Appendix table 8-1.
Level of public interest in selected policy issues: 1979–99 (selected years)

	1979			1981			1983			1985			1988			1990			1992			1995			1997			1999		
Issue	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI
New medical discoveries	—	—	—	—	—	—	—	—	—	68	29	3	72	25	3	68	29	3	66	31	3	69	27	4	70	26	4	68	28	4
Local school issues	38	37	25	46	36	18	46	36	18	47	39	13	51	33	15	50	34	16	53	35	12	57	31	13	58	30	11	54	34	12
Environmental pollution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	64	31	5	59	36	5	53	41	6	52	40	8	51	41	8
Issues about new scientific discoveries	36	49	14	37	45	17	48	40	11	44	44	12	43	46	12	39	48	12	36	49	15	44	45	11	49	42	8	45	43	11
Military and defense policy	—	—	—	—	—	—	43	42	15	47	42	11	47	42	11	55	35	10	47	43	10	37	46	17	35	48	17	42	44	14
Economic issues and business conditions	35	48	17	52	37	10	57	33	10	48	41	11	48	42	10	50	40	10	56	36	8	47	42	11	47	42	11	42	45	13
The use of new inventions and technologies	33	51	15	33	50	16	42	45	12	39	49	12	40	48	12	39	49	12	37	53	10	43	46	11	47	43	10	41	48	10
International and foreign policy issues	22	53	24	35	47	18	30	47	22	33	51	16	33	50	16	48	40	12	38	47	15	21	53	26	22	50	28	30	47	23
The use of nuclear energy to generate electricity[a]	—	—	—	—	—	—	—	—	—	—	—	—	38	46	16	42	44	14	32	49	18	29	49	21	29	49	21	30	51	19
Space exploration	—	—	—	25	44	31	27	45	28	29	46	25	34	44	22	26	48	26	22	50	28	25	49	26	32	45	22	28	46	25
Agricultural and farm issues	23	49	28	24	47	28	—	—	—	30	48	22	40	45	15	24	48	28	—	—	—	21	53	26	24	50	26	22	50	28
Sample size	1,635			3,195			1,631			2,005			2,041			2,033			2,001			2,006			2,000			1,882		

VI = very interested; MI = moderately interested; NI = not interested; — = not asked

NOTES: Responses are to the statement: "There are a lot of issues in the news, and it is hard to keep up with every area. I'm going to read to you a short list of issues, and for each one—as I read it—I would like you to tell me if you are very interested, moderately interested, or not at all interested. "Don't know" responses are not included. Percentages may not total 100 because of rounding.

[a]In 1990, 1992, 1995, 1997, and 1999, the question was worded "...issues about the use of nuclear energy to generate electricity." In 1988, the question was worded "...issues about the use of nuclear power to generate electricity."

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-4 in Volume 1.

Appendix table 8-2.
Level of public interest in selected policy issues: 1979–99 (selected years)
(Mean index scores)

	1979	1981	1983	1985	1988	1990	1992	1995	1997	1999
New medical discoveries	—	—	—	83	85	83	82	83	83	82
Environmental pollution	—	—	—	—	—	80	77	74	72	71
Local school issues	57	64	64	67	68	67	71	72	73	71
Issues about new scientific discoveries	61	60	68	66	66	63	61	67	70	67
The use of new inventions and technologies	59	58	65	64	64	64	64	66	69	65
Economic issues and business conditions	59	71	74	69	69	70	74	68	68	65
Military and defense policy	—	—	64	68	70	73	68	60	59	64
International and foreign policy issues	49	59	54	59	58	68	62	48	47	53
The use of nuclear energy to generate electricity[a]	—	—	—	—	61	64	57	54	54	55
Space exploration	—	47	50	52	56	50	47	50	55	51
Agricultural and farm issues	48	48	—	54	63	48	—	47	49	47
Sample size	1,635	3,195	1,631	2,005	2,041	2,033	2,001	2,006	2,000	1,882

— = not asked

NOTE: Respondents were read the following statement: "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—as I read it—I would like you to tell me if you are very interested, moderately interested, or not at all interested." Responses were converted to a 0–100 scale by assigning a value of 100 for a "very interested" response, a value of 50 for a "moderately interested" response, and a value of 0 for a "not at all interested" response. Indices were obtained by adding all the values for each policy issue and taking the average.

[a]In 1990, 1992, 1995, 1997, and 1999, the question was worded "…issues about the use of nuclear energy to generate electricity." In 1988, the question was worded "...issues about the use of nuclear power to generate electricity."

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology*, *1979–1999*, *Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-1 in Volume 1.

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Appendix table 8-3.
Level of public interest in selected policy issues, by sex and level of education: 1999
(Mean index scores)

Sex and level of education	New medical discoveries	Environmental pollution	Local school issues	Issues about new scientific discoveries	The use of new inventions and technologies	Economic issues and business conditions	Military and defense policy	International and foreign policy issues	The use of nuclear energy to generate electricity	Space exploration	Agricultural and farm issues	Sample size
All adults	82	71	71	67	65	65	64	53	55	51	47	1,882
Sex												
Male	77	69	65	70	72	69	68	59	58	59	45	900
Female	87	74	75	64	59	61	60	48	52	44	48	982
Formal education												
Less than high school	81	68	67	56	56	57	59	43	59	41	50	403
High school graduate	82	72	73	67	66	64	64	52	52	51	46	1,111
Baccalaureate degree	82	71	66	76	74	73	67	67	58	61	45	239
Graduate/professional degree	86	77	70	83	74	76	70	76	54	66	44	129
Science/mathematics education[a]												
Low	82	70	72	61	60	62	63	49	55	44	50	1,051
Middle	82	71	70	71	69	67	64	55	53	56	39	480
High	83	75	67	80	76	71	65	65	56	65	46	351

NOTES: Respondents were read the following statement: "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—as I read it—I would like you to tell me if you are very interested, moderately interested, or not at all interested." Responses were converted to a 0–100 scale by assigning a value of 100 for a "very interested" response, a value of 50 for a "moderately interested" response, and a value of 0 for a "not at all interested" response. Indices were obtained by adding all the values for each policy issue and taking the average.

[a]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-2 in Volume 1.

Appendix table 8-4.
How well informed Americans think they are about selected policy issues: 1979–99 (selected years)
(Percentages)

	1979			1981			1983			1985			1988			1990			1992			1995			1997			1999		
Issue	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI	VI	MI	NI
Local school issues	20	48	32	32	45	22	34	41	25	30	47	22	33	44	23	32	46	21	32	46	22	36	46	18	38	44	17	35	47	18
New medical discoveries	—	—	—	—	—	—	—	—	—	24	57	18	22	59	19	24	57	20	22	58	21	23	57	20	28	56	16	25	56	19
Economic issues and business conditions	14	55	31	29	51	20	28	52	20	22	51	26	22	55	22	25	55	20	29	54	17	25	53	22	25	51	24	23	53	24
Military and defense policy	—	—	—	—	—	—	21	50	29	21	48	31	17	51	32	26	51	23	24	51	25	17	47	36	18	42	40	21	46	33
Environmental pollution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32	55	13	29	56	15	24	56	20	23	55	21	21	54	25
Issues about new scienctific discoveries	10	52	37	13	49	38	13	53	34	13	59	27	14	55	31	14	55	31	12	54	34	13	58	29	19	58	23	17	56	28
The use of new inventions and technologies	10	50	39	11	48	40	14	55	32	12	54	34	12	51	36	11	53	35	10	56	33	12	55	33	16	56	28	17	53	30
International and foreign policy issues	8	54	37	17	54	28	14	51	35	15	53	32	14	55	31	22	57	22	19	54	26	10	52	37	10	52	38	14	52	34
Space exploration	—	—	—	14	46	40	13	52	34	16	52	32	13	52	34	11	51	38	9	48	44	9	48	43	16	50	34	13	48	40
The use of nuclear energy to generate electricity[a]	—	—	—	—	—	—	—	—	—	—	—	—	13	47	39	12	50	38	10	43	46	9	40	51	10	41	49	11	35	54
Agricultural and farm issues	10	44	45	14	42	44	—	—	—	17	47	35	20	52	27	13	46	42	—	—	—	11	47	42	13	49	38	11	43	45
Sample size	1,635			3,195			1,631			2,005			2,041			2,033			2,001			2,006			2,000			1,882		

VI = very well informed; MI = moderately well informed; NI = poorly informed; — = not asked

NOTES: Responses are to the statement: "Now I'd like to go through this list with you again, and for each issue I'd like you to tell me if you are very well informed, moderately well informed, or poorly informed." "Don't know" responses are not included. Percentages may not total 100 because of rounding.

[a]In 1990, 1992, 1995, 1997, and 1999, the question was worded "…issues about the use of nuclear energy to generate electricity." In 1988, the question was worded "…issues about the use of nuclear power to generate electricity."

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, *1979–1999,* Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-7 in Volume 1.

Appendix table 8-5.
How well informed Americans think they are about selected policy issues: 1979–99 (selected years)
(Mean index scores)

	1979	1981	1983	1985	1988	1990	1992	1995	1997	1999
Local school issues	44	55	54	54	55	55	55	59	61	58
New medical discoveries	—	—	—	53	52	53	51	52	56	53
Economic issues and business conditions	42	55	54	48	50	53	56	52	51	50
Environmental pollution	—	—	—	—	—	60	57	52	51	48
Issues about new scientific discoveries	36	38	40	43	42	42	39	42	48	44
Military and defense policy	—	—	46	45	43	51	49	40	39	44
The use of new inventions and technologies	35	35	42	39	38	38	38	40	44	43
International and foreign policy issues	35	44	40	42	42	51	46	36	36	40
Space exploration	—	37	39	42	39	37	33	33	41	37
Agricultural and farm issues	33	35	—	41	46	36	—	35	38	33
The use of nuclear energy to generate electricity[a]	—	—	—	—	37	37	32	29	31	29
Sample size	1,635	3,195	1,631	2,005	2,041	2,033	2,001	2,006	2,000	1,882

— = not asked

NOTE: Respondents were read the following statement: "Now, I'd like to go through this list with you again, and for each issue I'd like you to tell me if you are very well informed, moderately well informed, or poorly informed." Responses were converted to a 0–100 scale by assigning a value of 100 for a "very well informed" response, a value of 50 for a "moderately well informed" response, and a value of 0 for a "poorly informed" response. Indices were obtained by adding all the values for each policy issue and taking the average.

[a]In 1990, 1992, 1995, 1997, and 1999, the question was worded "…issues about the use of nuclear energy to generate electricity." In 1988, the question was worded "…issues about the use of nuclear power to generate electricity."

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-1 in Volume 1.

Appendix table 8-6.
How well informed Americans think they are about selected policy issues, by sex and level of education: 1999
(Mean index scores)

Sex and level of education	Local school issues	New medical discoveries	Economic issues and business conditions	Environmental pollution	Issues about new scientific discoveries	Military and defense policy	The use of new inventions and technologies	International and foreign policy issues	Space exploration	Agricultural and farm issues	The use of nuclear energy to generate electricity	Sample size
All adults	58	53	50	48	44	44	43	40	37	33	29	1,882
Sex												
Male	54	50	57	48	50	51	49	47	44	34	34	900
Female	62	56	43	48	40	38	38	34	29	32	24	982
Formal education												
Less than high school	56	52	40	47	36	42	40	35	32	40	38	403
High school graduate	60	52	49	48	44	44	42	39	36	32	26	1,111
Baccalaureate degree	54	54	60	51	54	45	48	48	41	27	26	239
Graduate/professional degree	60	63	65	52	59	50	51	54	45	27	27	129
Science/mathematics education[a]												
Low	59	53	45	47	39	44	40	36	33	37	31	1,051
Middle	60	51	53	49	46	45	44	45	38	28	25	480
High	55	58	59	52	57	44	49	46	44	26	27	351

NOTE: Respondents were read the following statement: "Now, I'd like to go through this list with you again, and for each issue I'd like you to tell me if you are very well informed, moderately well informed, or poorly informed." Responses were converted to a 0–100 scale by assigning a value of 100 for a "very well informed" response, a value of 50 for a "moderately well informed" response, and a value of 0 for a "poorly informed" response. Indices were obtained by adding all the values for each policy issue and taking the average.

[a]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-7 in Volume 1.

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Appendix table 8-7.
Public attentiveness to selected policy issues: 1979–99 (selected years)
(Percentages)

Issue	1979			1981			1983			1985			1988			1990			1992			1995			1997			1999		
	AP	IP	RP	AP	IP	RP	AP	IP	RP	AP	IP	RP	AP	IP	RP	AP	IP	RP	AP	IP	RP	AP	IP	RP	AP	IP	RP	AP	IP	RP
International and foreign policy issues	6	16	78	6	29	65	8	23	70	8	25	67	8	25	67	14	34	52	11	27	62	5	16	79	5	18	77	7	23	70
Issues about new scientific discoveries	7	29	64	9	28	63	9	40	52	8	36	56	8	34	57	8	31	61	7	29	64	7	37	56	11	38	51	8	37	55
The use of new inventions and technologies[b]	6	27	67	8	26	67	8	34	58	8	31	61	7	33	60	7	32	61	6	30	63	6	37	57	9	38	53	7	34	59
Science and technology[a]	9	37	54	12	35	54	13	48	39	12	44	45	11	42	46	11	40	49	10	40	50	10	47	43	14	46	40	12	44	44
Space exploration	—	—	—	7	18	75	7	20	73	9	20	71	8	26	66	6	20	74	5	17	78	5	20	75	8	24	68	6	22	72
The use of nuclear energy to generate electricity[b]	—	—	—	—	—	—	—	—	—	—	—	—	8	30	62	8	34	58	6	26	68	4	25	71	4	25	71	6	23	71
New medical discoveries	—	—	—	—	—	—	—	—	—	17	51	32	16	56	28	16	52	32	17	49	34	16	53	31	19	52	29	16	52	32
Environmental pollution[a]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20	43	36	18	41	41	12	40	48	12	40	48	10	41	49
Economic issues and business conditions	9	26	65	12	40	48	19	38	43	16	32	52	15	33	52	17	34	50	19	38	44	15	32	53	14	32	54	12	30	58
Agriculture	5	18	77	3	21	76	—	—	—	9	21	70	9	31	60	6	18	76	—	—	—	5	16	79	5	18	77	6	16	78
Military and defense	—	—	—	—	—	—	14	29	57	13	34	53	16	56	28	16	39	45	16	31	53	8	29	63	9	26	65	10	32	58
Sample size	1,635			3,195			1,631			2,005			2,041			2,033			2,001			2,006			2,000			1,882		

AP = attentive public; IP = interested public; RP = residual public; — = not asked

NOTES: Responses are to the statement: "There are a lot of issues in the news, and it is hard to keep up with every area. I'm going to read to you a short list of issues and for each one—as I read it—I would like you to tell me if you are interested, moderately interested, or not at all interested." "Now I'd like to go through this list with you again, and for each issue I'd like you to tell me if you are very well-informed, moderately well informed, or poorly informed." "Now let me change the topic slightly and ask you how you get information. First, how often do you read a newspaper: every day, a few times a week, once a week, or less than once a week? Are there any magazines that you read regularly, that is, most of the time? What magazine would that be? Is there another magazine that you read regularly? What magazine would that be?" Percentages may not total 100 because of rounding.

To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area.

[a]The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

[b]In 1990, 1992, 1995, 1997, and 1999, the question was worded "…issues about the use of nuclear energy to generate electricity." In 1988, the question was worded "…issues about the use of nuclear power to generate electricity."

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-9 in Volume 1.

Appendix table 8-8.
Public attentiveness to scientific and technological issues, by sex and level of education: 1999
(Percentages)

Sex and level of education	Issues about new scientific discoveries		The use of new inventions and technologies		Science/ technology[a]		New medical discoveries		Space exploration		The use of nuclear energy to generate electricity		Environmental pollution		Sample size
	AP	IP	AP	IP	AP	IP	AP	IP	AP	IP	AP	IP	AP	IP	
All adults	8	37	7	34	12	44	16	52	6	21	6	23	10	41	1,882
Sex															
Male	12	38	11	40	16	47	14	45	10	29	9	24	12	35	900
Female	5	35	4	29	7	42	18	58	3	16	4	22	9	46	982
Formal education															
Less than high school	7	28	6	28	9	33	14	55	5	18	14	27	10	39	403
High school graduate	7	37	6	34	10	46	14	53	6	22	4	21	9	42	1,111
Baccalaureate degree	13	44	10	43	16	52	20	47	9	26	5	28	12	39	239
Graduate/professional degree	18	49	13	40	23	50	32	41	11	27	6	16	21	37	129
Science/mathematics education[b]															
Low	6	32	6	30	9	40	16	53	5	19	7	24	9	41	1,051
Middle	10	40	7	37	12	47	13	53	7	23	6	22	11	40	480
High	15	46	12	43	19	54	21	47	11	30	6	22	15	39	351

AP = attentive public; IP = interested public

NOTES: Responses are to the statement: "There are a lot of issues in the news, and it is hard to keep up with every area. I'm going to read to you a short list of issues, and for each one—as I read it—I would like you to tell me if you are interested, moderately interested, or not at all interested." "Now, I'd like to go through this list with you again, and for each issue I'd like you to tell me if you are very well informed, moderately well informed, or poorly informed." "How often do you read a newspaper: everyday, a few times a week, once a week, or less than once a week?" "Are there any magazines that you read regularly, that is, most of the time? What magazine would that be? Is there another magazine that you read regularly? What magazine would that be?"

To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and that he or she regularly read a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area.

[a]The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

[b]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-3 in Volume 1.

Appendix table 8-9.
U.S. public understanding of science vocabulary and concepts, by selected characteristics: 1999
(Percentages)

Sex and level of education	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	Size
All adults	81	71	85	66	43	46	45	33	80	45	93	51	57	75	72	49	29	13	16	11	1,882
Formal education																					
Less than high school	73	47	77	53	24	33	21	27	72	41	85	44	35	63	48	24	9	4	1	1	403
High school graduate	82	73	87	67	42	43	46	31	79	42	95	49	59	76	74	49	27	11	15	9	1,111
Baccalaureate	87	87	90	75	65	68	65	44	89	58	96	65	74	85	90	70	53	29	37	23	239
Graduate/professional	85	92	88	78	70	74	76	54	92	66	96	72	73	89	95	81	63	33	34	36	129
Science/mathematics education[a]																					
Low	74	61	82	61	30	33	34	28	76	38	91	44	50	68	60	33	13	5	7	5	1,051
Middle	88	80	90	66	51	55	52	34	80	48	96	54	59	83	83	62	39	14	22	11	480
High	89	88	90	81	71	74	71	47	92	64	97	68	72	86	94	78	63	37	36	28	351
Sex																					
Male	86	75	90	55	59	54	41	40	84	53	93	51	62	86	79	58	34	18	21	16	900
Female	76	66	82	76	29	39	49	27	76	38	94	51	52	66	66	40	24	9	12	6	982
Attentiveness to science or technology[b]																					
Attentive public	88	84	83	63	59	60	54	52	93	62	97	58	64	81	85	64	40	25	22	19	216
Interested public	82	73	87	68	48	51	51	36	84	48	94	52	63	78	77	53	33	13	20	12	836
Residual public	77	65	84	65	34	38	37	25	73	39	92	49	48	71	64	41	22	10	12	7	830

NOTES: Responses are correct for the following statements:
A = The center of the earth is very hot. (True);
B = All radioactivity is man-made. (False);
C = The oxygen we breathe comes from plants. (True);
D = It is the father's gene which decides whether the baby is a boy or a girl. (True);
E = Lasers work by focusing sound waves. (False);
F = Electrons are smaller than atoms. (True);
G = Antibiotics kill viruses as well as bacteria. (False);
H = The universe began with a huge explosion. (True);
I = The continents on which we live have been moving their location for millions of years and will continue to move in the future. (True);
J = Human beings, as we know them today, developed from earlier species of animals. (True);
K = Cigarette smoking causes lung cancer. (True)
L = The earliest humans lived at the same time as the dinosaurs. (False)
M = Radioactive milk can be made safe by boiling it. (False)
N = Which travels faster: light or sound? (Light)
O = Does the Earth go around the Sun, or does the Sun go around the Earth? (Earth around the Sun)
P = How long does it take for the Earth to go around the Sun: one day, one month, or one year? (One year)
Q = Please tell me in your own words, what is DNA?
R = Please tell me in your own words, what is a molecule?
S = Please tell me in your own words, what is the Internet?
T = Please tell me in your own words, what is radiation?

[a]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

[b]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it; and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-4 in Volume 1.

Appendix table 8-10.
Mean score on Index of Scientific Construct Understanding, by selected characteristics: 1999
(Mean index scores)

All adults	58
Formal education	
Less than high school	44
High school graduate	58
Baccalaureate	74
Graduate/professional	80
Science/mathematics education[a]	
Low	48
Middle	64
High	79
Sex	
Male	65
Female	52
Attentiveness to science or technology[b]	
Attentive public	69
Interested public	61
Residual public	53

NOTES: The Index of Scientific Construct Understanding is a composite measure of the public understanding of scientific terms and concepts. In 1999, this measure included responses to the following true and false questions: "All radioactivity is man-made"; "Electrons are smaller than atoms"; "The earliest humans lived at the same time as the dinosaurs"; "The continents on which we live have been moving their location for millions of years and will continue to move in the future." The following short-answer items were also included: "Which travels faster: light or sound?"; "Does the Earth go around the Sun, or does the Sun go around the Earth?"; "How long does it take for the Earth to go around the Sun: one day, one month, or one year?" Coded verbatim responses to open-ended questions were also included. "Please tell me, in your own words, what is DNA?"; "Please tell me, in your own words, what is a molecule?"; and "Please tell me, in your own words, what is radiation?"

[a]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

[b]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it; and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-5 in Volume 1.

Appendix table 8-11.
Public understanding of the nature of scientific inquiry, by selected characteristics: 1999

Sex & level of education	Inquiry	Scientific study	Experiment	Probability
All adults	26	21	35	55
Sex				
Male	28	20	36	59
Female	24	22	33	51
Formal Education				
Less than high school	4	6	14	31
High school graduate	26	19	34	58
Baccalaureate	51	44	60	75
Graduate/professional	53	47	64	71
Science/mathematics education[a]				
Low	13	10	20	46
Middle	34	28	47	58
High	55	48	62	78
Attentiveness to science and technology[b]				
Attentive public	30	32	40	54
Interested public	31	23	40	58
Residual public	20	17	28	53

NOTE: The level of understanding of the nature of scientific inquiry is estimated using a combination of each survey participant's responses to three questions. To be classified as understanding the nature of scientific inquiry, a respondent had to answer all the probability questions correctly *and* either provide a "theory-testing" response to the question about what it means to study something scientifically or provide a correct response to the open-ended questions about the experiment, i.e., explain why it was better to test a drug using a control group. The three questions are:

"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, and I would like to ask you a few brief questions in that regard. 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?" If the response is "clear understanding" or "general sense": "In your own words, could you tell me what it means to study something scientifically?"

"Now, please think of this situation. Two scientists want to know if a certain drug is effective in treating high blood pressure. The first scientist wants to give the drug to 1,000 people with high blood pressure and see how many 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? Why is it better to test the drug this way?"

"Now think about this situation. 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. Does this mean that if their first three children are healthy, the fourth will have the illness? Does this mean that if their first child has the illness, the next three will not? Does this mean that each of the couple's children will have the same risk of suffering from the illness? Does this mean that if they have only three children, none will have the illness?

[a]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

[b]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it; and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-6 in Volume 1.

Appendix table 8-12.
Responses to items included in the Index of Scientific Promise and the Index of Scientific Reservation: 1999
(Percentages)

Item	Strongly agree	Agree	Do not know	Disagree	Strongly disagree
Promise of science					
Science and technology are making our lives healthier, easier, and more comfortable	30	60	1	1	8
Most scientists want to work on things that will make life better for the average person	8	75	2	1	14
With the application of science and new technology, work will become more interesting	7	66	4	1	22
Because of science and technology, there will be more opportunities for the next generation	12	72	2	1	13
Reservations about science					
We depend too much on science and not enough on faith	12	38	5	7	38
It is not important for me to know about science in my daily life	3	13	1	21	62
Science makes our way of life change too fast	3	38	2	4	53
	B>>H	**B>H**	**B=4**	**H>B**	**H>>B**
Have the benefits of scientific research outweighed the harmful results or have the harmful results outweighed the benefits	47	27	11	10	4

B>>H = benefits strongly outweigh the harmful results; B>H = benefits outweigh the harmful results; B=H = benefits equal the harmful results; H>B = harmful results outweigh the benefits; H>>B = harmful results strongly outweigh the benefits.

SOURCES: National Science Foundation, Division of Science Resources Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999) and unpublished tabulations prepared for the Division of Science Resources Studies of the National Science Foundation.

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Appendix table 8-13.
Responses to and mean scores on the Attitude Toward Organized Science Scale, by selected characteristics: 1983–99 (selected years)

	1983	1985	1988	1990	1992	1995	1997	1999
Percent of public								
Agree that "science and technology are making our lives healthier, easier, and more comfortable"	84	86	87	84	85	86	89	90
Agree that "the benefits of science are greater than any harmful effects"	57	68	76	72	73	72	75	75
Disagree that "science makes our way of life change too fast"	50	53	59	60	63	60	61	57
Disagree that "we depend too much on science and not enough on faith"	43	39	43	44	45	44	48	46
Mean ATOSS score								
All adults	2.3	2.5	2.7	2.6	2.7	2.6	2.7	2.7
Formal education								
Less than high school	1.8	1.8	2.2	1.8	2.0	2.0	2.2	2.0
High school graduate	2.4	2.6	2.8	2.7	2.7	2.6	2.7	2.7
Baccalaureate	2.9	3.1	3.2	3.1	3.3	3.3	3.2	3.1
Graduate/professional	2.9	3.1	3.1	3.2	3.3	3.4	3.4	3.3
Science/mathematics education[a]								
Low	NA	NA	NA	2.4	2.5	2.3	2.5	2.4
Middle	NA	NA	NA	2.9	2.7	2.9	2.9	2.8
High	NA	NA	NA	3.3	3.3	3.2	3.3	3.3
Sex								
Male	2.2	2.4	2.6	2.5	2.7	2.7	2.9	2.8
Female	2.5	2.6	2.8	2.8	2.6	2.5	2.6	2.6
Attentiveness to science or technology[b]								
Attentive public	2.6	2.8	3.0	2.8	2.9	3.1	3.0	3.0
Interested public	2.4	2.6	2.8	2.7	2.8	2.7	2.9	2.8
Residual public	2.1	2.3	2.5	2.5	2.5	2.4	2.4	2.4
Sample size	1,631	2,005	2,041	2,033	3,977	2,006	2,000	1,882

ATOSS = Attitude Toward Organized Science Scale; NA = not available

NOTES: Responses are to the following statement: "Now I would like to read you some statements like those you might find in a newspaper or magazine article. For each statement, please tell me if you generally agree or disagree. If you feel especially strongly about a statement, please tell me that you strongly agree or strongly disagree." The scale is a count of agreement with the first two items and disagreement with the second two items.

[a]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

[b]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it; and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-13 in Volume 1.

Appendix table 8-14.
Public assessment of the impact of computers and factory automation, by selected characteristics: 1985–99 (selected years)
(Percentages)

Characteristic	1985	1988	1990	1992	1995	1997	1999
All adults							
Strongly agree	3	5	4	5	6	9	9
Agree	45	35	35	34	35	37	39
Do not know	8	8	8	6	9	7	7
Disagree	42	45	45	48	43	39	39
Strongly disagree	1	7	8	7	7	8	6
Male							
Strongly agree	4	6	5	5	8	11	13
Agree	49	37	37	35	37	41	36
Do not know	7	7	7	5	8	5	5
Disagree	39	42	44	47	40	35	40
Strongly disagree	1	8	7	8	7	8	6
Female							
Strongly agree	2	4	3	5	5	8	6
Agree	42	34	32	33	33	34	40
Do not know	10	9	9	7	9	9	9
Disagree	45	48	47	48	45	41	39
Strongly disagree	1	5	9	7	8	8	6
Less than high school graduate							
Strongly agree	3	5	4	8	8	12	10
Agree	41	28	28	31	33	38	36
Do not know	8	9	9	5	11	6	9
Disagree	46	51	51	47	40	32	38
Strongly disagree	2	7	8	9	8	12	7
High school graduate							
Strongly agree	3	4	4	4	5	8	8
Agree	43	37	34	33	33	33	38
Do not know	8	7	7	5	8	7	6
Disagree	45	45	46	50	46	44	42
Strongly disagree	1	7	9	8	8	8	6
Baccalaureate and higher							
Strongly agree	3	9	6	4	7	10	13
Agree	60	42	46	40	43	48	44
Do not know	10	8	9	9	9	6	7
Disagree	25	37	34	42	35	31	33
Strongly disagree	1	4	5	5	6	5	3
Attentive public to science and technology[a]							
Strongly agree	4	10	5	7	10	17	16
Agree	56	37	45	41	36	38	38
Do not know	7	8	5	4	9	6	4
Disagree	32	37	38	43	38	31	35
Strongly disagree	1	8	7	5	7	8	7

See explanatory notes, if any, and SOURCE at end of table.

Appendix table 8-14.
Public assessment of the impact of computers and factory automation, by selected characteristics: 1985–99 (selected years)

Characteristic	1985	1988	1990	1992	1995	1997	1999
			Sample size				
All adults	2,005	2,041	2,033	1,004	2,006	2,000	1,882
Male	950	958	964	486	953	930	900
Female	1,054	1,084	1,070	533	1,053	1,070	982
Less than high school graduate	507	530	495	215	418	420	403
High school graduate	1,147	1,158	1,202	623	1,196	1,188	1,111
Baccalaureate and higher	349	353	336	203	392	392	368
Attentive public to science and technology	235	233	229	105	195	288	216

NOTE: Responses are to the following question: "In general, computers and factory automation will create more jobs than they will eliminate. Do you strongly agree, agree, disagree, or strongly disagree?"

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it; and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-13 in Volume 1.

Appendix table 8-15.
Public assessment that people would do better by living a simpler life, by selected characteristics: 1997, 1999

Characteristic	1997	1999
	Percentages	
All adults		
Strongly agree	6	7
Agree	37	39
Do not know	5	3
Disagree	48	48
Strongly disagree	4	3
Male		
Strongly agree	6	6
Agree	33	34
Do not know	4	4
Disagree	53	53
Strongly disagree	4	3
Female		
Strongly agree	7	6
Agree	41	45
Do not know	5	3
Disagree	44	44
Strongly disagree	3	2
Less than high school graduate		
Strongly agree	8	11
Agree	44	50
Do not know	7	5
Disagree	36	32
Strongly disagree	5	2
High school graduate		
Strongly agree	7	6
Agree	37	39
Do not know	4	3
Disagree	48	50
Strongly disagree	4	2
Baccalaureate and higher		
Strongly agree	3	2
Agree	29	27
Do not know	5	4
Disagree	59	61
Strongly disagree	4	6
Attentive public to science and technology[a]		
Strongly agree	6	8
Agree	29	28
Do not know	3	3
Disagree	54	58

Characteristic	1997	1999
	Sample size	
All adults	2,000	1,882
Male	930	900
Female	1,070	982
Less than high school graduate	420	403
High school graduate	1,188	1,111
Baccalaureate or higher	392	368
Attentive public to science and technology	288	216

NOTE: Responses are to the question: "People would do better by living a simpler life without so much technology. Do you strongly agree, agree, disagree, or strongly disagree?"

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it; and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

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See page 8-13 in Volume 1.

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Appendix table 8-16.
Public assessment that technological discoveries will destroy the Earth, by selected characteristics: 1997, 1999

Characteristic	1997	1999
Percentages		
All adults		
Strongly agree	4	4
Agree	22	27
Do not know	6	5
Disagree	56	55
Strongly disagree	12	9
Male		
Strongly agree	5	5
Agree	21	24
Do not know	6	4
Disagree	53	56
Strongly disagree	15	11
Female		
Strongly agree	4	4
Agree	23	29
Do not know	7	6
Disagree	57	53
Strongly disagree	9	7
Less than high school graduate		
Strongly agree	7	8
Agree	26	35
Do not know	7	6
Disagree	48	48
Strongly disagree	12	3
High school graduate		
Strongly agree	4	4
Agree	24	27
Do not know	7	5
Disagree	56	56
Strongly disagree	9	8
Baccalaureate and higher		
Strongly agree	2	2
Agree	14	18
Do not know	4	5
Disagree	61	57
Strongly disagree	19	18
Attentive public to science and technology[a]		
Strongly agree	4	8
Agree	11	18
Do not know	6	3
Disagree	60	56
Strongly disagree	19	15

Characteristic	1997	1999
Sample size		
All adults	2,000	1,882
Male	930	900
Female	1,070	982
Less than high school graduate	420	403
High school graduate	1,188	1,111
Baccalaureate or higher	392	368
Attentive public to science and technology	288	216

NOTE: Responses are to the question: "Technological discoveries will eventually destroy the Earth. Do you strongly agree, agree, disagree, or strongly disagree?"

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-13 in Volume 1.

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Appendix table 8-17.
Public assessment that technological development creates an artificial and inhuman way of living, by selected characteristics: 1997,1999

Characteristic	1997	1999
Percentages		
All adults		
Strongly agree	2	2
Agree	27	29
Do not know	6	6
Disagree	58	58
Strongly disagree	7	5
Male		
Strongly agree	3	2
Agree	25	26
Do not know	4	5
Disagree	60	61
Strongly disagree	8	6
Female		
Strongly agree	2	3
Agree	29	31
Do not know	7	7
Disagree	56	56
Strongly disagree	6	4
Less than high school graduate		
Strongly agree	3	5
Agree	37	40
Do not know	9	13
Disagree	43	40
Strongly disagree	8	2
High school graduate		
Strongly agree	3	2
Agree	27	28
Do not know	6	5
Disagree	60	61
Strongly disagree	4	4
Baccalaureate and higher		
Strongly agree	1	1
Agree	16	18
Do not know	3	2
Disagree	68	66
Strongly disagree	12	13
Attentive public to science and technology[a]		
Strongly agree	3	4
Agree	19	22
Do not know	1	2
Disagree	63	64
Strongly disagree	14	9

Characteristic	1997	1999
Sample size		
All adults	2,000	1,882
Male	930	900
Female	1,070	982
Less than high school graduate	420	403
High school graduate	1,188	1,111
Baccalaureate or higher	392	368
Attentive public to science and technology	288	216

NOTE: Responses are to the question: "Technological development creates an artificial and inhuman way of living. Do you strongly agree, agree, disagree, or strongly disagree?"

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-13 in Volume 1.

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Appendix table 8-18.
General attitudes toward science and technology, by selected characteristics: 1992–99 (selected years)

Characteristic	1992			1995			1997			1999		
	P[a]	R[b]	P/R	P[a]	R[b]	P/R	P[a]	R[b]	P/R	P[a]	R[b]	P/R
						Mean						
All adults	67	38	1.76	68	39	1.74	70	37	1.89	71	38	1.87
Formal education												
Less than high school	64	49	1.31	63	51	1.24	69	45	1.53	67	50	1.34
High school graduate	67	39	1.72	68	39	1.74	69	38	1.82	71	38	1.87
Baccalaureate	70	27	2.59	71	29	2.45	74	28	2.64	74	28	2.64
Graduate/professional	71	24	2.96	73	24	3.04	75	24	3.13	75	26	2.8
Science/mathematics education[c]												
Low	66	43	1.53	67	44	1.52	69	42	1.64	69	44	1.57
Middle	67	38	1.76	69	35	1.97	71	34	2.09	72	35	2.06
High	71	24	2.96	71	28	2.54	75	27	2.78	75	26	2.89
Sex												
Female	67	38	1.76	67	40	1.68	69	39	1.77	69	40	1.73
Male	68	39	1.74	69	38	1.82	71	35	2.03	72	36	2.00
Attentiveness to science and technology[d]												
Attentive public	71	36	1.97	74	30	2.47	75	30	2.50	75	31	2.42
Interested public	70	36	1.94	69	38	1.82	73	35	2.09	73	36	2.03
Residual public	65	41	1.59	65	42	1.55	66	43	1.54	67	43	1.56

P = Promise of Science and Technology; R = Reservations about Science and Technology; P/R = Ratio of Promise Index to Reservation Index

NOTES: The Index of Scientific Promise and the Index of Scientific Reservation are factor scores converted to a 0–100 scale. A confirmatory factor analysis verified the existence of a two factor structure. The lowest possible factor score (strong disagreement with all of the items) was set to 0, and the highest possible factor score (strong agreement with all of the items) was set to 100. All factor scores between the highest and the lowest were placed on the 0–100 metric accordingly.

[a]The Index of Scientific Promise includes responses to the following statements: "Now I would like to read you some statements like those you might find in a newspaper or magazine article. For each statement, please tell me if you generally agree or disagree. If you feel especially strongly about a statement, please tell me that you strongly agree or disagree. First, science and technology are making our lives healthier, easier, and more comfortable—do you strongly agree, agree, disagree, or strongly disagree? Most scientists want to work on things that will make life better for the average person—do you strongly agree, agree, disagree, or strongly disagree? With the application of science and new technology, work will become more interesting—do you strongly agree, agree, disagree, or strongly disagree? Because of science and technology, there will be more opportunities for the next generation—do you strongly agree, agree, disagree, or strongly disagree?"

[b]The Index of Scientific Reservation includes responses to the following statements: "Now I would like to read you some statements like those you might find in a newspaper or magazine article. For each statement, please tell me if you generally agree or disagree. If you feel especially strongly about a statement, please tell me that you strongly agree or strongly disagree. We depend too much on science and not enough on faith—do you strongly agree, agree, disagree, or strongly disagree? It is not important for me to know about science in my daily life—do you strongly agree, agree, disagree, strongly disagree? Science makes our way of life change too fast—do you strongly agree, agree, disagree, strongly disagree? Now for a different type of question. People have frequently noted that scientific research has produced both beneficial and harmful consequences. Would you say that, on balance, the benefits of scientific research have outweighted the harmful results, or have the harmful results of scientific research been greater than its benefits? *(If benefits greater):* Would you say that the balance has been strongly in favor of beneficial results, or only slightly? *(If harms greater):* Would you say that the balance has been strongly in favor of harmful results, or only slightly?"

[c]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

[d]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-15 in Volume 1.

Appendix table 8-19.
Public assessment of funding of scientific research by the Federal Government, by selected characteristics: 1985–99
(Percentages)

Characteristic	1985	1988	1990	1992	1995	1997	1999
All adults							
Strongly agree	9	16	17	14	19	22	21
Agree	70	65	62	63	61	57	61
Do not know	5	4	4	3	3	3	3
Disagree	16	14	15	18	17	15	13
Strongly disagree	0	1	2	2	2	3	2
Male							
Strongly agree	11	20	23	17	19	24	24
Agree	71	63	60	62	60	54	60
Do not know	2	2	2	2	2	3	2
Disagree	15	13	13	17	18	16	12
Strongly disagree	1	2	2	2	1	3	2
Female							
Strongly agree	8	11	13	11	15	20	18
Agree	68	68	65	64	62	59	62
Do not know	8	6	5	4	5	4	4
Disagree	16	14	16	19	16	15	14
Strongly disagree	0	1	1	2	2	2	2
Less than high school graduate							
Strongly agree	5	6	10	10	8	20	17
Agree	65	66	59	61	59	50	55
Do not know	9	7	8	5	7	5	7
Disagree	21	18	20	21	24	22	18
Strongly disagree	0	3	3	3	2	3	3
High school graduate							
Strongly agree	8	17	18	12	16	19	18
Agree	72	66	65	64	63	60	66
Do not know	4	3	2	3	3	3	2
Disagree	15	13	14	19	17	15	12
Strongly disagree	1	1	1	2	1	3	2
Baccalaureate							
Strongly agree	19	26	27	22	24	31	34
Agree	68	62	60	64	62	56	53
Do not know	2	3	2	2	2	2	1
Disagree	10	8	10	12	11	10	10
Strongly disagree	1	1	1	0	1	1	2
Graduate degree							
Strongly agree	20	29	31	26	43	40	40
Agree	70	61	58	53	46	51	51
Do not know	2	2	4	5	2	2	1
Disagree	8	7	6	14	8	5	8
Strongly disagree	0	1	1	2	1	2	0
Attentive public to science and technology[a]							
Strongly agree	17	27	35	28	35	46	35
Agree	76	62	50	61	48	42	52
Do not know	0	2	4	1	1	1	0
Disagree	6	8	10	9	14	7	9
Strongly disagree	1	1	1	1	2	4	4

NOTES: Responses are to the question: "Even if it brings no immediate benefits, scientific research which advances the frontiers of knowledge is necessary and should be supported by the Federal Government. Do you strongly agree, agree, disagree, or strongly disagree?"

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

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See page 8-15 in Volume 1.

Appendix table 8-20.
Percentage of adults agreeing that the Federal Government should support basic scientific research, by level of Index of Scientific Promise and the Index of Scientific Reservation: 1999

Level of index	Disagree	Unsure	Agree	Sample size
Index of Scientific Promise[a]				
All adults	15	3	82	1,882
Low (0–49)	34	5	61	217
Moderate (50–74)	20	5	75	565
High (75–100)	8	2	90	1,100
Less than high school graduate	21	7	72	403
Low (0–49)	56	9	35	68
Moderate (50–74)	24	11	65	132
High (75–100)	7	4	89	203
High school graduate	14	2	84	1,111
Low (0–49)	26	4	70	117
Moderate (50–74)	20	3	77	340
High (75–100)	8	2	90	655
Baccalaureate and higher	10	1	89	368
Low (0–49)	16	0	84	32
Moderate (50–74)	16	2	82	93
High (75–100)	7	1	92	242
Index of Scientific Reservation[b]				
All adults	15	3	82	1,882
Low (0–29)	7	1	92	732
Moderate (30–54)	17	2	81	712
High (55+)	25	7	68	438
Less than high school graduate	21	7	72	403
Low (0–29)	0	2	98	47
Moderate (30–54)	21	4	75	184
High (55+)	26	12	62	172
High school graduate	14	2	84	1,111
Low (0–29)	8	2	90	452
Moderate (30–54)	15	1	84	423
High (55+)	24	4	72	236
Baccalaureate and higher	10	1	89	368
Low (0–29)	6	1	93	233
Moderate (30–54)	17	2	81	105
High (55+)	24	0	76	30

NOTES: The Index of Scientific Promise and the Index of Scientific Reservation are factor scores converted to a 0–100 scale. A confirmatory factor analysis verified the existence of a two factor structure. The lowest possible factor score (strong disagreement with all of the items) was set to 0, and the highest possible factor score (strong agreement with all of the items) was set to 100. All factor scores between the highest and the lowest were placed on the 0–100 metric accordingly.

[a]The Index of Scientific Promise includes responses to the following statements: "Now I would like to read you some statements like those you might find in a newspaper or magazine article. For each statement, please tell me if you generally agree or disagree. If you feel especially strongly about a statement, please tell me that you strongly agree or disagree. First, science and technology are making our lives healthier, easier, and more comfortable—do you strongly agree, agree, disagree, or strongly disagree? Most scientists want to work on things that will make life better for the average person—do you strongly agree, agree, disagree, or strongly disagree? With the application of science and new technology, work will become more interesting—do you strongly agree, agree, disagree, or strongly disagree? Because of science and technology, there will be more opportunities for the next generation—do you strongly agree, agree, disagree, or strongly disagree?"

[b]The Index of Scientific Reservation includes responses to the following statements: "Now I would like to read you some statements like those you might find in a newspaper or magazine article. For each statement, please tell me if you generally agree or disagree. If you feel especially strongly about a statement, please tell me that you strongly agree or strongly disagree. We depend too much on science and not enough on faith—do you strongly agree, agree, disagree, or strongly disagree? It is not important for me to know about science in my daily life—do you strongly agree, agree, disagree, strongly disagree? Science makes our way of life change too fast—do you strongly agree, agree, disagree, strongly disagree? Now for a different type of question. People have frequently noted that scientific research has produced both beneficial and harmful consequences. Would you say that, on balance, the benefits of scientific research have outweighted the harmful results, or have the harmful results of scientific research been greater than its benefits? *(If benefits greater):* Would you say that the balance has been strongly in favor of beneficial results, or only slightly? *(If harms greater):* Would you say that the balance has been strongly in favor of harmful results, or only slightly?"

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-8 in Volume 1.

Appendix table 8-21.
Public preferences for government spending: 1981–99 (selected years)
(Percentages)

Policy issue		1981	1983	1985	1988	1990	1992	1997	1999
Exploring space	Too little	18	17	9	17	9	12	14	15
	Too much	43	39	45	42	52	50	45	46
Reducing pollution	Too little	52	54	69	76	76	72	65	65
	Too much	14	11	6	4	5	7	8	7
Improving health care	Too little	61	—	68	68	75	79	68	71
	Too much	6	—	3	2	3	5	7	5
Supporting scientific research	Too little	31	—	29	34	30	34	34	37
	Too much	18	—	18	15	16	19	14	14
Improving education	Too little	62	71	73	76	77	81	76	75
	Too much	6	5	3	4	4	4	6	6
Helping older people	Too little	73	—	72	76	75	73	66	71
	Too much	3	—	3	2	2	4	5	4
Improving national defense[a]	Too little	33	19	11	11	15	15	23	31
	Too much	26	47	50	53	40	40	32	25
Helping low-income persons	Too little	45	—	54	55	57	56	44	49
	Too much	24	—	13	12	15	17	23	19
Sample size		1,659	1,631	2,005	2,041	2,033	2,001	2,000	1,882

— = not asked

NOTE: Responses are to the following question: "We are faced with many problems in this country. I'm going to name some of these problems, and for each one, I'd like you to tell me if you think that the government is spending too little money on it, about the right amount, or too much."

[a]The "improving national defense" question was asked on a split ballot in 1988 therefore, the N for that item only is 1,013.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-17 in Volume 1.

Appendix table 8-22.
Public preferences for government spending, by selected characteristics: 1999

Characteristic	Exploring space	Reducing pollution	Improving health care	Supporting scientific research	Improving education	Helping older people	Improving national defense	Helping low-income persons
All adults								
Too little	15	65	71	37	75	71	31	49
About the right amount	36	25	22	43	18	23	40	30
Too much	46	7	5	14	6	4	25	19
Do not know	3	3	2	6	1	2	4	2
Male								
Too little	21	64	66	39	70	65	33	50
About the right amount	40	26	26	44	21	26	39	29
Too much	37	8	7	13	7	6	26	19
Do not know	2	2	1	4	2	3	2	2
Female								
Too little	9	66	75	35	79	76	29	49
About the right amount	32	24	18	42	15	20	41	30
Too much	54	5	4	15	5	2	24	19
Do not know	5	5	3	8	1	2	6	2
Less than high school graduate								
Too little	12	62	72	35	70	73	35	70
About the right amount	23	23	22	37	22	21	33	24
Too much	58	9	3	20	6	4	22	4
Do not know	7	6	3	8	2	2	10	2
High school graduate								
Too little	14	66	72	35	77	74	31	45
About the right amount	36	26	21	44	17	21	42	30
Too much	47	6	6	15	5	3	25	23
Do not know	3	2	1	6	1	2	2	2
Baccalaureate and higher								
Too little	18	65	66	45	74	60	27	41
About the right amount	49	24	25	43	17	32	44	35
Too much	30	8	7	6	8	5	27	22
Do not know	3	3	2	6	1	3	2	2
Attentive public to science and technology[a]								
Too little	25	68	70	44	76	67	36	54
About the right amount	39	19	20	38	16	26	39	27
Too much	36	12	9	16	8	5	22	18
Do not know	0	1	1	2	0	2	3	1

NOTE: Responses are to the following question: "We are faced with many problems in this country. I'm going to name some of these problems, and for each one, I'd like you to tell me if you think that the government is spending too little money on it, about the right amount, or too much."

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public* Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-17 in Volume 1.

Appendix table 8-23.
Public confidence in the people running various institutions: 1973–98
(Percentages)

	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1986	1987	1988	1989	1990	1991	1993	1994	1996	1998
Medicine	54	60	50	54	51	46	52	45	51	50	46	52	51	46	46	48	39	41	45	44
Scientific community	37	45	39	43	41	36	41	38	41	44	39	45	39	40	37	41	37	38	39	40
U.S. Supreme Court	31	33	31	35	35	28	25	30	27	33	30	36	35	34	35	37	31	30	28	37
Military	32	40	35	39	36	29	28	31	29	36	31	34	34	32	33	60	42	37	37	36
Education	37	49	31	37	41	28	30	33	29	28	28	35	29	30	27	30	22	25	23	27
Major companies	29	31	19	22	27	22	27	23	24	30	24	30	25	24	25	20	21	25	23	26
Organized religion	35	44	24	30	40	31	35	32	28	31	25	29	20	22	23	25	23	24	25	27
Executive branch of the Federal Government	29	14	13	13	28	12	12	19	13	18	21	18	16	20	23	26	12	11	10	14
Banks and financial institutions	—	—	32	39	42	33	32	27	24	31	21	27	27	19	18	12	15	18	25	26
Congress	23	17	13	14	19	13	9	13	10	12	16	16	15	17	15	18	7	8	8	11
Press	23	26	24	28	25	20	22	18	13	17	18	18	18	17	15	16	11	8	11	9
TV	18	23	18	19	17	14	16	14	12	13	15	12	14	14	14	14	12	9	10	10
Organized labor	15	18	10	12	15	11	15	12	8	8	8	10	10	9	11	11	8	10	11	11
Average[a]	30	33	26	29	31	24	26	26	24	27	25	28	26	25	25	29	22	22	23	24
Sample size	1,504	1,484	1,490	1,499	1,530	1,532	1,468	1,506	1,599	989	1,470	1,466	997	1,035	899	1,017	1,057	2,011	1,925	1,911

— = not asked

NOTES: Percentages represent those respondents expressing a "great deal of confidence" when asked the following: "I am going to name some institutions in this country. 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?" The survey was not conducted in 1979 and 1981, and the question was not asked in 1985.

[a]Average does not include banks and financial institutions.

SOURCE: J.A. Davis and T.W. Smith, *General Social Surveys, Cumulative Codebook* (Chicago: University of Chicago, National Opinion Research Center, annual series).

See figure 8-9 in Volume 1.

Science & Engineering Indicators – 2000

Appendix table 8-24.
Public assessment of scientific research, by selected characteristics: 1979–99 (selected years)

Characteristic	1979	1981	1985	1988	1990	1992	1995	1997	1999
				Percent					
All adults									
Benefits strongly outweigh harmful results	46	42	44	57	47	42	43	47	47
Benefits slightly outweigh harmful results	24	28	24	25	25	31	29	28	27
Benefits equal harmful results	19	13	13	5	15	11	16	13	11
Harmful results slightly outweigh benefits	7	12	13	9	10	12	10	8	10
Harmful results strongly outweigh benefits	4	5	6	4	3	4	3	4	5
Male									
Benefits strongly outweigh harmful results	51	48	48	59	54	45	47	52	50
Benefits slightly outweigh harmful results	23	27	23	25	24	30	28	27	27
Benefits equal harmful results	16	11	10	5	9	9	13	10	9
Harmful results slightly outweigh benefits	7	10	13	7	9	11	9	7	10
Harmful results strongly outweigh benefits	3	5	6	4	4	5	4	4	4
Female									
Benefits strongly outweigh harmful results	42	37	40	55	40	40	39	42	45
Benefits slightly outweigh harmful results	25	28	26	25	26	31	30	29	28
Benefits equal harmful results	23	16	14	6	20	13	19	15	12
Harmful results slightly outweigh benefits	6	14	14	10	11	12	10	10	10
Harmful results strongly outweigh benefits	4	5	6	4	3	4	3	4	5
Less than high school graduate									
Benefits strongly outweigh harmful results	26	26	20	37	24	24	18	30	25
Benefits slightly outweigh harmful results	25	23	21	30	25	33	30	28	25
Benefits equal harmful results	32	25	26	9	30	17	34	21	18
Harmful results slightly outweigh benefits	12	18	20	17	17	20	14	18	22
Harmful results strongly outweigh benefits	5	9	13	7	4	7	3	3	10
High school graduate									
Benefits strongly outweigh harmful results	50	43	47	59	49	41	44	46	47
Benefits slightly outweigh harmful results	26	31	26	25	27	32	30	30	31
Benefits equal harmful results	16	10	10	5	11	10	13	13	10
Harmful results slightly outweigh benefits	5	12	13	7	10	12	10	6	8
Harmful results strongly outweigh benefits	3	4	4	4	3	5	3	5	4
Baccalaureate and higher									
Benefits strongly outweigh harmful results	69	64	67	80	72	66	67	67	71
Benefits slightly outweigh harmful results	18	22	23	16	18	22	23	23	19
Benefits equal harmful results	8	7	2	1	6	8	6	6	5
Harmful results slightly outweigh benefits	2	4	6	2	2	3	3	3	4
Harmful results strongly outweigh benefits	3	2	2	1	2	2	1	1	1
Attentive public to science and technology[a]									
Benefits strongly outweigh harmful results	67	63	59	62	61	48	64	64	61
Benefits slightly outweigh harmful results	16	20	17	23	19	27	21	19	21
Benefits equal harmful results	8	5	7	6	10	12	8	6	5
Harmful results slightly outweigh benefits	4	8	13	6	6	9	3	8	11
Harmful results strongly outweigh benefits	5	4	4	3	4	4	4	3	2
				Sample size					
All adults	1,635	1,536	2,005	975	2,033	997	2,006	2,000	1,882
Male	773	724	950	475	964	464	953	930	900
Female	862	812	1,054	500	1,070	533	1,053	1,070	982
Less than high school graduate	465	385	507	259	495	215	418	420	403
High school graduate	932	886	1,147	546	1,202	579	1,196	1,188	1,111
Baccalaureate and higher	238	264	349	170	336	203	392	392	368
Attentive public to science and technology[a]	154	381	235	116	229	94	195	288	216

NOTES: Responses are for the following statements: "People have frequently noted that scientific research has produced both beneficial and harmful consequences. 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? Would you say that the balance has been strongly in favor of beneficial results or only slightly? Would you say that the balance has been strongly in favor of harmful results or only slightly?" Percentages may not total 100 because of rounding.

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-10 in Volume 1.

Appendix table 8-25.
Public assessment of nuclear power, by selected characteristics: 1985–99 (selected years)

Characteristic	1985	1988	1990	1992	1995	1997	1999
			Percent				
All adults							
Benefits strongly outweigh harmful results	28	18	24	17	21	22	24
Benefits slightly outweigh harmful results	22	24	23	30	22	23	24
Benefits equal harmful results	6	11	12	11	14	18	15
Harmful results slightly outweigh benefits	13	17	13	15	21	17	20
Harmful results strongly outweigh benefits	31	30	28	27	21	20	17
Male							
Benefits strongly outweigh harmful results	38	23	31	21	29	28	30
Benefits slightly outweigh harmful results	22	27	24	34	23	26	29
Benefits equal harmful results	4	7	8	7	8	13	7
Harmful results slightly outweigh benefits	9	15	11	10	21	13	20
Harmful results strongly outweigh benefits	27	28	26	28	19	20	14
Female							
Benefits strongly outweigh harmful results	19	14	17	14	14	17	18
Benefits slightly outweigh harmful results	22	21	21	27	21	20	21
Benefits equal harmful results	8	14	16	14	20	22	21
Harmful results slightly outweigh benefits	16	19	16	18	23	20	21
Harmful results strongly outweigh benefits	35	32	30	27	22	21	19
Less than high school graduate							
Benefits strongly outweigh harmful results	28	15	21	10	15	20	22
Benefits slightly outweigh harmful results	24	25	21	37	16	17	21
Benefits equal harmful results	8	17	23	11	25	25	22
Harmful results slightly outweigh benefits	14	19	13	13	28	21	20
Harmful results strongly outweigh benefits	26	24	22	29	16	17	15
High school graduate							
Benefits strongly outweigh harmful results	27	18	23	19	21	22	24
Benefits slightly outweigh harmful results	21	23	23	26	23	23	24
Benefits equal harmful results	6	9	9	11	13	16	13
Harmful results slightly outweigh benefits	13	17	14	16	21	16	21
Harmful results strongly outweigh benefits	33	33	31	28	23	23	18
Baccalaureate and higher							
Benefits strongly outweigh harmful results	29	22	32	19	28	25	28
Benefits slightly outweigh harmful results	21	25	23	34	26	26	29
Benefits equal harmful results	3	7	7	10	8	14	11
Harmful results slightly outweigh benefits	13	14	13	14	18	17	18
Harmful results strongly outweigh benefits	3	32	25	23	19	18	14
Attentive public to science and technology[a]							
Benefits strongly outweigh harmful results	35	26	30	24	28	25	26
Benefits slightly outweigh harmful results	20	24	27	30	24	25	30
Benefits equal harmful results	1	9	6	10	10	11	11
Harmful results slightly outweigh benefits	12	16	9	9	22	17	18
Harmful results strongly outweigh benefits	32	25	28	27	18	22	15

See explanatory notes, if any, and SOURCE at end of table.

Appendix table 8-25.
Public assessment of nuclear power, by selected characteristics: 1985–99 (selected years)

Characteristic	1985	1988	1990	1992	1995	1997	1999
			Sample size				
All adults	2,005	2,041	2,033	997	2,006	2,000	1,882
Male	950	958	964	464	953	930	900
Female	1,054	1,084	1,070	533	1,053	1,070	982
Less than high school graduate	507	530	495	215	418	420	403
High school graduate	1,143	1,158	1,202	579	1,196	1,188	1,111
Baccalaureate and higher	349	353	336	203	392	392	368
Attentive public to science and technology[a]	235	233	229	94	195	288	216

NOTES: In 1985, 1988, 1990, 1995, 1997, and 1999, the question was worded, "In the current debate over the use of nuclear reactors to generate electricity, there is a broad agreement that there are some risks and some benefits associated with nuclear power. In your opinion, have the benefits associated with nuclear power outweighed the harmful results, or have the harmful results associated with nuclear power been greater than its benefits? Would you say that the balance has been strongly in favor of beneficial results or only slightly? Would you say that the balance has been strongly in favor of harmful results or only slightly?" In 1992, the question was worded, "In the current debate over the use of nuclear reactors to generate electricity, there is broad agreement that there are some costs and some benefits associated with nuclear power. In your opinion, are the costs associated with nuclear power greater than the benefits, or are the benefits associated with nuclear power greater than the costs? Would you say that the benefits have substantially exceeded the costs or only slightly exceeded the costs? Would you say that the costs substantially exceeded the benefits or only slightly exceeded the benefits?" Percentages may not total 100 because of rounding.

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it; and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-11 in Volume 1.

Appendix table 8-26.
Public assessment of genetic engineering, by selected characteristics: 1985–99 (selected years)

Characteristic	1985	1990	1995	1997	1999
	Percent				
All adults					
Benefits strongly outweigh harmful results	23	20	21	19	20
Benefits slightly outweigh harmful results	26	27	22	23	24
Benefits equal harmful results	12	16	22	22	18
Harmful results slightly outweigh benefits	14	19	23	20	22
Harmful results strongly outweigh benefits	25	18	12	16	16
Male					
Benefits strongly outweigh harmful results	26	21	24	23	24
Benefits slightly outweigh harmful results	28	31	22	26	26
Benefits equal harmful results	11	14	21	20	17
Harmful results slightly outweigh benefits	13	18	22	17	21
Harmful results strongly outweigh benefits	22	16	10	14	12
Female					
Benefits strongly outweigh harmful results	19	19	18	16	16
Benefits slightly outweigh harmful results	25	23	22	21	22
Benefits equal harmful results	14	17	22	23	20
Harmful results slightly outweigh benefits	15	21	23	22	22
Harmful results strongly outweigh benefits	27	20	15	18	20
Less than high school graduate					
Benefits strongly outweigh harmful results	19	16	10	15	18
Benefits slightly outweigh harmful results	29	27	19	18	19
Benefits equal harmful results	16	25	30	23	27
Harmful results slightly outweigh benefits	12	17	29	30	21
Harmful results strongly outweigh benefits	24	15	13	14	15
High school graduate					
Benefits strongly outweigh harmful results	21	19	20	18	18
Benefits slightly outweigh harmful results	24	27	21	24	24
Benefits equal harmful results	13	12	21	21	16
Harmful results slightly outweigh benefits	15	21	23	18	24
Harmful results strongly outweigh benefits	27	21	14	19	18
Baccalaureate and higher					
Benefits strongly outweigh harmful results	33	29	35	27	27
Benefits slightly outweigh harmful results	29	28	30	28	28
Benefits equal harmful results	7	15	16	21	16
Harmful results slightly outweigh benefits	13	15	14	14	17
Harmful results strongly outweigh benefits	18	13	6	10	12
Attentive public to science and technology[a]					
Benefits strongly outweigh harmful results	37	32	42	36	33
Benefits slightly outweigh harmful results	28	30	22	24	31
Benefits equal harmful results	9	9	16	13	8
Harmful results slightly outweigh benefits	12	12	13	16	19
Harmful results strongly outweigh benefits	14	17	7	11	9
Attentive public to medical research[a]					
Benefits strongly outweigh harmful results	29	31	34	27	28
Benefits slightly outweigh harmful results	24	27	21	25	24
Benefits equal harmful results	12	12	17	18	12
Harmful results slightly outweigh benefits	11	17	18	18	23
Harmful results strongly outweigh benefits	24	13	9	12	13

See explanatory notes, if any, and SOURCE at end of table.

Appendix table 8-26.
Public assessment of genetic engineering, by selected characteristics: 1985-99 (selected years)

Characteristic	1985	1990	1995	1997	1999
	Sample size				
All adults	2,005	2,033	2,006	2,000	1,882
Male	950	964	953	930	900
Female	1,054	1,070	1,053	1,070	982
Less than high school graduate	507	495	418	420	403
High school graduate	1,143	1,179	1,196	1,188	1,111
Baccalaureate and higher	349	359	392	392	368
Attentive public to science and technology[a]	235	229	195	288	216
Attentive public to medical research[a]	349	337	310	377	301

NOTES: In 1985, the question was worded, "Some persons have argued that the creation of new life forms through genetic engineering constitutes a serious risk, while other persons have argued that this research may yield major benefits for society. In your opinion, are the risks of genetic engineering greater than the benefits, or are the benefits of genetic engineering research greater than the risks? Would you say that the benefits are substantially greater than the risks, or only slightly greater than the risks? Would you say that the risks are substantially greater than the benefits or only slightly greater than the benefits?" In 1990, the question was worded, "Some persons have argued that the creation of new life forms through genetic engineering research constitutes a serious risk, while other persons have argued that this research may yield major benefits for society. In your opinion, are the risks of genetic engineering research greater than its benefits, or are the benefits of genetic engineering research greater than its risks? Would you say that the benefits have substantially exceeded the risks or only slightly exceeded the risks? Would you say that the risks have substantially exceeded the benefits or only slightly exceeded the benefits?" In 1995, the question was worded, "Some persons have argued that the creation of new life forms through genetic engineering research constitutes a serious risk, while other persons have argued that this research may yield major benefits for society. In your opinion, have the benefits of genetic engineering research outweighed the harmful results, or have the harmful results of genetic engineering research been greater than its benefits? Would you say that the balance has been strongly in favor of beneficial results or only slightly? Would you say that the balance has been strongly in favor of harmful results or only slightly?" In 1997 and 1999, one-half of the respondents were asked the question used in 1995. The other one-half were asked: "Some persons have argued that the modification of existing life forms through genetic engineering research constitutes a serious risk, while other persons have argued that this research may yield major benefits for society. In your opinion, have the benefits of engineering research outweighed the harmful results, or have the harmful results of genetic engineering research been greater than its benefits? Would you say that the balance has been strongly in favor of beneficial results or only slightly? Would you say that the balance has been strongly in favor of harmful results or only slightly?" Percentages may not total 100 because of rounding.

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figures 8-12 and 8-13 in Volume 1.

Appendix table 8-27.
Public assessment of space exploration, by selected characteristics: 1985–99 (selected years)

Characteristic	1985	1988	1990	1992	1995	1997	1999
			Percent				
All adults							
Benefits strongly outweigh costs	27	22	18	17	22	24	24
Benefits slightly outweigh costs	27	25	25	26	24	24	25
Benefits equal costs	7	9	9	9	8	10	8
Costs slightly outweigh benefits	15	18	17	22	17	17	17
Costs strongly outweigh benefits	24	26	31	26	28	25	26
Male							
Benefits strongly outweigh costs	33	28	23	17	28	31	31
Benefits slightly outweigh costs	31	27	26	26	25	25	26
Benefits equal costs	6	10	8	9	6	8	5
Costs slightly outweigh benefits	12	13	16	22	16	15	15
Costs strongly outweigh benefits	18	22	27	26	24	21	23
Female							
Benefits strongly outweigh costs	21	16	14	11	17	18	19
Benefits slightly outweigh costs	24	23	24	25	23	23	24
Benefits equal costs	8	9	10	11	10	12	10
Costs slightly outweigh benefits	17	23	17	27	18	18	18
Costs strongly outweigh benefits	30	29	35	26	32	29	29
Less than high school graduate							
Benefits strongly outweigh costs	22	16	15	14	14	18	15
Benefits slightly outweigh costs	25	26	20	29	20	21	25
Benefits equal costs	10	9	17	12	13	16	15
Costs slightly outweigh benefits	17	21	16	24	21	24	18
Costs strongly outweigh benefits	26	29	32	21	31	21	27
High school graduate							
Benefits strongly outweigh costs	26	21	17	15	23	23	26
Benefits slightly outweigh costs	28	25	25	25	24	23	23
Benefits equal costs	6	9	7	9	6	9	5
Costs slightly outweigh benefits	14	18	17	23	17	16	17
Costs strongly outweigh benefits	26	27	34	28	30	29	29
Baccalaureate and higher							
Benefits strongly outweigh costs	36	33	27	22	32	31	31
Benefits slightly outweigh costs	28	26	28	26	27	29	29
Benefits equal costs	6	10	7	6	8	8	6
Costs slightly outweigh benefits	13	15	16	18	14	12	16
Costs strongly outweigh benefits	17	16	22	28	20	20	18
Attentive public to science and technology[a]							
Benefits strongly outweigh costs	39	38	26	28	32	44	34
Benefits slightly outweigh costs	27	28	33	26	25	22	28
Benefits equal costs	7	6	4	11	7	6	2
Costs slightly outweigh benefits	13	10	14	20	16	11	17
Costs strongly outweigh benefits	14	21	23	15	20	17	19
Attentive public to space exploration[a]							
Benefits strongly outweigh costs	49	46	36	38	52	57	41
Benefits slightly outweigh costs	25	30	36	44	23	19	26
Benefits equal costs	8	4	3	3	4	6	2
Costs slightly outweigh benefits	11	7	11	6	12	10	19
Costs strongly outweigh benefits	7	13	14	9	9	8	12

See explanatory notes, if any, and SOURCE at end of table.

Appendix table 8-27.
Public assessment of space exploration, by selected characteristics: 1985–99 (selected years)

Characteristic	1985	1988	1990	1992	1995	1997	1999
			Sample size				
All adults	2,005	2,041	2,033	1,004	2,006	2,000	1,882
Male	950	958	964	486	953	930	900
Female	1,054	1,084	1,070	533	1,053	1,070	982
Less than high school graduate	507	530	495	215	418	420	403
High school graduate	1,147	1,158	1,202	623	1,196	1,188	1,111
Baccalaureate and higher	349	353	336	203	392	392	368
Attentive public to science and technology[a]	235	233	229	105	195	288	216
Attentive public to space exploration[a]	184	163	123	51	99	168	120

NOTES: Responses are to the following questions: "Many current issues in science and technology may be viewed as a judgment of relative benefits. Thinking first about the space program, some persons have argued that the costs of the space program may have exceeded its benefits, while other people have argued that the benefits of space exploration have exceeded its costs. In your opinion, have the costs of space exploration exceeded its benefits, or have the benefits of space exploration exceeded its costs? Would you say that the benefits have substantially exceeded the costs, or only slightly exceeded the costs? Would you say that the costs have substantially exceeded the benefits or only slightly exceeded the benefits?" Percentages may not total 100 because of rounding.

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-14 in Volume 1.

Appendix table 8-28.
Public assessment of the use of dogs and chimpanzees in scientific research, by selected characteristics: 1988–99 (selected years)

Characteristic	1988	1990	1992	1995	1997	1999
			Percent			
All adults						
Strongly agree	5	5	9	7	7	7
Agree	48	45	44	43	39	43
Do not know	5	6	5	4	3	3
Disagree	28	31	28	33	33	30
Strongly disagree	14	13	14	13	18	17
Male						
Strongly agree	7	7	13	10	11	9
Agree	55	55	52	52	47	53
Do not know	5	4	3	3	3	3
Disagree	26	26	25	26	28	27
Strongly disagree	7	8	7	9	11	8
Female						
Strongly agree	4	3	6	4	5	5
Agree	41	36	37	35	32	33
Do not know	6	7	6	5	3	4
Disagree	30	35	31	40	37	33
Strongly disagree	19	19	20	16	23	25
Less than high school graduate						
Strongly agree	3	4	8	7	4	11
Agree	53	49	47	44	28	44
Do not know	6	6	4	5	2	4
Disagree	26	30	28	34	43	29
Strongly disagree	12	11	13	10	23	12
High school graduate						
Strongly agree	5	5	8	5	8	5
Agree	44	41	42	41	39	42
Do not know	5	6	5	4	4	3
Disagree	31	32	30	35	31	31
Strongly disagree	15	16	15	15	18	19
Baccalaureate and higher						
Strongly agree	9	6	13	11	10	10
Agree	52	53	50	48	51	47
Do not know	7	7	5	4	4	3
Disagree	23	26	22	26	26	25
Strongly disagree	9	8	10	11	9	15
Attentive public to science and technology[a]						
Strongly agree	7	7	10	15	10	9
Agree	52	43	45	42	36	48
Do not know	6	7	3	3	6	2
Disagree	21	29	24	25	24	23
Strongly disagree	14	14	18	15	24	18

See explanatory notes, if any, and SOURCE at end of table.

Appendix table 8-28.
Public assessment of the use of dogs and chimpanzees in scientific research, by selected characteristics: 1988–99 (selected years)

Characteristic	1988	1990	1992	1995	1997	1999
Adults 18 to 24 years old						
Strongly agree	4	3	15	4	6	4
Agree	43	35	37	35	20	34
Do not know	3	4	2	2	4	0
Disagree	29	32	26	37	41	27
Strongly disagree	21	26	20	22	29	35
Adults 25 to 34 years old						
Strongly agree	5	5	10	8	7	4
Agree	45	40	40	41	42	48
Do not know	5	4	3	4	2	1
Disagree	30	35	33	34	33	35
Strongly disagree	15	16	14	13	16	12
Adults 35 to 44 years old						
Strongly agree	5	6	9	8	7	5
Agree	47	44	41	41	41	45
Do not know	6	6	6	4	4	4
Disagree	28	31	30	34	33	30
Strongly disagree	14	13	14	13	15	16
Adults 45 to 54 years old						
Strongly agree	4	4	6	6	7	7
Agree	50	54	41	43	38	52
Do not know	5	4	5	4	5	3
Disagree	27	27	31	35	29	22
Strongly disagree	14	11	17	12	21	16
Adults 55 to 64 years old						
Strongly agree	5	3	9	10	10	8
Agree	52	51	47	48	45	44
Do not know	6	10	8	4	2	1
Disagree	27	29	24	31	29	33
Strongly disagree	10	7	12	7	14	14
Adults 65 and older						
Strongly agree	6	6	7	5	8	15
Agree	53	52	61	53	45	37
Do not know	6	9	5	7	4	10
Disagree	27	26	21	27	33	28
Strongly disagree	8	7	6	8	10	10
Sample size						
All adults	2,041	2,033	2,001	2,006	996	904
Male	958	964	950	953	454	455
Female	1,084	1,070	1,051	1,053	542	449
Less than high school graduate	530	495	403	418	216	188
High school graduate	1,158	1,202	1,202	1,196	579	534
Baccalaureate and higher	353	336	306	392	200	182
Adults 18 to 24 years old	318	322	276	275	146	134
Adults 25 to 34 years old	485	497	459	471	223	198
Adults 35 to 44 years old	372	366	430	423	199	188
Adults 45 to 54 years old	264	264	318	308	171	140
Adults 55 to 64 years old	267	269	191	205	90	98
Adults 65 and older	332	315	326	321	163	145

NOTE: Responses are to the following question: "Scientists should be allowed to do research that causes pain and injury to animals like dogs and chimpanzees if it produces new information about human health problems. Do you strongly agree, agree, disagree, or strongly disagree?"

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-15 in Volume 1.

Appendix table 8-29.
Public assessment of the use of mice in scientific research, by selected characteristics: 1999
(Percentages)

Characteristic	Strongly agree	Agree	Do not know	Disagree	Strongly disagree	Sample size
All adults	10	60	2	21	7	1,882
Sex						
Male	14	65	2	15	4	900
Female	6	55	3	27	9	982
Formal education						
Less than high school	7	60	1	26	6	403
High school graduate	9	59	3	22	7	1,111
Baccalaureate degree and higher	17	60	2	16	5	368
Science/mathematics education[a]						
Low	8	60	3	23	6	1,051
Middle	9	59	1	22	9	480
High	15	61	2	17	5	351
Age						
18 to 24	6	47	2	29	16	263
25 to 34	8	61	3	22	6	440
35 to 44	11	60	3	20	6	395
45 to 54	14	60	1	20	5	295
55 to 64	11	65	2	18	4	191
65 and older	10	66	2	18	4	296
Attentiveness to science and technology[b]						
Attentive public	15	56	2	21	6	216
Interested public	13	60	2	20	5	836
Residual public	6	60	3	23	8	830
Question order						
Mice first	13	58	3	20	6	978
Dogs and chimps first	7	62	2	23	6	904

NOTE: Responses are to the following question: "Scientists should be allowed to do research that causes pain and injury to animals like mice if it produces new information about human health problems. Do you strongly agree, agree, disagree, or strongly disagree?"

[a]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

[b]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-22 in Volume 1.

Appendix table 8-30.
Public's access to computers from work and home, by selected characteristics: 1983–99 (selected years)

Characteristic	1983	1985	1988	1990	1995	1997	1999
			Percent				
All adults							
No access	70	66	62	58	46	43	35
Home but not work	5	9	10	10	15	19	23
Work but not home	22	19	19	20	18	15	11
Work and home	3	6	9	12	21	23	31
Male							
No access	68	62	59	55	41	42	35
Home but not work	3	9	10	11	15	18	19
Work but not home	25	21	20	19	19	14	10
Work and home	4	8	11	15	25	26	36
Female							
No access	72	69	66	61	50	44	35
Home but not work	6	8	9	10	15	21	26
Work but not home	20	18	19	21	18	15	12
Work and home	2	5	6	8	17	20	27
Less than high school graduate							
No access	94	87	92	85	80	79	74
Home but not work	<1	6	5	6	8	16	17
Work but not home	5	7	3	8	10	2	5
Work and home	<1	0	0	1	2	3	5
High school graduate							
No access	66	65	58	55	42	40	30
Home but not work	6	9	12	12	18	21	26
Work but not home	25	21	23	22	20	18	13
Work and home	3	5	7	11	20	21	31
Baccalaureate and higher							
No access	47	40	33	29	18	12	8
Home but not work	6	10	10	12	15	20	19
Work but not home	39	33	31	29	22	18	12
Work and home	8	17	26	30	45	50	61
Attentive public for science and technology[a]							
No access	61	56	50	44	31	34	31
Home but not work	7	10	14	15	19	24	23
Work but not home	22	23	20	16	13	12	7
Work and home	10	11	16	25	37	30	39
			Sample size				
All adults	631	2,005	2,041	2,033	2,006	2,000	1,882
Male	775	950	958	964	953	930	900
Female	856	1,054	1,084	1,070	1,053	1,070	982
Less than high school graduate	404	507	530	495	418	420	403
High school graduate	941	1,147	1,158	1,202	1,196	1,188	1,111
Baccalaureate and higher	282	349	353	336	392	392	368
Attentive public to science & technology[a]	208	235	233	229	195	288	216

NOTE: In 1985, 1988, 1990, 1995, 1997, and 1999, the question was worded, "Do you use a computer in your work? About how many hours do you personally use your work computer in a typical week? Do you presently have a home computer in your household? About how many hours do you personally use your home computer in a typical week? In 1983, the question was worded, "Do you use computers or word processing equipment in your work?…"

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figures 8-16 and 8-19 in Volume 1.

Appendix table 8-31.
Public's access to computers from work and home, by selected characteristics: 1995, 1997, and 1999

Characteristic	1995	1997	1999
	Percent		
All adults			
Have more than one computer in home	—	12	17
Have CD-ROM reader in home computer	14	29	45
Have modem in home computer	21	33	46
Subscribe to network service at home	7	18	32
Have e-mail address at home	—	18	31
Have ever accessed the WWW at home	—	16	28
Have e-mail address at work	—	16	20
Have access to the WWW at work	—	14	23
Male			
Have more than one computer in home	—	14	19
Have CD-ROM reader in home computer	16	31	48
Have modem in home computer	24	35	48
Subscribe to network service at home	9	21	34
Have e-mail address at home	—	20	33
Have ever accessed the WWW at home	—	20	30
Have e-mail address at work	—	18	24
Have access to the WWW at work	—	18	27
Female			
Have more than one computer in home	—	11	15
Have CD-ROM reader in home computer	13	26	42
Have modem in home computer	18	30	44
Subscribe to network service at home	5	15	31
Have e-mail address at home	—	15	30
Have ever accessed the WWW at home	—	13	26
Have e-mail address at work	—	14	16
Have access to the WWW at work	—	11	19
Less than high school graduate			
Have more than one computer in home	—	5	4
Have CD-ROM reader in home computer	3	8	14
Have modem in home computer	2	13	15
Subscribe to network service at home	1	1	9
Have e-mail address at home	—	6	7
Have ever accessed the WWW at home	—	5	6
Have e-mail address at work	—	1	1
Have access to the WWW at work	—	2	3
High school graduate			
Have more than one computer in home	—	11	17
Have CD-ROM reader in home computer	15	29	47
Have modem in home computer	22	31	48
Subscribe to network service at home	6	17	33
Have e-mail address at home	—	17	32
Have ever accessed the WWW at home	—	14	28
Have e-mail address at work	—	12	16
Have access to the WWW at work	—	11	19
Baccalaureate and higher			
Have more than one computer in home	—	24	31
Have CD-ROM reader in home computer	25	51	72
Have modem in home computer	36	57	74
Subscribe to network service at home	16	37	57
Have e-mail address at home	—	33	55
Have ever accessed the WWW at home	—	34	52
Have e-mail address at work	—	41	52
Have access to the WWW at work	—	39	57

See explanatory notes, if any, and SOURCE at end of table.

Appendix table 8-31.
Public's access to computers from work and home, by selected characteristics: 1995, 1997, and 1999

Characteristic	1995	1997	1999
	Percent		
Attentive public to science and technology[a]			
Have more than one computer in home	—	17	22
Have CD-ROM reader in home computer	24	40	56
Have modem in home computer	37	47	55
Subscribe to network service at home	16	26	36
Have e-mail address at home	—	30	36
Have ever accessed the WWW at home	—	30	33
Have e-mail address at work	—	23	24
Have ever accessed the WWW at work	—	23	28
	Sample Size		
All adults	2,006	2,000	1,882
Male	953	930	900
Female	1,053	1,070	982
Less than high school graduate	418	420	403
High school graduate	1,196	1,188	1,111
Baccalaureate and higher	392	392	368
Attentive public to science & technology[a]	195	288	216

— = not included in survey; WWW = World Wide Web

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figures 8-17 and 8-18 in Volume 1.

Appendix table 8-32.
Public's access to and use of computers at home and work, by selected characteristics: 1999

Characteristic	Percent												Hours per year			Sample size
						On home computer					On work computer					
	Computer in work	Computer at home	Computer home & work	Computer home or work	No computer	Modem	On-line service	CD-ROM	E-mail address	Access WWW	E-mail address	Access WWW	Work computer	Home computer	On-line	
All adults	42	54	31	65	35	46	32	45	31	28	20	23	421	153	86	1,882
Formal education																
Less than high school	9	21	5	26	74	15	9	14	7	6	1	3	105	43	21	403
High school graduate	44	57	31	70	30	48	33	47	32	28	16	19	411	157	76	1,111
Baccalaureate	70	78	57	91	9	71	55	68	54	50	47	51	788	266	184	239
Graduate/professional	78	84	68	93	7	78	61	77	56	57	62	67	821	257	195	129
Science/mathematics education[a]																
Low	28	39	18	49	51	29	19	29	18	15	9	12	262	87	42	1,051
Middle	53	67	41	79	21	60	46	59	43	41	23	26	510	201	110	480
High	70	81	57	94	6	76	56	73	55	51	47	53	777	287	186	351
Sex																
Male	46	55	36	65	35	48	34	48	33	30	24	27	419	171	101	900
Female	39	53	27	65	35	44	31	42	30	26	16	19	424	137	72	982
Attentiveness to science or technology[b]																
Attentive public	46	62	39	69	31	55	36	56	36	33	24	28	527	259	113	216
Interested public	46	59	34	71	29	50	37	50	34	32	22	28	435	167	107	836
Residual public	37	47	26	58	42	39	27	37	27	22	16	18	381	112	58	830
Cable																
Cable and satellite	66	86	61	93	7	77	55	83	62	55	24	24	622	293	130	29
Have cable	44	55	32	67	33	46	34	45	32	29	19	23	439	162	93	1,216
Satellite dish	41	59	30	70	30	51	32	48	32	28	21	24	410	156	84	216
Neither[c]	37	46	27	56	44	40	25	39	25	21	20	23	361	118	65	421

WWW = World Wide Web

NOTE: Responses are to the statements: "Do you use a computer in your work? About how many hours do you personally use your work computer in a typical week? Do you have an e-mail address for use at work? Do you have access to the World Wide Web through your work computer? Do you presently have a home computer in your household? About how many hours do you personally use your home computer in a typical week? Do you have a CD-ROM reader in your home computer? Do you have a modem in your home computer? Do you presently subscribe to any network service such as CompuServe, Prodigy, America Online, or any other dial-in service? About how many hours a month do you use your dial-in or network service? Do you have an e-mail address that you use with your home computer? Do you ever access the World Wide Web through your home computer?"

[a]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

[b]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

[c]This category includes respondents who reported that they did not watch any television.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-18 and text table 8-5 in Volume 1.

Appendix table 8-33.
Public use of information on an annual basis, by selected characteristics: 1999

Characteristic	Hours per year: Total TV	Hours per year: TV news	Hours per year: Science TV	Hours per year: Total radio	Hours per year: Radio news	Copies per year: News-papers	Copies per year: News magazines	Copies per year: Science magazines	Visits per year: Science museum	Visits per year: Public library	Number per year: Books borrowed	Number per year: Video tapes borrowed	Sample size
All adults	1,017	431	42	918	228	178	11.3	3.2	2.2	8.6	11.3	1.2	1,882
Formal education													
Less than high school	1,404	550	36	870	223	157	5.5	1.6	1.8	4.8	4.6	0.5	403
High school graduate	976	419	43	1,009	224	174	10.6	3.1	2.0	9.1	11.8	1.2	1,111
Baccalaureate	733	335	48	761	261	202	18.1	4.8	3.4	11.1	15.3	1.7	239
Graduate/professional	680	347	40	570	221	229	21.9	6.5	3.1	12.5	19.6	2.0	129
Science/mathematics education[a]													
Low	1,175	482	42	971	227	172	7.5	2.2	1.6	6.1	7.3	0.7	1,051
Middle	923	405	42	920	229	185	15.1	3.5	2.5	10.3	14.6	1.4	480
High	670	316	44	752	229	184	17.2	5.8	3.6	13.9	18.5	2.2	351
Sex													
Male	1,009	410	46	965	254	189	11.8	4.5	2.2	7.3	7.4	1.0	900
Female	1,023	450	38	874	204	168	10.8	2.0	2.2	9.8	14.8	1.3	982
Attentiveness to science or technology[b]													
Attentive public	1,036	509	52	864	301	287	24.8	9.1	3.8	11.4	14.5	1.3	216
Interested public	1,078	442	50	910	223	161	9.7	3.5	2.4	8.2	10.4	1.2	836
Residual public	950	401	31	939	214	167	9.4	1.4	1.6	8.4	11.3	1.0	830
Cable													
Cable and satellite	879	503	24	935	291	200	10.7	4.3	3.7	9.7	14.3	0.6	29
Have cable	1,100	458	50	890	204	184	12.2	3.2	2.3	7.8	9.4	0.9	1,216
Satellite dish	1,099	426	39	1,002	279	181	7.0	3.4	2.2	9.0	13.2	1.4	216
Neither[c]	743	352	20	952	268	155	10.7	2.9	1.8	10.6	15.3	1.2	421

[a]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

[b]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues, but who is a member of the interested public for at least one of those issues, is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

[c]This category includes respondents who reported that they did not watch any television.

NOTE: Responses are to the statements: "Altogether, on an average day, about how many hours would you say that you watch television? About how many of those hours are news reports or news shows?" "Now, let me ask you about your use of museums, zoos, and similar institutions. I am going to read to 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. If you did not visit a given place, just say none. A natural history museum—how many times did you visit it during the last year? A zoo or an aquarium—how many times did you visit it during the last year? A science or technology museum—how many times did you visit it during the last year? A public library—how many times did you visit it during the last year?"; "During the last 12 months, did you borrow any books from the public library? *(If yes):* About how many books did you borrow during the last year?" "During the last 12 months, did you borrow any videotapes from the library? *(If yes):* About how many videotapes did you borrow during the last year?" "Do you watch any television shows that focus primarily on science or nature? Which science or nature show do you watch most often? About how many times a month do you watch this show?"; and "On an average day, about how many hours would you say that you listen to a radio? About how many of those hours are news reports or news shows? " "Now let me change the topic slightly and ask you how you get information. First, how often do you read a newspaper: every day, a few times a week, once a week, or less than once a week?" "Are there any magazines that you read regularly, that is most of the time? *If yes:* What magazine would that be? Is there another magazine that you read regularly?

SOURCES: National Science Foundation, Division of Science Resources Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-26 in Volume 1.

Appendix table 8-34.
Public use of various sources of information, by selected characteristics: 1999
(Percentages)

Characteristic	Newspaper every day	News mag. read regularly	TV news 1+hr/day	Radio news 1+hr/day	Public library 1 visit/yr	Public library 5 visits/yr	Science magazine 1+/month	Science TV 1+/month	Science museum 1+/year	Purchased one+ book/yr Any	Purchased one+ book/yr Science	Sample size
All adults	41	17	67	29	72	40	22	59	61	62	33	1,882
Formal education												
Less than high school	36	9	78	26	53	25	13	48	37	34	10	403
High school graduate	40	16	66	29	76	43	22	62	63	65	35	1,111
Baccalaureate	48	26	59	33	82	52	27	61	83	86	53	239
Graduate/professional	57	34	56	29	81	49	38	64	79	86	56	129
Science/mathematics education[a]												
Low	40	13	73	29	63	31	17	54	49	50	21	1,051
Middle	42	22	64	27	81	46	24	63	73	71	39	480
High	42	26	54	30	87	61	35	68	82	88	61	351
Sex												
Male	44	18	65	32	69	36	31	65	63	57	34	900
Female	38	16	69	26	75	44	14	54	60	67	33	982
Attentiveness to science & technology[b]												
Attentive public	75	38	74	35	79	55	51	74	73	79	58	216
Interested public	35	15	69	29	77	40	25	64	67	67	37	836
Residual public	38	14	64	26	66	37	12	50	52	53	23	830
Cable												
Have cable and satellite	46	17	72	45	72	52	28	72	72	79	57	29
Have cable	43	19	70	26	74	39	22	66	62	63	33	1,216
Satellite dish	40	10	66	31	69	40	26	69	62	62	34	216
Neither[c]	35	16	58	34	70	44	20	35	58	60	32	421

[a]Respondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses, and as "low" if they took five or fewer.

[b]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

[c]This category includes respondents who reported that they did not watch any television.

NOTE: Responses are to the statements: "How often do you read a newspaper: every day, a few times a week, once a week, or less than once a week?"; "Are there any magazines that you read regularly, that is, most of the time? What magazine would that be?";"Altogether, on an average day, about how many hours would you say that you watch television? About how many of those hours are news reports or news shows?"; "Now let me ask you about your use of museums, zoos, and similar institutions. 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. If you did not visit any given place, just say none. A natural history museum—how many times did you visit it during the last year? A zoo or an aquarium—how many times did you visit it during the last year? A science or technology museum—how many times did you visit it during the last year? A public library—how many times did you visit it during the last year?"; "Do you watch any television shows that focus primarily on science or nature? Which science or nature show do you watch most often? About how many times a month do you watch this show?"; and "On an average day, about how many hours would you say that you listen to a radio? About how many of those hours are news reports or news shows?"

SOURCES: National Science Foundation, Division of Science Resources Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-26 in Volume 1.

Appendix table 8-35.
Percentage of the public reading a newspaper every day, by selected characteristics: 1979–99 (selected years)

Characteristic	1979	1981	1985	1988	1990	1992	1995	1997	1999
				Percent					
All adults	60	62	61	53	57	56	47	46	41
Sex									
Male	63	64	66	52	63	63	52	49	44
Female	57	61	57	55	52	50	43	43	38
Formal education									
Less than high school	52	56	55	46	53	47	42	41	36
High school graduate	59	62	61	54	55	56	46	44	40
Baccalaureate degree	74	68	68	59	71	59	55	53	48
Graduate/professional degree	84	75	79	68	70	70	60	59	57
Attentiveness to science or technology[a]									
Attentive public	88	88	85	77	87	76	77	79	75
Interested public	56	59	55	51	54	53	41	38	35
Residual public	58	57	61	50	53	54	48	42	38
				Sample size					
All adults	1,635	1,631	2,005	2,041	2,033	1,004	2,006	2,000	1,882
Male	773	775	950	958	964	486	953	930	900
Female	862	856	1,054	1,084	1,070	533	1,053	1,070	982
Less than high school graduate	465	404	507	530	495	215	418	420	403
High school graduate	932	941	1,147	1,158	1,202	623	1,196	1,188	1,111
Baccalaureate and higher	238	282	349	353	336	203	392	392	368
Attentive public to science and technology[a]	154	208	235	233	229	105	195	288	216

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it; and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See figure 8-20 in Volume 1.

Science & Engineering Indicators – 2000

Appendix table 8-36.
Percentage of the public visiting a science or technology museum one or more times per year: 1983–99 (selected years)

Characteristic	1983	1985	1988	1990	1992	1995	1997	1999
				Percent				
All adults	61	58	59	59	62	61	60	61
Sex								
Male	62	58	57	59	60	59	63	63
Female	60	57	61	60	63	63	58	60
Formal education								
Less than high school	43	37	36	30	40	32	34	37
High school graduate	63	61	64	66	64	64	64	63
Baccalaureate degree	78	78	80	79	78	80	78	83
Graduate/professional degree	83	79	81	76	78	83	75	79
Attentiveness to science or technology[a]								
Attentive public	72	70	61	69	67	71	68	73
Interested public	66	60	63	60	61	65	66	67
Residual public	51	53	56	57	61	54	51	52
				Sample size				
All adults	1,631	2,005	2,041	2,033	1,004	2,006	2,000	1,882
Male	775	950	958	964	486	953	930	900
Female	856	1,054	1,084	1,070	533	1,053	1,070	982
Less than high school graduate	404	507	530	495	215	418	420	403
High school graduate	941	1,147	1,158	1,202	623	1,196	1,188	1,111
Baccalaureate and higher	282	349	353	336	203	392	392	368
Attentive public to science and technology[a]	208	235	233	229	105	195	288	216

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues, but who is a member of the interested public for at least one of those issues, is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-26 in Volume 1.

Appendix table 8-37.
Public assessment of the quality of science and mathematics education in the U.S., by selected characteristics: 1985–99 (selected years)

Characteristic	1985	1988	1990	1992	1995	1997	1999
			Percent				
All adults							
Strongly agree	14	18	24	24	21	23	21
Agree	49	50	48	51	48	45	42
Do not know	8	7	4	4	6	6	7
Disagree	27	23	22	19	22	22	26
Strongly disagree	2	2	2	2	3	4	4
Male							
Strongly agree	14	17	24	24	20	22	19
Agree	49	50	50	51	49	44	46
Do not know	7	7	3	3	5	6	6
Disagree	28	23	21	19	23	25	25
Strongly disagree	2	2	2	3	3	3	4
Female							
Strongly agree	14	18	24	24	21	24	23
Agree	49	49	46	50	48	45	38
Do not know	9	7	5	5	7	7	7
Disagree	26	24	22	19	21	20	28
Strongly disagree	2	2	3	2	3	4	4
Less than high school graduate							
Strongly agree	7	11	19	17	14	14	14
Agree	53	51	45	51	47	45	36
Do not know	11	14	9	5	13	10	12
Disagree	27	22	23	24	22	27	32
Strongly disagree	2	2	4	3	4	4	6
High school graduate							
Strongly agree	15	19	24	24	20	24	22
Agree	48	49	49	50	49	45	44
Do not know	7	5	3	4	5	6	5
Disagree	28	25	22	19	23	21	26
Strongly disagree	2	2	2	3	3	4	3
Baccalaureate and higher							
Strongly agree	22	24	30	29	28	29	27
Agree	45	50	48	53	48	44	44
Do not know	5	4	3	2	3	4	5
Disagree	25	20	16	15	19	20	21
Strongly disagree	3	2	3	1	2	3	3
Attentive public for science and technology[a]							
Strongly agree	20	26	36	31	32	33	32
Agree	53	48	46	49	42	37	36
Do not know	5	5	1	3	2	4	5
Disagree	20	20	15	14	21	21	19
Strongly disagree	2	1	2	4	3	5	7

See explanatory notes, if any, and SOURCE at end of table.

Appendix table 8-37.
Public assessment of the quality of science and mathematics education in the U.S., by selected characteristics: 1985–99 (selected years)

Characteristic	1985	1988	1990	1992	1995	1997	1999
			Sample size				
All adults	2,005	2,041	2,033	1,004	2,006	2,000	1,882
Male	950	958	964	486	953	930	900
Female	1,054	1,084	1,070	533	1,053	1,070	982
Less than high school graduate	507	530	495	215	418	420	403
High school graduate	1,147	1,158	1,202	623	1,196	1,188	1,111
Baccalaureate and higher	349	353	336	203	392	392	368
Attentive public to science and technology[a]	235	233	229	105	195	288	216

NOTE: Responses are to the following question: "The quality of science and mathematics education in American schools is inadequate. Do you strongly agree, agree, disagree, or strongly disagree?"

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-32 in Volume 1.

Appendix table 8-38.
Public assessment of astrology, by selected characteristics: 1979–99 (selected years)

Characteristic	1979	1981	1985	1988	1990	1992	1995	1997	1999
				Percent					
All adults									
Very scientific	7	10	8	6	6	6	7	7	7
Sort of scientific	34	35	31	31	29	29	28	29	29
Not at all scientific	50	51	57	60	60	62	60	59	59
Do not know	9	4	4	3	5	3	5	5	5
Male									
Very scientific	7	9	7	5	5	6	7	7	7
Sort of scientific	30	29	29	25	23	25	24	27	25
Not at all scientific	54	58	60	67	67	67	65	63	63
Do not know	9	4	4	3	5	2	4	3	5
Female									
Very scientific	8	10	9	7	6	7	7	7	7
Sort of scientific	37	41	32	37	35	32	32	31	32
Not at all scientific	46	44	55	53	55	58	55	55	56
Do not know	9	5	4	3	4	3	6	7	5
Less than high school graduate									
Very scientific	11	13	14	11	7	12	11	11	13
Sort of scientific	34	37	38	35	31	33	28	37	34
Not at all scientific	39	40	43	50	50	49	48	42	41
Do not know	16	10	5	4	12	6	13	10	12
High school graduate									
Very scientific	7	10	8	6	6	6	8	7	7
Sort of scientific	37	38	29	32	32	31	30	30	30
Not at all scientific	50	50	60	59	60	61	59	59	60
Do not know	6	2	3	3	2	2	3	4	3
Baccalaureate and higher									
Very scientific	2	3	3	2	3	3	2	3	2
Sort of scientific	20	25	25	23	18	17	22	19	19
Not at all scientific	71	69	70	74	77	78	74	76	76
Do not know	7	3	2	1	2	2	2	2	3
Attentive public to science and technology[a]									
Very scientific	8	9	7	3	6	15	8	7	12
Sort of scientific	28	34	27	29	21	23	24	29	23
Not at all scientific	60	54	62	66	72	58	65	62	64
Do not know	4	3	4	2	1	4	3	2	1

See explanatory notes, if any, and SOURCE at end of table.

Appendix table 8-38.
Public assessment of astrology, by selected characteristics: 1979–99 (selected years)

Characteristic	1979	1981	1985	1988	1990	1992	1995	1997	1999
				Sample size					
All adults	1,635	1,631	2,005	2,041	2,033	1,004	2,006	2,000	1,882
Male	773	775	950	958	964	486	953	930	900
Female	862	856	1,054	1,084	1,070	533	1,053	1,070	982
Less than high school graduate	465	404	507	530	495	215	418	420	403
High school graduate	932	941	1,147	1,158	1,202	623	1,196	1,188	1,111
Baccalaureate and higher	238	282	349	353	336	203	392	392	368
Attentive public to science and technology[a]	154	208	235	233	229	105	195	288	216

NOTE: Responses are to the following question: "Would you say that astrology is very scientific, sort of scientific, or not at all scientific?"

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it; and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies.

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See figure 8-24 in Volume 1.

Appendix table 8-39.
Frequency of reading astrology reports, by selected characteristics: 1985–99 (selected years)

Characteristic	1985	1988	1990	1992	1997	1999
			Percent			
All adults						
Every day	9	9	9	8	7	6
Quite often	6	8	8	7	8	6
Just occasionally	37	33	33	35	33	32
Almost never	13	13	12	13	12	17
Never	35	37	38	37	38	39
Do not know	<1	0	0	0	2	<1
Male						
Every day	8	6	5	6	3	4
Quite often	5	4	4	6	6	4
Just occasionally	30	30	29	29	32	26
Almost never	14	15	14	14	13	18
Never	43	45	48	45	44	48
Do not know	<1	0	0	0	2	0
Female						
Every day	10	13	12	10	10	7
Quite often	6	11	11	9	9	7
Just occasionally	44	37	37	40	35	37
Almost never	12	10	11	12	11	16
Never	27	29	29	29	33	33
Do not know	<1	0	0	0	2	<1
Less than high school graduate						
Every day	11	13	13	10	11	11
Quite often	7	8	7	9	8	7
Just occasionally	31	28	28	35	32	26
Almost never	11	10	9	14	6	15
Never	39	41	43	32	43	41
Do not know	<1	0	0	0	<1	<1
High school graduate						
Every day	10	8	9	9	7	5
Quite often	5	9	8	8	9	6
Just occasionally	40	36	36	37	35	34
Almost never	13	13	12	11	13	17
Never	32	35	35	35	34	38
Do not know	<1	0	0	0	2	0
Baccalaureate and higher						
Every day	5	6	4	5	4	3
Quite often	5	5	6	4	4	4
Just occasionally	37	33	30	29	29	30
Almost never	16	16	18	16	15	20
Never	36	40	42	46	44	43
Do not know	<1	0	0	0	4	0
Attentive public to science and technology[a]						
Every day	12	17	13	15	13	7
Quite often	6	8	5	4	9	3
Just occasionally	33	30	38	27	30	33
Almost Never	13	11	10	11	12	16
Never	36	34	34	43	32	41
Do not know	0	0	0	0	4	0

See explanatory notes, if any, and SOURCE at end of table.

Appendix table 8-39.
Frequency of reading astrology reports, by selected characteristics: 1985–99 (selected years)

Characteristic	1985	1988	1990	1992	1997	1999
			Sample size			
All adults	2,005	2,041	2,033	1,004	2,000	1,882
Male	950	958	964	486	930	900
Female	1,054	1,084	1,070	533	1,070	982
Less than high school graduate	507	530	495	215	420	403
High school graduate	1,147	1,158	1,202	623	1,188	1,111
Baccalaureate and higher	349	353	336	203	392	368
Attentive public to science and technology[a]	235	233	229	105	288	216

NOTE: Responses are to the following question: "Do you ever read a horoscope or your personal astrology report? *(If yes:*) Do you read an astrology report every day, quite often, just occasionally, or almost never?"

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

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See page 8-32 in Volume 1.

Appendix table 8-40.
Public assessment of lucky numbers, by selected characteristics: 1988–99 (selected years)

Characteristic	1988	1990	1992	1995	1997	1999
			Percent			
All adults						
Strongly agree	1	2	3	2	2	3
Agree	35	33	33	35	34	31
Do not know	5	4	3	4	5	3
Disagree	51	51	50	48	46	51
Strongly disagree	8	10	11	11	13	12
Male						
Strongly agree	2	2	4	3	2	4
Agree	35	31	33	34	33	30
Do not know	4	3	3	3	5	2
Disagree	50	52	48	48	46	51
Strongly disagree	9	12	12	12	14	13
Female						
Strongly agree	1	2	2	2	2	3
Agree	36	36	34	37	36	32
Do not know	5	5	3	4	5	4
Disagree	52	50	52	48	45	51
Strongly disagree	6	7	9	9	12	10
Less than high school graduate						
Strongly agree	1	2	7	3	4	7
Agree	47	46	43	46	43	39
Do not know	7	6	5	6	8	4
Disagree	43	44	40	41	33	44
Strongly disagree	2	2	5	4	12	6
High school graduate						
Strongly agree	2	3	3	3	2	2
Agree	34	33	35	37	36	33
Do not know	3	3	2	3	4	3
Disagree	54	52	51	48	48	52
Strongly disagree	7	9	9	9	10	10
Baccalaureate and higher						
Strongly agree	1	1	0	1	2	1
Agree	23	16	18	20	20	21
Do not know	5	4	4	4	5	3
Disagree	53	59	57	55	52	52
Strongly disagree	18	20	21	20	21	23
Attentive public to science and technology[a]						
Strongly agree	2	2	5	6	5	6
Agree	36	28	32	25	29	27
Do not know	4	5	4	3	6	2
Disagree	45	51	44	48	42	45
Strongly disagree	13	14	15	18	18	20

See explanatory notes, if any, and SOURCE at end of table.

Appendix table 8-40.
Public assessment of lucky numbers, by selected characteristics: 1988–99 (selected years)

Characteristic	1988	1990	1992	1995	1997	1999
			Sample size			
All adults	2,041	2,033	1,004	2,006	2,000	1,882
Male	958	964	486	953	930	900
Female	1,084	1,070	533	1,053	1,070	982
Less than high school graduate	530	495	215	418	420	403
High school graduate	1,158	1,202	623	1,196	1,188	1,111
Baccalaureate and higher	353	336	203	392	392	368
Attentive public to science and technology[a]	233	229	105	195	288	216

NOTE: Responses are to the following question: "Some numbers are especially lucky for some people. Do you strongly agree, agree, disagree, or strongly disagree?"

[a]To be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue area, report that he or she is "very well informed" about it, and be a regular reader of a daily newspaper or relevant national magazine. Citizens who report that they are "very interested" in an issue area, but who do not think that they are "very well informed" about it, are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue area. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of those issues but who is a member of the interested public for at least one of those issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology.

SOURCES: National Science Foundation, Division of Science Resource Studies (NSF/SRS), *NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 1999* (and earlier years). For a complete set of data from the survey, see J.D. Miller and L. Kimmel, *Public Attitudes Toward Science and Technology, 1979–1999, Integrated Codebook* (Chicago: International Center for the Advancement of Scientific Literacy, Chicago Academy of Sciences, 1999); and unpublished tabulations.

See page 8-32 in Volume 1.