



NATIONAL SCIENCE BOARD SCIENCE & ENGINEERING INDICATORS 2020



Public Attitudes

Science and Technology: Public Attitudes, Knowledge, and Interest

Supplemental Tables

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This publication is part of the *Science and Engineering Indicators* suite of reports. *Indicators* is a congressionally mandated report on the state of the U.S. science and engineering enterprise. It is policy relevant and policy neutral. *Indicators* is prepared under the guidance of the National Science Board by the National Center for Science and Engineering Statistics, a federal statistical agency within the National Science Foundation. With the 2020 edition, *Indicators* is changing from a single report to a set of disaggregated and streamlined reports published on a rolling basis. Detailed data tables will continue to be available online.

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TABLE S7-1

Public assessment of benefits and harms of scientific research, by respondent characteristic: 2018

(Percent)

Characteristic	Benefits strongly outweigh harmful results	Benefits slightly outweigh harmful results	Benefits are about equal to harmful results	Harmful results slightly outweigh benefits	Harmful results strongly outweigh benefits	Don't know
All adults (n = 1,175)	45	29	10	8	2	6
Sex						
Male (n = 485)	50	28	9	9	2	3
Female (n = 690)	42	30	11	7	2	8
Formal education						
Less than high school diploma (n = 137)	25	33	9	15	4	13
High school diploma (n = 362)	31	33	14	10	3	9
Some college (n = 330)	49	30	9	8	2	3
Bachelor's degree (n = 232)	62	22	8	2	2	4
Graduate or professional degree (n = 114)	73	20	5	2	0	1
Science and mathematics education ^{a,b}						
Low (n = 598)	37	32	12	9	3	7
Middle (n = 237)	48	29	8	9	2	4
High (n = 252)	69	22	6	2	1	1
Family income (quartile) ^b						
Bottom (n = 277)	32	30	13	13	3	8
Third (n = 223)	43	34	11	6	2	4
Second (n = 290)	43	34	7	7	4	6
Top (n = 287)	62	21	9	6	0	1
Age (years) ^b						
18–24 (n = 94)	42	23	16	12	2	5
25–34 (n = 225)	38	33	14	9	3	3
35–44 (n = 206)	46	28	11	7	3	5
45–54 (n = 190)	51	30	5	7	3	4
55–64 (n = 186)	53	25	4	5	1	11
65 or older (n = 269)	44	28	10	8	1	10
Correct answers to questions about basic scientific facts ^c						
Low (n = 227)	24	33	9	13	3	18
Middle (n = 512)	39	30	13	8	4	6
High (n = 436)	63	25	6	5	0	1

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c Groupings are based on the number of correct answers to questions about basic scientific facts, with low corresponding to 0–3 correct answers, middle corresponding to 4–6 correct answers, and high corresponding to 7–9 correct answers. Responses of "don't know" and refusals to respond count as incorrect and are not shown. Questions asked about basic scientific facts are as follows:

- *The center of the Earth is very hot.* (True)
- *The continents have been moving their location for millions of years and will continue to move.* (True)
- *Does the Earth go around the Sun, or does the Sun go around the Earth?* (Earth around Sun)
- *How long does it take for the Earth to go around the Sun?* (One year) (Asked only if the respondent answered correctly that the Earth goes around the Sun)
- *All radioactivity is man-made.* (False)
- *Electrons are smaller than atoms.* (True)
- *Lasers work by focusing sound waves.* (False)
- *The universe began with a huge explosion.* (True)
- *It is the father's gene that decides whether the baby is a boy or a girl.* (True) or (in 2008) *It is the mother's gene that decides whether the baby is a boy or a girl.* (False) (Split ballot in 2008; 1,506 survey respondents were asked about "father's gene"; 515 survey respondents were asked about "mother's gene.")
- *Antibiotics kill viruses as well as bacteria.* (False)
- *Human beings, as we know them today, developed from earlier species of animals.* (True)

Note(s)

Responses are to the following: *People have frequently noted that scientific research has produced benefits and harmful results. Would you say that, on balance, the benefits of scientific research have outweighed the harmful results, or have the harmful results of scientific research been greater than its benefits?* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

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TABLE S7-2

Public assessment of benefits and harms of scientific research: 1979–2018

(Percent)

Assessment	1979 (n = 1,635)	1981 (n = 1,581)	1985 (n = 1,986)	1988 (n = 1,021)	1990 (n = 2,005)	1992 (n = 974)	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 = 1,434)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
Benefits strongly outweigh harmful results	46	42	44	53	47	42	43	47	47	47	52	48	42	46	50	43	45	45
Benefits slightly outweigh harmful results	24	28	25	23	25	30	29	28	27	25	27	22	26	23	22	26	27	29
Benefits are about equal to harmful results	13	12	4	5	7	6	3	6	5	12	3	17	16	14	13	16	12	10
Harmful results slightly outweigh benefits	7	12	13	8	10	12	10	8	10	7	10	4	7	7	6	7	6	8
Harmful results strongly outweigh benefits	4	6	6	4	3	5	3	4	5	3	3	2	2	2	2	2	2	2
Don't know	6	1	8	7	8	5	13	7	6	6	5	6	7	8	8	6	8	6

Note(s)

Responses are to the following: *People have frequently noted that scientific research has produced benefits and harmful results. Would you say that, on balance, the benefits of scientific research have outweighed the harmful results, or have the harmful results of scientific research been greater than its benefits?* Percentages may not add to 100% because of rounding.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1979–2001); University of Michigan, Survey of Consumer Attitudes (2004); NORC at the University of Chicago, General Social Survey (2006–18).

TABLE S7-3

Public assessment of whether science and technology result in more opportunities for the next generation, by respondent characteristic: 2018

(Percent)

Characteristic	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
All adults (n = 1,175)	38	54	6	1	1
Sex					
Male (n = 485)	35	55	9	1	*
Female (n = 690)	41	53	5	1	1
Formal education					
Less than high school diploma (n = 137)	35	49	11	2	3
High school diploma (n = 362)	37	56	6	1	*
Some college (n = 330)	38	56	5	1	0
Bachelor's degree (n = 232)	37	56	6	1	*
Graduate or professional degree (n = 114)	50	43	7	0	1
Science and mathematics education ^{a,b}					
Low (n = 598)	35	57	6	1	1
Middle (n = 237)	44	49	6	*	1
High (n = 252)	41	51	6	1	1
Family income (quartile) ^b					
Bottom (n = 277)	34	54	9	3	0
Third (n = 223)	38	53	9	*	0
Second (n = 290)	38	55	5	1	1
Top (n = 287)	42	54	4	*	0
Age (years) ^b					
18–24 (n = 94)	40	52	7	1	0
25–34 (n = 225)	38	54	7	1	0
35–44 (n = 206)	39	55	4	1	*
45–54 (n = 190)	33	57	9	1	0
55–64 (n = 186)	38	57	5	1	0
65 or older (n = 269)	43	46	7	1	3
Correct answers to questions about basic scientific facts ^c					
Low (n = 227)	29	58	8	1	3
Middle (n = 512)	39	54	6	1	0
High (n = 436)	41	52	6	1	0

* = < 0.5% responded.

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to **Table S7-1** for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *Because of science and technology, there will be more opportunities for the next generation.* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

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TABLE S7-4

Public assessment of whether science and technology result in more opportunities for the next generation: 1985–2018

(Percent)

Assessment	1985 (n = 1,986)	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 = 1,434)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
Strongly agree	5	16	10	13	12	21	24	41	37	35	26	33	39	38
Agree	71	66	71	68	72	64	62	49	53	56	61	56	52	54
Disagree	18	14	14	14	13	12	12	8	7	6	9	8	7	6
Strongly disagree	1	2	1	1	1	2	1	1	1	1	1	1	1	1
Don't know	4	3	3	3	3	2	2	2	3	2	3	1	1	1

Note(s)

Responses are to the following: *Because of science and technology, there will be more opportunities for the next generation.* Percentages may not add to 100% because of rounding.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1985–2001); University of Michigan, Survey of Consumer Attitudes (2004); NORC at the University of Chicago, General Social Survey (2006–18).

Science and Engineering Indicators

TABLE S7-5

Public assessment of whether science makes life change too fast, by respondent characteristic: 2018

(Percent)

Characteristic	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
All adults (n = 1,175)	14	34	42	7	2
Sex					
Male (n = 485)	13	36	43	7	2
Female (n = 690)	15	34	42	8	2
Formal education					
Less than high school diploma (n = 137)	21	46	24	4	5
High school diploma (n = 362)	16	43	36	4	2
Some college (n = 330)	12	28	51	8	2
Bachelor's degree (n = 232)	10	26	50	13	1
Graduate or professional degree (n = 114)	14	30	45	9	1
Science and mathematics education ^{a,b}					
Low (n = 598)	17	40	36	4	3
Middle (n = 237)	12	27	51	9	1
High (n = 252)	7	27	52	14	1
Family income (quartile) ^b					
Bottom (n = 277)	16	40	38	6	0
Third (n = 223)	18	37	36	8	1
Second (n = 290)	15	33	44	7	1
Top (n = 287)	12	29	49	9	1
Age (years) ^b					
18–24 (n = 94)	10	42	45	3	1
25–34 (n = 225)	11	36	40	12	1
35–44 (n = 206)	17	32	38	11	3
45–54 (n = 190)	19	30	44	6	*
55–64 (n = 186)	15	31	47	6	1
65 or older (n = 269)	12	38	40	5	4
Correct answers to questions about basic scientific facts ^c					
Low (n = 227)	16	45	30	4	5
Middle (n = 512)	17	36	39	5	2
High (n = 436)	9	27	51	12	0

* = < 0.5% responded.

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to **Table S7-1** for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *Science makes our way of life change too fast*. Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-6

Public assessment of whether science makes life change too fast: 1979–2018

(Percent)

Assessment	1979 (n = 1,635)	1983 (n = 1,615)	1985 (n = 1,986)	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 = 1,434)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
Strongly agree	9	6	3	3	3	6	3	4	3	4	5	10	10	9	9	11	11	14
Agree	44	43	41	37	34	32	34	32	38	34	28	34	37	42	33	40	40	34
Disagree	40	44	51	55	56	54	56	55	53	53	55	45	43	40	51	40	39	42
Strongly disagree	4	6	2	3	4	6	4	6	4	5	11	8	7	7	5	7	8	7
Don't know	3	2	3	2	3	2	3	3	2	3	2	3	3	2	3	2	2	2

Note(s)

Responses are to the following: *Science makes our way of life change too fast*. Percentages may not add to 100% because of rounding.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1979–2001); University of Michigan, Survey of Consumer Attitudes (2004); NORC at the University of Chicago, General Social Survey (2006–18).

Science and Engineering Indicators

TABLE S7-7

Public confidence in institutional leaders, by type of institution: Selected years, 1973–2018

(Percent)

Year	Military	Scientific community	Medicine	Education	U.S. Supreme Court	Organized religion	Major companies	Banks and financial institutions	Organized labor	Executive branch of the federal government	Television	Press	Congress	Mean ^a
1973 (n = 1,504)	32	37	54	37	31	34	29	na	15	29	18	23	23	30.1
1974 (n = 1,484)	39	45	61	49	33	45	31	na	19	14	23	25	17	33.4
1975 (n = 1,490)	35	37	51	31	30	24	19	31	10	13	18	24	13	25.4
1976 (n = 1,499)	40	42	54	37	34	30	21	39	12	13	18	28	13	28.6
1977 (n = 1,530)	36	41	53	40	36	40	27	42	15	27	18	25	19	31.4
1978 (n = 1,532)	30	36	46	28	29	31	21	32	11	12	14	20	13	24.1
1980 (n = 1,468)	28	41	53	30	24	35	27	32	15	12	15	22	9	26.0
1982 (n = 1,860)	29	35	45	35	30	33	21	26	13	17	15	18	13	25.3
1983 (n = 1,599)	30	42	52	28	27	29	24	23	8	14	12	13	10	24.1
1984 (n = 989)	36	44	51	28	33	30	30	30	8	19	13	17	13	26.9
1986 (n = 1,470)	31	39	47	28	30	25	25	21	9	21	15	19	16	25.4
1987 (n = 1,819)	35	41	51	36	35	30	28	27	12	17	12	19	16	27.5
1988 (n = 997)	35	39	52	30	35	21	25	27	11	16	14	19	16	26.0
1989 (n = 1,035)	33	41	47	30	35	22	25	19	9	20	14	17	18	25.8
1990 (n = 899)	33	38	45	27	34	23	26	17	11	24	14	14	16	25.3
1991 (n = 1,017)	61	40	48	30	37	25	20	12	11	27	15	16	18	28.8
1993 (n = 1,057)	41	37	40	22	30	23	21	14	8	11	12	11	7	21.8
1994 (n = 2,011)	37	39	42	26	31	25	26	18	11	11	10	10	8	23.0

TABLE S7-7

Public confidence in institutional leaders, by type of institution: Selected years, 1973–2018

(Percent)

Year	Military	Scientific community	Medicine	Education	U.S. Supreme Court	Organized religion	Major companies	Banks and financial institutions	Organized labor	Executive branch of the federal government	Television	Press	Congress	Mean ^a
1996 (n = 1,925)	39	40	45	23	28	25	24	24	11	10	11	11	7	22.8
1998 (n = 1,911)	36	40	45	27	31	27	26	26	11	13	10	9	10	23.8
2000 (n = 1,896)	40	41	44	27	32	28	28	29	13	14	10	10	13	25.0
2002 (n = 912)	56	37	37	26	36	19	17	22	12	27	9	10	14	25.0
2004 (n = 876)	58	42	38	28	31	23	19	29	13	22	10	9	15	25.5
2006 (n = 1,989)	47	41	40	28	33	24	18	30	12	16	9	10	12	24.1
2008 (n = 2,390)	48	38	40	28	29	20	16	20	11	10	9	8	10	22.3
2010 (n = 3,278)	52	40	41	26	30	18	12	10	11	16	11	9	10	23.0
2012 (n = 3,258)	53	41	40	25	27	19	16	11	12	14	9	8	6	22.4
2014 (n = 2,130)	49	41	37	23	20	17	16	13	11	10	9	7	5	20.3
2016 (n = 1,956)	53	40	36	26	26	20	18	14	13	13	10	8	6	22.3
2018 (n = 1,563)	59	44	37	25	31	21	19	19	13	12	8	13	6	24.0

na = not applicable; question was not asked.

^a Excludes banks and financial institutions.**Note(s)**

Data represent respondents expressing "a great deal of confidence" when asked the following question: *As far as the people running these institutions are concerned, would you say that you have a great deal of confidence, only some confidence, or hardly any confidence at all in them?* Sample size is not exact for all institutions. Data in institution columns are rounded and may not work out to the average shown in the mean column.

Source(s)

NORC at the University of Chicago, General Social Survey (1973–2018).

TABLE S7-8

Public confidence in leaders of the scientific and medical communities, by respondent characteristic: 2018

(Percent)

Characteristic	A great deal		Some		Hardly any		Don't know	
	Scientific community	Medical community	Scientific community	Medical community	Scientific community	Medical community	Scientific community	Medical community
All adults (n = 1,563)	44	37	47	50	6	13	3	*
Sex								
Male (n = 712)	50	40	43	49	6	11	2	*
Female (n = 851)	39	35	50	51	7	14	4	1
Formal education								
Less than high school diploma (n = 176)	29	36	50	47	15	15	6	2
High school diploma (n = 451)	37	34	52	50	8	16	3	*
Some college (n = 459)	37	33	53	52	6	15	4	1
Bachelor's degree (n = 308)	59	39	37	53	2	8	1	0
Graduate or professional degree (n = 169)	68	51	30	43	1	6	1	0
Science and mathematics education ^{a,b}								
Low (n = 190)	33	37	53	47	10	14	4	2
Middle (n = 83)	37	24	58	61	1	15	4	0
High (n = 93)	52	44	44	50	4	6	0	0
Family income (quartile) ^b								
Bottom (n = 350)	37	37	51	49	8	13	4	*
Third (n = 309)	37	32	50	47	9	21	4	*
Second (n = 379)	45	34	48	51	5	15	1	*
Top (n = 392)	55	39	40	52	4	8	2	*
Age (years) ^b								
18–24 (n = 140)	52	51	40	40	6	8	2	0
25–34 (n = 287)	42	34	50	47	7	19	1	0
35–44 (n = 277)	49	33	41	53	7	14	3	0
45–54 (n = 225)	44	36	48	48	6	16	2	*
55–64 (n = 285)	39	36	54	53	5	11	2	*
65 or older (n = 344)	42	35	45	56	7	8	6	2
Correct answers to questions about basic scientific facts ^c								
Low (n = 77)	29	47	52	41	13	9	6	2
Middle (n = 167)	32	32	56	51	8	16	4	0
High (n = 146)	52	34	45	55	2	10	*	1

* = < 0.5% responded.

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to **Table S7-1** for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *As far as the people running these institutions are concerned, would you say that you have a great deal of confidence, only some confidence, or hardly any confidence at all in them?* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

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TABLE S7-9

Public perception of scientists, by respondent characteristic: 2018

(Percent)

Characteristic	Scientists work for the good of humanity	Scientists help to solve problems	Scientists want to make life better for the average person	Scientists are odd and peculiar
All adults (n = 1,175)	90	93	89	50
Sex				
Male (n = 485)	89	93	86	50
Female (n = 690)	90	93	91	49
Formal education				
Less than high school diploma (n = 137)	83	83	81	54
High school diploma (n = 362)	89	93	90	58
Some college (n = 330)	89	94	91	53
Bachelor's degree (n = 232)	93	96	89	35
Graduate or professional degree (n = 114)	96	99	91	38
Science and mathematics education ^{a,b}				
Low (n = 598)	89	91	89	57
Middle (n = 237)	89	96	89	44
High (n = 252)	94	97	89	36
Family income (quartile) ^b				
Bottom (n = 227)	90	91	88	51
Third (n = 223)	91	95	90	50
Second (n = 290)	89	92	88	47
Top (n = 287)	93	97	90	53
Age (years) ^b				
18–24 (n = 94)	90	95	90	48
25–34 (n = 225)	89	90	89	49
35–44 (n = 206)	90	93	91	52
45–54 (n = 190)	94	97	89	51
55–64 (n = 186)	90	96	90	47
65 or older (n = 269)	86	89	85	50
Correct answers to questions about basic scientific facts ^c				
Low (n = 227)	84	86	85	52
Middle (n = 512)	89	92	91	54
High (n = 436)	93	98	89	42

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to **Table S7-1** for an explanation of the questions asked about basic scientific facts.

Note(s)

Data represent respondents who "strongly agree" and "agree" with the following: *Scientific researchers are dedicated people who work for the good of humanity; Scientists are helping to solve challenging problems; Most scientists want to work on things that will make life better for the average person; and Scientists are apt to be odd and peculiar people.*

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-10

Public perception of scientists: 1983, 1985, 2001, 2012, 2016, 2018

(Percent and mean)

Perception	1983 (n = 1,615)	1985 (n = 1,986)	2001 (n = 1,574)	2012 (n = 1,152)	2016 (n = 1,390)	2018 (n = 1,175)
Scientists work for the good of humanity						
Strongly agree	na	4	11	19	26	26
Agree	na	76	74	69	63	63
Disagree	na	15	9	6	8	7
Strongly disagree	na	1	1	1	1	1
Don't know	na	4	4	5	2	2
Mean	na	2.9	3.0	3.1	3.2	3.2
Scientists help to solve problems						
Strongly agree	na	na	17	21	28	27
Agree	na	na	79	74	66	66
Disagree	na	na	2	1	4	5
Strongly disagree	na	na	*	1	1	*
Don't know	na	na	1	3	2	1
Mean	na	na	3.2	3.2	3.2	3.2
Scientists want to make life better for the average person						
Strongly agree	na	4	11	14	24	22
Agree	na	76	78	72	64	67
Disagree	na	15	8	8	9	8
Strongly disagree	na	1	1	1	*	1
Don't know	na	4	3	5	2	2
Mean	na	2.9	3.0	3.0	3.1	3.1
Scientists are odd and peculiar						
Strongly agree	1	na	2	4	9	10
Agree	31	na	22	32	43	40
Disagree	59	na	63	51	37	39
Strongly disagree	4	na	8	6	7	7
Don't know	4	na	4	8	4	4
Mean	2.3	na	2.2	2.4	2.6	2.5

* = < 0.5% responded. na = not applicable; question was not asked.

Note(s)

Responses are to the following: *Scientific researchers are dedicated people who work for the good of humanity; Scientists are helping to solve challenging problems; Most scientists want to work on things that will make life better for the average person; and Scientists are apt to be odd and peculiar people.* Mean score is based on a 5-point scale, where 5 equals strongly agree and 1 equals strongly disagree. Percentages may not add to 100% because of rounding.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology 1983–2001; NORC at the University of Chicago, General Social Survey (2012–18).

Science and Engineering Indicators

TABLE S7-11

Public opinion on whether the federal government should fund basic scientific research, by respondent characteristic: 2018

(Percent)

Characteristic	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
All adults (n = 1,175)	29	55	11	2	3
Sex					
Male (n = 485)	31	54	11	2	1
Female (n = 690)	27	56	12	1	4
Formal education					
Less than high school diploma (n = 137)	25	45	17	3	10
High school diploma (n = 362)	21	57	15	3	4
Some college (n = 330)	30	60	8	1	1
Bachelor's degree (n = 232)	31	58	10	1	0
Graduate or professional degree (n = 114)	52	39	6	2	1
Science and mathematics education ^{a,b}					
Low (n = 598)	23	56	16	2	4
Middle (n = 237)	33	55	10	1	1
High (n = 252)	43	52	3	1	*
Family income (quartile) ^b					
Bottom (n = 227)	22	57	14	3	4
Third (n = 223)	32	58	8	1	1
Second (n = 290)	28	57	11	2	3
Top (n = 287)	36	54	10	1	0
Age (years) ^b					
18–24 (n = 94)	25	59	11	3	2
25–34 (n = 225)	24	59	13	3	*
35–44 (n = 206)	30	57	9	1	3
45–54 (n = 190)	30	57	12	*	1
55–64 (n = 186)	29	54	10	2	6
65 or older (n = 269)	35	45	14	1	5
Correct answers to questions about basic scientific facts ^c					
Low (n = 227)	18	57	14	3	8
Middle (n = 512)	24	59	13	2	3
High (n = 436)	40	50	9	1	0

* = < 0.5% responded.

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *I'm going to read to you some statements like those you might find in a newspaper or magazine article. For each statement, please tell me if you strongly agree, agree, disagree, or strongly disagree. Even if it brings no immediate benefits, scientific research that advances the frontiers of knowledge is necessary and should be supported by the federal government. Do you strongly agree, agree, disagree, or strongly disagree?* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-12

Public opinion on whether the federal government should fund basic scientific research: 1985–2018

(Percent)

Opinion	1985 (n = 1,986)	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 = 1,434)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
Strongly agree	9	16	18	14	17	22	21	19	29	32	24	23	21	25	30	29
Agree	70	65	63	63	61	57	61	62	53	55	60	59	62	60	54	55
Disagree	16	14	15	18	17	15	13	14	15	8	11	12	12	12	13	11
Strongly disagree	*	1	1	2	2	3	2	1	2	1	1	2	2	1	1	2
Don't know	5	4	4	3	3	3	3	4	1	3	4	4	4	2	2	3

* = < 0.5% responded.

Note(s)

Responses are to the following: *Even if it brings no immediate benefits, scientific research that advances the frontiers of knowledge is necessary and should be supported by the federal government. Do you strongly agree, agree, disagree, or strongly disagree?*
Percentages may not add to 100% because of rounding.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1985–2001); University of Michigan, Survey of Consumer Attitudes (2004); NORC at the University of Chicago, General Social Survey (2006–18).

Science and Engineering Indicators

TABLE S7-13

Public assessment of spending, by policy area: 1981–2018

(Percent)

Policy area	1981 (n = 1,611)	1983 (n = 1,615)	1985 (n = 1,986)	1988 (n = 2,041) ^a	1990 (n = 2,005)	1992 (n = 1,995)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2002 (n = 1,358) ^b	2004 (n = 1,401) ^c	2006 (n = 2,992) ^d	2008 (n = 3,558) ^e	2010 (n = 4,901) ^f	2012 (n = 4,820) ^g	2014 (n = 2,130) ^h	2016 (n = 2,867) ⁱ	2018 (n = 1,175) ^j
Education																		
Too little	62	71	73	76	77	81	76	75	76	73	73	73	74	74	75	74	72	77
About right	30	23	22	19	17	14	16	18	17	20	21	20	21	20	18	19	20	17
Too much	6	5	3	4	4	4	6	6	5	6	5	5	5	5	7	6	6	5
Don't know	2	2	2	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1
Health																		
Too little	61	na	68	67	75	79	68	71	70	73	77	72	75	58	61	57	62	70
About right	31	na	26	28	20	15	23	22	24	21	17	19	17	22	23	24	23	21
Too much	6	na	3	2	3	4	7	6	4	4	4	7	7	17	14	16	12	7
Don't know	2	na	2	2	1	1	2	2	2	1	1	2	2	2	2	3	2	2
Assistance for the poor																		
Too little	45	na	54	55	57	56	43	49	53	66	69	68	68	61	61	63	71	72
About right	29	na	29	30	25	26	30	30	29	24	23	22	23	27	26	23	21	19
Too much	24	na	13	12	15	17	23	19	15	8	6	8	7	10	10	12	7	7
Don't know	2	na	3	3	3	2	4	2	2	2	1	2	2	2	3	2	2	2
Environment																		
Too little	52	54	69	76	76	72	65	65	63	58	63	67	66	57	58	60	63	66
About right	32	31	21	18	17	20	23	25	28	32	29	23	23	30	30	27	27	24
Too much	13	11	6	4	5	7	8	7	6	7	6	7	8	10	10	10	8	7
Don't know	3	4	3	2	2	2	4	3	3	2	2	3	3	2	3	3	2	3
Drug rehabilitation																		

TABLE S7-13

Public assessment of spending, by policy area: 1981–2018

(Percent)

Policy area	1981 (n = 1,611)	1983 (n = 1,615)	1985 (n = 1,986)	1988 (n = 2,041) ^a	1990 (n = 2,005)	1992 (n = 1,995)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2002 (n = 1,358) ^b	2004 (n = 1,401) ^c	2006 (n = 2,992) ^d	2008 (n = 3,558) ^e	2010 (n = 4,901) ^f	2012 (n = 4,820) ^g	2014 (n = 2,130) ^h	2016 (n = 2,867) ⁱ	2018 (n = 1,175) ^j	
Too little	na	na	na	na	na	na	na	na	na	56	53	55	51	49	48	54	61	66	
About right	na	na	na	na	na	na	na	na	na	31	34	31	34	36	34	30	26	22	
Too much	na	na	na	na	na	na	na	na	na	10	9	9	10	10	13	11	9	8	
Don't know	na	na	na	na	na	na	na	na	na	3	4	5	5	5	6	5	4	4	
Law enforcement																			
Too little	na	na	na	na	na	na	na	na	na	56	56	57	54	53	52	49	59	59	
About right	na	na	na	na	na	na	na	na	na	35	36	33	35	36	36	37	30	29	
Too much	na	na	na	na	na	na	na	na	na	7	5	8	8	9	9	11	9	8	
Don't know	na	na	na	na	na	na	na	na	na	3	3	2	2	2	3	2	2	4	
Social Security																			
Too little	na	na	na	na	na	na	na	na	na	59	63	61	58	53	54	52	58	57	
About right	na	na	na	na	na	na	na	na	na	33	27	30	32	35	34	37	33	33	
Too much	na	na	na	na	na	na	na	na	na	4	5	5	5	8	7	6	5	5	
Don't know	na	na	na	na	na	na	na	na	na	4	4	4	4	4	4	6	4	5	
Assistance for childcare																			
Too little	na	na	na	na	na	na	na	na	na	56	54	51	49	46	45	47	54	56	
About right	na	na	na	na	na	na	na	na	na	31	34	35	39	41	39	38	35	33	
Too much	na	na	na	na	na	na	na	na	na	7	6	7	6	7	8	8	5	5	
Don't know	na	na	na	na	na	na	na	na	na	6	6	7	6	6	7	7	6	5	
Developing alternative energy sources																			
Too little	na	na	na	na	na	na	na	na	na	na	na	na	na	na	61	60	56	54	55

TABLE S7-13

Public assessment of spending, by policy area: 1981–2018

(Percent)

Policy area	1981 (n = 1,611)	1983 (n = 1,615)	1985 (n = 1,986)	1988 (n = 2,041) ^a	1990 (n = 2,005)	1992 (n = 1,995)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2002 (n = 1,358) ^b	2004 (n = 1,401) ^c	2006 (n = 2,992) ^d	2008 (n = 3,558) ^e	2010 (n = 4,901) ^f	2012 (n = 4,820) ^g	2014 (n = 2,130) ^h	2016 (n = 2,867) ⁱ	2018 (n = 1,175) ^j
About right	na	na	na	na	na	na	na	na	na	na	na	na	na	28	27	31	34	34
Too much	na	na	na	na	na	na	na	na	na	na	na	na	na	7	9	9	8	6
Don't know	na	na	na	na	na	na	na	na	na	na	na	na	na	4	4	4	4	5
Highways and bridges																		
Too little	na	na	na	na	na	na	na	na	na	35	29	35	43	43	43	45	48	53
About right	na	na	na	na	na	na	na	na	na	50	55	52	45	45	43	42	40	37
Too much	na	na	na	na	na	na	na	na	na	12	13	11	9	10	12	11	11	9
Don't know	na	na	na	na	na	na	na	na	na	3	3	3	3	2	2	2	2	2
Assistance to blacks																		
Too little	na	na	na	na	na	na	na	na	na	30	32	29	29	26	27	27	41	48
About right	na	na	na	na	na	na	na	na	na	45	46	42	44	46	45	43	36	33
Too much	na	na	na	na	na	na	na	na	na	17	13	18	15	16	16	18	12	9
Don't know	na	na	na	na	na	na	na	na	na	8	9	11	11	11	13	12	10	10
Supporting scientific research																		
Too little	31	na	29	34	30	34	34	37	36	34	38	41	36	36	38	39	38	43
About right	47	na	46	48	47	43	46	43	44	46	45	41	46	47	45	45	45	44
Too much	18	na	18	15	16	19	14	14	14	13	12	11	11	12	12	10	11	7
Don't know	4	na	7	4	6	4	7	6	7	6	5	7	7	5	6	6	6	6
Assistance to big cities																		
Too little	na	na	na	na	na	na	na	na	na	41	40	32	31	28	27	26	35	35
About right	na	na	na	na	na	na	na	na	na	37	38	36	38	38	38	39	35	35

TABLE S7-13

Public assessment of spending, by policy area: 1981–2018

(Percent)

Policy area	1981 (n = 1,611)	1983 (n = 1,615)	1985 (n = 1,986)	1988 (n = 2,041) ^a	1990 (n = 2,005)	1992 (n = 1,995)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2002 (n = 1,358) ^b	2004 (n = 1,401) ^c	2006 (n = 2,992) ^d	2008 (n = 3,558) ^e	2010 (n = 4,901) ^f	2012 (n = 4,820) ^g	2014 (n = 2,130) ^h	2016 (n = 2,867) ⁱ	2018 (n = 1,175) ^j
Too much	na	na	na	na	na	na	na	na	na	13	12	22	20	24	24	25	22	19
Don't know	na	na	na	na	na	na	na	na	na	9	10	10	11	10	11	10	9	11
Mass transportation																		
Too little	na	na	na	na	na	na	na	na	na	34	35	39	45	40	38	37	35	37
About right	na	na	na	na	na	na	na	na	na	50	50	47	42	46	46	48	52	48
Too much	na	na	na	na	na	na	na	na	na	10	10	8	8	9	10	9	8	8
Don't know	na	na	na	na	na	na	na	na	na	6	6	6	5	4	6	6	5	7
Parks and recreation																		
Too little	na	na	na	na	na	na	na	na	na	34	31	33	30	32	31	32	34	34
About right	na	na	na	na	na	na	na	na	na	58	60	59	63	60	61	62	59	59
Too much	na	na	na	na	na	na	na	na	na	5	7	6	5	6	6	5	6	4
Don't know	na	na	na	na	na	na	na	na	na	3	2	2	2	2	2	2	2	2
National defense																		
Too little	34	19	11	11	15	15	23	31	29	33	33	26	23	25	24	31	36	29
About right	38	31	36	35	42	42	42	40	41	44	38	33	34	39	40	36	34	39
Too much	26	47	50	52	40	40	32	25	25	20	26	39	40	33	32	30	26	27
Don't know	2	3	3	3	3	2	4	4	5	3	3	3	3	3	3	3	3	4
Welfare																		
Too little	na	na	na	na	na	na	na	na	na	20	23	24	23	22	20	18	22	23
About right	na	na	na	na	na	na	na	na	na	37	34	36	37	35	33	34	33	36
Too much	na	na	na	na	na	na	na	na	na	40	40	37	36	41	43	45	42	36

TABLE S7-13

Public assessment of spending, by policy area: 1981–2018

(Percent)

Policy area	1981 (n = 1,611)	1983 (n = 1,615)	1985 (n = 1,986)	1988 (n = 2,041) ^a	1990 (n = 2,005)	1992 (n = 1,995)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2002 (n = 1,358) ^b	2004 (n = 1,401) ^c	2006 (n = 2,992) ^d	2008 (n = 3,558) ^e	2010 (n = 4,901) ^f	2012 (n = 4,820) ^g	2014 (n = 2,130) ^h	2016 (n = 2,867) ⁱ	2018 (n = 1,175) ^j
Don't know	na	na	na	na	na	na	na	na	na	3	2	3	4	3	3	3	3	5
Space exploration																		
Too little	18	17	9	17	9	12	14	15	11	12	14	14	14	16	22	24	21	21
About right	37	42	43	38	37	36	38	36	38	47	43	45	45	44	41	41	45	45
Too much	42	39	45	43	52	50	45	46	48	35	37	35	36	35	29	28	25	23
Don't know	2	2	2	2	2	1	3	3	3	6	6	6	6	5	7	7	9	11
Assistance to other countries																		
Too little	na	na	na	na	na	na	na	na	na	7	10	11	11	8	7	6	9	15
About right	na	na	na	na	na	na	na	na	na	27	26	24	26	28	23	23	28	31
Too much	na	na	na	na	na	na	na	na	na	63	61	62	59	60	65	68	58	48
Don't know	na	na	na	na	na	na	na	na	na	3	4	4	4	3	4	3	4	6

na = not applicable; question was not asked.

^a In 1988, "national defense" was asked of 1,021 survey respondents.^b In 2002, "assistance for the poor" was asked of 1,407 survey respondents; "education," "environment," "Social Security," "child care," "highways and bridges," "mass transportation," "parks and recreation," and "national defense" were asked of 2,765 respondents.^c In 2004, "assistance for the poor" was asked of 1,411 survey respondents; "education," "environment," "Social Security," "child care," "highways and bridges," "mass transportation," "parks and recreation," and "national defense" were asked of 2,812 respondents.^d In 2006, "assistance for the poor" was asked of 1,508 survey respondents; "welfare" was asked of 1,484 respondents.^e In 2008, "assistance for the poor" was asked of 1,781 survey respondents; "welfare" was asked of 1,778 respondents; "environment," "health," "law enforcement," "drug rehabilitation," "assistance to big cities," and "space exploration" were asked of 3,558 respondents.^f In 2010, "assistance for the poor" was asked of 2,480 survey respondents; "welfare" was asked of 2,421 respondents; "developing alternative energy sources" was asked of 2,044 respondents; "environment," "health," "law enforcement," and "national defense" were asked of 4,900 respondents; "assistance to big cities" was asked of 4,899 respondents; "assistance to blacks" was asked of 4,892 respondents.^g In 2012, "assistance for the poor" was asked of 2,435 survey respondents; "welfare" was asked of 2,385 respondents; "developing alternative energy sources" was asked of 1,974 respondents.

^h In 2014, "assistance for the poor" was asked of 1,297 survey respondents; "welfare" was asked of 833 respondents; "developing alternative energy sources" was asked of 1,239 respondents.

ⁱ In 2016, "assistance for the poor" was asked of 1,430 survey respondents; "welfare" was asked of 1,437 respondents.

^j In 2018, "assistance for the poor" was asked of 381 survey respondents; "welfare" was asked of 794 respondents.

Note(s)

Responses are to the following: *We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one, I'd like you to tell me if you think we're spending too little money on it, about the right amount, or too much.* Beginning in 2002, two versions of the question were administered with different wording for some policy areas. Wording also varied for some policy areas in 1983–2001. This table combines data for policy areas with similar wording or meaning (explained as follows). Percentages may not add to 100% because of rounding.

Policy areas with different wording in 1983–2001 or alternate wording in the second version of the question in 2002–18 are as follows:

- *Education*: "improving education" in 1983–2001; alternate wording "improving the nation's education system" in 2002–18.
- *Assistance for the poor*: "helping low-income persons" in 1983–2001; no alternate wording in 2002–18.
- *Environment*: "reducing pollution" in 1983–2001; alternate wording "improving and protecting the environment" in 2002–18.
- *Health*: "improving health care" in 1983–2001; alternate wording "improving and protecting the nation's health" in 2002–18.
- *Law enforcement*: alternate wording "halting the rising crime rate" in 2002–18.
- *Drug rehabilitation*: alternate wording "dealing with drug addiction" in 2002–18.
- *Assistance to big cities*: alternate wording "solving the problems of the big cities" in 2002–18.
- *Assistance to blacks*: alternate wording "improving the conditions of blacks" in 2002–18.
- *National defense*: "improving national defense" in 1981–2001; alternate wording "military, armaments, and defense" in 2002–18.
- *Space exploration*: alternate wording "space exploration program" in 2002–18.
- *Assistance to other countries*: alternate wording "foreign aid" in 2002–18.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1981–2001); University of Michigan, Survey of Consumer Attitudes (2004); NORC at the University of Chicago, General Social Survey (2002–18).

Science and Engineering Indicators

TABLE S7-14

Public assessment of spending on science, by respondent characteristic: 2018

(Percent)

Characteristic	Supporting scientific research			
	Too little	About right	Too much	Don't know
All adults (n = 2,348)	43	44	7	6
Sex				
Male (n = 1,052)	45	43	8	4
Female (n = 1,296)	41	45	7	7
Formal education				
Less than high school diploma (n = 262)	33	47	12	8
High school diploma (n = 704)	39	44	10	7
Some college (n = 670)	47	42	6	5
Bachelor's degree (n = 465)	48	45	4	3
Graduate or professional degree (n = 247)	44	46	4	6
Science and mathematics education ^{a,b}				
Low (n = 598)	38	47	9	7
Middle (n = 237)	46	43	7	4
High (n = 252)	50	43	4	4
Family income (quartile) ^b				
Bottom (n = 534)	41	40	12	7
Third (n = 456)	40	47	9	5
Second (n = 569)	39	50	6	5
Top (n = 593)	50	41	4	4
Age (years) ^b				
18–24 (n = 197)	42	46	5	7
25–34 (n = 435)	42	44	8	6
35–44 (n = 416)	44	42	9	6
45–54 (n = 355)	43	46	6	4
55–64 (n = 399)	43	42	8	6
65 or older (n = 539)	43	44	8	5
Correct answers to questions about basic scientific facts ^c				
Low (n = 227)	36	46	10	8
Middle (n = 512)	39	45	8	7
High (n = 436)	49	44	5	2

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one, I'd like you to tell me if you think we're spending too little money on it, about the right amount, or too much.* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-15

Public assessment of spending on health, by respondent characteristic: 2018

(Percent)

Characteristic	Spending on health			
	Too little	About right	Too much	Don't know
All adults (n = 2,348)	70	21	7	2
Sex				
Male (n = 1,052)	64	25	9	1
Female (n = 1,296)	75	17	5	3
Formal education				
Less than high school diploma (n = 262)	67	24	6	3
High school diploma (n = 704)	70	23	5	2
Some college (n = 670)	77	17	5	2
Bachelor's degree (n = 465)	67	21	8	3
Graduate or professional degree (n = 247)	62	21	15	2
Science and mathematics education ^{a,b}				
Low (n = 598)	73	21	4	2
Middle (n = 237)	74	19	4	3
High (n = 252)	73	18	8	1
Family income (quartile) ^b				
Bottom (n = 534)	74	19	6	1
Third (n = 456)	72	21	5	2
Second (n = 569)	71	21	6	2
Top (n = 593)	67	22	8	3
Age (years) ^b				
18–24 (n = 197)	66	26	5	3
25–34 (n = 435)	70	21	7	2
35–44 (n = 416)	74	17	7	2
45–54 (n = 355)	71	20	7	2
55–64 (n = 399)	68	21	9	3
65 or older (n = 539)	70	23	5	2
Correct answers to questions about basic scientific facts ^c				
Low (n = 227)	70	22	5	3
Middle (n = 512)	72	22	3	3
High (n = 436)	74	17	8	1

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one, I'd like you to tell me if you think we're spending too little money on it, about the right amount, or too much.* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-16

Public assessment of spending on the environment, by respondent characteristic: 2018

(Percent)

Characteristic	Spending on environment			
	Too little	About right	Too much	Don't know
All adults (n = 2,348)	66	24	7	3
Sex				
Male (n = 1,052)	64	26	8	2
Female (n = 1,296)	69	22	6	3
Formal education				
Less than high school diploma (n = 262)	54	31	10	5
High school diploma (n = 704)	66	24	6	3
Some college (n = 670)	68	23	7	2
Bachelor's degree (n = 465)	70	23	6	2
Graduate or professional degree (n = 247)	70	18	8	4
Science and mathematics education ^{a,b}				
Low (n = 598)	62	28	8	2
Middle (n = 237)	72	19	6	4
High (n = 252)	73	19	8	1
Family income (quartile) ^b				
Bottom (n = 534)	65	23	8	3
Third (n = 456)	68	24	4	4
Second (n = 569)	68	23	7	2
Top (n = 593)	68	23	8	1
Age (years) ^b				
18–24 (n = 197)	74	21	3	2
25–34 (n = 435)	74	20	4	3
35–44 (n = 416)	69	22	6	3
45–54 (n = 355)	66	26	6	1
55–64 (n = 399)	60	25	13	2
65 or older (n = 539)	57	29	9	5
Correct answers to questions about basic scientific facts ^c				
Low (n = 227)	57	28	9	6
Middle (n = 512)	64	26	7	2
High (n = 436)	72	19	7	1

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to **Table S7-1** for an explanation of questions asked about basic scientific facts.

Note(s)

Responses are to the following: *We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one, I'd like you to tell me if you think we're spending too little money on it, about the right amount, or too much.* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-17

Public assessment of spending on space, by respondent characteristic: 2018

(Percent)

Characteristic	Spending on space			
	Too little	About right	Too much	Don't know
All adults (n = 2,348)	21	45	23	11
Sex				
Male (n = 1,052)	28	44	22	6
Female (n = 1,296)	15	46	24	15
Formal education				
Less than high school diploma (n = 262)	9	39	38	13
High school diploma (n = 704)	17	44	25	14
Some college (n = 670)	23	44	23	10
Bachelor's degree (n = 465)	27	49	15	9
Graduate or professional degree (n = 247)	29	51	15	6
Science and mathematics education ^{a,b}				
Low (n = 598)	13	43	30	14
Middle (n = 237)	20	47	19	14
High (n = 252)	31	49	15	5
Family income (quartile) ^b				
Bottom (n = 534)	19	39	29	13
Third (n = 456)	13	46	27	13
Second (n = 569)	21	51	18	10
Top (n = 593)	28	46	19	7
Age (years) ^b				
18–24 (n = 197)	23	45	18	14
25–34 (n = 435)	21	44	21	14
35–44 (n = 416)	23	44	23	10
45–54 (n = 355)	20	49	22	9
55–64 (n = 399)	20	46	26	8
65 or older (n = 539)	21	43	26	10
Correct answers to questions about basic scientific facts ^c				
Low (n = 227)	6	37	35	22
Middle (n = 512)	12	49	26	13
High (n = 436)	32	43	18	7

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one, I'd like you to tell me if you think we're spending too little money on it, about the right amount, or too much.* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-18

Public assessment of the danger of river, lake, and stream pollution to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know
All adults (n = 1,557; 1,386; 1,276; 1,430; 911; 785)	66	27	4	3	61	29	5	5	66	23	5	7	69	24	4	2	79	17	3	1	77	19	3	1
Sex																								
Male (n = 663; 617; 560; 607; 399; 340)	64	28	5	3	58	31	6	4	67	22	5	6	68	25	5	1	78	18	3	1	72	23	4	1
Female (n = 894; 769; 716; 823; 512; 445)	68	25	3	4	63	27	4	6	65	24	4	7	70	23	4	3	79	16	3	2	81	15	3	2
Formal education ^a																								
Less than high school diploma (n = 283; 225; 216; 220; 112; 86)	57	29	5	9	50	30	9	10	61	21	7	11	62	24	9	5	65	25	7	3	57	32	6	5
High school diploma (n = 496; 466; 397; 412; 260; 253)	65	30	3	2	58	31	6	5	67	22	3	7	71	22	6	2	79	17	2	2	78	16	4	1
Some college (n = 410; 346; 354; 390; 258; 211)	70	22	5	2	66	28	3	4	65	23	5	7	70	25	3	3	81	16	3	*	82	16	2	0
Bachelor's degree (n = 249; 242; 213; 266; 175; 157)	69	25	3	3	63	30	3	4	70	27	2	2	70	26	3	1	79	17	2	1	76	18	4	2
Graduate or professional degree (n = 114; 102; 89; 139; 104; 78)	66	30	2	2	73	20	4	3	66	26	6	1	69	27	3	1	85	11	3	1	83	17	0	1
Science and mathematics education ^{a,b}																								
Low (n = na; na; na; 116; 500; 408)	na	na	na	na	na	na	na	na	na	na	na	na	67	24	8	1	77	18	3	2	75	19	5	1

TABLE S7-18

Public assessment of the danger of river, lake, and stream pollution to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know
Middle (<i>n</i> = na; na; na; 52; 180; 154)	na	na	na	na	na	na	na	na	na	na	na	na	65	29	2	5	84	14	2	1	78	19	1	2
High (<i>n</i> = na; na; na; 54; 179; 159)	na	na	na	na	na	na	na	na	na	na	na	na	67	28	5	0	82	14	4	0	79	18	3	*
Family income (quartile) ^a																								
Bottom (<i>n</i> = na; na; na; na; 211; 184)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	73	21	5	2	70	24	5	1
Third (<i>n</i> = na; na; na; na; 184; 147)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	79	18	2	1	77	21	3	0
Second (<i>n</i> = na; na; na; na; 223; 190)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	84	14	2	1	80	16	3	*
Top (<i>n</i> = na; na; na; na; 211; 201)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	80	16	4	*	78	19	3	1
Age (years) ^a																								
18–24 (<i>n</i> = 132; 97; 113; 137; 59; 57)	78	17	4	2	67	25	5	3	66	25	4	5	70	20	7	3	83	15	1	1	73	22	5	0
25–34 (<i>n</i> = 325; 330; 256; 246; 160; 148)	71	25	3	1	70	23	3	4	67	22	6	5	69	24	4	3	86	11	2	2	77	20	3	*
35–44 (<i>n</i> = 383; 305; 297; 263; 135; 139)	67	28	2	3	63	27	4	5	66	24	4	6	70	24	3	2	80	16	4	0	78	19	2	1
45–54 (<i>n</i> = 251; 261; 245; 260; 158; 130)	65	27	4	4	56	33	5	5	66	22	6	6	69	28	2	1	73	21	4	2	78	19	2	1
55–64 (<i>n</i> = 171; 158; 144; 234; 168; 114)	64	27	6	3	51	38	6	5	67	24	3	6	70	26	3	1	80	17	2	2	78	14	8	0

TABLE S7-18

Public assessment of the danger of river, lake, and stream pollution to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know	Extremely or very dangerous	Somewhat dangerous	Not very or not dangerous	Don't know
65 or older (<i>n</i> = 291; 233; 220; 287; 228; 195)	53	33	6	8	51	34	8	7	60	24	3	13	65	23	8	4	75	20	4	2	75	17	3	5
Correct answers to questions about basic scientific facts ^c																								
Low (<i>n</i> = na; na; na; 60; 168; 150)	na	na	na	na	na	na	na	na	na	na	na	na	61	23	8	7	84	14	2	0	61	27	5	7
Middle (<i>n</i> = na; na; na; 134; 397; 345)	na	na	na	na	na	na	na	na	na	na	na	na	71	22	7	1	79	18	3	1	78	18	3	*
High (<i>n</i> = na; na; na; 133; 346; 290)	na	na	na	na	na	na	na	na	na	na	na	na	67	27	4	2	67	22	5	6	82	15	3	*

* = < 0.5% responded. na = not applicable; question was not asked.

^a Categories do not add to total *n* because "don't know" responses and refusals to respond are not shown.^b For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.^c See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.**Note(s)**Responses are to the following: *In general, do you think that pollution of America's rivers, lakes, and streams is...* [1 Extremely dangerous], [2 Very dangerous], [3 Somewhat dangerous], [4 Not very dangerous], [5 Not dangerous], [8 Don't know]. Percentages may not add to 100% because of rounding.**Source(s)**

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1993–94); NORC at the University of Chicago, General Social Survey (2000–18).

TABLE S7-19

Public assessment of the danger of air pollution from industry to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
All adults (n = 1,557; 1,386; 1,276; 1,430; 911; 785)	61	30	4	4	53	37	5	5	62	29	2	6	63	31	4	2	73	23	2	1	73	22	4	1
Sex																								
Male (n = 663; 617; 560; 607; 399; 340)	57	33	6	4	49	40	7	4	59	33	3	5	59	35	6	1	71	25	2	1	66	27	6	1
Female (n = 894; 769; 716; 823; 512; 445)	65	28	3	4	57	34	4	6	65	27	2	7	67	27	2	4	75	22	2	2	79	18	2	2
Formal education ^a																								
Less than high school diploma (n = 283; 225; 216; 220; 112; 86)	52	33	5	9	48	34	7	12	59	27	4	9	68	20	7	5	69	24	5	2	61	28	5	7
High school diploma (n = 496; 466; 397; 412; 260; 253)	60	32	4	3	51	39	6	4	61	30	2	7	59	33	5	2	69	27	2	2	75	22	3	0
Some college (n = 410; 346; 354; 390; 258; 211)	70	25	3	2	57	35	4	3	63	28	2	7	65	32	2	2	74	24	2	*	74	24	2	0
Bachelor's degree (n = 249; 242; 213; 266; 175; 157)	62	31	5	2	54	36	6	4	67	30	2	1	63	33	3	1	76	22	1	*	70	20	9	2
Graduate or professional degree (n = 114; 102; 89; 139; 104; 78)	56	37	6	0	57	37	4	3	57	38	2	3	62	34	3	2	83	13	2	1	86	14	0	0

Science and mathematics education^{a,b}

TABLE S7-19

Public assessment of the danger of air pollution from industry to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
Low (<i>n</i> = na; na; na; 116; 500; 408)	na	na	na	na	na	na	na	na	na	na	na	na	64	30	5	2	71	25	2	2	74	22	2	1
Middle (<i>n</i> = na; na; na; 52; 180; 154)	na	na	na	na	na	na	na	na	na	na	na	na	44	51	3	3	77	18	4	1	71	25	3	1
High (<i>n</i> = na; na; na; 54; 179; 159)	na	na	na	na	na	na	na	na	na	na	na	na	57	35	6	3	77	22	1	0	73	18	9	1
Family income (quartile) ^a																								
Bottom (<i>n</i> = na; na; na; na; 211; 184)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	72	23	2	3	75	17	7	1
Third (<i>n</i> = na; na; na; na; 184; 147)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	74	23	2	1	69	29	2	*
Second (<i>n</i> = na; na; na; na; 223; 190)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	75	22	2	*	74	24	2	*
Top (<i>n</i> = na; na; na; na; 211; 201)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	73	24	2	*	73	23	4	0
Age (years) ^a																								
18–24 (<i>n</i> = 132; 97; 113; 137; 59; 57)	73	19	5	4	54	35	6	6	66	28	1	5	68	27	4	1	76	23	0	1	69	23	7	0
25–34 (<i>n</i> = 325; 330; 256; 246; 160; 148)	68	28	3	1	59	33	4	4	62	29	3	6	63	29	5	4	77	19	2	2	77	20	3	0
35–44 (<i>n</i> = 383; 305; 297; 263; 135; 139)	65	30	3	3	60	31	6	4	66	26	2	5	63	32	3	3	78	19	3	*	75	22	2	1
45–54 (<i>n</i> = 251; 261; 245; 260; 158; 130)	61	30	4	5	53	37	5	5	62	31	1	5	67	29	1	3	72	26	1	1	72	22	4	2

TABLE S7-19

Public assessment of the danger of air pollution from industry to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
55–64 (<i>n</i> = 171; 158; 144; 234; 168; 114)	56	31	9	4	44	44	6	6	59	32	2	7	63	32	4	1	73	22	2	2	72	24	4	0
65 or older (<i>n</i> = 291; 233; 220; 287; 228; 195)	44	43	6	7	40	47	7	7	54	32	5	9	57	35	6	2	66	28	3	2	71	21	4	4
Correct answers to questions about basic scientific facts ^c																								
Low (<i>n</i> = na; na; na; 60; 168; 150)	na	na	na	na	na	na	na	na	na	na	na	na	55	36	1	8	67	23	4	7	61	29	3	7
Middle (<i>n</i> = na; na; na; 134; 397; 345)	na	na	na	na	na	na	na	na	na	na	na	na	61	35	3	1	73	24	2	1	77	20	3	0
High (<i>n</i> = na; na; na; 133; 346; 290)	na	na	na	na	na	na	na	na	na	na	na	na	55	37	5	2	76	23	1	0	74	21	5	*

* = < 0.5% responded. na = not applicable; question was not asked.

^a Categories do not add to total *n* because "don't know" responses and refusals to respond are not shown.^b For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.^c See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.**Note(s)**Responses are to the following: *In general, do you think that air pollution caused by industry is...* [1 Extremely dangerous], [2 Very dangerous], [3 Somewhat dangerous], [4 Not very dangerous], [5 Not dangerous], [8 Don't know]. Percentages may not add to 100% because of rounding.**Source(s)**

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1993–94); NORC at the University of Chicago, General Social Survey (2000–18).

TABLE S7-20

Public assessment of the danger of pesticides to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
All adults (n = 1,557; 1,386; 1,276; 1,430; 911; 785)	37	48	11	4	33	49	13	5	45	39	8	7	52	37	8	3	61	31	6	2	64	30	5	1
Sex																								
Male (n = 663; 617; 560; 607; 399; 340)	32	51	14	3	27	51	18	5	42	41	11	6	49	37	12	2	53	37	8	1	58	36	5	1
Female (n = 894; 769; 716; 823; 512; 445)	41	47	8	4	38	47	9	6	48	38	6	8	54	37	5	5	68	25	5	2	68	26	4	2
Formal education ^a																								
Less than high school diploma (n = 283; 225; 216; 220; 112; 86)	44	40	7	9	38	40	12	10	48	29	10	13	56	30	9	5	54	33	12	1	50	38	7	5
High school diploma (n = 496; 466; 397; 412; 260; 253)	34	54	10	3	33	49	13	5	44	40	9	6	52	37	8	3	61	32	5	2	65	29	6	1
Some college (n = 410; 346; 354; 390; 258; 211)	39	47	12	3	32	54	10	4	43	40	8	9	51	39	7	3	63	30	6	1	72	24	3	*
Bachelor's degree (n = 249; 242; 213; 266; 175; 157)	35	49	14	2	30	50	15	5	51	43	5	1	49	37	11	3	61	32	6	1	57	36	4	2
Graduate or professional degree (n = 114; 102; 89; 139; 104; 78)	33	51	13	3	30	50	16	3	36	52	10	2	52	39	6	3	70	23	6	1	65	28	7	0

Science and mathematics education^{a,b}

TABLE S7-20

Public assessment of the danger of pesticides to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
Low (<i>n</i> = na; na; na; 116; 500; 408)	na	na	na	na	na	na	na	na	na	na	na	na	41	49	9	1	60	31	8	2	66	28	5	2
Middle (<i>n</i> = na; na; na; 52; 180; 154)	na	na	na	na	na	na	na	na	na	na	na	na	49	42	6	3	63	34	2	1	68	25	6	1
High (<i>n</i> = na; na; na; 54; 179; 159)	na	na	na	na	na	na	na	na	na	na	na	na	32	44	22	2	64	26	9	0	57	39	3	1
Family income (quartile) ^a																								
Bottom (<i>n</i> = na; na; na; na; 211; 184)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	62	29	6	2	65	28	6	*
Third (<i>n</i> = na; na; na; na; 184; 147)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	60	32	6	2	62	30	8	0
Second (<i>n</i> = na; na; na; na; 223; 190)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	67	27	5	*	69	27	3	*
Top (<i>n</i> = na; na; na; na; 211; 201)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	60	32	8	*	61	35	3	1
Age (years) ^a																								
18–24 (<i>n</i> = 132; 97; 113; 137; 59; 57)	37	47	13	3	30	50	14	6	39	42	14	5	46	39	9	6	57	33	7	2	57	31	12	0
25–34 (<i>n</i> = 325; 330; 256; 246; 160; 148)	34	51	13	2	29	55	12	4	44	41	8	7	43	40	12	5	66	27	6	1	63	32	4	1
35–44 (<i>n</i> = 383; 305; 297; 263; 135; 139)	41	48	8	3	38	47	10	5	47	40	6	7	57	35	6	2	74	23	3	0	59	30	9	2
45–54 (<i>n</i> = 251; 261; 245; 260; 158; 130)	38	49	9	4	37	45	12	6	49	36	8	6	58	33	6	3	61	31	6	2	70	27	2	1

TABLE S7-20

Public assessment of the danger of pesticides to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
55–64 (<i>n</i> = 171; 158; 144; 234; 168; 114)	39	47	9	4	28	49	15	8	41	45	7	7	57	35	6	1	59	32	8	2	67	30	3	0
65 or older (<i>n</i> = 291; 233; 220; 287; 228; 195)	32	47	13	8	30	48	16	6	46	34	10	10	49	39	8	3	54	35	8	2	63	29	4	4
Correct answers to questions about basic scientific facts ^c																								
Low (<i>n</i> = na; na; na; 60; 168; 150)	na	na	na	na	na	na	na	na	na	na	na	na	48	39	7	6	59	26	9	6	65	26	4	6
Middle (<i>n</i> = na; na; na; 134; 397; 345)	na	na	na	na	na	na	na	na	na	na	na	na	46	44	9	1	59	34	6	1	64	30	6	1
High (<i>n</i> = na; na; na; 133; 346; 290)	na	na	na	na	na	na	na	na	na	na	na	na	44	40	12	3	66	29	6	*	64	32	4	1

* = < 0.5% responded. na = not applicable; question was not asked.

^a Categories do not add to total *n* because "don't know" responses and refusals to respond are not shown.^b For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.^c See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.**Note(s)**Responses are to the following: *In general, do you think that pesticides and chemicals used in farming are...* [1 Extremely dangerous], [2 Very dangerous], [3 Somewhat dangerous], [4 Not very dangerous], [5 Not dangerous], [8 Don't know]. Percentages may not add to 100% because of rounding.**Source(s)**

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1993–94); NORC at the University of Chicago, General Social Survey (2000–18).

TABLE S7-21

Public assessment of the danger of climate change to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
All adults (n = 1,557; 1,386; 1,276; 1,430; 911; 785)	41	34	14	12	35	35	16	14	40	33	11	15	48	27	18	6	55	26	15	4	58	26	12	4
Sex																								
Male (n = 663; 617; 560; 607; 399; 340)	35	35	20	9	32	36	23	10	41	33	14	12	48	24	23	5	53	27	18	2	56	26	16	2
Female (n = 894; 769; 716; 823; 512; 445)	46	32	9	13	37	34	11	18	39	34	8	18	48	30	15	8	56	26	12	6	59	26	9	6
Formal education ^a																								
Less than high school diploma (n = 283; 225; 216; 220; 112; 86)	36	31	13	21	28	30	16	26	40	23	12	26	50	24	14	12	46	31	13	11	48	21	21	9
High school diploma (n = 496; 466; 397; 412; 260; 253)	38	35	15	11	31	36	19	14	39	35	9	16	40	35	17	8	46	35	14	4	54	31	10	5
Some college (n = 410; 346; 354; 390; 258; 211)	46	32	11	10	37	37	15	12	37	36	11	16	55	24	17	4	60	21	17	2	60	25	12	3
Bachelor's degree (n = 249; 242; 213; 266; 175; 157)	43	36	13	8	41	37	15	8	49	34	15	2	42	28	27	3	54	24	19	4	60	24	13	3
Graduate or professional degree (n = 114; 102; 89; 139; 104; 78)	44	30	21	5	43	34	14	8	39	38	12	11	54	21	16	10	73	18	8	1	64	26	8	1

Science and mathematics education^{a,b}

TABLE S7-21

Public assessment of the danger of climate change to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
Low (<i>n</i> = na; na; na; 116; 500; 408)	na	na	na	na	na	na	na	na	na	na	na	na	42	39	11	8	50	29	15	5	55	25	15	5
Middle (<i>n</i> = na; na; na; 52; 180; 154)	na	na	na	na	na	na	na	na	na	na	na	na	26	53	19	3	59	25	14	2	56	33	7	4
High (<i>n</i> = na; na; na; 54; 179; 159)	na	na	na	na	na	na	na	na	na	na	na	na	44	17	36	3	64	18	17	2	65	22	13	1
Family income (quartile) ^a																								
Bottom (<i>n</i> = na; na; na; na; 211; 184)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	52	27	14	6	52	25	16	6
Third (<i>n</i> = na; na; na; na; 184; 147)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	51	31	13	4	59	27	11	3
Second (<i>n</i> = na; na; na; na; 223; 190)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	61	23	11	4	57	26	14	3
Top (<i>n</i> = na; na; na; na; 211; 201)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	56	24	18	1	61	29	9	1
Age (years) ^a																								
18–24 (<i>n</i> = 132; 97; 113; 137; 59; 57)	55	32	8	5	51	30	13	6	48	31	5	16	62	19	15	4	68	21	9	2	63	29	5	3
25–34 (<i>n</i> = 325; 330; 256; 246; 160; 148)	48	29	13	10	37	36	13	14	47	30	12	11	51	27	17	5	61	28	6	6	64	27	8	2
35–44 (<i>n</i> = 383; 305; 297; 263; 135; 139)	42	36	14	8	38	37	13	12	43	31	9	17	49	28	16	7	59	22	16	3	61	27	9	4
45–54 (<i>n</i> = 251; 261; 245; 260; 158; 130)	40	33	13	14	33	34	20	14	41	35	12	11	46	28	20	6	53	26	18	4	54	27	16	3

TABLE S7-21

Public assessment of the danger of climate change to the environment, by respondent characteristic: 1993, 1994, 2000, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2000				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
55–64 (<i>n</i> = 171; 158; 144; 234; 168; 114)	32	34	18	16	25	37	19	19	28	43	13	17	40	34	19	7	52	29	16	3	54	22	19	5
65 or older (<i>n</i> = 291; 233; 220; 287; 228; 195)	28	37	17	18	25	33	22	20	29	33	14	23	38	29	24	9	45	29	20	6	54	24	15	7
Correct answers to questions about basic scientific facts ^c																								
Low (<i>n</i> = na; na; na; 60; 168; 150)	na	na	na	na	na	na	na	na	na	na	na	na	23	45	13	20	45	27	17	12	45	26	13	16
Middle (<i>n</i> = na; na; na; 134; 397; 345)	na	na	na	na	na	na	na	na	na	na	na	na	49	34	13	4	52	30	14	4	57	29	11	2
High (<i>n</i> = na; na; na; 133; 346; 290)	na	na	na	na	na	na	na	na	na	na	na	na	39	31	23	7	62	22	15	1	63	23	13	1

na = not applicable; question was not asked.

^a Categories do not add to total *n* because "don't know" responses and refusals to respond are not shown.^b For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.^c See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.**Note(s)**Responses are to the following: *In general, do you think that a rise in the world's temperature caused by the "greenhouse effect" is...*[1 Extremely dangerous], [2 Very dangerous], [3 Somewhat dangerous], [4 Not very dangerous], [5 Not dangerous], [8 Don't know]. For 2010, responses are to the following: *In general, do you think that a rise in the world's temperature caused by climate change is...*[1 Extremely dangerous], [2 Very dangerous], [3 Somewhat dangerous], [4 Not very dangerous], [5 Not dangerous], [8 Don't know]. Percentages may not add to 100% because of rounding.**Source(s)**

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1993–94); NORC at the University of Chicago, General Social Survey (2000–18).

TABLE S7-22

Public assessment of the danger of nuclear power stations to the environment, by respondent characteristic: 1993, 1994, 2010, 2016, 2018

(Percent)

Characteristic	1993				1994				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
Bottom (<i>n</i> = na; na; na; 211; 184)	na	na	na	na	na	na	na	na	na	na	na	na	60	26	12	2	64	26	9	2
Third (<i>n</i> = na; na; na; 184; 147)	na	na	na	na	na	na	na	na	na	na	na	na	56	33	10	1	63	31	6	*
Second (<i>n</i> = na; na; na; 223; 190)	na	na	na	na	na	na	na	na	na	na	na	na	58	31	10	1	62	29	8	1
Top (<i>n</i> = na; na; na; 211; 201)	na	na	na	na	na	na	na	na	na	na	na	na	49	31	20	0	43	39	16	2
Age (years) ^a																				
18–24 (<i>n</i> = 132; 97; 137; 59; 57)	55	32	7	6	53	36	7	5	52	31	7	9	69	16	15	0	52	39	10	0
25–34 (<i>n</i> = 325; 330; 246; 160; 148)	45	35	14	7	45	31	15	9	51	25	16	8	55	31	12	2	69	23	7	2
35–44 (<i>n</i> = 383; 305; 263; 135; 139)	40	38	15	8	44	33	17	6	47	31	15	7	63	28	8	0	59	30	9	3
45–54 (<i>n</i> = 251; 261; 260; 158; 130)	40	34	18	8	38	36	16	10	49	27	20	3	56	25	17	2	59	28	10	3
55–64 (<i>n</i> = 171; 158; 234; 168; 114)	31	30	24	15	30	44	17	9	39	35	23	3	52	39	8	1	51	40	10	0
65 or older (<i>n</i> = 291; 233; 287; 228; 195)	32	33	20	15	33	36	17	13	30	30	32	8	45	33	18	3	45	38	13	4
Correct answers to questions about basic scientific facts ^c																				
Low (<i>n</i> = na; na; 60; 168; 150)	na	na	na	na	na	na	na	na	44	30	15	10	58	28	7	6	62	24	6	7
Middle (<i>n</i> = na; na; 134; 397; 345)	na	na	na	na	na	na	na	na	46	34	11	9	62	28	9	1	65	29	4	1
High (<i>n</i> = na; na; 133; 346; 290)	na	na	na	na	na	na	na	na	31	38	28	4	46	33	20	*	43	38	18	1

* = < 0.5% responded. na = not applicable; question was not asked.

^a Categories do not add to total *n* because "don't know" responses and refusals to respond are not shown.^b For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

^c See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *In general, do you think that nuclear power stations are...*[1 *Extremely dangerous*], [2 *Very dangerous*], [3 *Somewhat dangerous*], [4 *Not very dangerous*], [5 *Not dangerous*], [8 *Don't know*]. Percentages may not add to 100% because of rounding.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1993–94); NORC at the University of Chicago, General Social Survey (2010–18).

Science and Engineering Indicators

TABLE S7-23

Public assessment of the danger of modifying genes of crops to the environment, by respondent characteristic: 2000, 2010, 2016, 2018

(Percent)

Characteristic	2000				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
All adults (n = 1,276; 1,430; 911; 785)	21	32	25	22	25	33	26	16	43	36	18	4	39	37	20	4
Sex																
Male (n = 560; 607; 399; 340)	16	34	33	16	22	33	34	11	30	41	26	3	32	38	27	3
Female (n = 716; 823; 512; 445)	25	31	18	26	27	33	19	21	53	31	12	4	44	37	14	5
Formal education ^a																
Less than high school diploma (n = 216; 220; 112; 86)	21	33	16	30	25	30	23	21	47	32	13	8	36	33	22	9
High school diploma (n = 397; 412; 260; 253)	25	26	25	24	24	35	24	18	41	37	19	4	39	40	16	5
Some college (n = 354; 390; 258; 211)	19	38	22	21	29	36	21	14	48	31	19	2	51	34	13	2
Bachelor's degree (n = 213; 266; 175; 157)	20	37	33	10	21	31	34	14	39	40	18	3	27	36	31	5
Graduate or professional degree (n = 89; 139; 104; 78)	11	27	46	16	20	26	38	16	36	42	19	3	29	45	24	1
Science and mathematics education ^{a,b}																
Low (n = na; 116; 500; 408)	na	na	na	na	32	32	25	11	43	35	17	5	41	38	17	4
Middle (n = na; 52; 180; 154)	na	na	na	na	13	25	46	17	49	36	13	1	41	42	12	5
High (n = na; 54; 179; 159)	na	na	na	na	19	31	40	10	37	37	26	*	29	33	34	3
Family income (quartile) ^a																
Bottom (n = na; na; 211; 184)	na	na	na	na	na	na	na	na	42	34	17	8	42	33	21	4
Third (n = na; na; 184; 147)	na	na	na	na	na	na	na	na	43	40	15	2	38	43	14	5
Second (n = na; na; 223; 190)	na	na	na	na	na	na	na	na	48	30	20	2	47	35	16	2
Top (n = na; na; 211; 201)	na	na	na	na	na	na	na	na	38	41	21	1	32	40	25	3

TABLE S7-23

Public assessment of the danger of modifying genes of crops to the environment, by respondent characteristic: 2000, 2010, 2016, 2018

(Percent)

Characteristic	2000				2010				2016				2018			
	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know	Extremely dangerous or very dangerous	Somewhat dangerous	Not very dangerous or not dangerous	Don't know
Age (years) ^a																
18–24 (n = 113; 137; 59; 57)	24	31	27	17	24	37	24	16	44	33	19	4	42	34	17	6
25–34 (n = 256; 246; 160; 148)	25	34	22	19	26	33	29	12	42	35	19	4	39	38	22	2
35–44 (n = 297; 263; 135; 139)	19	38	24	19	31	30	25	14	52	34	11	2	35	45	18	3
45–54 (n = 245; 260; 158; 130)	22	31	26	21	28	35	23	15	43	39	15	3	42	35	19	4
55–64 (n = 144; 234; 168; 114)	16	32	31	21	20	38	25	17	42	36	20	2	42	32	21	5
65 or older (n = 220; 287; 228; 195)	21	24	21	34	17	28	30	25	37	34	23	6	35	37	21	7
Correct answers to questions about basic scientific facts ^c																
Low (n = na; 60; 168; 150)	na	na	na	na	16	33	21	30	45	32	11	11	42	33	11	13
Middle (n = na; 134; 397; 345)	na	na	na	na	30	32	29	9	46	33	18	3	44	37	16	3
High (n = na; 133; 346; 290)	na	na	na	na	22	33	37	9	38	40	21	1	30	40	28	2

* = < 0.5% responded. na = not applicable; question was not asked.

^a Categories do not add to total n because "don't know" responses and refusals to respond are not shown.^b For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.^c See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.**Note(s)**Responses are to the following: *Do you think that modifying the genes of certain crops is...* [1 Extremely dangerous for environment], [2 Very dangerous], [3 Somewhat dangerous], [4 Not very dangerous], [5 Not dangerous at all for environment], [6 Can't choose]. Percentages may not add to 100% because of rounding.**Source(s)**

NORC at the University of Chicago, General Social Survey (2000–18).

TABLE S7-24

Correct answers to trend questions about basic scientific facts: 1992–2018

(Percent)

Year	Percentage of questions answered correctly
1992 (n = 1,995)	59
1995 (n = 2,006)	60
1997 (n = 2,000)	60
1999 (n = 1,882)	61
2001 (n = 1,574)	64
2006 (n = 1,864)	64
2008 (n = 2,021)	64
2010 (n = 1,932)	63
2012 (n = 2,256)	65
2014 (n = 2,130)	65
2016 (n = 1,390)	63
2018 (n = 1,175)	62

Note(s)

See notes to **Table S7-1** for an explanation and a list of questions. See **Table S7-26** and **Table S7-27** for responses to individual questions.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1992–2001); NORC at the University of Chicago, General Social Survey (2006–18).

Science and Engineering Indicators

TABLE S7-25

Correct answers to trend questions about basic scientific facts, by respondent characteristic: 1992–2018

(Percent)

Characteristic	1992 (n = 1,995)	1995 (n = 2,006)	1997 (n = 2,000)	1999 (n = 1,882)	2001 (n = 1,574)	2006 (n = 1,864)	2008 (n = 2,021)	2010 (n = 1,932)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
All adults	59	60	60	61	64	64	64	63	65	65	63	62
Sex												
Male	64	65	66	66	69	69	68	67	70	69	67	65
Female	55	55	55	57	59	60	60	59	60	61	60	59
Formal education												
Less than high school diploma	44	44	43	44	45	44	43	42	45	47	43	41
High school diploma	59	59	60	62	62	62	63	60	62	62	61	60
Bachelor's degree	73	68	75	77	80	74	77	78	78	77	74	73
Graduate or professional degree	80	77	80	83	80	82	81	80	81	81	75	81
Science and mathematics education ^a												
Low	52	52	51	53	55	56	57	54	56	57	55	54
Middle	66	68	66	71	72	69	70	68	70	72	70	67
High	79	80	83	82	84	82	82	83	83	82	80	80
Family income (quartile)												
Bottom	na	na	na	na	na	56	56	54	55	54	57	55
Third	na	na	na	na	na	65	63	63	63	62	58	60
Second	na	na	na	na	na	69	69	69	69	67	64	61
Top	na	na	na	na	na	71	74	73	76	76	73	72
Age (years)												
18–24	59	63	64	65	66	68	67	64	67	61	61	61
25–34	64	64	63	65	68	64	67	67	67	66	67	64
35–44	65	64	66	66	66	67	63	63	67	65	64	64
45–54	61	62	61	64	68	68	67	65	64	67	65	63
55–64	53	51	57	58	61	64	65	63	64	68	62	63
65 or older	47	47	45	46	49	53	54	54	61	59	55	58
Verbal ability ^b												
0–4	na	na	na	na	na	48	47	46	46	50	46	46
5	na	na	na	na	na	60	58	55	59	61	57	56
6	na	na	na	na	na	66	63	63	66	65	62	62
7	na	na	na	na	na	70	73	67	73	70	68	69
8–10	na	na	na	na	na	77	80	80	81	80	79	78

na = not applicable; question was not asked.

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

^b Measure is based on correct responses to a 10-item, multiple-choice test of vocabulary knowledge. Categories represent the number of correct responses.

Note(s)

Percentages show the average of correct answers for nine questions:

- *The center of the Earth is very hot.* (True)
- *The continents have been moving their location for millions of years and will continue to move.* (True)
- *Does the Earth go around the Sun, or does the Sun go around the Earth?* (Earth around Sun)
- *How long does it take for the Earth to go around the Sun?* (One year) (Asked only if the respondent answered correctly that the Earth goes around the Sun)
- *All radioactivity is man-made.* (False)
- *Electrons are smaller than atoms.* (True)
- *Lasers work by focusing sound waves.* (False)
- *It is the father's gene that decides whether the baby is a boy or a girl.* (True)
- *Antibiotics kill viruses as well as bacteria.* (False)

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1992–2001); NORC at the University of Chicago, General Social Survey (2006–18).

Science and Engineering Indicators

TABLE S7-26

Correct answers to individual factual knowledge questions: 1985–2018

(Percent)

Question	1985 (n = 1,986)	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)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
The nine questions used to calculate the average factual knowledge measure																
<i>The center of the Earth is very hot. (True)</i>	na	80	79	81	78	82	80	80	78	80	84	84	84	84	85	86
<i>The continents on which we live have been moving their locations for millions of years and will continue to move in the future. (True)</i>	79	80	77	79	78	78	80	79	77	80	78	80	83	82	81	79
<i>Does the Earth go around the Sun, or does the Sun go around the Earth? (Earth around Sun)</i>	na	73	73	71	73	73	72	75	71	76	72	73	74	76	73	72
<i>All radioactivity is man-made. (False)</i>	na	65	63	73	72	71	71	76	73	70	71	67	72	72	70	68
<i>It is the father's gene that decides whether the baby is a boy or a girl. (True)^a</i>	na	na	na	65	64	62	66	65	62	64	62	61	63	59	59	59
<i>How long does it take for the Earth to go around the Sun? (One year)^b</i>	na	45	48	46	47	48	49	54	na	55	52	52	55	54	51	54
<i>Antibiotics kill viruses as well as bacteria. (False)</i>	na	25	30	35	40	43	45	51	54	56	54	50	51	55	51	50
<i>Electrons are smaller than atoms. (True)</i>	na	43	41	46	44	43	46	48	45	53	54	51	53	51	48	46
<i>Lasers work by focusing sound waves. (False)</i>	na	36	37	37	40	39	43	45	42	45	49	47	47	50	45	44
Other questions																
<i>The universe began with a huge explosion. (True)^c</i>	na	54	32	38	35	32	33	33	33	33	33	38	39	42	39	38
<i>Human beings, as we know them today, developed from earlier species of animals. (True)^d</i>	45	46	45	45	44	44	45	53	42	43	46	47	48	49	52	49
<i>It is the mother's gene that decides whether the baby is a boy or a girl. (False)^e</i>	na	na	na	na	na	na	na	na	na	na	72	na	na	na	na	na

na = not applicable; question was not asked.

^a Question was asked of 1,506 survey respondents in 2008.

^b 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 counted as having responded incorrectly to the question on the length of the Earth's revolution around the Sun.

^c Question was asked of 1,558 survey respondents in 2004, 1,152 respondents in 2012, 457 respondents in 2016, and 404 respondents in 2018.

^d Question was asked of 1,558 survey respondents in 2004, 1,152 respondents in 2012, 704 respondents in 2016, and 794 respondents in 2018.

^e Question was asked of 515 survey respondents in 2008.

Note(s)

Responses of "don't know" and refusals to respond are counted as incorrect and are not shown.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1985–2001); University of Michigan, Survey of Consumer Attitudes (2004); NORC at the University of Chicago, General Social Survey (2006–18).

Science and Engineering Indicators

TABLE S7-27

Correct answers to individual factual knowledge questions, by respondent characteristic: 2018

(Percent)

Characteristic	<i>The center of the Earth is very hot. (True)</i>	<i>The continents have been moving their location for millions of years and will continue to move. (True)</i>	<i>Does the Earth go around the Sun, or does the Sun go around the Earth? (Earth around Sun)</i>	<i>All radioactivity is man-made. (False)</i>	<i>It is the father's gene that decides whether the baby is a boy or a girl. (True)</i>	<i>How long does it take for the Earth to go around the Sun: one day, one month, or one year? (One year)^a</i>	<i>Antibiotics kill viruses as well as bacteria. (False)</i>	<i>Human beings, as we know them today, developed from earlier species of animals. (True)^b</i>	<i>Electrons are smaller than atoms. (True)</i>	<i>Lasers work by focusing sound waves. (False)</i>	<i>The universe began with a huge explosion. (True)^c</i>
All adults (n = 1,175)	86	79	72	68	59	54	50	49	46	44	38
Sex											
Male (n = 485)	89	82	80	74	49	63	44	52	50	58	42
Female (n = 690)	84	77	66	63	67	48	54	47	42	34	34
Formal education											
Less than high school diploma (n = 137)	74	59	56	49	35	31	16	34	24	29	37
High school diploma (n = 362)	83	78	67	64	51	46	40	41	35	39	31
Some college (n = 330)	90	85	73	67	60	58	48	52	48	41	32
Bachelor's degree (n = 232)	89	84	81	79	74	68	71	61	62	54	48
Graduate or professional degree (n = 114)	93	85	88	86	85	69	88	53	67	67	51
Science and mathematics education ^{d,e}											
Low (n = 598)	82	74	64	61	51	44	39	44	34	37	32
Middle (n = 237)	90	83	74	72	65	59	56	51	52	47	38
High (n = 252)	94	92	91	84	75	76	77	61	69	61	49
Family income (quartile) ^e											
Bottom (n = 277)	82	76	63	59	47	43	41	55	42	44	35
Third (n = 223)	87	82	73	64	58	58	39	43	42	36	33
Second (n = 290)	87	75	72	64	65	54	48	48	46	38	31

TABLE S7-27

Correct answers to individual factual knowledge questions, by respondent characteristic: 2018

(Percent)

Characteristic	<i>The center of the Earth is very hot. (True)</i>	<i>The continents have been moving their location for millions of years and will continue to move. (True)</i>	<i>Does the Earth go around the Sun, or does the Sun go around the Earth? (Earth around Sun)</i>	<i>All radioactivity is man-made. (False)</i>	<i>It is the father's gene that decides whether the baby is a boy or a girl. (True)</i>	<i>How long does it take for the Earth to go around the Sun: one day, one month, or one year? (One year)^a</i>	<i>Antibiotics kill viruses as well as bacteria. (False)</i>	<i>Human beings, as we know them today, developed from earlier species of animals. (True)^b</i>	<i>Electrons are smaller than atoms. (True)</i>	<i>Lasers work by focusing sound waves. (False)</i>	<i>The universe began with a huge explosion. (True)^c</i>
Top (n = 287)	91	88	79	82	66	64	70	56	53	56	49
Age (years)											
18–24 (n = 94)	90	86	76	59	45	67	34	70	48	41	46
25–34 (n = 225)	89	84	74	63	62	61	50	54	48	43	37
35–44 (n = 206)	90	82	76	68	68	55	49	48	45	39	42
45–54 (n = 190)	86	80	71	67	60	53	50	42	47	50	32
55–64 (n = 186)	84	73	71	71	63	51	56	47	45	48	38
65 or older (n = 269)	80	74	67	74	51	45	54	38	38	42	34
Verbal ability ^f											
0–4 (n = 256)	78	68	60	50	41	37	20	42	29	32	37
5 (n = 210)	81	77	65	60	57	45	46	45	38	37	30
6 (n = 254)	88	84	70	72	60	53	48	43	45	41	30
7 (n = 205)	90	84	81	73	65	68	60	48	51	51	40
8–10 (n = 250)	93	86	85	85	75	71	79	65	65	60	49
Correct answers to questions about basic scientific facts ^g											
Low (n = 227)	52	40	20	26	28	5	12	28	16	13	18
Middle (n = 512)	89	82	70	64	53	45	38	52	34	30	31
High (n = 436)	98	95	99	92	81	89	82	54	74	76	54

^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 counted as having responded incorrectly to the question on the length of the Earth's revolution around the Sun.

^b Question was asked of 794 survey respondents.

^c Question was asked of 404 survey respondents.

^d For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^f Measure is based on correct responses to a 10-item, multiple-choice test of vocabulary knowledge. Categories represent the number of correct responses.

^g See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses of "don't know" and refusals to respond are counted as incorrect and are not shown.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-28

Correct answers to scientific process questions: Selected years, 1999–2018

(Percent)

Question	1999	2001	2004	2006	2008	2010	2012	2014	2016	2018
Understanding of scientific inquiry ^a	32	40	39	41	36	42	33	46	43	43
Components of understanding of scientific inquiry										
Understanding of probability ^b	64	67	64	69	64	66	65	66	64	65
Understanding of experiment ^c	34	40	46	42	38	51	34	53	51	49
Understanding of scientific study ^d	21	26	23	25	23	18	20	26	23	24

^a To be classified as understanding scientific inquiry, the survey respondent had to (1) answer correctly the two probability questions stated in table note b, and (2) provide a theory-testing response to the open-ended question about what it means to study something scientifically (see table note d) or provide a correct response to the open-ended question about experiment (i.e., explain why it is better to test a drug using a control group [see table note c]).

^b To be classified as understanding probability, the survey respondent had to answer correctly *A doctor tells a couple that their genetic makeup means that they've got one in four chances of having a child with an inherited illness. (1) Does this mean that if their first child has the illness, the next three will not have the illness? [No] (2) Does this mean that each of the couple's children will have the same risk of suffering from the illness? [Yes]*

^c To be classified as understanding experiment, the survey respondent had to answer correctly (1) *Two scientists want to know if a certain drug is effective against high blood pressure. The first scientist wants to give the drug to 1,000 people with high blood pressure and see how many of them experience lower blood pressure levels. The second scientist wants to give the drug to 500 people with high blood pressure and not give the drug to another 500 people with high blood pressure, and see how many in both groups experience lower blood pressure levels. Which is the better way to test this drug? (2) Why is it better to test the drug this way? (The second way because a control group is used for comparison.)*

^d To be classified as understanding scientific study, the survey respondent had to answer correctly (1) *When you read news stories, you see certain sets of words and terms. We are interested in how many people recognize certain kinds of terms. First, some articles refer to the results of a scientific study. When you read or hear the term scientific study, do you have a clear understanding of what it means, a general sense of what it means, or little understanding of what it means? (2) [If "clear understanding" or "general sense" response] In your own words, could you tell me what it means to study something scientifically? (Formulation of theories/test hypothesis, experiments/control group, or rigorous/systematic comparison.)*

Note(s)

Data represent respondents giving a correct response for each concept. Responses of "don't know" and refusals to respond are counted as incorrect and are not shown.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1999, 2001); University of Michigan, Survey of Consumer Attitudes (2004); NORC at the University of Chicago, General Social Survey (2006–18).

Science and Engineering Indicators

TABLE S7-29

Correct answers to scientific process questions, by respondent characteristic: 2018

(Percent)

Characteristic	Scientific inquiry ^a	Probability ^b	Experiment ^c	Scientific study ^d
All adults (n = 1,175)	43	65	49	24
Sex				
Male (n = 485)	41	66	47	22
Female (n = 690)	44	65	51	26
Formal education				
Less than high school diploma (n = 137)	12	39	19	6
High school diploma (n = 362)	33	60	38	14
Some college (n = 330)	43	71	49	26
Bachelor's degree (n = 232)	64	76	71	36
Graduate or professional degree (n = 114)	67	77	79	52
Science and mathematics education ^{e,f}				
Low (n = 598)	29	57	36	13
Middle (n = 237)	48	70	55	32
High (n = 252)	74	86	78	47
Family income (quartile) ^f				
Bottom (n = 227)	29	56	34	18
Third (n = 223)	41	65	46	25
Second (n = 290)	40	63	51	23
Top (n = 287)	60	77	65	34
Age (years) ^f				
18–24 (n = 94)	41	66	52	24
25–34 (n = 225)	47	65	55	30
35–44 (n = 206)	48	70	55	27
45–54 (n = 190)	43	68	49	23
55–64 (n = 186)	43	67	45	24
65 or older (n = 269)	32	56	39	18
Verbal ability ^g				
0–4 (n = 256)	18	41	25	7
5 (n = 210)	35	65	43	15
6 (n = 254)	47	70	54	22
7 (n = 205)	49	69	59	35
8–10 (n = 250)	67	84	68	46
Correct answers to questions about basic scientific facts ^h				
Low (n = 227)	12	43	21	6
Middle (n = 512)	35	58	44	15

TABLE S7-29

Correct answers to scientific process questions, by respondent characteristic: 2018

(Percent)

Characteristic	Scientific inquiry ^a	Probability ^b	Experiment ^c	Scientific study ^d
High (n = 436)	66	84	68	44

^a To be classified as understanding scientific inquiry, the survey respondent had to (1) answer correctly the two probability questions stated in table note b, and (2) provide a theory-testing response to the open-ended question about what it means to study something scientifically (see table note d) or provide a correct response to the open-ended question about experiment (i.e., explain why it is better to test a drug using a control group [see table note c]).

^b To be classified as understanding probability, the survey respondent had to answer two questions correctly: *A doctor tells a couple that their genetic makeup means that they've got one in four chances of having a child with an inherited illness. (1) Does this mean that if their first child has the illness, the next three will not have the illness? [No] (2) Does this mean that each of the couple's children will have the same risk of suffering from the illness? [Yes]*

^c To be classified as understanding experiment, the survey respondent had to answer correctly (1) *Two scientists want to know if a certain drug is effective against high blood pressure. The first scientist wants to give the drug to 1,000 people with high blood pressure and see how many of them experience lower blood pressure levels. The second scientist wants to give the drug to 500 people with high blood pressure and not give the drug to another 500 people with high blood pressure, and see how many in both groups experience lower blood pressure levels. Which is the better way to test this drug? (2) Why is it better to test the drug this way? (The second way because a control group is used for comparison.)*

^d To be classified as understanding scientific study, the survey respondent had to answer (1) *When you read news stories, you see certain sets of words and terms. We are interested in how many people recognize certain kinds of terms. First, some articles refer to the results of a scientific study. When you read or hear the term scientific study, do you have a clear understanding of what it means, a general sense of what it means, or little understanding of what it means? (2) [If "clear understanding" or "general sense" response] In your own words, could you tell me what it means to study something scientifically? (Formulation of theories/test hypothesis, experiments/control group, or rigorous/systematic comparison.)*

^e For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^g Measure is based on correct responses to a 10-item, multiple-choice test of vocabulary knowledge completed by 1,390 survey respondents. Categories represent the number of correct responses.

^h See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-30

Self-reported understanding of the term "scientific study," by respondent characteristic: 2018

(Percent)

Characteristic	Clear understanding	General sense	Little understanding	Don't know
All adults (n = 1,175)	27	51	20	1
Sex				
Male (n = 485)	29	47	23	1
Female (n = 690)	26	54	18	1
Formal education				
Less than high school diploma (n = 137)	7	36	49	7
High school diploma (n = 362)	15	55	29	1
Some college (n = 330)	32	57	12	0
Bachelor's degree (n = 232)	40	51	8	1
Graduate or professional degree (n = 114)	54	41	5	0
Science and mathematics education ^{a,b}				
Low (n = 598)	15	54	29	2
Middle (n = 237)	37	53	10	*
High (n = 252)	51	45	3	0
Family income (quartile) ^b				
Bottom (n = 277)	21	46	33	1
Third (n = 223)	25	51	23	*
Second (n = 290)	29	57	14	*
Top (n = 287)	34	53	13	*
Age (years) ^b				
18–24 (n = 94)	30	60	10	0
25–34 (n = 225)	29	50	21	0
35–44 (n = 206)	34	44	20	1
45–54 (n = 190)	23	57	18	1
55–64 (n = 186)	28	48	22	2
65 or older (n = 269)	20	50	26	4
Correct answers to questions about basic scientific facts ^c				
Low (n = 227)	10	43	42	6
Middle (n = 512)	21	57	22	1
High (n = 436)	44	48	8	0

* = < 0.5% responded.

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to **Table S7-1** for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *When you read or hear the term scientific study, do you have a clear understanding of what it means, a general sense of what it means, or little understanding of what it means?* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-31

Self-reported understanding of the term "scientific study": 1979–2018

(Percent)

Assessment	1979 (n = 1,635)	1981 (n = 1,235)	1983 (n = 1,615)	1985 (n = 1,986)	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 = 1,454)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
Clear understanding	22	34	18	29	31	33	31	34	37	37	35	33	30	29	26	24	28	31	27
General sense	61	51	49	50	49	47	50	46	46	47	49	51	52	50	52	54	51	48	51
Little understanding	17	14	32	20	19	19	18	18	16	17	14	16	17	20	21	20	20	19	20
Don't know	1	1	*	*	*	*	*	2	1	0	1	1	1	1	2	2	1	2	1

* = < 0.5% responded.

Note(s)

Responses are to the following: *When you read or hear the term scientific study, do you have a clear understanding of what it means, a general sense of what it means, or little understanding of what it means?* Percentages may not add to 100% because of rounding.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1979–2001); University of Michigan, Survey of Consumer Attitudes (2004); NORC at the University of Chicago, General Social Survey (2006–18).

Science and Engineering Indicators

TABLE S7-32

Public assessment of astrology, by respondent characteristic: 1979–2018

(Percent)

Characteristic	1979 (n = 1,635)	1983 (n = 1,615)	1985 (n = 1,986)	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 = 1,434)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
All adults																		
Very scientific	8	10	8	6	6	7	7	7	7	9	6	5	5	6	10	6	8	6
Sort of scientific	34	35	31	31	29	29	28	29	29	31	26	26	28	28	32	26	29	33
Not at all scientific	50	51	57	60	60	62	60	59	59	56	66	65	63	62	55	65	60	58
Don't know	9	4	4	3	5	3	5	5	5	4	3	4	4	3	4	3	3	4
Sex																		
Male																		
Very scientific	7	9	7	5	5	6	7	7	7	9	5	5	5	7	10	5	8	5
Sort of scientific	30	29	29	25	23	25	24	27	25	27	21	23	28	24	27	25	26	26
Not at all scientific	54	58	60	67	66	66	65	63	63	60	72	68	64	67	60	69	64	66
Don't know	9	4	3	3	5	2	4	2	5	4	2	4	4	2	3	2	2	3
Female																		
Very scientific	8	10	9	7	6	7	7	7	7	8	6	5	5	6	10	6	9	7
Sort of scientific	37	41	32	36	35	32	32	31	32	36	30	29	28	32	36	28	32	38
Not at all scientific	46	44	55	53	55	58	56	55	56	52	61	63	63	58	50	62	57	52
Don't know	9	5	4	3	5	3	6	7	5	4	3	4	4	4	4	4	3	4
Formal education																		
Less than high school diploma																		
Very scientific	11	13	14	11	7	12	11	11	13	14	10	10	7	10	14	10	16	8
Sort of scientific	34	37	38	35	31	34	30	37	34	35	38	41	40	37	42	32	40	40
Not at all scientific	39	40	42	50	49	49	46	42	41	45	50	42	42	48	34	51	38	40
Don't know	16	10	5	4	12	5	13	10	13	6	2	8	11	4	10	7	5	12
High school diploma																		
Very scientific	7	10	8	6	6	6	8	7	7	9	7	5	6	7	11	6	10	7

TABLE S7-32

Public assessment of astrology, by respondent characteristic: 1979–2018

(Percent)

Characteristic	1979 (n = 1,635)	1983 (n = 1,615)	1985 (n = 1,986)	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 = 1,434)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
Sort of scientific	37	38	29	32	32	31	28	30	30	35	29	29	31	32	33	31	31	36
Not at all scientific	50	50	60	59	60	61	61	60	60	52	62	62	61	58	52	60	57	54
Don't know	6	2	3	3	2	2	3	4	3	4	2	4	3	3	4	2	3	2
Bachelor's degree																		
Very scientific	1	3	4	2	4	3	6	2	2	4	2	2	2	3	5	2	2	1
Sort of scientific	23	26	25	24	19	19	34	21	20	25	17	16	19	17	25	16	21	25
Not at all scientific	67	69	68	72	75	76	60	75	76	69	80	78	79	78	69	80	76	71
Don't know	9	3	3	1	2	3	*	2	3	2	1	4	1	2	1	2	1	3
Graduate or professional degree																		
Very scientific	5	5	1	*	1	3	2	4	2	3	*	*	3	2	3	2	2	5
Sort of scientific	15	23	23	19	17	14	22	15	19	13	16	12	12	16	24	11	23	17
Not at all scientific	76	69	74	78	80	82	74	78	77	83	83	84	83	79	72	84	73	75
Don't know	4	3	2	2	2	*	2	2	2	*	1	4	3	3	1	2	1	2
Age (years)																		
18–24																		
Very scientific	9	13	10	10	5	14	9	11	7	17	10	5	5	11	14	10	11	5
Sort of scientific	40	43	39	36	37	37	33	38	40	39	36	34	38	43	44	40	33	52
Not at all scientific	47	42	51	54	56	49	53	50	50	42	52	56	55	46	42	48	54	43
Don't know	4	3	*	0	2	1	5	1	3	1	2	5	1	0	1	2	2	0
25–34																		
Very scientific	7	7	6	6	6	4	9	6	5	10	6	8	6	8	10	6	7	10
Sort of scientific	36	39	32	32	32	33	30	32	30	33	33	28	30	33	35	35	37	39
Not at all scientific	52	51	60	60	61	62	59	59	61	54	60	60	62	58	52	56	53	50

TABLE S7-32

Public assessment of astrology, by respondent characteristic: 1979–2018

(Percent)

Characteristic	1979 (n = 1,635)	1983 (n = 1,615)	1985 (n = 1,986)	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 = 1,434)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
Don't know	4	3	1	1	2	1	2	3	3	3	1	4	2	1	2	2	3	2
35–44																		
Very scientific	6	11	8	6	5	7	4	4	7	7	4	5	5	8	10	8	9	5
Sort of scientific	37	32	29	31	26	27	32	26	32	32	24	28	31	27	33	26	27	27
Not at all scientific	53	54	61	60	68	64	61	66	59	58	69	65	61	64	51	64	62	63
Don't know	5	3	2	2	1	3	3	4	1	3	2	2	3	1	5	2	2	4
45–54																		
Very scientific	8	7	5	4	7	6	4	4	5	5	4	3	4	5	10	7	8	4
Sort of scientific	28	40	32	26	25	27	26	28	23	27	18	24	24	23	28	22	28	36
Not at all scientific	54	50	59	66	64	63	67	65	67	66	74	70	68	69	58	69	61	59
Don't know	10	3	5	4	4	4	3	4	5	3	3	3	4	3	4	2	3	2
55–64																		
Very scientific	10	8	11	5	5	3	8	7	10	6	6	3	4	6	8	2	9	6
Sort of scientific	32	33	24	33	25	18	20	17	27	27	25	24	26	24	31	20	27	27
Not at all scientific	44	56	56	56	59	77	66	69	58	62	66	68	67	65	57	75	62	62
Don't know	15	3	9	5	10	2	6	7	6	5	3	5	4	5	4	3	1	5
65 or older																		
Very scientific	5	12	11	6	5	7	10	11	11	6	6	5	5	2	8	5	6	5
Sort of scientific	26	24	26	27	29	27	22	31	20	31	26	21	21	24	25	21	24	23
Not at all scientific	50	52	55	60	53	60	55	47	57	54	64	68	65	67	62	70	66	65
Don't know	19	12	8	6	13	6	12	11	13	9	3	7	9	8	5	4	4	6
Correct answers to questions about basic scientific facts ^a																		
Low																		
Very scientific	na	na	na	na	na	10	8	11	13	10	na	5	6	9	12	8	12	7

TABLE S7-32

Public assessment of astrology, by respondent characteristic: 1979–2018

(Percent)

Characteristic	1979 (n = 1,635)	1983 (n = 1,615)	1985 (n = 1,986)	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 = 1,434)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
Sort of scientific	na	na	na	na	na	34	34	31	31	38	na	36	34	32	39	37	30	41
Not at all scientific	na	na	na	na	na	50	45	44	38	42	na	50	47	52	35	48	49	43
Don't know	na	na	na	na	na	6	14	14	18	10	na	8	13	6	13	7	8	9
Middle																		
Very scientific	na	na	na	na	na	7	10	8	8	11	na	6	6	9	13	7	10	7
Sort of scientific	na	na	na	na	na	32	30	33	33	35	na	31	35	33	37	32	34	39
Not at all scientific	na	na	na	na	na	59	57	57	57	50	na	58	57	55	48	59	54	50
Don't know	na	na	na	na	na	2	3	3	2	3	na	5	2	3	3	2	2	3
High																		
Very scientific	na	na	na	na	na	3	3	4	4	6	na	3	3	3	6	3	4	4
Sort of scientific	na	na	na	na	na	22	21	24	23	25	na	17	19	21	24	17	24	21
Not at all scientific	na	na	na	na	na	74	75	71	72	68	na	78	76	74	70	78	71	74
Don't know	na	na	na	na	na	2	1	2	1	2	na	2	1	2	1	2	*	1
Understanding of scientific inquiry ^b																		
Understands scientific inquiry																		
Very scientific	na	na	na	na	na	na	2	3	4	4	2	4	3	2	5	3	5	3
Sort of scientific	na	na	na	na	na	na	24	26	22	29	19	19	18	24	26	20	23	26
Not at all scientific	na	na	na	na	na	na	74	70	73	66	78	75	77	73	68	76	72	69
Don't know	na	na	na	na	na	na	1	1	2	1	1	2	2	1	1	1	1	2
Doesn't understand scientific inquiry																		
Very scientific	na	na	na	na	na	na	9	9	9	12	8	5	6	11	12	7	11	9
Sort of scientific	na	na	na	na	na	na	29	31	32	33	31	31	33	32	35	32	34	38
Not at all scientific	na	na	na	na	na	na	55	53	53	49	58	58	56	54	48	57	51	49

TABLE S7-32

Public assessment of astrology, by respondent characteristic: 1979–2018

(Percent)

Characteristic	1979 (n = 1,635)	1983 (n = 1,615)	1985 (n = 1,986)	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 = 1,434)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
Don't know	na	na	na	na	na	na	6	7	7	6	3	5	5	4	5	4	4	5

* = < 0.5% responded. na = not applicable; question was not asked.

^a See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.

^b See notes to Table S7-28 for an explanation of scientific inquiry. Because 41 survey respondents in 2001 were not asked all the questions related to understanding of scientific inquiry, it is not possible to conclude whether they understood scientific inquiry.

Note(s)

Responses are to the following: *Would you say that astrology is very scientific, sort of scientific, or not at all scientific?* This table includes all years for which data were collected. Percentages may not add to 100% because of rounding.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1979–2001); University of Michigan, Survey of Consumer Attitudes (2004); NORC at the University of Chicago, General Social Survey (2006–18).

Science and Engineering Indicators

TABLE S7-33

Public interest in selected issues: 1979–2018

(Percent)

Issue	1979 (n = 1,635)	1981 (n = 3,192)	1983 (n = 1,615)	1985 (n = 1,986)	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)	2008 (n = 2,021)	2010 (n = 1,461)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
New medical discoveries																	
Very interested	na	na	na	68	72	68	66	69	70	68	65	58	60	58	59	60	56
Moderately interested	na	na	na	29	25	29	31	27	26	28	32	36	35	36	36	35	39
Not at all interested	na	na	na	3	3	3	3	4	4	4	4	6	5	5	5	5	5
Don't know or refused to answer	na	na	na	0	*	0	*	*	*	*	0	1	1	1	*	*	*
Local school issues																	
Very interested	38	46	46	47	51	50	54	57	58	54	59	46	54	51	50	44	50
Moderately interested	37	36	36	39	33	34	35	31	30	34	31	40	36	37	38	43	38
Not at all interested	25	18	18	14	15	16	12	12	11	12	10	15	9	11	12	13	12
Don't know or refused to answer	*	*	*	*	*	0	*	*	*	*	*	*	1	1	*	*	*
Environmental pollution																	
Very interested	na	na	na	na	na	64	59	52	52	51	48	47	46	45	43	42	45
Moderately interested	na	na	na	na	na	31	36	41	40	41	43	42	46	45	47	48	44
Not at all interested	na	na	na	na	na	5	5	6	8	8	8	10	7	9	10	10	11
Don't know or refused to answer	na	na	na	na	na	*	*	*	*	*	0	1	1	1	*	*	*
Use of new inventions and technologies																	
Very interested	33	33	42	39	40	39	37	43	47	41	42	40	40	42	43	42	40
Moderately interested	51	51	45	49	49	49	53	46	43	48	47	46	48	46	45	46	47
Not at all interested	15	16	12	12	12	12	10	11	10	10	10	13	10	11	12	12	13
Don't know or refused to answer	1	*	*	*	*	*	*	*	*	*	1	*	1	1	*	*	*
New scientific discoveries																	
Very interested	36	37	48	44	43	39	36	44	49	45	47	38	41	40	41	42	41

TABLE S7-33

Public interest in selected issues: 1979–2018

(Percent)

Issue	1979 (n = 1,635)	1981 (n = 3,192)	1983 (n = 1,615)	1985 (n = 1,986)	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)	2008 (n = 2,021)	2010 (n = 1,461)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
Moderately interested	49	45	41	43	46	49	49	45	42	43	45	47	50	45	46	42	44
Not at all interested	15	17	11	12	12	12	15	11	9	11	8	15	8	14	13	15	15
Don't know or refused to answer	1	*	*	*	0	0	*	*	*	1	*	*	1	1	*	*	*
Economic issues and business conditions																	
Very interested	35	52	57	48	48	51	56	47	47	42	45	46	44	49	43	39	41
Moderately interested	48	37	33	41	42	40	36	42	42	45	45	43	45	40	44	46	44
Not at all interested	17	10	10	11	10	10	8	11	11	13	10	11	10	10	13	14	15
Don't know or refused to answer	1	*	1	*	*	*	*	0	*	*	*	*	1	1	*	*	*
Military and defense policy																	
Very interested	na	na	43	47	47	55	47	37	35	42	38	38	37	37	35	34	32
Moderately interested	na	na	42	42	42	35	43	46	48	44	44	47	47	47	50	49	50
Not at all interested	na	na	15	11	11	9	10	17	18	14	17	15	15	15	15	17	18
Don't know or refused to answer	na	na	1	*	*	*	*	*	*	*	*	1	1	1	*	*	*
Space exploration																	
Very interested	na	25	27	29	34	26	22	25	32	28	26	21	23	23	23	24	25
Moderately interested	na	43	45	46	44	48	50	49	45	46	47	45	49	44	45	44	44
Not at all interested	na	31	28	25	22	26	28	26	22	25	27	34	27	32	31	31	30
Don't know or refused to answer	na	*	*	0	1	0	*	*	1	1	*	*	1	1	*	*	*
International and foreign policy issues																	
Very interested	22	35	30	33	33	48	38	21	23	30	28	23	22	21	23	21	22
Moderately interested	53	47	47	51	50	39	47	53	50	47	49	48	48	47	48	49	46

TABLE S7-33

Public interest in selected issues: 1979–2018

(Percent)

Issue	1979 (n = 1,635)	1981 (n = 3,192)	1983 (n = 1,615)	1985 (n = 1,986)	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)	2008 (n = 2,021)	2010 (n = 1,461)	2012 (n = 2,256)	2014 (n = 2,130)	2016 (n = 1,390)	2018 (n = 1,175)
Not at all interested	24	18	22	16	16	12	15	26	28	23	22	29	29	31	29	29	31
Don't know or refused to answer	1	*	*	*	*	*	*	*	*	*	*	1	2	1	1	*	*
Agricultural and farm issues																	
Very interested	23	24	na	30	40	24	na	21	24	22	29	22	25	22	24	21	20
Moderately interested	49	47	na	48	45	48	na	53	50	50	46	52	55	49	50	48	50
Not at all interested	28	29	na	22	15	28	na	26	26	28	25	26	20	28	26	30	30
Don't know or refused to answer	*	*	na	*	0	0	na	1	*	*	*	*	1	1	*	1	0

* = < 0.5% responded. na = not applicable; question was not asked.

Note(s)

Data represent respondents giving a response of "very interested" to the following: *There are a lot of issues in the news, and it is hard to keep up with every area. I'm going to read you a short list of issues, and for each one, I would like you to tell me if you are very interested, moderately interested, or not at all interested.* Percentages may not add to 100% because of rounding.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Public Attitudes Toward and Understanding of Science and Technology (1979–2001); NORC at the University of Chicago, General Social Survey (2008–18).

TABLE S7-34

Public interest in selected issues, by respondent characteristic: 2018

(Percent)

Characteristic	New medical discoveries			Local school issues			Environmental pollution			New scientific discoveries			Economic issues/ business conditions			Use of new inventions/ technologies			Military/ defense policy			Space exploration			International/ foreign policy issues			Agricultural/ farm issues		
	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested
All adults (n = 1,175)	56	39	5	50	38	12	45	44	11	41	44	15	41	44	15	40	47	13	32	50	18	25	44	30	22	46	31	20	50	30
Sex																														
Male (n = 485)	52	43	6	44	39	17	45	43	11	45	41	14	46	41	13	48	41	10	36	49	16	31	42	26	29	48	23	22	52	26
Female (n = 690)	59	37	4	55	36	8	44	45	11	38	46	16	37	46	17	33	52	15	29	50	20	21	46	33	18	45	37	18	49	32
Formal education																														
Less than high school diploma (n = 137)	52	37	11	50	34	16	42	39	19	27	39	33	29	41	30	23	47	30	35	36	28	21	33	47	8	39	53	25	41	34
High school diploma (n = 362)	52	43	5	47	41	12	43	45	12	34	42	23	35	48	17	37	47	16	34	50	16	23	41	36	15	48	37	22	47	31
Some college (n = 330)	59	38	3	54	33	13	41	49	10	43	48	9	43	43	14	41	48	11	33	51	16	27	47	26	22	47	31	20	54	26
Bachelor's degree (n = 232)	57	39	3	51	42	7	50	41	8	49	46	5	45	46	9	43	52	5	26	54	20	27	50	23	31	49	20	14	57	30
Graduate or professional degree (n = 114)	61	36	2	51	39	10	51	45	4	56	39	5	59	36	5	61	34	5	32	53	15	30	51	19	49	44	7	15	52	33
Science and mathematics education ^{a,b}																														
Low (n = 598)	54	41	5	51	35	13	43	45	13	35	45	20	37	44	19	33	50	17	37	47	16	24	41	35	18	44	38	24	49	28
Middle (n = 237)	57	40	3	55	36	9	49	41	10	44	46	10	43	45	12	41	48	11	29	50	21	23	49	27	21	48	30	17	51	33
High (n = 252)	61	36	3	44	43	13	47	46	7	55	41	4	46	46	8	55	41	4	28	55	17	30	51	19	37	50	14	14	54	32
Family income (quartile) ^b																														
Bottom (n = 277)	58	35	8	42	42	16	48	39	13	39	43	18	31	45	23	41	42	17	33	44	23	32	35	32	22	36	42	23	44	32
Third (n = 223)	55	40	5	55	37	8	49	40	11	42	41	17	35	52	13	36	48	16	35	52	14	26	48	26	13	53	34	25	51	25

TABLE S7-34

Public interest in selected issues, by respondent characteristic: 2018

(Percent)

Characteristic	New medical discoveries			Local school issues			Environmental pollution			New scientific discoveries			Economic issues/ business conditions			Use of new inventions/ technologies			Military/ defense policy			Space exploration			International/ foreign policy issues			Agricultural/ farm issues		
	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested	Very interested	Moderately interested	Not at all interested
Second (n = 290)	57	39	4	55	35	10	41	49	10	40	46	14	39	48	12	37	54	9	31	53	16	25	44	31	21	48	31	17	53	30
Top (n = 287)	53	45	2	54	36	10	43	48	8	45	47	9	52	39	9	44	49	7	30	52	18	22	52	25	30	50	19	17	53	30
Age (years) ^b																														
18-24 (n = 94)	50	45	5	38	53	9	41	52	7	40	40	20	30	58	12	39	45	15	26	56	18	31	44	25	16	54	30	8	47	45
25-34 (n = 225)	56	39	5	54	39	7	45	42	13	41	41	19	35	42	23	46	41	12	26	48	26	29	34	38	18	42	40	21	48	30
35-44 (n = 206)	50	44	6	67	25	9	42	44	14	46	38	16	50	38	12	38	49	12	36	42	22	24	45	31	24	46	30	26	46	28
45-54 (n = 190)	50	47	3	59	30	11	42	49	8	33	58	8	41	49	10	36	56	8	28	57	15	23	46	31	15	53	32	17	54	29
55-64 (n = 186)	60	35	6	44	39	17	44	44	12	41	45	14	44	42	14	43	42	15	29	55	16	26	46	27	24	48	29	22	52	26
65 or older (n = 269)	68	28	4	36	45	19	51	39	10	42	41	17	40	42	18	35	48	17	43	44	12	22	51	27	35	39	26	20	52	29
Correct answers to questions about basic scientific facts ^c																														
Low (n = 227)	52	38	10	56	31	13	37	43	19	27	42	30	39	38	22	29	47	23	30	47	23	17	35	48	14	43	44	21	44	35
Middle (n = 512)	58	39	3	53	38	10	44	46	10	36	47	16	39	46	15	35	52	13	34	48	18	21	46	32	16	45	39	21	50	29
High (n = 436)	56	40	4	45	41	14	49	43	8	52	41	7	43	44	12	51	41	8	30	53	17	34	46	20	34	50	16	18	54	29

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *There are a lot of issues in the news, and it is hard to keep up with every area. I'm going to read you a short list of issues, and for each one, I'd like you to tell me if you are very interested, moderately interested, or not at all interested.* Percentages may not add to 100% because of rounding and because responses of "don't know" and refusals to respond are not shown.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

TABLE S7-35

Primary source of information about current news events, by respondent characteristic: 2018

(Percent)

Characteristic	Internet	Television	Newspaper	Radio	Family	Friend or colleague	Government agency	Library	Book or other print	Magazine	Don't know
All adults (n = 1,175)	47	35	6	6	3	2	*	*	*	*	*
Sex											
Male (n = 485)	47	35	6	7	3	1	*	*	*	*	*
Female (n = 690)	47	36	6	5	3	3	1	*	*	*	0
Formal education											
Less than high school diploma (n = 137)	29	57	4	3	4	1	2	0	0	1	0
High school diploma (n = 362)	45	38	4	6	3	3	0	0	1	0	0
Some college (n = 330)	54	30	4	5	4	2	*	1	*	0	*
Bachelor's degree (n = 232)	46	31	9	8	2	3	0	0	*	*	0
Graduate or professional degree (n = 114)	56	23	13	7	1	0	1	0	*	*	0
Science and mathematics education ^{a,b}											
Low (n = 598)	40	44	6	5	2	2	*	0	*	*	*
Middle (n = 237)	56	25	6	5	4	2	1	1	0	0	0
High (n = 252)	58	24	7	6	3	1	0	1	*	*	0
Family income (quartile) ^b											
Bottom (n = 277)	39	47	2	5	3	2	0	0	1	*	0
Third (n = 223)	51	32	6	3	4	1	0	2	1	0	*
Second (n = 290)	57	27	5	5	2	2	1	*	0	0	0
Top (n = 287)	45	34	7	8	3	1	*	0	0	*	0
Age (years) ^b											
18–24 (n = 94)	73	17	1	4	4	*	1	0	0	0	0
25–34 (n = 225)	71	17	*	4	3	4	0	1	0	0	0
35–44 (n = 206)	56	24	5	6	4	3	1	0	1	0	0
45–54 (n = 190)	40	44	3	7	2	*	1	1	*	*	*
55–64 (n = 186)	34	46	8	7	2	3	0	0	*	0	0
65 or older (n = 269)	16	59	15	6	2	1	0	0	1	*	0
Verbal ability ^c											
0–4 (n = 256)	37	43	4	5	5	4	1	0	1	*	0
5 (n = 210)	38	46	4	5	1	4	*	1	*	0	*
6 (n = 254)	53	32	3	8	2	1	0	0	0	0	0
7 (n = 205)	55	31	4	4	4	*	0	1	0	*	0
8–10 (n = 250)	53	24	13	7	2	*	*	*	1	0	*
Correct answers to questions about basic scientific facts ^d											

TABLE S7-35

Primary source of information about current news events, by respondent characteristic: 2018

(Percent)

Characteristic	Internet	Television	Newspaper	Radio	Family	Friend or colleague	Government agency	Library	Book or other print	Magazine	Don't know
Low (<i>n</i> = 227)	38	47	7	3	2	2	1	0	0	0	0
Middle (<i>n</i> = 512)	44	39	3	6	4	3	*	1	*	0	*
High (<i>n</i> = 436)	55	26	8	6	2	1	*	0	*	*	0

* = < 0.5% responded.

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c Measure is based on correct responses to a 10-item, multiple-choice test of vocabulary knowledge completed by 1,390 survey respondents. Categories represent the number of correct responses.

^d See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *We are interested in how people get information about events in the news. Where do you get most of your information about current news events?* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-36

Primary source of information about science and technology, by respondent characteristic: 2018

(Percent)

Characteristic	Internet	Television	Magazine	Newspaper	Book or other print	Friend or colleague	Family	Radio	Government agency	Library	Don't know
All adults (n = 1,175)	57	22	4	4	3	3	3	2	1	1	*
Sex											
Male (n = 485)	57	22	5	3	3	3	2	2	2	*	*
Female (n = 690)	57	22	4	4	3	3	3	2	0	1	*
Formal education											
Less than high school diploma (n = 137)	32	47	3	4	1	3	5	2	1	1	1
High school diploma (n = 362)	54	27	4	3	3	3	2	3	1	1	*
Some college (n = 330)	62	18	5	1	3	3	4	2	2	*	*
Bachelor's degree (n = 232)	66	12	5	7	4	2	2	1	0	1	0
Graduate or professional degree (n = 114)	71	8	4	6	6	2	2	0	1	0	0
Science and mathematics education ^{a,b}											
Low (n = 598)	47	30	5	4	4	3	3	2	0	1	*
Middle (n = 237)	68	12	5	4	1	2	3	2	2	1	*
High (n = 252)	72	12	4	4	5	1	1	0	1	*	0
Family income (quartile) ^b											
Bottom (n = 227)	47	33	4	2	4	3	3	1	1	2	*
Third (n = 223)	57	22	4	4	4	3	6	*	0	0	0
Second (n = 290)	62	20	4	3	3	3	3	1	1	1	*
Top (n = 287)	65	16	5	5	4	3	1	2	0	1	0
Age (years) ^b											
18–24 (n = 94)	74	15	1	*	1	2	1	1	2	2	*
25–34 (n = 225)	78	9	1	2	1	5	2	2	0	0	*
35–44 (n = 206)	68	16	6	2	1	1	2	1	1	2	0
45–54 (n = 190)	57	23	3	3	4	4	4	2	0	1	*
55–64 (n = 186)	49	31	8	2	4	2	2	1	1	*	1
65 or older (n = 269)	25	40	8	11	9	1	4	2	1	0	*
Correct answers to questions about basic scientific facts ^c											
Low (n = 227)	42	38	4	5	2	4	3	1	0	*	1
Middle (n = 512)	53	27	3	3	3	3	3	2	1	1	*
High (n = 436)	70	10	6	4	4	1	2	2	1	1	*

* = < 0.5% responded.

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to **Table S7-1** for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *We are interested in how people get information about science and technology. Where do you get most of your information about science and technology?* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-37

Primary source of information about specific scientific issues, by respondent characteristic: 2018

(Percent)

Characteristic	Internet	Television	Book or other print	Newspaper	Magazine	Family	Government agency	Friend or colleague	Radio	Library	Don't know
All adults (n = 1,175)	70	11	7	2	2	2	2	1	1	1	1
Sex											
Male (n = 485)	71	11	6	2	2	2	3	1	1	1	1
Female (n = 690)	70	12	8	2	2	2	1	1	1	1	1
Formal education											
Less than high school diploma (n = 137)	54	25	5	5	2	2	4	*	0	0	3
High school diploma (n = 362)	68	14	7	2	2	2	1	1	1	*	1
Some college (n = 330)	72	7	7	2	3	3	2	2	2	1	*
Bachelor's degree (n = 232)	77	7	10	1	1	1	*	0	1	1	1
Graduate or professional degree (n = 114)	77	6	6	3	1	2	2	1	1	1	0
Science and mathematics education ^{a,b}											
Low (n = 598)	65	15	8	3	2	2	2	1	1	*	1
Middle (n = 237)	75	7	5	1	2	3	2	*	1	1	1
High (n = 252)	79	5	9	2	1	1	1	*	1	1	0
Family income (quartile) ^b											
Bottom (n = 277)	60	16	8	3	2	3	3	1	*	1	1
Third (n = 223)	69	10	11	1	1	4	2	1	1	*	1
Second (n = 290)	75	8	7	2	2	2	1	2	1	1	*
Top (n = 287)	79	9	5	1	2	1	1	*	1	*	1
Age (years) ^b											
18–24 (n = 94)	79	1	12	3	1	0	3	*	0	1	0
25–34 (n = 225)	85	4	3	*	1	1	2	2	*	0	1
35–44 (n = 206)	79	9	6	*	1	1	2	0	1	1	0
45–54 (n = 190)	73	11	6	1	2	3	1	2	0	1	1
55–64 (n = 186)	70	12	8	4	2	1	0	1	2	0	*
65 or older (n = 269)	39	26	10	6	5	4	3	1	2	1	3
Trend factual knowledge of science scale (quartile) ^c											
Low (n = 227)	62	20	5	5	1	1	1	1	*	1	2
Middle (n = 512)	65	13	9	2	3	3	3	1	1	1	1
High (n = 436)	80	5	7	2	2	1	1	1	1	*	1

* = < 0.5% responded.

^a For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^c See notes to **Table S7-1** for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *If you wanted to learn about scientific issues such as global warming or biotechnology, where would you get information?* Percentages may not add to 100% because of rounding.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-38

Visitors to informal science institutions, by respondent characteristic: 2018

(Percent)

Characteristic	Informal science institution			
	Zoo or aquarium	Natural history museum	Science or technology museum	Any informal science institution ^a
All adults (n = 1,175)	50	30	30	61
Sex				
Male (n = 485)	48	29	31	58
Female (n = 690)	52	30	30	64
Formal education				
Less than high school diploma (n = 137)	32	16	14	37
High school diploma (n = 362)	45	22	24	52
Some college (n = 330)	60	33	29	73
Bachelor's degree (n = 232)	55	35	43	68
Graduate or professional degree (n = 114)	51	49	49	75
Science and mathematics education ^{b,c}				
Low (n = 598)	42	21	20	50
Middle (n = 237)	61	35	38	72
High (n = 252)	59	45	50	78
Family income (quartile) ^c				
Bottom (n = 277)	39	20	26	48
Third (n = 223)	45	23	25	54
Second (n = 290)	60	33	24	71
Top (n = 287)	53	39	45	69
Age (years) ^c				
18–24 (n = 94)	64	34	34	75
25–34 (n = 225)	64	35	36	75
35–44 (n = 206)	62	35	39	73
45–54 (n = 190)	46	26	30	60
55–64 (n = 186)	43	26	27	54
65 or older (n = 269)	25	21	15	35
Correct answers to questions about basic scientific facts ^d				
Low (n = 227)	41	16	15	47
Middle (n = 512)	50	24	26	58
High (n = 436)	55	42	43	71

^a The respondent visited a zoo or aquarium, a natural history museum, or a science or technology museum at least once.

^b For science and mathematics education, "low" equates to five or fewer high school and college science or mathematics courses, "middle" is six through eight courses, and "high" means nine or more courses.

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

^d See notes to Table S7-1 for an explanation of the questions asked about basic scientific facts.

Note(s)

Responses are to the following: *I am going to read you a short list of places and ask you to tell me how many times you visited each type of place during the last year, that is, the last 12 months.* Percentages indicate individuals who visited an institution at least once. Percentages are based on the n in each row, including those who responded "don't know" or refused to respond.

Source(s)

NORC at the University of Chicago, General Social Survey (2018).

Science and Engineering Indicators

TABLE S7-39

Respondent characteristics: 2018

(Percent)

Characteristic	Respondents to GSS science questions			All respondents to the 2018 GSS		
	All adults (n = 1,175)	Male (n = 485)	Female (n = 690)	All adults (n = 2,348)	Male (n = 1,052)	Female (n = 1,296)
Educational attainment						
Less than high school graduate	13	13	13	12	12	12
High school graduate	30	29	30	29	30	28
Some college or associate's degree	29	30	28	29	28	29
Bachelor's degree	20	19	20	20	20	21
Advanced degree	9	9	10	11	11	10
Household income^a						
Under \$5,000	4	3	4	4	4	3
\$5,000 to \$9,999	3	3	4	3	3	4
\$10,000 to \$14,999	5	6	4	5	5	5
\$15,000 to \$19,999	3	3	4	3	3	4
\$20,000 to \$24,999	7	7	7	6	5	7
\$25,000 to \$34,999	7	7	7	8	7	8
\$35,000 to \$49,999	12	12	11	11	11	10
\$50,000 to \$74,999	20	19	21	19	19	19
\$75,000 and over	40	40	38	42	44	39
Age (years)						
18–20	4	4	5	4	4	4
21–44	43	42	45	45	44	45
45–64	34	35	33	33	32	33
65 or older	19	20	18	19	20	17
Marital status						
Married	50	49	51	49	49	49
Widowed	6	5	8	6	4	8
Divorced	14	12	15	14	12	15
Separated	2	2	2	3	2	3
Never married	27	32	24	29	33	26

GSS = General Social Survey.

^a Approximately 10% of all respondents declined to provide a household income.**Source(s)**

NORC at the University of Chicago, GSS (2018).