---: | :---: | :---: | :---: | :---: |
| a) | Desktop computer | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| b) | Portable laptop or notebook | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| c) | <Tablet computer> (e.g. <iPad $\left.{ }^{\text {® }}\right\rangle$, $<$ BlackBerry $^{\text {® }}$ PlayBook $^{\text {TM }}>$ ) | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| d) | Internet connection | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| e) | Printer | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| f) | USB (memory) stick | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| g) | <ebook reader>, e.g. $<$ Amazon $^{\otimes}$ Kindle $^{\text {TM }}>$ | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |

## General computer use

How old were you when you first used a computer?
If you have never used a computer, please stop here. Thank you for your participation.
(Please tick only one box.)

| 6 years old or younger | $\square_{1}$ |
| :--- | :---: |
| $7-9$ years old | $\square_{2}$ |
| $10-12$ years old | $\square_{3}$ |
| 13 years old or older | $\square_{4}$ |
| I have never used a computer | $\square_{5}$ |

## How old were you when you first accessed the Internet?

(IC04)
(Please tick only one box.)

| 6 years old or younger | $\square_{1}$ |
| :--- | :---: |
| $7-9$ years old | $\square_{2}$ |
| $10-12$ years old | $\square_{3}$ |
| 13 years old or older | $\square_{4}$ |
| I have never accessed the Internet | $\square_{5}$ |

During a typical weekday, for how long do you use the Internet at school?
(Please tick only one box.)

| No time | $\square_{1}$ |
| :--- | :---: |
| 1-30 minutes per day | $\square_{2}$ |
| 31-60 minutes per day | $\square_{3}$ |
| Between 1 hour and 2 hours per day | $\square_{4}$ |
| Between 2 hours and 4 hours per day | $\square_{5}$ |
| Between 4 hours and 6 hours per day | $\square_{6}$ |
| More than 6 hours per day | $\square_{7}$ |

## Q6 During a typical weekday, for how long do you use the Internet outside of school?

(IC06)
(Please tick only one box.)

| No time | $\square_{1}$ |
| :--- | :---: |
| 1-30 minutes per day | $\square_{2}$ |
| $31-60$ minutes per day | $\square_{3}$ |
| Between 1 hour and 2 hours per day | $\square_{4}$ |
| Between 2 hours and 4 hours per day | $\square_{5}$ |
| Between 4 hours and 6 hours per day | $\square_{6}$ |
| More than 6 hours per day | $\square_{7}$ |

Q7 On a typical weekend day, for how long do you use the Internet outside of school?
(IC07)
(Please tick only one box.)

| No time | $\square \square_{1}$ |
| :--- | :---: |
| $1-30$ minutes per day | $\square \square_{2}$ |
| $31-60$ minutes per day | $\square_{3}$ |
| Between 1 hour and 2 hours per day | $\square \square_{4}$ |
| Between 2 hours and 4 hours per day | $\square$ |
| Between 4 hours and 6 hours per day | $\square$ |
| More than 6 hours per day | $\square$ |

## Use of ICT outside of school

Q8 How often do you use a computer for the following activities outside of school?
(IC08) (Please tick one box in each row.)

|  |  | Never or hardly ever | Once or twice a month | Once or twice a week | Almost every day | Every day |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | Playing one-player games | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ |
| b) | Playing collaborative online games | $\square_{1}$ | $\square_{2}$ | $\square 3$ | $\square \square_{4}$ | $\square 5$ |
| c) | Using email | $\square_{1}$ | $\square_{2}$ | $\square 3$ | $\square_{4}$ | $\square 5$ |
| d) | $<$ Chatting online $>$ (e.g. $<\mathrm{MSN}^{\circledR}>$ ) | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square \square_{4}$ | $\square_{5}$ |
| e) | Participating in social networks (e.g. <facebook>, <MySpace>) | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square \square_{4}$ | $\square 5$ |
| f) | Browsing the Internet for fun (such as watching videos, e.g<YouTube ${ }^{T M}>$ ) | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square \square_{4}$ | $\square 5$ |
| g) | Reading news on the Internet (e.g. current affairs) | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square \square_{4}$ | $\square 5$ |
| h) | Obtaining practical information from the Internet (e.g. locations, dates of events) | $\square 1$ | $\square_{2}$ | $\square 3$ | $\square \square_{4}$ | $\square 5$ |
| i) | Downloading music, films, games or software from the Internet | $\square 1$ | $\square_{2}$ | $\square 3$ | $\square \square_{4}$ | $\square 5$ |
| j) | Uploading your own created contents for sharing (e.g. music, poetry, videos, computer programs) | $\square 1$ | $\square \square_{2}$ | $\square 3$ | $\square \square_{4}$ | $\square_{5}$ |

Q9 How often do you use a computer for the following activities outside of school?
(IC09) (Please tick one box in each row.)

|  |  | Never or hardly ever | Once or twice a month | Once or twice a week | Almost every day | Every day |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | Browsing the Internet for schoolwork (e.g. for preparing an essay or presentation) | $\square 1$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| b) | Using email for communication with other students about schoolwork | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| c) | Using email for communication with teachers and submission of homework or other schoolwork | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square 4$ | $\square 5$ |
| d) | Downloading, upload or browse material from my school's website (e.g. time table or course materials) | $\square_{1}$ | $\square \square_{2}$ | $\square 3$ | $\square \square_{4}$ | $\square_{5}$ |
| e) | Checking the school's website for announcements, e.g. absence of teachers | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square 4$ | $\square 5$ |
| f) | Doing homework on the computer | $\square_{1}$ | $\square \square_{2}$ | $\square_{3}$ | $\square \square_{4}$ | $\square_{5}$ |
| g) | Sharing school related materials with other students | $\square 1$ | $\square \square_{2}$ | $\square 3$ | $\square \square_{4}$ | $\square 5$ |

## Use of ICT at school

Q10 How often do you use a computer for the following activities at school?
(IC10)
(Please tick one box in each row.)

|  | Never or <br> hardly ever | Once or <br> twice a <br> month | Once or <br> twice a week | Almost <br> every day | Every day |  |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| a) | <Chatting on line> at school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ |
| b) | Using email at school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ |
| c) | Browsing the Internet for schoolwork | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square \square_{5}$ |
| d) | Downloading, uploading or browsing <br> material from the school's website <br> (e.g. <intranet>) | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ |
| e) | Posting my work on the school's website | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square \square_{5}$ |
| f) | Playing simulations at school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square \square_{5}$ |
| g) | Practicing and drilling, such as for foreign <br> language learning or mathematics | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ |
| h) | Doing homework on a school computer | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ |
| i) | Using school computers for group work <br> and communication with other students | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square \square_{5}$ |

Within the last month, has a computer ever been used for the following purposes in your mathematics lessons?
(Please tick one box in each row.)

|  |  | Yes, students did this | Yes, but only the teacher demonstrated this | No |
| :---: | :---: | :---: | :---: | :---: |
| a) | Drawing the graph of a function (such as $y=4 x+6$ ) | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| b) | Calculating with numbers (such as calculating 5*233/8) | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| c) | Constructing geometric figures (e.g. an equilateral triangle with given side lengths) | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| d) | Entering data in a spreadsheet (e.g. in $\left\langle\right.$ Excel $\left.^{\top M}\right\rangle$ ) | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| e) | Rewriting algebraic expressions and solving equations (such as $a^{2}+2 a b+b^{2}$ ) | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| f) | Drawing histograms (a graph that shows the distribution of frequencies of data) | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |
| g) | Finding out how the graph of a function like $y=a x^{2}$ changes depending on a | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ |

## Attitudes toward computers

Q12
(IC22)
(Please tick only one box in each row.)

|  |  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | The computer is a very useful tool for my schoolwork | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | Doing my homework using a computer makes it more fun | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | The Internet is a great resource for obtaining information I <br> can use for my school work | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | Using the computer for learning is troublesome | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |
| e) | Since anyone can upload information to the Internet, it is in <br> general not suitable to use it for schoolwork | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| f) | Information obtained from the Internet is generally too <br> unreliable to be used for school assignments | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

## PARENT QUESTIONNAIRE

One questionnaire is administered per student. The parent questionnaire takes about 20 minutes to complete. The parent questionnaire covers parental reports related to several aspects:

- Parental background
- Cost of educational service
- Attitudes to child's school
- Parents' involvement with school
- School choice
- Parental support for learning in the home
- Mathematics in child's career and job market
- Academic and professional expectations in mathematics
- Child's past academic performance
- Child's career interests
- Parents' migration background


## Parental background

| Q1 <br> (PA01) | Who will complete this questionnaire? |
| :---: | :--- | :---: |
| (Please tick all that apply.) |  | | a) | Mother or other female guardian |
| :---: | :---: |
| b) | Father or other male guardian |
| c) | Other |
|  | (If other, please specify): |

Q2 How old are the child's parents?
(PA02) (Please tick one box in each row.)

| Younger than <br> 36 years |  | $36-40$ years | $41-45$ years | $46-50$ years | 51 years or <br> older |  |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| a) | Father | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ |
| b) | Mother | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ | $\square_{5}$ |

Q3 Does the child's father have any of the following qualifications?
(PA03) (Please tick one box in each row.)

|  |  |  |  |  | Yes | No |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| a) | $<$ ISCED 5A, 6> | $\square_{1}$ | $\square_{2}$ |  |  |  |
| b) | <ISCED 5B> | $\square_{1}$ | $\square_{2}$ |  |  |  |
| c) | <ISCED 4> | $\square_{1}$ | $\square_{2}$ |  |  |  |
| d) | $<$ ISCED 3A> | $\square_{1}$ | $\square_{2}$ |  |  |  |

Notes: For a definition of <ISCED 3A> see the note in Q7 of the student questionnaire.
For a definition of <ISCED 4> to <ISCED 6> levels see the note in Q14 of the student questionnaire.

Q4a What is the main job of the child's father? (e.g. school teacher, kitchen-hand, sales manager.)
(If he is not working now, please tell us his last main job.)
Please write in the job title:

Q4b What does the child's father do in his main job? (e.g. teaches high school students, helps the cook (PA04) prepare meals in a restaurant, manages a sales team.)

Please use a sentence to describe the kind of work he does or did in that job:

Q5 Does the child's mother have any of the following qualifications?
(PA05) (Please tick one box in each row.)

|  |  | Yes | No |
| :---: | :---: | :---: | :---: |
| a) | <ISCED 5A, 6> | $\square 1$ | $\square_{2}$ |
| b) | <ISCED 5B> | $\square_{1}$ | $\square{ }_{2}$ |
| C) | <ISCED 4> | $\square_{1}$ | $\square_{2}$ |
| d) | <ISCED 3A> | $\square_{1}$ | $\square_{2}$ |

Notes: For a definition of <ISCED 3A> see the note in Q7 of the student questionnaire.
For a definition of $<$ ISCED $4>$ to $<$ ISCED $\mathbf{6}>$ see the note in Q14 of the student questionnaire.

## Q6a What is the main job of the child's mother? (e.g. school teacher, kitchen-hand, sales manager.) <br> (PA06) (If she is not working now, please tell us her last main job.) <br> Please write in the job title:

Q6b What does the child's mother do in her main job? (e.g. teaches high school students, helps the cook prepare meals in a restaurant, manages a sales team.)

Please use a sentence to describe the kind of work she does or did in that job:

## What is your annual household income?

Please add together the total income, before tax, from all members of your household.
Please remember we ask you to answer questions only if you feel comfortable doing so, and that all responses are kept strictly confidential.
(Please tick only one box.)

| Less than $<\$ \mathrm{~A}>$ | $\square_{1}$ |
| :--- | :---: |
| $<\$ \mathrm{~A}>$ or more but less than $<\$ \mathrm{~B}>$ | $\square_{2}$ |
| $<\$ \mathrm{~B}>$ or more but less than $<\$ \mathrm{C}>$ | $\square_{3}$ |
| $<\$ \mathrm{C}>$ or more but less than $<\$ \mathrm{D}>$ | $\square_{4}$ |
| $<\$ \mathrm{D}>$ or more but less than $<\$ \mathrm{E}>$ | $\square_{5}$ |
| $<\$ \mathrm{E}>$ or more | $\square_{6}$ |

Notes: <\$>-This symbol denotes the national currency of the participating country or economy.
$<\$ C>$ is a suitably rounded value for the national median household income. For all households in the country, the median income is the amount for which half of the households have an income above this amount, and half, below.
$<\$ \mathbf{A}>$ is a suitably rounded value equal to about half of the median household income. $\langle \$ \mathbf{B}\rangle$ is a value at about three quarters of the median household income, $<\$ \mathbf{D}>$ is a value at about five quarters of the median household income, and $<\mathbf{\$} \mathbf{\Sigma}>$ is a value at about one-and-a-half times the median household income.

## Cost of educational service

|  | Please answer the following question thinking just of expenses related to <the student who brought this questionnaire home>. <br> In the last twelve months, about how much would you have paid to educational providers for services? |  |
| :--- | :--- | :--- |
| Q8In determining this, please include any tuition fees you pay to your child's school, any other fees paid to individual teachers <br> in the school or to other teachers for any tutoring your child receives, as well as any fees for cram school. <br> (PA08) <br> Do not include the costs of goods like sports equipment, school uniforms, computers or textbooks if they are not included <br> in a general fee (that is, if you have to buy these things separately). <br> (Please tick only one box.) |  |  |
| Nothing $<$ More than $\$ 0$ but less than $\$ W>$ | $\square$ |  |
|  | $<\$ W$ or more but less than $\$ X>$ | $\square$ |
|  | $<\$ X$ or more but less than $\$ Y>$ | $\square$ |
|  | $<\$ Y$ or more but less than $\$ Z>$ | $\square$ |
|  | $<\$ Z>$ or more | $\square$ |

## Attitudes to child's school

## Q9 <br> (PA09)

We are interested in what you think about your child's school.
How much do you agree or disagree with the following statements?
(Please tick only one box in each row.)

|  |  | Strongly <br> agree | Agree | Disagree | Strongly <br> disagree |
| :---: | :--- | :---: | :---: | :---: | :---: |
| a) | Most of my child's school teachers seem competent and dedicated | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | Standards of achievement are high in my child's school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | I am happy with the content taught and the instructional methods <br> used in my child's school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | I am satisfied with the disciplinary atmosphere in my child's school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| e) | My child's progress is carefully monitored by the school | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| f) | My child's school provides regular and useful information on my <br> child's progress | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| g) | My child's school does a good job in educating students | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

## Parents' involvement with school

Q10 During the last <academic year>, have you participated in any of the following school-related activities?
(PA10) (Please tick one box in each row.)

|  |  |  |  |
| :---: | :--- | :---: | :---: |
| a) | Discussed my child's behaviour with a teacher on my own initiative | Yes | No |
| b) | Discussed my child's behaviour on the initiative of one of his/her teachers | $\square_{1}$ | $\square_{2}$ |
| c) | Volunteered in physical activities, e.g. building maintenance, carpentry, gardening or yard work | $\square_{1}$ | $\square_{2}$ |
| d) | Volunteered in extra-curricular activities, e.g. book club, school play, sports, field trip | $\square_{2}$ |  |
| e) | Volunteered in the school library or media centre | $\square_{1}$ | $\square_{2}$ |
| f) | <Assisted a teacher in the school> | $\square_{1}$ | $\square_{2}$ |
| g) | Appeared as a guest speaker | $\square_{1}$ | $\square_{2}$ |
| h) | Participated in local school <government>, e.g. parent council or school management <br> committee | $\square_{1}$ | $\square_{2}$ |
| i) | Discussed my child's progress with a teacher on my own initiative | $\square_{1}$ | $\square_{2}$ |
| j) | Discussed my child's progress on the initiative of one of their teachers | $\square_{1}$ | $\square_{2}$ |
| k) | Volunteered in the school <canteen> | $\square_{1}$ | $\square_{2}$ |

Note: <Academic year> refers to the year of schooling which is not necessarily the calendar year.

## School choice

We are interested in the options you had as parents when choosing the school your child is currently attending.

| There are two or more other schools in this area that compete with the school my child is currently attending | $\square_{1}$ |
| :--- | :---: |
| There is one other school in this area that competes with the school my child is currently attending | $\square_{2}$ |
| There are no other schools in this area that compete with the school my child is currently attending | $\square_{3}$ |

Q12 How important are the following reasons for choosing a school for your child?
(Please tick only one box in each row.)

|  |  | Not important | Somewhat important | Important | Very important |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) | The school is at a short distance to home | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| b) | The school has a good reputation | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| c) | The school offers particular courses or school subjects | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| d) | The school adheres to a particular <religious philosophy> | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| e) | The school has a particular approach to <pedagogy/didactics, e.g. example> | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square \square_{4}$ |
| f) | Other family members attended the school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| g) | <Expenses are low> (e.g. tuition, books, room and board) | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| h) | The school has < financial aid> available, such as a school loan, scholarship, or grant | $\square \square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| i) | The school has an active and pleasant school climate | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| j) | The academic achievements of students in the school are high | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |
| k) | There is a safe school environment | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ |

## Parental support for learning in the home

Q13 How often do you or someone else in your home do the following things with your child?
(PA13) (Please tick only one box in each row.)

|  |  | Never or hardly ever | Once or twice a year | Once or twice a month | Once or twice a week | Every day or almost every day |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) | Discuss how well my child is doing at school | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| b) | Eat <the main meal> with my child around a table | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| c) | Spend time just talking to my child | $\square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| d) | Help my child with his/her mathematics homework | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |
| e) | Discuss how my child is performing in mathematics class | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| f) | Obtain mathematics materials (e.g., applications, software, study guides etc) for my child | $\square \square_{1}$ | $\square \square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square 5$ |
| g) | Discuss with my child how mathematics can be applied in everyday life | $\square_{1}$ | $\square_{2}$ | $\square \square_{3}$ | $\square \square_{4}$ | $\square \square_{5}$ |

## Mathematics in child's career and job market

| Q14 |
| :--- |
| We are interested in what you think about the need for mathematics skills in the job market today. <br> (PA14) <br> How much do you agree with the following statements? <br> (Please tick only one box in each row.) | | Strongly |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a) |  |  |  |  |  |
| a) | It is important to have good mathematics knowledge and <br> skills in order to get any good job in today's world | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| b) | Employers generally appreciate strong mathematics <br> knowledge and skills among their employees | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| c) | Most jobs today require some mathematics knowledge and skills | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |
| d) | It is an advantage in the job market to have good <br> mathematics knowledge and skills | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ | $\square_{4}$ |

## Academic and professional expectations in mathematics

|  | The following questions refer to <mathematics-related careers>. A <mathematics-related career> is one that requires studying <br> a mathematics course at a university level. <br> Q15 <br> Examples of <mathematics-related careers> include Mathematics Teacher, Economists, Financial Analyst and Computer scientist. <br> <Mathematics-related careers> also include many science-related careers, such as Engineers, Weather Forecasters, and Medical <br> doctors. All of these can also be considered as <mathematics-related careers>. <br> (Please answer the questions below. <br> (Please tick only one box in each row.) |
| :--- | :--- | :--- | :--- |

## Child's past academic performance

Q16 Has your child ever repeated a <grade>?
(PA18)
(Please tick only one box in each row.)

|  |  | No, never | Yes, once | Yes, twice or more |
| :---: | :---: | :---: | :---: | :---: |
| a) | At $<$ ISCED $1>$ | $\square 1$ | $\square_{2}$ | $\square 3$ |
| b) | At $<$ ISCED 2> | $\square_{1}$ | $\square_{2}$ | $\square_{3}$ |
| C) | At < ISCED 3> | $\square_{1}$ | $\square 2$ | $\square_{3}$ |

Notes: $<$ Grade $>$ refers to the administrative level of the student in the school. In many countries, the number of years in schooling is the usual measure of grade.
For a definition of $<$ ISCED $\mathbf{1}>$ see the note in Q6 of the student questionnaire.
For a definition of $<$ ISCED $2>$ and $<$ ISCED $3>$ see the note in Q7 of the student questionnaire.

## Child's career interests

Q17 Which of the following do you expect your child to complete?
(PA19) (Please tick as many as apply.)

| a) | <ISCED 2> | $\square_{1}$ |
| :--- | :--- | :--- |
| b) | <ISCED 3B or C $>$ | $\square_{2}$ |
| c) | <ISCED 3A $>$ | $\square_{3}$ |
| d) | <ISCED 4> | $\square_{4}$ |
| e) | <ISCED 5B $>$ | $\square$ |
| f) | <ISCED 5A or $6>$ | $\square$ |

Notes: For a definition of <ISCED 2> and <ISCED 3> see the note in Q7 of the student questionnaire.
For a definition of $<$ ISCED 4> to $<$ ISCED 6> levels see the note in Q14 of the student questionnaire.

Q18 What occupation do you expect your child to have when they are about 30 years old?
(PA20)
Please write in the job title:

## Parents' migration background

Q19 In what country were the following people in the child's family born?
(PA21)
(Please tick one answer per column.)

|  | Mother | Father | Maternal Grandmother | Maternal Grand-father | Paternal Grandmother | Paternal Grand-father |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| <Test Country> | $\square \square_{1}$ | $\square_{1}$ | $\square \square_{1}$ | $\square_{1}$ | $\square_{1}$ | $\square_{1}$ |
| <Country A> | $\square \square_{2}$ | $\square \square_{2}$ | $\square \square_{2}$ | $\square \square_{2}$ | $\square \square_{2}$ | $\square_{2}$ |
| <Country B> | $\square \square_{3}$ | $\square \square_{3}$ | $\square \square_{3}$ | $\square \square_{3}$ | $\square \square_{3}$ | $\square \square_{3}$ |
| <Country C> | $\square \square_{4}$ | $\square \square_{4}$ | $\square \square_{4}$ | $\square \square_{4}$ | $\square \square_{4}$ | $\square \square_{4}$ |
| <Country D> | $\square 5$ | $\square 5$ | $\square 5$ | $\square_{5}$ | $\square_{5}$ | $\square_{5}$ |
| <Country E> | $\square \square_{6}$ | $\square \square_{6}$ | $\square \square_{6}$ | $\square \square_{6}$ | $\square \square_{6}$ | $\square \square_{6}$ |
| <Country F> | $\square_{7}$ | $\square_{7}$ | $\square_{7}$ | $\square_{7}$ | $\square_{7}$ | $\square_{7}$ |

[^4]<Country $\mathbf{X}>$, each country or economy may choose certain countries for this question.

| Q20 | If the child's father was NOT born in <country of test>, how old was he when he arrived in <br> <country of test>? <br> (PA22) <br> (If less than 12 months old, please write zero $(0))$. |
| :--- | :--- |
|  |  |
| Note: <Country of test $>$ refers to the country being tested. |  |


| Q21 |
| :--- |
| If the child's mother was NOT born in <country of test>, how old was she when she arrived in <br> (PA23) <br> <country of test>? <br> (If less than 12 months old, please write zero (0).) |

Note: For a definition of <Country of test> see Q20.

In what country are the father and mother of the child legal citizens? If they are dual citizens, you may tick more than one country.
(Please tick as many as apply.)

|  |  | Mother | Father |
| :---: | :---: | :---: | :---: |
| a) | <Test Country> | $\square 1$ | $\square_{1}$ |
| b) | <Country A> | $\square_{2}$ | $\square_{2}$ |
| c) | <Country B> | $\square_{3}$ | $\square_{3}$ |
| d) | <Country C> | $\square_{4}$ | $\square_{4}$ |

Note: For a definition of <Test country> see Q19.

Q23 What language do the father and mother of the child speak at home most of the time?
(PA25) (Please tick one answer per column.)

|  | Mother | Father |
| :---: | :---: | :---: |
| <Test language> | $\square_{1}$ | $\square_{1}$ |
| <Other official national languages> | $\square_{2}$ | $\square \square_{2}$ |
| <Other national dialects or languages> | $\square 3$ | $\square \square_{3}$ |
| < Other language 1> | $\square \square_{4}$ | $\square_{4}$ |
| < Other language 2> | $\square_{5}$ | $\square_{5}$ |
| < Other language 3> | $\square 6$ | $\square 6$ |
| Other language | $\square_{7}$ | $\square_{7}$ |

Note: <Test language> refers to the language of instruction in which you would administer the PISA reading assessment. It should be adapted to refer to the national name of the 'language of instruction' course or lessons.


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[^0]:    Note: For a definition of <the last academic year> see Q19.

[^1]:    Note: For a definition of <national modal grade for $\mathbf{1 5}$-year-olds> see Q5.

[^2]:    Notes: <Test language> refers to the language of instruction in which the PISA reading assessment is administered. In some countries <test language> may be taught in different school subjects, e.g. English language and English literature. If this is the case, <test language> must be adapted accordingly.
    <Science> refers only to the core science subjects of physics, chemistry, Earth science and biology either taught in the country's curriculum as separate science subjects, or taught within a single 'integrated-science' subject. The term does not include related subjects such as engineering, technology, mathematics, psychology, economics, nor possible Earth science topics included in geography courses. In many countries this term has been adapted to the national context.
    <College> refers to university level or tertiary education and should be adapted to the national context
    <Take> refers to students who have the option of selecting additional elective courses in school. For countries with a mandatory curriculum that does not allow any choices or options, this item should be adapted to the national context.

[^3]:    Notes: For a definition of <test language> see Q5.

[^4]:    Notes: <Test Country> refers to the country being tested.

