

Exhibit 11.2: Example International Item Statistics for a TIMSS 2015 Constructed Response Item

Trends in International Mathematics and Science Study - TIMSS 2015 Assessment Results - 8th Grade
International Item Review Statistics (Unweighted)

Science: Biology / Knowing (S14_04 - S062101) Type: CR 2 Points
Label: Stomach tissue and function

Country	Cases	DIFF	DISC	Percentages					P NR	Point Biserials			ROIFF	Reliability		Flags		
				P_0	P_1	P_2	P_0M	P		PB_0	PB_1	PB_2		PB_0M	N		Score	
*Australia	1455	59.0	0.59	16.5	41.6	38.2	3.7	0.2	0.2	-0.40	-0.08	0.49	-0.26	-0.05	-0.57	317	99.1	98.7
Bahrain	698	35.8	0.53	42.5	34.0	18.8	4.7	0.1	0.1	-0.41	0.22	0.38	-0.54	-0.07	0.13	196	88.8	88.3
*Boswana (9)	850	29.2	0.55	48.7	35.5	11.4	4.4	0.0	0.0	-0.42	0.22	0.38	-0.54	-0.07	0.17	210	95.2	95.2
*Canada	1245	52.5	0.48	22.1	43.6	30.7	3.6	0.2	0.2	-0.34	0.01	0.39	-0.24	-0.06	-0.10	220	95.9	95.5
*Chile	690	45.3	0.53	27.8	32.7	28.9	10.6	0.3	0.3	-0.45	0.04	0.34	-0.17	0.02	-0.35	181	96.1	96.1
*Chinese Taipei	821	73.3	0.47	9.9	32.2	57.2	0.7	0.0	0.0	-0.46	0.04	0.34	-0.17	0.02	-0.59	220	98.2	98.2
Egypt	1114	17.0	0.44	60.6	21.1	6.5	11.8	0.4	0.4	-0.26	0.33	0.26	-0.23	-0.02	0.35	209	93.0	98.6
*England	675	56.0	0.52	19.9	41.1	37.5	1.5	0.4	0.4	-0.41	-0.05	0.43	-0.16	-0.08	-0.26	237	97.0	97.0
Georgia	576	52.1	0.60	23.9	27.4	38.4	10.3	0.5	0.5	-0.39	-0.01	0.53	-0.28	-0.07	-0.92	206	97.6	97.6
*Hong Kong SAR	592	68.6	0.48	13.7	34.0	51.6	0.7	0.2	0.2	-0.41	0.06	0.38	-0.20	-0.09	-0.70	194	100.0	100.0
*Hungary	682	64.7	0.59	16.6	34.3	47.5	1.6	0.0	0.0	-0.47	-0.11	0.50	-0.15	0.00	-0.61	190	98.4	98.4
*Iran, Islamic Rep. of	879	38.7	0.54	35.7	37.1	20.2	7.1	0.2	0.2	-0.38	0.15	0.42	-0.23	-0.08	-0.10	214	99.5	99.5
*Ireland	680	59.7	0.51	16.4	40.7	39.4	3.5	0.0	0.0	-0.31	-0.11	0.44	-0.24	-0.04	-0.47	247	98.4	98.4
*Israel	790	47.2	0.58	30.8	32.5	31.0	5.7	0.6	0.6	-0.43	0.09	0.47	-0.26	-0.11	0.11	195	98.5	98.5
*Italy	648	50.8	0.53	23.5	41.8	29.9	4.8	0.0	0.0	-0.32	-0.05	0.47	-0.25	-0.01	-0.31	199	96.0	96.0
*Japan	671	73.4	0.53	11.0	29.0	59.0	1.0	0.1	0.1	-0.40	-0.18	0.46	-0.20	-0.12	-0.63	213	100.0	100.0
*Jordan	1133	23.0	0.46	56.7	28.9	8.6	5.9	0.0	0.0	-0.33	0.30	0.29	-0.23	0.00	0.43	209	99.5	97.1
*Kazakhstan	704	48.9	0.55	30.2	25.8	36.0	8.0	0.3	0.3	-0.34	0.05	0.48	-0.35	-0.05	0.02	221	86.0	86.0
*Korea, Rep. of	762	67.7	0.55	18.4	26.0	54.7	0.9	0.0	0.0	-0.45	-0.11	0.48	-0.20	0.00	-0.51	267	96.3	95.9
Kuwait	661	21.1	0.56	50.3	22.2	10.0	17.5	1.4	1.4	-0.23	0.26	0.44	-0.32	-0.02	0.30	188	97.9	97.3
Lebanon	542	25.4	0.47	44.4	28.2	11.3	16.2	1.8	1.8	-0.28	0.34	0.27	-0.27	-0.11	0.15	192	93.8	92.7
*Lithuania	621	58.5	0.59	18.2	34.1	41.4	6.3	0.0	0.0	-0.36	-0.11	0.53	-0.29	0.00	-0.44	197	100.0	100.0
*Malaysia	1383	39.8	0.58	37.5	38.4	20.6	3.5	0.0	0.0	-0.47	0.19	0.43	-0.22	0.00	0.47	231	99.1	98.7
Malta	540	39.8	0.60	37.8	36.3	21.7	4.3	0.0	0.0	-0.50	0.23	0.43	-0.23	0.00	0.07	210	91.0	91.0
*Morocco	1899	19.5	0.40	57.2	24.9	7.1	10.8	0.3	0.3	-0.25	0.23	0.29	-0.11	0.01	0.12	206	95.1	91.7
*New Zealand	1149	54.3	0.56	22.4	39.0	34.8	3.8	0.2	0.2	-0.41	-0.01	0.46	-0.33	-0.06	-0.27	204	95.0	99.0
Norway (9)	666	57.0	0.58	25.5	24.8	44.6	5.1	0.3	0.3	-0.40	-0.06	0.52	-0.28	-0.02	-0.49	229	97.4	97.4
Oman	1282	30.6	0.54	46.6	29.7	15.7	8.0	0.3	0.3	-0.33	0.19	0.43	-0.29	-0.06	0.22	229	97.4	96.5
Qatar	765	36.3	0.60	38.8	36.8	17.9	6.4	0.7	0.7	-0.45	0.22	0.45	-0.24	-0.07	0.24	237	98.7	97.9
*Russian Federation	685	75.0	0.49	9.2	25.4	62.3	3.1	0.0	0.0	-0.33	-0.16	0.42	-0.24	0.00	-0.86	249	98.8	98.4
Saudi Arabia	544	26.1	0.58	55.0	28.3	11.9	4.8	0.0	0.0	-0.44	0.25	0.45	-0.18	0.00	-0.14	190	100.0	99.5
Singapore	875	68.5	0.57	13.9	33.4	51.8	0.9	0.0	0.0	-0.48	-0.09	0.46	-0.17	0.00	-0.13	218	96.8	96.8
*Slovenia	605	67.2	0.59	17.2	26.3	54.0	2.5	0.0	0.0	-0.38	-0.23	0.57	-0.24	0.00	-0.41	211	100.0	100.0
South Africa (9)	1787	18.7	0.55	57.2	24.8	6.3	11.7	0.2	0.2	-0.34	0.27	0.44	-0.16	0.01	0.12	194	95.9	92.8
*Sweden	582	47.4	0.51	31.0	35.6	29.6	3.8	0.2	0.2	-0.35	-0.05	0.47	-0.16	-0.10	0.09	199	95.5	95.5
*Thailand	929	47.1	0.53	21.4	42.6	25.9	10.1	0.1	0.1	-0.30	0.08	0.41	-0.31	0.02	-0.58	207	100.0	100.0
*Turkey	865	29.8	0.48	46.1	39.8	9.9	4.2	0.0	0.0	-0.38	0.26	0.32	-0.18	0.00	0.81	173	98.3	98.3
United Arab Emirates	2574	34.1	0.59	43.1	29.4	19.4	8.0	0.2	0.2	-0.42	0.23	0.45	-0.27	0.01	0.28	722	96.4	96.4
*United States	1457	59.8	0.53	18.0	40.0	39.8	2.2	0.2	0.2	-0.38	-0.11	0.46	-0.16	-0.04	-0.35	215	99.1	99.1
*Reference Avg (n=25)	2273	54.0	0.53	24.4	35.0	36.5	4.1	0.1	0.1	-0.38	-0.01	0.43	-0.22	-0.06	-0.25	5413	98.2	97.9
*International Avg (n=39)	36076	46.7	0.54	31.2	32.8	30.3	5.7	0.3	0.3	-0.38	0.06	0.43	-0.23	-0.05	-0.15	8846	97.2	96.8
Buenos Aires, Argentina	440	25.1	0.52	32.1	25.1	12.6	30.2	2.3	2.3	-0.09	0.24	0.40	-0.43	-0.08	-0.12	151	98.0	97.4
Ontario, Canada	640	55.7	0.50	20.2	41.0	35.2	3.6	0.2	0.2	-0.32	-0.03	0.42	-0.28	-0.06	-0.30	126	94.4	94.4
Quebec, Canada	565	49.0	0.47	24.2	46.9	25.6	3.4	0.4	0.4	-0.35	0.06	0.36	-0.19	-0.07	0.22	90	97.8	96.7
Norway (9)	689	55.1	0.61	24.7	27.3	41.5	6.6	0.6	0.6	-0.43	-0.06	0.55	-0.22	-0.11	-0.61	231	95.2	94.8
Abu Dhabi, UAE	690	24.6	0.60	41.5	25.7	11.8	15.1	0.1	0.1	-0.29	0.30	0.44	-0.36	0.04	0.43	227	96.0	96.0
Dubai, UAE	871	47.9	0.57	37.5	34.3	30.8	3.4	0.1	0.1	-0.42	0.13	0.43	-0.19	-0.00	0.13	279	97.8	97.8
Florida, US	291	56.7	0.61	22.1	35.3	39.1	3.5	0.7	0.7	-0.44	-0.13	0.56	-0.14	-0.02	-0.35	52	96.2	96.2

Keys: DIFF= Percent correct score; DISC= Item discrimination; P_0...P_2= Percentage obtaining score level; P_0M, P_NR= Percentage Omitted, Not Reached; PB_0...PB_2= Point Biserials for score level; PB_0M, PB_NR= Point Biserials for Omitted, Not Reached; RDIF= Rasch difficulty; Reliability: N= Responses double scored; Score= Percentage agreement on score; Code= Percentage agreement on code; Flags: A= Point Biserials not ordered; C= Difficulty less than chance; D= Negative/low discrimination; E= Easier than average; F= Score obtained by less than 10%; H= Harder than average; R= Scoring reliability less than 85%; V= Difficulty greater than 95%.