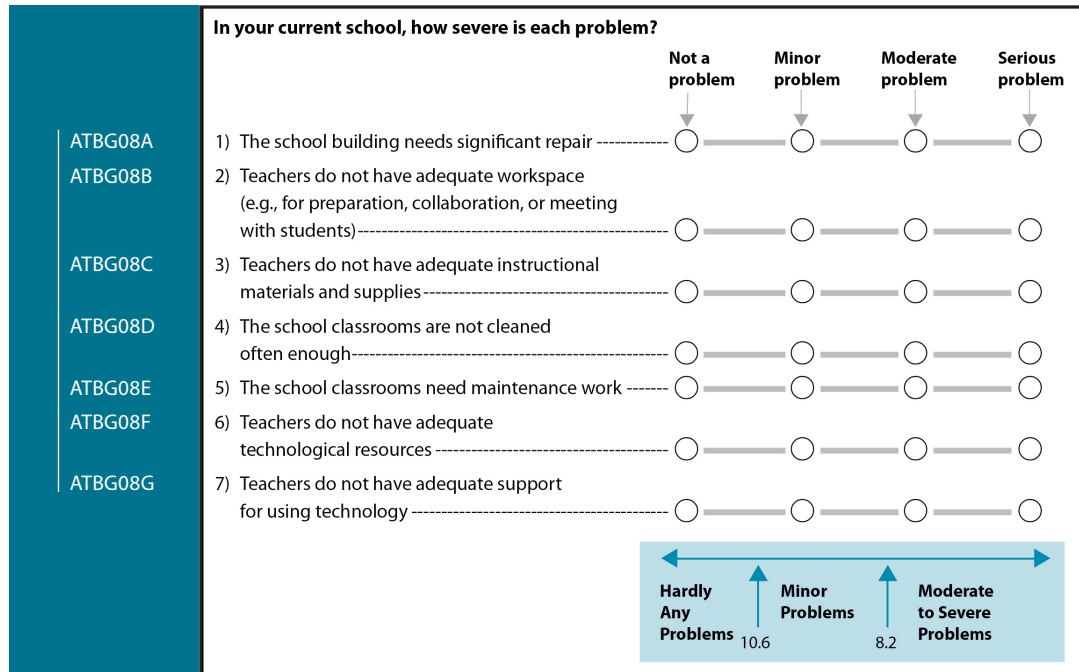


Problems with School Conditions and Resources–Teachers’ Reports Scale, Fourth Grade

The Problems with School Conditions and Resources–Teachers’ Reports (SCR) scale was created based on teachers’ responses concerning seven conditions and resources described below.

Items in the Problems with School Conditions and Resources–Teachers’ Reports Scale, Fourth Grade



Item Parameters for the TIMSS 2015 Problems with School Conditions and Resources – Teachers' Reports Scale, Fourth Grade

Item	delta	tau_1	tau_2	tau_3	Infit
ATBG08A	0.25146	-1.10267	-0.04789	1.15056	1.15
ATBG08B	0.10778	-0.98715	0.06755	0.91960	1.14
ATBG08C	-0.00295	-1.33876	0.01594	1.32282	0.95
ATBG08D	-0.67894	-0.79406	0.02136	0.77270	1.14
ATBG08E	-0.05211	-1.13587	-0.15567	1.29154	0.97
ATBG08F	0.24992	-1.09700	-0.04657	1.14357	0.90
ATBG08G	0.12484	-1.05906	-0.07924	1.13830	1.02

Scale Transformation Constants for the TIMSS 2015 Problems with School Conditions and Resources – Teachers' Reports Scale, Fourth Grade

Scale Transformation Constants

A = 8.325487

B = 1.363794

Transformed Scale Score = 8.325487 + 1.363794 • Logit Scale Score

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015



**Equivalence Table of Raw and Transformed Scale Scores for the TIMSS
2015 Problems with School Conditions and Resources – Teachers'
Reports Scale, Fourth Grade**

Raw Score	Transformed Scale Score	Cutpoint
0	3.19241	
1	4.74715	
2	5.50395	
3	6.02702	
4	6.44003	
5	6.78968	
6	7.10030	
7	7.38690	
8	7.65644	
9	7.91569	
10	8.17000	8.2
11	8.42379	
12	8.68129	
13	8.94698	
14	9.22610	
15	9.52520	
16	9.85013	
17	10.21875	
18	10.65400	10.6
19	11.20171	
20	11.98622	
21	13.57043	

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS 2015 Problems with School Conditions and Resources – Teachers' Reports Scale, Fourth Grade

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item						
			ATB608A	ATB608B	ATB608C	ATB608D	ATB608E	ATB608F	ATB608G
Australia	0.83	51	0.76	0.68	0.77	0.50	0.75	0.73	0.75
Bahrain	0.85	54	0.61	0.74	0.79	0.70	0.68	0.84	0.76
Belgium (Flemish)	0.80	46	0.73	0.67	0.70	0.49	0.71	0.73	0.70
Bulgaria	0.87	57	0.71	0.65	0.82	0.66	0.79	0.81	0.80
Canada	0.80	47	0.73	0.56	0.69	0.64	0.75	0.67	0.72
Chile	0.85	53	0.75	0.77	0.75	0.56	0.72	0.76	0.77
Chinese Taipei	0.84	52	0.54	0.67	0.75	0.69	0.77	0.80	0.79
Croatia	0.88	59	0.72	0.75	0.83	0.52	0.84	0.86	0.78
Cyprus	0.86	54	0.76	0.70	0.77	0.56	0.83	0.75	0.73
Czech Republic	0.81	49	0.50	0.69	0.75	0.53	0.73	0.82	0.82
Denmark	0.82	49	0.76	0.53	0.69	0.58	0.81	0.77	0.70
England	0.86	55	0.71	0.68	0.79	0.64	0.80	0.81	0.72
Finland	0.83	51	0.75	0.75	0.78	0.56	0.79	0.71	0.62
France	0.78	44	0.76	0.68	0.68	0.46	0.73	0.70	0.60
Georgia	0.84	52	0.75	0.66	0.74	0.65	0.76	0.80	0.66
Germany	0.83	51	0.67	0.74	0.73	0.67	0.71	0.77	0.70
Hong Kong SAR	0.89	60	0.72	0.76	0.82	0.72	0.81	0.80	0.77
Hungary	0.84	51	0.60	0.66	0.79	0.61	0.75	0.86	0.71
Indonesia	0.88	59	0.79	0.72	0.75	0.66	0.80	0.81	0.81
Iran, Islamic Rep. of	0.83	49	0.78	0.81	0.71	0.50	0.80	0.68	0.57
Ireland	0.84	51	0.80	0.68	0.71	0.64	0.84	0.69	0.62
Italy	0.86	53	0.75	0.67	0.79	0.63	0.82	0.77	0.67
Japan	0.78	44	0.65	0.60	0.70	0.47	0.65	0.77	0.76
Jordan	0.90	62	0.78	0.79	0.82	0.69	0.80	0.82	0.80
Kazakhstan	0.86	56	0.63	0.83	0.78	0.67	0.78	0.80	0.69
Korea, Rep. of	0.87	57	0.69	0.67	0.80	0.61	0.78	0.86	0.86
Kuwait	0.87	56	0.67	0.69	0.82	0.68	0.78	0.79	0.79
Lithuania	0.84	51	0.65	0.75	0.80	0.33	0.75	0.81	0.79
Morocco	0.88	58	0.70	0.82	0.76	0.72	0.81	0.79	0.74
Netherlands	0.75	41	0.47	0.66	0.68	0.56	0.55	0.79	0.72
New Zealand	0.83	50	0.74	0.74	0.64	0.59	0.75	0.75	0.68
Northern Ireland	0.86	55	0.79	0.71	0.74	0.66	0.84	0.74	0.70
Norway (5)	0.81	48	0.72	0.69	0.75	0.50	0.72	0.73	0.69
Oman	0.85	53	0.67	0.65	0.74	0.72	0.75	0.81	0.73
Poland	0.84	51	0.70	0.72	0.78	0.57	0.74	0.79	0.70
Portugal	0.86	55	0.76	0.77	0.79	0.51	0.82	0.78	0.71
Qatar	0.87	56	0.62	0.62	0.68	0.76	0.83	0.86	0.84
Russian Federation	0.82	49	0.64	0.65	0.84	0.42	0.67	0.83	0.77
Saudi Arabia	0.88	58	0.69	0.76	0.82	0.67	0.77	0.83	0.79
Serbia	0.88	59	0.76	0.67	0.85	0.66	0.78	0.85	0.80
Singapore	0.87	56	0.70	0.75	0.78	0.67	0.79	0.77	0.77
Slovak Republic	0.85	54	0.61	0.70	0.85	0.59	0.76	0.84	0.76
Slovenia	0.85	54	0.71	0.69	0.85	0.59	0.76	0.80	0.72
South Africa (5)	0.90	62	0.79	0.75	0.82	0.70	0.83	0.84	0.77
Spain	0.85	54	0.72	0.72	0.82	0.58	0.75	0.80	0.72
Sweden	0.81	47	0.74	0.58	0.66	0.68	0.81	0.69	0.61
Turkey	0.89	60	0.69	0.76	0.80	0.64	0.79	0.85	0.85
United Arab Emirates	0.87	57	0.75	0.65	0.77	0.71	0.80	0.80	0.78
United States	0.83	50	0.72	0.66	0.69	0.65	0.78	0.74	0.71
Benchmarking Participants									
Buenos Aires, Argentina	0.88	58	0.80	0.77	0.77	0.72	0.85	0.71	0.71
Ontario, Canada	0.81	47	0.72	0.60	0.71	0.66	0.77	0.67	0.65
Quebec, Canada	0.82	50	0.73	0.39	0.71	0.64	0.76	0.74	0.86
Norway (4)	0.83	51	0.79	0.69	0.79	0.48	0.79	0.72	0.69
Abu Dhabi, UAE	0.87	57	0.77	0.65	0.76	0.71	0.78	0.81	0.77
Dubai, UAE	0.80	47	0.78	0.52	0.66	0.56	0.78	0.73	0.73
Florida, US	0.87	57	0.81	0.72	0.62	0.75	0.83	0.79	0.73

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

Relationship Between the TIMSS 2015 Problems with School Conditions and Resources – Teachers' Reports Scale, Fourth Grade, and TIMSS 2015 Achievement

Country	Pearson's Correlation with Achievement				Variance in Achievement Accounted for by Difference Between Regions of the Scale (η^2)	
	(r)		(r)		Mathematics	Science
	Mathematics	Science	Mathematics	Science		
Australia	0.01	0.03	0.00	0.00	0.00	0.00
Bahrain	0.03	0.02	0.00	0.00	0.00	0.00
Belgium (Flemish)	0.02	0.03	0.00	0.00	0.00	0.00
Bulgaria	0.01	0.01	0.00	0.00	0.00	0.00
Canada	-0.05	-0.03	0.00	0.00	0.00	0.00
Chile	0.17	0.17	0.03	0.03	0.04	0.04
Chinese Taipei	0.06	0.01	0.00	0.00	0.00	0.00
Croatia	-0.07	-0.07	0.00	0.00	0.00	0.00
Cyprus	0.06	0.04	0.00	0.00	0.00	0.00
Czech Republic	0.02	0.02	0.00	0.00	0.00	0.00
Denmark	-0.02	0.04	0.00	0.00	0.00	0.00
England	-0.02	-0.02	0.00	0.00	0.00	0.01
Finland	0.01	0.01	0.00	0.00	0.00	0.00
France	0.08	0.07	0.01	0.01	0.01	0.00
Georgia	0.08	0.09	0.01	0.01	0.00	0.01
Germany	0.07	0.09	0.00	0.01	0.01	0.01
Hong Kong SAR	0.16	0.18	0.03	0.03	0.01	0.01
Hungary	-0.10	-0.08	0.01	0.01	0.01	0.00
Indonesia	0.13	0.13	0.02	0.02	0.02	0.04
Iran, Islamic Rep. of	0.22	0.20	0.05	0.04	0.03	0.03
Ireland	0.00	0.03	0.00	0.00	0.00	0.00
Italy	0.04	0.03	0.00	0.00	0.01	0.00
Japan	-0.04	-0.01	0.00	0.00	0.00	0.00
Jordan	0.20	-	0.04	-	0.03	-
Kazakhstan	0.09	0.09	0.01	0.01	0.00	0.00
Korea, Rep. of	0.09	0.04	0.01	0.00	0.01	0.00
Kuwait	0.06	0.10	0.00	0.01	0.00	0.00
Lithuania	-0.02	-0.02	0.00	0.00	0.00	0.00
Morocco	0.19	0.25	0.04	0.06	0.05	0.07
Netherlands	-0.05	-0.06	0.00	0.00	0.01	0.01
New Zealand	0.05	0.05	0.00	0.00	0.00	0.00
Northern Ireland	0.01	0.03	0.00	0.00	0.00	0.00
Norway (5)	0.09	0.09	0.01	0.01	0.02	0.01
Oman	0.01	-0.02	0.00	0.00	0.01	0.00
Poland	0.02	0.01	0.00	0.00	0.00	0.00
Portugal	0.04	0.05	0.00	0.00	0.01	0.01
Qatar	-0.05	-0.02	0.00	0.00	0.01	0.00
Russian Federation	0.06	0.08	0.00	0.01	0.00	0.00
Saudi Arabia	0.17	0.03	0.03	0.00	0.02	0.00
Serbia	0.00	-0.02	0.00	0.00	0.00	0.00
Singapore	-0.04	-0.04	0.00	0.00	0.00	0.00
Slovak Republic	-0.04	-0.02	0.00	0.00	0.01	0.00
Slovenia	-0.04	-0.05	0.00	0.00	0.00	0.00
South Africa (5)	0.39	-	0.15	-	0.14	-
Spain	0.05	0.05	0.00	0.00	0.00	0.00
Sweden	0.11	0.11	0.01	0.01	0.00	0.00
Turkey	0.24	0.23	0.06	0.05	0.05	0.04
United Arab Emirates	0.15	0.18	0.02	0.03	0.03	0.04
United States	0.09	0.10	0.01	0.01	0.01	0.01
International Median	0.04	0.03	0.00	0.00	0.00	0.00
Benchmarking Participants						
Buenos Aires, Argentina	0.23	0.20	0.05	0.04	0.04	0.04
Ontario, Canada	0.03	0.01	0.00	0.00	0.00	0.00
Quebec, Canada	0.01	0.02	0.00	0.00	0.01	0.01
Norway (4)	0.04	0.04	0.00	0.00	0.00	0.00
Abu Dhabi, UAE	-0.01	0.04	0.00	0.00	0.02	0.02
Dubai, UAE	0.15	0.23	0.02	0.05	0.02	0.04
Florida, US	0.07	0.04	0.00	0.00	0.01	0.01

A dash (-) indicates comparable data not available.

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015