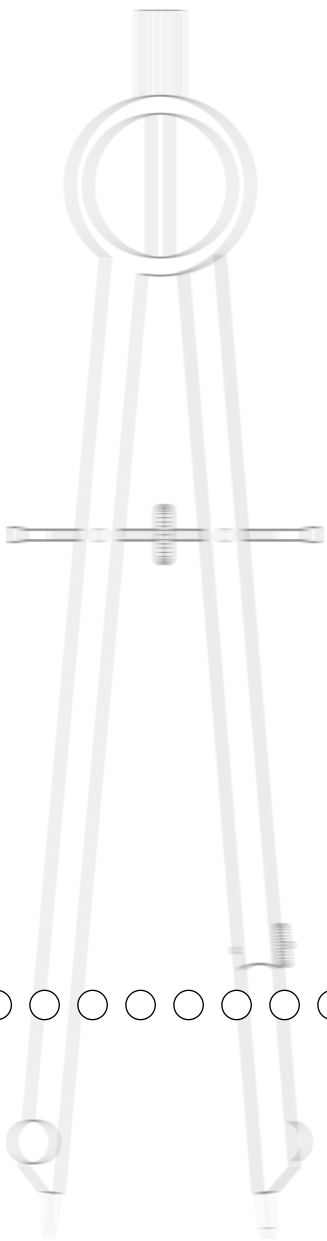




Appendix C: Sample Implementation





Sample Implementation

C.1 Introduction

For each country participating in TIMSS-R, this appendix describes the target population definition where necessary, coverage and exclusions, use of stratification variables, and any deviations from the general TIMSS-R design.

C.2 Australia

C.2.1 Target Population

In Australia, the target grades varied by State and Territory. The target grade was the 8th grade in New South Wales, Victoria, Tasmania and the Australian Capital Territory. The target grade was the 9th grade in Queensland, South Australia, Western Australia and the Northern Territory. This variation is due to different age entrance rules applied in the Australian States and Territories.

C.2.2 Coverage and Exclusions

School-level exclusions consisted of very small schools, special schools (distance-education schools, hospital schools, schools for learning difficulties) and catholic and independent schools in the Northern Territory.

C.2.3 Sample Design

- Explicit stratification by States and Territories and school type (government, catholic and independent), for a total of 24 strata.
- No implicit stratification.
- Because there were many explicit strata, explicit strata within States and Territories were treated as implicit strata for variance estimation.
- Australia used a modified school sampling method. The method is acceptable, but an alternate method of identifying replacement schools was used in the strata marked with (°) in table C1.
- Large school sample size in the larger States to produce reliable state-level estimates.

Exhibit C.1: Allocation of School Sample in Australia

Explicit Stratum		Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
				Sampled	1 st Replacement	2 nd Replacement	
Australian Capital Territory	Catholic	1	0	1	0	0	0
	Government	2	0	1	0	0	1
	Independent	1	0	1	0	0	0
New South Wales	Catholic ²	10	0	8	1	0	1
	Government ²	33	0	27	3	0	3
	Independent ²	5	0	4	0	0	1
Victoria	Catholic ²	8	0	5	2	0	1
	Government ²	23	1	19	3	0	0
	Independent ²	5	0	5	0	0	0
Queensland	Catholic	5	0	3	2	0	0
	Government ²	20	0	18	0	0	2
	Independent	5	0	4	1	0	0
South Australia	Catholic	5	0	5	0	0	0
	Government ²	19	0	17	1	0	1
	Independent	4	0	4	0	0	0
Western Australia	Catholic	3	0	1	1	0	1
	Government ²	10	0	9	1	0	0
	Independent	2	0	2	0	0	0
Tasmania	Catholic	3	0	3	0	0	0
	Government ²	15	0	11	3	0	1
	Independent	2	0	2	0	0	0
Northern Territory	Catholic	0	0	0	0	0	0
	Government	2	0	2	0	0	0
	Independent	1	1	0	0	0	0
Total	184	2	152	18	0	12	

C.3 Belgium (Flemish)

C.3.1 Coverage and Exclusions

School-level exclusions consisted of very small schools (MOS<10).

C.3.2 Sample Design

- Explicit stratification by school size (very large schools and large schools), for a total of 2 explicit strata.
- Implicit stratification by school type (state, local board and catholic) and school program (schools with or without the technical program), for a total of 6 strata.
- Two classrooms per school in the general program (when available).
- Belgium sub-sampled 15 schools among the 80 sampled schools with the technical program, to select one classroom from the technical program.

Exhibit C.2 Allocation of School Sample in Belgium (Flemish)

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Large schools	149	0	105	21	8	15
Very large schools	1	0	1	0	0	0
Total	150	0	106	21	8	15
<i>Vocational component</i>	<i>15</i>	<i>1</i>	<i>12</i>	<i>0</i>	<i>0</i>	<i>2</i>

C.4 Bulgaria

C.4.1 Target Population

Bulgaria selected the same target grade as they had in TIMSS in 1995, i.e., the 8th grade. However, because of changes in age entrance policies, the 1999 target population is older than their 1995 target population.

C.4.2 Coverage and Exclusions

School-level exclusions consisted of specials schools for the physically and mentally disabled, schools for students with criminal behavior and very small schools (MOS<9).

C.4.3 Sample Design

- Explicit stratification by school size (large schools and small schools), for a total of 2 explicit strata.
- No implicit stratification.
- Schools in the “Small schools” stratum selected with equal probabilities.

Exhibit C.3: Allocation of School Sample in Bulgaria

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Large schools	150	0	144	0	0	6
Small schools	22	3	19	0	0	0
Total	172	3	163	0	0	6

C.5 Canada

C.5.1 Coverage and Exclusions

School-level exclusions consisted of offshore schools, schools where students are taught in aboriginal languages, very small schools, schools in Prince Edward Island, French schools in New Brunswick and schools in the Territories.

C.5.2 Sample Design

- Explicit stratification by province, language (French and English in New Brunswick, Québec and Ontario), school size (very large schools and large schools in Newfoundland, large schools and small schools in Saskatchewan) and school type (government and independent in Québec), for a total of 16 explicit strata.

- Implicit stratification by region (in Ontario English), language (French and English in Nova Scotia) and school type (public and independent in British Columbia), for a total of 26 implicit strata.
- Schools in the “Newfoundland - Very large schools”, “Ontario French” & “Saskatchewan - Small schools” strata selected with equal probabilities.
- Large school sample size in Ontario, Newfoundland, Québec, Alberta and British Columbia to produce reliable provincial estimates.

Exhibit C.4 Allocation of School Sample in Canada

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Newfoundland-Very large schools	2	0	2	0	0	0
Newfoundland-Large schools	38	1	37	0	0	0
Nova Scotia	5	0	3	0	0	2
New Brunswick-English	2	0	2	0	0	0
New Brunswick-French	2	2	0	0	0	0
Québec-Government-English	4	0	4	0	0	0
Québec-Government-French	37	0	30	3	2	2
Québec-Independent-English	2	0	2	0	0	0
Québec-Independent-French	7	1	6	0	0	0
Ontario-English	120	3	112	1	0	4
Ontario-French	80	3	73	1	0	3
Manitoba	6	0	5	0	0	1
Saskatchewan-Large schools	4	0	4	0	0	0
Saskatchewan-Small schools	2	0	2	0	0	0
Alberta	55	1	52	2	0	0
British Columbia	44	1	42	0	0	1
Total	410	12	376	7	2	13

C.6 Chile

C.6.1 Target Population

The target grade selected for the national desired target population was the 8th grade. Students in the 7th grade were tested for national purposes.

C.6.2 Coverage and Exclusions

School-level exclusions consisted of geographically inaccessible schools and very small schools (MOS<15).

C.6.3 Sample Design

- No explicit stratification.
- Implicit stratification by school type (public and private) and urbanization (rural and urban), for a total of 4 implicit strata.
- Large school sample size because of expected large intraclass correlation.

Exhibit C.5 Allocation of School Sample in Chile

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Chile	186	0	182	4	0	0
Total	186	0	182	4	0	0

C.7 Chinese Taipei

C.7.1 Coverage and Exclusions

School-level exclusions consisted of schools on isolated islands (Kinnen, Matsu, Penghu and two islands in Taituag county) and very small schools (MOS < 20).

C.7.2 Sample Design

- No explicit stratification.
- Implicit stratification by region (North, East, South & Middle), for a total of 4 implicit strata.

Exhibit C.6: Allocation of School Sample in Chinese Taipei

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Chinese Taipei	150	0	150	0	0	0
Total	150	0	150	0	0	0

C.8 Cyprus

C.8.1 Coverage and Exclusions

All schools are included.

C.8.2 Sample Design

- All national schools included in the sample.
- Two classrooms sampled per school.

Exhibit C.7: Allocation of School Sample in Cyprus

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Nicosia	23	0	23	0	0	0
Lemesos	16	0	16	0	0	0
Larnaka	14	0	14	0	0	0
Pafos	8	0	8	0	0	0
Total	61	0	61	0	0	0

C.9 Czech Republic

C.9.1 Coverage and Exclusions

School-level exclusions consisted of schools for the disabled, very small schools (MOS<10) and Polish language schools.

C.9.2 Sample Design

- Explicit stratification by school level (Basic schools and Gymnasium), for a total of 2 explicit strata.
- Implicit stratification by urbanization (5 levels), for a total of 10 implicit strata.
- Large school sample size in the “Gymnasiums” stratum to produce reliable estimates by school level.

Exhibit C.8: Allocation of School Sample in Czech Republic

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Basic schools	90	2	82	6	0	0
Gymnasiums	60	6	54	0	0	0
Total	150	8	136	6	0	0

C.10 England

C.10.1 Coverage and Exclusions

School-level exclusions consisted of special-needs schools and very small schools (MOS<13).

C.10.2 Sample Design

- No explicit stratification.
- Implicit stratification by school type (independent, grant and other) and school performance (5 levels), for a total of 11 implicit strata.
- In schools where mathematics instruction was streamed, home rooms were sampled rather than mathematics classes.

Exhibit C.9: Allocation of School Sample in England

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
England	150	0	76	34	18	22
Total	150	0	76	34	18	22

C.11 Finland

C.11.1 Coverage and Exclusions

School-level exclusions consisted of schools from the autonomous province of Ahvenanmaa (Åland), special schools & Rudolph Steiner schools, foreign language schools and very small schools (MOS<10).

C.11.2 Sample Design

- Explicit stratification by region (Uusimaa, Southern Finland, Eastern Finland, Mid-Finland and Northern Finland), for a total of 5 explicit strata.
- Implicit stratification by urbanization (urban, semi-urban and rural), for a total of 15 implicit strata.
- Equal sample allocation by explicit strata and large school sample size to produce reliable regional estimates.

Exhibit C.10: Allocation of School Sample in Finland

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Uusimaa	32	0	31	1	0	0
Southern Finland	32	0	31	1	0	0
Eastern Finland	32	0	29	2	0	1
Mid-Finland	32	0	32	0	0	0
Northern Finland	32	0	32	0	0	0
Total	160	0	155	4	0	1

C.12 Hong Kong, SAR

C.12.1 Coverage and Exclusions

School-level exclusions consisted of special-needs schools.

C.12.2 Sample Design

- No explicit stratification.
- Implicit stratification by funding (aided, government and private) and gender (co-ed, girls and boys), for a total of 9 implicit strata.
- Large school sample size because of expected large intraclass correlation.

Exhibit C.11: Allocation of School Sample in Hong Kong, SAR

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Hong Kong, SAR	180	0	135	0	2	43
Total	180	0	135	0	2	43

C.13 Hungary

C.13.1 Coverage and Exclusions

School-level exclusions consisted of specials schools for the disabled and very small schools (MOS<10).

C.13.2 Sample Design

- No explicit stratification.
- Implicit stratification by region (20) and urbanization (large towns, small towns and villages), for a total of 58 implicit strata.
- Hungary used an alternate, and acceptable, school sampling method.

Exhibit C.12: Allocation of School Sample in Hungary

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Hungary	150	0	147	0	0	3
Total	150	0	147	0	0	3

C.14 Indonesia

C.14.1 Coverage and Exclusions

No school-level exclusions.

C.14.2 Sample Design

- Explicit stratification by school type (public and private), for a total of 2 explicit strata.
- Implicit stratification by performance (5 levels), for a total of 10 implicit strata.

Exhibit C.13: Allocation of School Sample in Indonesia

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Public schools	100	0	89	8	3	0
Private schools	50	0	43	4	3	0
Total	150	0	132	12	6	0

C.15 Iran, Islamic Rep.**C.15.1 Coverage and Exclusions**

School-level exclusions consisted of specials schools for the disabled.

C.15.2 Sample Design

- Explicit stratification by school size (small schools and large schools), for a total of 2 explicit strata.
- No implicit stratification.
- Large school sample size because of expected large intraclass correlation.

Exhibit C.14: Allocation of School Sample in Islamic Republic of Iran

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Large schools	117	0	113	4	0	0
Small schools	53	0	51	2	0	0
Total	170	0	164	6	0	0

C.16 Israel**C.16.1 Coverage and Exclusions**

School-level exclusions consisted of special education schools, very orthodox religious schools and Jordanian schools.

C.16.2 Sample Design

- No explicit stratification.
- Implicit stratification by language (Hebrew and Non-Hebrew), school type (religious and secular) and school level (elementary and junior high), for a total of 6 implicit strata.

Exhibit C.15: Allocation of School Sample in Israel

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Israel	150	11	137	2	0	0
Total	150	11	137	2	0	0

C.17 Italy

C.17.1 Coverage and Exclusions

School-level exclusions consisted of non-government middle schools (catholic, independent, municipal, etc.).

C.17.2 Sample Design

- No explicit stratification.
- Implicit stratification by region and type of municipality (capital towns and other small towns), for a total of 38 implicit strata.
- Large school sample size because of expected large intraclass correlation.

Exhibit C.16: Allocation of School Sample in Italy

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Italy	180	0	170	9	1	0
Total	180	0	170	9	1	0

C.18 Japan

C.18.1 Coverage and Exclusions

School-level exclusions consisted of special schools for the physically and mentally disabled, schools with atypical systems and very small schools (MOS<18).

C.18.2 Sample Design

- Explicit stratification by school type (national/private and public) and urbanization (big city area, city area and not city area), for a total of 4 explicit strata.
- No implicit stratification.

Exhibit C.17: Allocation of School Sample in Japan

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Public schools - Big city area	24	0	19	0	0	5
Public schools - City area	82	0	82	0	0	0
Public schools - Not city area	35	0	34	0	0	1
National & Private schools	9	0	5	0	0	4
Total	150	0	140	0	0	10

C.19 Jordan

C.19.1 Coverage and Exclusions

School-level exclusions consisted of very small schools (MOS<15).

C.19.2 Sample Design

- Explicit stratification by school size (small rural schools and large schools), for a total of 2 explicit strata.
- Implicit stratification by education authority (public, private and UNRWA) and urbanization (rural and urban), for a total of 6 implicit strata.
- Schools in the “Small rural schools” stratum selected with equal probabilities.

Exhibit C.18: Allocation of School Sample in Jordan

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Large schools	142	2	139	1	0	0
Small rural schools	8	1	7	0	0	0
Total	150	3	146	1	0	0

C.20 Korea, Rep. of

C.20.1 Target Population

Because Korea performed the TIMSS-R assessment 4 months later in the school year than they did in TIMSS, their TIMSS-R target population is older when compared to their TIMSS target population.

C.20.2 Coverage and Exclusions

School-level exclusions consisted of schools located in remote places, islands and border areas, physical education middle schools and very small schools (MOS<18).

C.20.3 Sample Design

- Explicit stratification by province (16), for a total of 16 explicit strata.
- Implicit stratification by urbanization (metro, urban and rural) and gender (boys, girls and co-ed), for a total of 75 implicit strata.
- Because there were many explicit strata, they were treated as implicit strata for variance estimation.

Exhibit C.19: Allocation of School Sample in Republic of Korea

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Seoul	32	0	32	0	0	0
Pusan	13	0	13	0	0	0
Taegu	8	0	8	0	0	0
Inchon	9	0	9	0	0	0
Kwangju	5	0	5	0	0	0
Taejon	5	0	5	0	0	0
Ulsan	4	0	4	0	0	0
Kyunggi-do	26	0	26	0	0	0
Kangwon-do	4	0	4	0	0	0
Chungchongbuk-do	5	0	5	0	0	0
Chungchongnam-do	6	0	6	0	0	0
Chollabuk-do	7	0	7	0	0	0
Chollanam-do	6	0	6	0	0	0
Kyongsangbuk-do	8	0	8	0	0	0
Kyongsangnam-do	10	0	10	0	0	0
Cheju-do	2	0	2	0	0	0
Total	150	0	150	0	0	0

C.21 Latvia

C.21.1 Coverage and Exclusions

Coverage in Latvia was restricted to students whose language of instruction is Latvian. School-level exclusions consisted of special schools for the physically and mentally disabled and very small schools ($MOS < 8$).

C.21.2 Sample Design

- Explicit stratification by school size (very large schools, large schools and small rural schools), for a total of 3 explicit strata.
- Implicit stratification by urbanization (rural and urban) and region (5), for a total of 16 implicit strata.
- Schools in the “Very large schools” & “Small rural schools” strata selected with equal probabilities.

Exhibit C.20: Allocation of School Sample in Latvia

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Very large schools	21	0	21	0	0	0
Large schools	104	0	100	2	0	2
Small rural schools	25	2	22	0	0	1
Total	150	2	143	2	0	3

C.22 Lithuania

C.22.1 Target Population

Lithuania tested the 9th grade at the beginning of the school year. Because of this factor, combined with changes in age entrance policies, their TIMSS 1999 target population is now older when compared to their TIMSS 1995 target population.

C.22.2 Coverage and Exclusions

Coverage in Lithuania was restricted to students whose language of instruction is Lithuanian. School-level exclusions consisted of special schools and very small schools (MOS<7).

C.22.3 Sample Design

- Explicit stratification by school size (large schools and small schools), for a total of 2 explicit strata.
- Implicit stratification by school level (basic and secondary), for a total of 4 implicit strata.
- Schools in the “Small rural schools” stratum selected with equal probabilities.

Exhibit C.21: Allocation of School Sample in Lithuania

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Large schools	133	0	133	0	0	0
Small schools	17	0	17	0	0	0
Total	150	0	150	0	0	0

C.23 Republic of Macedonia

C.23.1 Target Population

The Republic of Macedonia selected the 8th grade as their target population. Their target population is somewhat older than most other TIMSS 1999 participating countries.

C.23.2 Coverage and Exclusions

School-level exclusions consisted of specials schools and very small schools ($MOS < 14$).

C.23.3 Sample Design

- Explicit stratification by school size (very large schools and large schools), for a total of 2 explicit strata.
- Implicit stratification by language (Albanian and Macedonian), for a total of 2 implicit strata.
- Schools offering both languages were split into components to fit the implicit stratification by language. Thus 5 schools were sampled twice, once from each language group.
- Schools in the “Very large schools” stratum selected with equal probabilities.

Exhibit C.22: Allocation of School Sample in Republic of Macedonia

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Large schools	129	0	128	0	0	1
Very large schools	21	0	21	0	0	0
Total	150	0	149	0	0	1

C.24 Malaysia

C.24.1 Coverage and Exclusions

School-level exclusions consisted of private secondary schools, private Chinese secondary schools, international secondary schools, specials secondary schools for the physically and mentally disabled and very small schools (MOS<18).

C.24.2 Sample Design

- No explicit stratification.
- Implicit stratification by region (14) and urbanization (rural and urban), for a total of 28 implicit strata.

Exhibit C.23: Allocation of School Sample in Malaysia

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Malaysia	150	0	148	1	1	0
Total	150	0	148	1	1	0

C.25 Moldova

C.25.1 Coverage and Exclusions

School-level exclusions consisted of specials schools for the physically and mentally disabled, schools with neither Russian or Romanian as language of instruction and very small schools (MOS<13).

C.25.2 Sample Design

- No explicit stratification.
- Implicit stratification by urbanization (rural and urban), language (National, Russian and mixed) and region (central, north and south), for a total of 17 implicit strata.

Exhibit C.24: Allocation of School Sample in Moldova

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Moldova	150	0	145	5	0	0
Total	150	0	145	5	0	0

C.26 Morocco

C.26.1 Coverage and Exclusions

School-level exclusions consisted of special education institutions (blind, disabled & jail centers), schools of University and Cultural French Mission and very small schools (MOS<9).

C.26.2 Sample Design

- No explicit stratification.
- Implicit stratification by region (14) and urbanization (rural and urban), for a total of 28 implicit strata.
- Two classrooms per school, sampled with equal probability.
- A sub-sample of 17 students per classroom.
- Large school sample size because of expected large intraclass correlation.

Exhibit C.25: Allocation of School Sample in Morocco

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Morocco	174	0	172	1	0	1
Total	174	0	172	1	0	1

C.27 Netherlands

C.27.1 Coverage and Exclusions

School-level exclusions consisted of schools with renewing program (vrijescholen) and schools with English stream.

C.27.2 Sample Design

- Explicit stratification by school size (very large schools and large schools), for a total of 2 explicit strata.
- Implicit stratification by school program (VBO, MAVO, VBO/AVO, MAVO/HAVO/VWO, HAVO/VWO, VBO/AVO/VWO), for a total of 7 implicit strata.
- The sample consists of 150 administrative schools. For many of these schools, an additional sampling stage occurred to select a physical school within administrative schools using PPS.
- Schools in the “Very large schools” stratum selected with equal probabilities.

Exhibit C.26: Allocation of School Sample in the Netherlands

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Large schools	134	2	77	29	6	20
Very large schools	16	0	9	4	1	2
Total	150	2	86	33	7	22

C.28 New Zealand

C.28.1 Coverage and Exclusions

School-level exclusions consisted of correspondence schools, specials schools, Rudolph Steiner & Full Immersion Maori language schools and very small schools (MOS<13).

C.28.2 Sample Design

- Explicit stratification by school size (very large schools and large schools), for a total of 2 explicit strata.
- Implicit stratification by school type (state and private), gender (boys, girls and co-ed), SES (low, middle and high) and urbanization (rural and urban), for a total of 10 implicit strata.
- Schools in the “Very large schools” stratum selected with equal probabilities.

Exhibit C.27: Allocation of School Sample in New Zealand

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Very large schools	16	0	14	0	0	2
Large schools	140	0	131	6	1	2
Total	156	0	145	6	1	4

C.29 Philippines

C.29.1 Coverage and Exclusions

School-level exclusions consisted of all schools from the Autonomous Region of Muslim Mindanao and very small schools (MOS<49).

C.29.2 Sample Design

- No explicit stratification.
- Implicit stratification by region (15) and school type (public and private), for a total of 30 implicit strata.

Exhibit C.28: Allocation of School Sample in the Philippines

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Philippines	150	0	148	2	0	0
Total	150	0	148	2	0	0

C.30 Romania

C.30.1 Target Population

Romania selected the same target grade as they had in TIMSS 1995, i.e., the 8th grade. Their target population is older, when compared to most other TIMSS 1999 participating countries, but of the same age as in TIMSS 1995.

C.30.2 Coverage and Exclusions

School-level exclusions consisted of special schools for the physically and mentally disabled, very small schools (MOS<8) and other schools with different characteristics.

C.30.3 Sample Design

- Explicit stratification by school size (small rural schools and large schools), for a total of 2 explicit strata.
- Implicit stratification by urbanization (rural and urban), for a total of 3 implicit strata.
- Schools in the “Small rural schools” stratum selected with equal probabilities.

Exhibit C.29: Allocation of School Sample in Romania

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Large schools	125	0	122	0	0	3
Small rural schools	25	0	25	0	0	0
Total	150	0	147	0	0	3

C.31 Russian Federation

C.31.1 Coverage and Exclusions

School-level exclusions consisted of special schools for the physically and mentally disabled and special schools with Non-Russian teaching language.

C.31.2 Sample Design

- Preliminary sampling of 45 regions from a list of 89 regions; 19 regions were large enough to be sampled with certainty, they are marked with (°) in table C30.
- No explicit stratification, the explicit strata shown in table C30 are the 45 sampled regions.
- Implicit stratification by school size (small schools and large schools) and by urbanization (village, settlement, small town, middle town, large town and metropolis) for large schools only.
- Four schools sampled per region; more schools sampled in some certainty regions.
- Schools in the “Small schools” implicit strata sampled with equal probabilities within the selected regions.
- Large school sample size because of preliminary sampling stage.

Exhibit C.30: Allocation of School Sample in the Russian Federation

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
1. Bashkortostan [○]	4	0	4	0	0	0
2. Kabardino-Balkaria	4	0	4	0	0	0
3. Kalmykia	4	0	4	0	0	0
4. Marii El	4	0	4	0	0	0
5. Tataria	4	0	4	0	0	0
6. Udmurtia	4	0	4	0	0	0
7. Krasnodar Kr. [○]	6	0	6	0	0	0
8. Altay Kr. [○]	4	0	4	0	0	0
9. Krasnoyarsk Kr. [○]	4	0	4	0	0	0
10. Primor Kr.	4	0	4	0	0	0
11. Stavropol Kr. [○]	4	0	4	0	0	0
12. Habarovsk Kr.	4	0	4	0	0	0
13. Belgorod Obl.	4	0	4	0	0	0
14. Vladimir Obl.	4	0	4	0	0	0
15. Volgograd Obl. [○]	4	0	3	0	1	0
16. Vologda Obl.	4	0	4	0	0	0
17. Ust Orda Ok. & Irkutsk Obl. [○]	4	0	4	0	0	0
18. Kemerovo Obl. [○]	4	0	4	0	0	0
19. Kirov Obl.	4	0	4	0	0	0
20. Leningrad Obl.	4	0	4	0	0	0
21. Moscow Obl. [○]	6	0	6	0	0	0
22. Murmansk Obl.	4	0	4	0	0	0
23. N. Novgorod Obl. [○]	4	0	4	0	0	0
24. Novgorod Obl.	4	0	4	0	0	0
25. Omsk Obl. [○]	4	0	4	0	0	0
26. Novosibirsk Obl.	4	0	4	0	0	0
27. Orenburg Obl.	4	0	4	0	0	0
28. Orel Obl.	4	0	4	0	0	0
29. Komi Perm Ok. & Perm Obl. [○]	4	0	3	1	0	0
30. Rostov Obl. [○]	4	0	4	0	0	0

Exhibit C.30: Allocation of School Sample in the Russian Federation (Continued)

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
31. Rasan Obl.	4	0	4	0	0	0
32. Samara Obl. ^o	4	0	4	0	0	0
33. Saratov Obl. ^o	4	0	4	0	0	0
34. Sahalin Obl.	4	0	3	0	0	1
35. Sverdlovsk Obl. ^o	6	0	6	0	0	0
36. Smolensk Obl.	4	0	4	0	0	0
37. Tambov Obl.	4	0	4	0	0	0
38. Tver Obl.	4	0	4	0	0	0
39. Tomsk Obl.	4	0	3	0	1	0
40. Ulianovsk Obl.	4	0	4	0	0	0
41. Chelyabinsk Obl. ^o	4	0	4	0	0	0
42. Chita Obl.	4	0	4	0	0	0
43. Moscow ^o	8	0	8	0	0	0
44. Sankt Petersburg ^o	4	0	4	0	0	0
45. Khanty Mansi Ok.	4	0	4	0	0	0
Total	190	0	186	1	2	1

C.32 Singapore

C.32.1 Coverage and Exclusions

There are no school-level exclusions.

C.32.2 Sample Design

- All national schools are in their sample.

Exhibit C.31: Allocation of School Sample in Singapore

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Singapore	145	0	145	0	0	0
Total	145	0	145	0	0	0

C.33 Slovak Republic

C.33.1 Coverage and Exclusions

School-level exclusions consisted of special-needs schools, schools with non-native language speakers and very small schools (MOS<13).

C.33.2 Sample Design

- Explicit stratification by school level (basic school and gymnasium) and school size (very large gymnasiums and large gymnasiums), for a total of 3 explicit strata.
- Implicit stratification by region and school type (private and other), for a total of 11 implicit strata.
- Schools in the “Very large gymnasiums” stratum selected with equal probabilities.
- Large school sample size in the two gymnasiums strata to produce estimates by school level.

Exhibit C.32: Allocation of School Sample in Slovak Republic

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Very large gymnasiums	2	0	2	0	0	0
Large gymnasiums	28	0	27	1	0	0
Basic schools	120	0	114	1	0	5
Total	150	0	143	2	0	5

C.34 Slovenia

C.34.1 Target Population

Slovenia selected the same target grade as they had in TIMSS 1995, i.e., the 8th grade. Their target population is older, when compared to most other TIMSS 1999 participating countries, but of the same age as in TIMSS 1995.

C.34.2 Coverage and Exclusions

School-level exclusions consisted of special schools for the physically and mentally disabled, schools where the language of instruction is Italian or Hungarian and very small schools (MOS<11).

C.34.3 Sample Design

- Explicit stratification by school size (very large schools and large schools), for a total of 2 explicit strata.
- Implicit stratification by urbanization (5 levels), for a total of 6 implicit strata.
- Because Slovenia used the same sampled schools for TIMSS 1999 & the IEA Civics in Education Study, special accommodation was made for schools with only one classroom, whereby the sampled schools and their replacement schools were alternately shared between the two studies.
- Schools in the “Very large schools” stratum selected with equal probabilities.

Exhibit C.33: Allocation of School Sample in Slovenia

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Large schools	148	0	145	2	0	1
Very large schools	2	0	2	0	0	0
Total	150	0	147	2	0	1

C.35 South Africa

C.35.1 Coverage and Exclusions

School-level exclusions consisted of specials schools and very small schools (MOS<28).

C.35.2 Sample Design

- Explicit stratification by province (9) and language (English and other in Gauteng province), for a total of 10 explicit strata.
- Implicit stratification by language (English, Afrikaans and other) and school funding (state, state-aided and private), for a total of 61 implicit strata.
- Equal sample allocation and large sample size to produce reliable provincial estimates.

Exhibit C.34: Allocation of School Sample in South Africa

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Eastern Cape	25	0	25	0	0	0
Free State	25	1	19	2	0	3
Gauteng - English	22	1	13	2	1	5
Gauteng - Other	3	1	2	0	0	0
Kwazulu Natal	25	0	23	2	0	0
Mpumalanga	25	1	20	1	0	3
North West	25	0	15	1	0	9
Northern Cape	25	1	22	0	0	2
Northern Province	25	0	21	1	0	3
Western Cape	25	1	23	1	0	0
Total	225	6	183	10	1	25

C.36 Thailand

C.36.1 Coverage and Exclusions

School-level exclusions consisted of a variety of special schools and very small schools (MOS<15/20)

C.36.2 Sample Design

- Explicit stratification by school type (secondary, primary and private) and school size (small schools and large schools), for a total of 4 explicit strata.
- Implicit stratification by region (13), for a total of 50 implicit strata.

Exhibit C.35: Allocation of School Sample in Thailand

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Secondary (DGE)	107	0	104	2	1	0
National Primary (ONPEC) Large schools	26	0	25	1	0	0
National Primary (ONPEC) Small schools	7	0	4	0	3	0
Private Education (OPEC)	10	0	10	0	0	0
Total	150	0	143	3	4	0

C.37 Tunisia

C.37.1 Coverage and Exclusions

School-level exclusions consisted of special schools for the blind.

C.37.2 Sample Design

- No explicit stratification.
- Implicit stratification by region (Interior and Coast), for a total of 2 implicit strata.

Exhibit C.36: Allocation of School Sample in Tunisia

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Tunisia	150	1	126	17	6	0
Total	150	1	126	17	6	0

C.38 Turkey

C.38.1 Target Population

Turkey selected the 8th grade for the state schools and the 7th grade for the Anatolian high schools.

C.38.2 Coverage and Exclusions

School-level exclusions consisted of special schools for the physically and mentally disabled, schools with bussing system and very small schools (MOS<20).

C.38.3 Sample Design

- Preliminary sampling of 40 provinces from a list of 80 provinces; 13 provinces were large enough to be sampled with certainty, they are marked with (°) in table C37.
- No explicit stratification, the explicit strata shown in table C37 are the 45 sampled provinces.
- Implicit stratification by county within sampled provinces.
- Four schools sampled per province; more schools sampled in some certainty provinces.
- Large school sample size because of preliminary sampling stage.

Exhibit C.37: Allocation of School Sample in Turkey

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
1. Adana ^o	6	0	6	0	0	0
2. Afyon	4	0	4	0	0	0
3. Ankara ^o	14	0	14	0	0	0
4. Antalya ^o	4	0	4	0	0	0
5. Ardahan	4	0	4	0	0	0
6. Artvin	4	0	4	0	0	0
7. Balikesir	4	0	4	0	0	0
8. Bingol	4	0	4	0	0	0
9. Bursa ^o	6	0	6	0	0	0
10. Denizli	4	0	4	0	0	0
11. Diyarbakir	4	0	4	0	0	0
12. Elazig	4	0	4	0	0	0
13. Erzurum	4	0	4	0	0	0
14. Eskisehir	4	0	3	1	0	0
15. Gaziantep ^o	4	0	4	0	0	0
16. Hatay ^o	4	0	4	0	0	0
17. Isparta	4	0	4	0	0	0
18. Istanbul ^o	28	0	28	0	0	0
19. Izmir ^o	10	0	10	0	0	0
20. Icel ^o	4	0	4	0	0	0
21. K. Maras	4	0	4	0	0	0
22. Kayseri ^o	4	0	4	0	0	0
23. Kirikkale	4	0	4	0	0	0
24. Kirklareli	4	0	4	0	0	0
25. Kocaeli ^o	4	0	4	0	0	0
26. Konya ^o	4	0	4	0	0	0
27. Malatya	4	0	4	0	0	0
28. Manisa	4	0	4	0	0	0
29. Mugla	4	0	4	0	0	0
30. Nigde	4	0	4	0	0	0

Exhibit C.37: Allocation of School Sample in Turkey (Continued)

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
31. Osmaniye	4	0	4	0	0	0
32. Rize	4	0	4	0	0	0
33. Samsun ^o	4	0	4	0	0	0
34. Sanliurfa	4	0	3	1	0	0
35. Sinop	4	0	4	0	0	0
36. Tekirdag	4	0	4	0	0	0
37. Trabzon	4	0	4	0	0	0
38. Van	4	0	4	0	0	0
39. Zonguldak	4	0	4	0	0	0
40. Çanakkale	4	0	4	0	0	0
Total	204	0	202	2	0	0

C.39 United States of America

C.39.1 Coverage and Exclusions

School-level exclusions consisted of schools in the Territories.

C.39.2 Sample Design

- Preliminary sampling of 52 primary sampling units (PSUs) from a list of 1 027 PSUs; 10 PSUs were large enough to be sampled with certainty.
- Special explicit stratification applied to the USA design, by school type and PSU size. This stratification is used for the computation of school participation adjustments and is presented in table C38.
- Implicit stratification by religious denomination and PSU within the private schools and by PSU and minority status within the public schools.
- Large school sample size because of preliminary sampling stage.

Exhibits C.38: Allocation of School Sample in the United States

Explicit Stratum	Total Sampled Schools	Ineligible Schools	Participating Schools			Non-Participating Schools
			Sampled	1 st Replacement	2 nd Replacement	
Private - Certainty PSUs (10)	18	0	12	2	0	4
Private - Large PSUs (6)	7	0	5	1	1	0
Private - Small PSUs (36)	25	1	18	4	1	1
Public - Certainty PSUs (10)	59	1	45	4	1	8
Public - Large PSUs (6)	23	0	18	2	0	3
Public - Small PSUs - Metro (18)	79	1	69	1	1	7
Public - Small PSUs - Non-Metro (18)	39	1	35	0	1	2
Total	250	4	202	14	5	25