

Appendix table 7-9

**Correct answers to factual knowledge questions in physical and biological sciences: 1988–2012**

(Percent)

Question	1988 (n = 2,041)	1990 (n = 2,005)	1992 (n = 1,995)	1995 (n = 2,006)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2004 (n = 2,025)	2006 (n = 1,864)	2008 (n = 2,021)	2010 (n = 1,932)	2012 (n = 2,256)
<b>Physical science</b>												
1. <i>The center of the Earth is very hot.</i> (True)	80	79	81	78	82	80	80	78	80	84	84	84
2. <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)	80	77	79	78	78	80	79	77	80	78	80	83
3a. <i>Does the Earth go around the Sun, or does the Sun go around the Earth?</i> (Earth around Sun)	73	73	71	73	73	72	75	71	76	72	73	74
3b. <i>How long does it take for the Earth to go around the Sun?</i> (One year) <sup>a</sup>	45	48	46	47	48	49	54	NA	55	52	52	55
4. <i>All radioactivity is man-made.</i> (False)	65	63	73	72	71	71	76	73	70	71	67	72
5. <i>Electrons are smaller than atoms.</i> (True)	43	41	46	44	43	46	48	45	53	54	51	53
6. <i>Lasers work by focusing sound waves.</i> (False)	36	37	37	40	39	43	45	42	45	49	47	47
7. <i>The universe began with a huge explosion.</i> (True) <sup>b</sup>	54	32	38	35	32	33	33	33	33	33	38	39
<b>Biological science</b>												
1a. <i>It is the father's gene that decides whether the baby is a boy or a girl.</i> (True) <sup>c</sup>	NA	NA	65	64	62	66	65	62	64	62	61	63
1b. <i>It is the mother's gene that decides whether the baby is a boy or a girl.</i> (False) <sup>d</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA	72	NA	NA
2. <i>Antibiotics kill viruses as well as bacteria.</i> (False)	25	30	35	40	43	45	51	54	56	54	50	51
3. <i>Human beings, as we know them today, developed from earlier species of animals.</i> (True) <sup>b</sup>	46	45	45	44	44	45	53	42	43	46	47	48

NA = not available, question not asked.

<sup>a</sup> 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.

<sup>b</sup> Question was asked of 1,558 survey respondents in 2004 and 1,152 respondents in 2012.

<sup>c</sup> Question was asked of 1,506 survey respondents in 2008.

<sup>d</sup> Question was asked of 515 survey respondents in 2008.

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

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (1988–2001); University of Michigan, Survey of Consumer Attitudes (2004); University of Chicago, National Opinion Research Center, General Social Survey (2006–12).