

Appendix table 7-10

Correct answers to factual knowledge questions in physical and biological sciences, by respondent characteristic: 2012

(Percent)

Characteristic	Physical science			
	<i>The center of the Earth is very hot.</i> (True)	<i>The continents on which we live have been moving their locations for millions of years and will continue to move in the future.</i> (True)	<i>Does the Earth go around the Sun, or does the Sun go around the Earth?</i> (Earth around Sun)	<i>How long does it take for the Earth to go around the Sun: one day, one month, or one year?</i> ^a (One year)
All adults (<i>n</i> = 2,256)	84	83	74	55
Sex				
Male (<i>n</i> = 1,011)	89	88	82	66
Female (<i>n</i> = 1,245)	79	79	66	45
Formal education				
< High school (<i>n</i> = 308)	72	72	54	31
High school diploma (<i>n</i> = 671)	80	76	69	46
Some college (<i>n</i> = 608)	88	87	72	55
Bachelor's degree (<i>n</i> = 429)	91	90	90	75
Graduate/professional degree (<i>n</i> = 240)	90	94	87	72
Science/mathematics education ^c				
Low (<i>n</i> = 1,248)	80	78	65	43
Middle (<i>n</i> = 398)	90	87	81	61
High (<i>n</i> = 484)	94	94	92	81
Family income (quartile) ^d				
Top (<i>n</i> = 446)	90	89	85	71
Second (<i>n</i> = 494)	84	85	78	61
Third (<i>n</i> = 521)	84	85	73	49
Bottom (<i>n</i> = 563)	80	77	65	42
Age (years) ^d				
18–24 (<i>n</i> = 140)	88	92	80	59
25–34 (<i>n</i> = 357)	88	88	78	65
35–44 (<i>n</i> = 385)	87	85	80	59
45–54 (<i>n</i> = 423)	83	80	70	56
55–64 (<i>n</i> = 420)	80	79	71	48
≥ 65 (<i>n</i> = 504)	82	80	67	44
Verbal ability ^e				
0–4 (<i>n</i> = 277)	75	69	54	29
5 (<i>n</i> = 217)	80	80	65	51
6 (<i>n</i> = 297)	87	87	76	55
7 (<i>n</i> = 220)	93	86	83	59
8–10 (<i>n</i> = 354)	94	90	89	75
Trend factual knowledge of science scale (quartile) ^f				
Top (<i>n</i> = 616)	98	99	100	96
Second (<i>n</i> = 655)	94	92	91	65
Third (<i>n</i> = 583)	79	78	57	27
Bottom (<i>n</i> = 402)	49	48	23	6

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(Percent)

Characteristic	Physical science (continued)			
	<i>All radioactivity is man-made.</i> (False)	<i>Electrons are smaller than atoms.</i> (True)	<i>Lasers work by focusing sound waves.</i> (False)	<i>The universe began with a huge explosion.</i> ^b (True)
All adults (<i>n</i> = 2,256)	72	53	47	39
Sex				
Male (<i>n</i> = 1,011)	78	60	62	46
Female (<i>n</i> = 1,245)	67	47	34	32
Formal education				
< High school (<i>n</i> = 308)	49	33	32	26
High school diploma (<i>n</i> = 671)	66	44	38	32
Some college (<i>n</i> = 608)	73	57	48	42
Bachelor's degree (<i>n</i> = 429)	84	67	63	48
Graduate/professional degree (<i>n</i> = 240)	96	74	63	52
Science/mathematics education ^c				
Low (<i>n</i> = 1,248)	65	42	38	30
Middle (<i>n</i> = 398)	76	63	48	49
High (<i>n</i> = 484)	91	78	71	53
Family income (quartile) ^d				
Top (<i>n</i> = 446)	88	64	60	47
Second (<i>n</i> = 494)	78	59	55	38
Third (<i>n</i> = 521)	69	50	44	39
Bottom (<i>n</i> = 563)	60	43	35	32
Age (years) ^d				
18–24 (<i>n</i> = 140)	67	66	41	46
25–34 (<i>n</i> = 357)	63	56	44	42
35–44 (<i>n</i> = 385)	74	52	50	41
45–54 (<i>n</i> = 423)	75	54	51	38
55–64 (<i>n</i> = 420)	76	57	52	34
≥ 65 (<i>n</i> = 504)	76	42	44	33
Verbal ability ^e				
0–4 (<i>n</i> = 277)	47	39	31	30
5 (<i>n</i> = 217)	70	46	42	29
6 (<i>n</i> = 297)	76	48	52	35
7 (<i>n</i> = 220)	84	62	51	39
8–10 (<i>n</i> = 354)	89	69	69	53
Trend factual knowledge of science scale (quartile) ^f				
Top (<i>n</i> = 616)	98	88	90	56
Second (<i>n</i> = 655)	83	52	46	47
Third (<i>n</i> = 583)	60	41	28	22
Bottom (<i>n</i> = 402)	26	15	6	18

Appendix table 7-10

Correct answers to factual knowledge questions in physical and biological sciences, by respondent characteristic: 2012

(Percent)

Characteristic	Biological science		
	<i>It is the father's gene that decides whether the baby is a boy or a girl.</i> (True)	<i>Antibiotics kill viruses as well as bacteria.</i> (False)	<i>Human beings, as we know them today, developed from earlier species of animals.</i> ^b (True)
All adults (n = 2,256)	63	51	48
Sex			
Male (n = 1,011)	55	49	56
Female (n = 1,245)	70	52	41
Formal education			
< High school (n = 308)	43	18	39
High school diploma (n = 671)	59	39	40
Some college (n = 608)	66	54	51
Bachelor's degree (n = 429)	73	71	57
Graduate/professional degree (n = 240)	71	84	66
Science/mathematics education ^c			
Low (n = 1,248)	57	40	40
Middle (n = 398)	65	56	57
High (n = 484)	76	74	63
Family income (quartile) ^d			
Top (n = 446)	70	67	58
Second (n = 494)	66	54	46
Third (n = 521)	60	51	48
Bottom (n = 563)	57	35	42
Age (years) ^d			
18–24 (n = 140)	69	44	59
25–34 (n = 357)	65	52	51
35–44 (n = 385)	66	52	51
45–54 (n = 423)	60	47	46
55–64 (n = 420)	60	53	48
≥ 65 (n = 504)	59	54	39
Verbal ability ^e			
0–4 (n = 277)	45	20	39
5 (n = 217)	58	36	46
6 (n = 297)	64	50	38
7 (n = 220)	74	62	46
8–10 (n = 354)	75	82	63
Trend factual knowledge of science scale (quartile) ^f			
Top (n = 616)	84	88	62
Second (n = 655)	66	56	51
Third (n = 583)	54	29	41
Bottom (n = 402)	33	10	29

^a Question was asked only of survey respondents who answered correctly that the Earth goes around the Sun. Individuals who responded incorrectly that the Sun goes around the Earth also count as having responded incorrectly to the question on the length of the Earth's revolution around the Sun.

^b Question was asked of 1,152 survey respondents.

^c Low = ≤ 5 high school and college science/mathematics courses; middle = 6–8 courses; high = ≥ 9 courses. Categories do not add to total n because "don't know" responses and refusals to respond are not shown.

^d Categories do not add to total n because "don't know" responses and refusals to respond are not shown.

^e Measure is based on correct responses to a 10-item, multiple-choice test of vocabulary knowledge, completed by 1,365 survey respondents. Categories represent the number of correct responses.

^f See notes to appendix table 7-8 for an explanation of the trend factual knowledge of science scale.

NOTE: "Don't know" responses and refusals to respond count as incorrect.

SOURCE: University of Chicago, National Opinion Research Center, General Social Survey (2012).