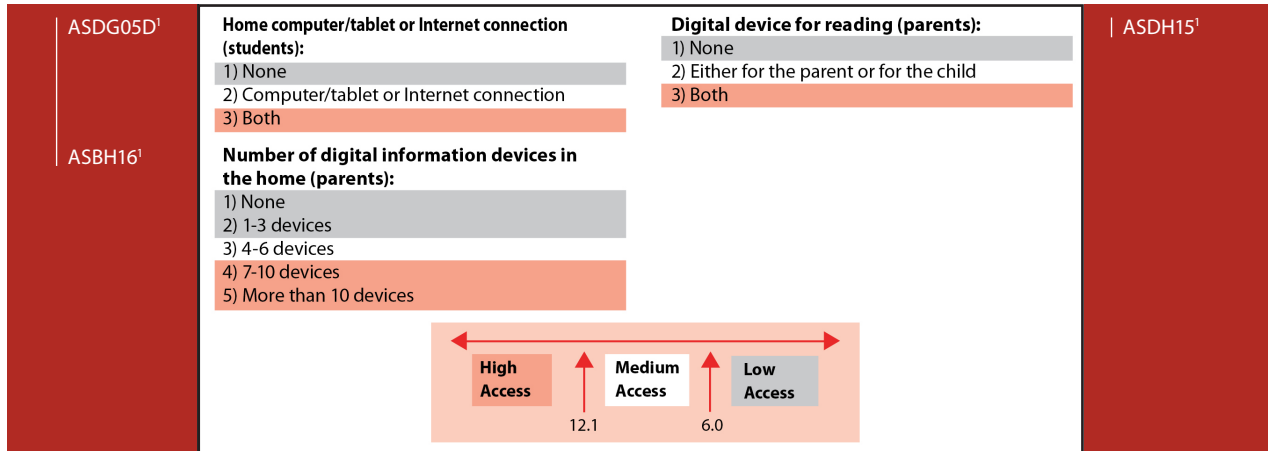


Digital Devices in the Home Scale

The *Digital Devices in the Home* (DDH) scale was created based on parents' responses concerning the availability of three resources described below.

Items in the PIRLS 2016 *Digital Devices in the Home* Scale



¹ Derived variable. For more details, see Supplement 3 of the [User Guide for the PIRLS 2016 International Database](#).

Item Parameters for the PIRLS 2016 *Digital Devices in the Home Scale*

Item	delta	tau_1	tau_2	tau_3	tau_4	Infit
ASDG05D	-1.01084	0.19104	-0.19104			0.97
ASBH16	0.78901	-2.55418	-0.25050	0.94345	1.86123	1.01
ASDH15	0.22183	0.40387	-0.40387			1.04

Scale Transformation Constants for the PIRLS 2016 *Digital Devices in the Home Scale*

Scale Transformation Constants

A = 8.607915

B = 1.618512

Transformed Scale Score = 8.607915 + 1.618512 • Logit Scale Score

Equivalence Table of the Raw Score and Transformed Scale Scores for the PIRLS 2016 *Digital Devices in the Home Scale*

Raw Score	Transformed Scale Score	Cutpoint
0	3.92341	
1	5.90375	6.0
2	6.97819	
3	7.91040	
4	8.78694	
5	9.68170	
6	10.78844	
7	12.19680	12.1
8	14.32363	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Digital Devices in the Home Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item		
			ASDQ05D	ASBH16	ASDH15
Australia	0.32	43	0.58	0.71	0.68
Austria	0.38	45	0.48	0.78	0.72
Azerbaijan	0.77	68	0.80	0.82	0.86
Bahrain	0.38	45	0.62	0.69	0.70
Belgium (Flemish)	0.25	40	0.46	0.74	0.68
Belgium (French)	0.33	44	0.60	0.72	0.66
Bulgaria	0.58	57	0.77	0.76	0.73
Canada	0.34	44	0.58	0.71	0.69
Chile	0.61	57	0.68	0.79	0.78
Chinese Taipei	0.36	44	0.60	0.69	0.70
Czech Republic	0.35	44	0.57	0.76	0.65
Denmark	0.18	39	0.49	0.70	0.66
Egypt	0.70	62	0.74	0.79	0.84
England	-	-	-	-	-
Finland	0.21	39	0.44	0.70	0.70
France	0.30	42	0.59	0.69	0.67
Georgia	0.63	58	0.75	0.77	0.76
Germany	0.41	46	0.58	0.72	0.72
Hong Kong SAR	0.27	41	0.49	0.70	0.70
Hungary	0.50	53	0.73	0.70	0.75
Iran, Islamic Rep. of	0.73	65	0.76	0.79	0.86
Ireland	0.33	43	0.49	0.73	0.72
Israel	0.31	44	0.69	0.73	0.56
Italy	0.41	47	0.64	0.73	0.68
Kazakhstan	0.65	59	0.76	0.74	0.81
Kuwait	0.31	43	0.48	0.73	0.72
Latvia	0.31	43	0.61	0.70	0.66
Lithuania	0.40	48	0.72	0.71	0.66
Macao SAR	0.32	43	0.57	0.71	0.67
Malta	0.24	40	0.54	0.70	0.65
Morocco	0.75	66	0.79	0.79	0.86
Netherlands	0.26	40	0.10	0.78	0.77
New Zealand	0.47	50	0.62	0.76	0.73
Northern Ireland	0.36	44	0.42	0.77	0.75
Norway (5)	0.19	39	0.49	0.74	0.63
Oman	0.49	50	0.65	0.71	0.76
Poland	0.29	44	0.63	0.67	0.68
Portugal	0.44	49	0.63	0.72	0.75
Qatar	0.34	45	0.65	0.64	0.72
Russian Federation	0.55	54	0.73	0.71	0.78
Saudi Arabia	0.43	47	0.63	0.72	0.71
Singapore	0.30	44	0.66	0.67	0.66
Slovak Republic	0.45	50	0.71	0.72	0.67
Slovenia	0.34	43	0.50	0.73	0.72
South Africa	0.53	51	0.53	0.80	0.78
Spain	0.42	47	0.56	0.75	0.73
Sweden	0.21	39	0.48	0.72	0.65
Trinidad and Tobago	0.58	56	0.68	0.78	0.78
United Arab Emirates	0.26	42	0.64	0.62	0.67
United States	-	-	-	-	-
Benchmarking Participants					
Buenos Aires, Argentina	0.37	45	0.59	0.75	0.67
Ontario, Canada	0.29	42	0.56	0.69	0.69
Quebec, Canada	0.29	43	0.57	0.71	0.67
Denmark (3)	0.15	37	0.34	0.74	0.67
Norway (4)	0.22	40	0.49	0.74	0.64
Moscow City, Russian Fed.	0.24	41	0.49	0.69	0.72
Eng/Afr/Zulu - RSA (5)	0.60	55	0.67	0.78	0.78
Andalusia, Spain	0.48	50	0.58	0.76	0.76
Madrid, Spain	0.43	47	0.49	0.78	0.76
Abu Dhabi, UAE	0.24	41	0.60	0.61	0.70
Dubai, UAE	0.17	39	0.66	0.63	0.60

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Relationship Between the PIRLS 2016 *Digital Devices in the Home* Scale and PIRLS 2016 Reading Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Australia	0.12	0.02	0.01
Austria	0.12	0.01	0.02
Azerbaijan	0.29	0.09	0.06
Bahrain	0.20	0.04	0.02
Belgium (Flemish)	0.05	0.00	0.01
Belgium (French)	0.08	0.01	0.00
Bulgaria	0.36	0.13	0.09
Canada	0.12	0.01	0.01
Chile	0.23	0.05	0.04
Chinese Taipei	0.20	0.04	0.02
Czech Republic	0.14	0.02	0.03
Denmark	0.10	0.01	0.00
Egypt	0.36	0.13	0.09
England	-	-	-
Finland	0.14	0.02	0.02
France	0.03	0.00	0.00
Georgia	0.17	0.03	0.01
Germany	0.01	0.00	0.00
Hong Kong SAR	0.10	0.01	0.00
Hungary	0.26	0.07	0.04
Iran, Islamic Rep. of	0.32	0.10	0.07
Ireland	0.11	0.01	0.01
Israel	0.18	0.03	0.04
Italy	0.07	0.01	0.00
Kazakhstan	0.20	0.04	0.02
Kuwait	0.12	0.01	0.01
Latvia	0.16	0.03	0.02
Lithuania	0.22	0.05	0.04
Macao SAR	0.16	0.02	0.01
Malta	0.11	0.01	0.01
Morocco	0.31	0.10	0.07
Netherlands	0.08	0.01	0.00
New Zealand	0.18	0.03	0.02
Northern Ireland	0.12	0.01	0.01
Norway (5)	0.12	0.01	0.01
Oman	0.23	0.05	0.03
Poland	0.17	0.03	0.03
Portugal	0.21	0.04	0.03
Qatar	0.24	0.06	0.03
Russian Federation	0.28	0.08	0.04
Saudi Arabia	0.13	0.02	0.01
Singapore	0.27	0.07	0.05
Slovak Republic	0.33	0.11	0.11
Slovenia	0.18	0.03	0.02
South Africa	0.22	0.05	0.04
Spain	0.21	0.04	0.03
Sweden	0.13	0.02	0.01
Trinidad and Tobago	0.27	0.07	0.04
United Arab Emirates	0.18	0.03	0.01
United States	-	-	-
International Median	0.17	0.03	0.02
Benchmarking Participants			
Buenos Aires, Argentina	0.24	0.06	0.04
Ontario, Canada	0.11	0.01	0.01
Quebec, Canada	0.11	0.01	0.01
Denmark (3)	0.13	0.02	0.01
Norway (4)	0.16	0.03	0.02
Moscow City, Russian Fed.	0.15	0.02	0.01
Eng/Afr/Zulu - RSA (5)	0.37	0.14	0.08
Andalusia, Spain	0.18	0.03	0.02
Madrid, Spain	0.20	0.04	0.03
Abu Dhabi, UAE	0.19	0.04	0.02
Dubai, UAE	0.14	0.02	0.01

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

A dash (-) indicates comparable data not available.

Relationship Between the PIRLS 2016 *Digital Devices in the Home* Scale and ePIRLS 2016 Online Informational Reading Achievement

Country	Pearson's Correlation with ePIRLS Achievement		Variance in ePIRLS Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Canada	0.19	0.04	0.02
Chinese Taipei	0.24	0.06	0.03
Denmark	0.10	0.01	0.00
Georgia	0.16	0.03	0.01
Ireland	0.15	0.02	0.01
Israel	0.18	0.03	0.03
Italy	0.13	0.02	0.01
Norway	0.12	0.01	0.01
Portugal	0.26	0.07	0.04
Singapore	0.29	0.08	0.06
Slovenia	0.20	0.04	0.03
Sweden	0.14	0.02	0.01
United Arab Emirates	0.18	0.03	0.01
United States	-	-	-
International Median	0.18	0.03	0.01
Benchmarking Participants			
Abu Dhabi, UAE	0.20	0.04	0.02
Dubai, UAE	0.14	0.02	0.01

A dash (-) indicates comparable data not available.