

**2019 PEW RESEARCH CENTER'S AMERICAN TRENDS PANEL
WAVE 42 JANUARY
FINAL TOPLINE
JANUARY 7-21, 2019
TOTAL N=4,464**

ASK FORM 1 [N=2,226]:

PAST Compared with twenty years ago, do you think developments in science have made people's lives...

Jan 7-21

2019

85	Better
4	Worse
11	About the same
<1	No answer

ASK FORM 1 [N=2,226]:

FUTURE Looking ahead to the next twenty years, do you think developments in science will make people's lives...

Jan 7-21

2019

82	Better
6	Worse
11	About the same
<1	No answer

IF FORM 1, RANDOMLY ASSIGN HALF OF RESPONDENTS TO FUTURE_BOE AND HALF TO FUTURE_WOE

ASK IF FORM 1 AND RANDOMLY ASSIGNED THIS QUESTION [N=1,113]:

FUTURE_BOE Thinking just about developments in science that will make people's lives BETTER, what kinds of developments do you think that would be?

Jan 7-21

2019

60	Medicine NET
26	<i>Advances in health care and medicine</i>
17	<i>Cures and preventions</i>
14	<i>Treatments and medications</i>
3	<i>Medical technology</i>
3	<i>Medical research</i>
3	<i>Longevity of life</i>
1	<i>Developments from stem cells</i>
1	<i>Surgical techniques</i>
1	<i>Improvements that help people with disabilities</i>
14	Environment and environmental awareness NET
6	<i>Changes in energy (alternative, etc.)</i>
5	<i>Environmental awareness</i>
2	<i>Global climate change</i>
2	<i>Air/water/ocean quality</i>
13	Technology and computerization NET
8	<i>Technological development</i>
3	<i>Robotics/AI/automation</i>
2	<i>Communication/connectivity</i>
21	Miscellaneous effects on life and society NET
7	Transportation/infrastructure/engineering NET
4	<i>Transportation options</i>
1	<i>Self-driving cars</i>
1	<i>Safer travel</i>
1	<i>Better infrastructure (bridges, buildings, city development, housing)</i>
4	Food NET
4	<i>Agriculture/food advancements</i>
<1	<i>GMOs</i>
4	Genetics NET
3	<i>Genetic engineering/therapy</i>
1	<i>DNA/genetic research</i>
<1	<i>Cloning</i>
2	Space exploration/travel
<1	Safety
<1	Entertainment
7	Miscellaneous effects on life and society-Other NET
2	<i>Making life easier and efficient</i>
2	<i>Quality of life/standard of living</i>
1	<i>Economic improvements</i>
1	<i>Increased knowledge</i>
1	<i>Innovation and research</i>
<1	<i>General better</i>
3	Other/indecipherable NET
1	<i>Mentions opposite response (answered worse)</i>
22	Don't know/no answer NET
3	<i>Don't know</i>
20	<i>No answer</i>

ASK IF FORM 1 AND RANDOMLY ASSIGNED THIS QUESTION [N=1,113]:

FUTURE_WOE Thinking just about developments in science that will make people's lives WORSE, what kinds of developments do you think that would be?

Jan 7-21

2019

29	Technology and computerization NET
12	<i>Technological developments</i>
7	<i>Robotics/AI/automation</i>
5	<i>Advances in weaponry</i>
5	<i>Technology taking jobs</i>
3	<i>Lack of communication/connection</i>
1	<i>Dehumanization</i>
1	<i>Cybersecurity</i>
12	Genetics NET
6	<i>Cloning</i>
6	<i>Genetic engineering/manipulation</i>
11	Medicine NET
6	<i>Treatments and medications</i>
2	<i>Health and medicine related</i>
1	<i>Complications with longevity of life; overpopulation</i>
1	<i>Lack of cures/preventions</i>
1	<i>Medical research</i>
<1	<i>Medical technology</i>
20	Miscellaneous effects on life and society NET
6	Environment and environmental awareness NET
3	<i>Negative effects on environment</i>
1	<i>Global climate change</i>
1	<i>Changes in energy (alternative, etc.)</i>
4	Food NET
2	<i>Negative effects on agriculture/food</i>
2	<i>GMOs</i>
2	Transportation/infrastructure/engineering NET
1	<i>Self-driving cars</i>
<1	<i>Transportation options</i>
1	We don't know future effects
<1	Space exploration/travel
<1	Depends on how it's used
<1	Safety
<1	Entertainment
8	Miscellaneous effects on life and society- Other NET
2	<i>Loss of privacy/freedom</i>
2	<i>Widens gap between rich and poor</i>
1	<i>Innovation and research</i>
1	<i>Easing life/efficiency; making people lazy</i>
1	<i>Economic</i>
1	<i>General worse</i>
<1	<i>Negative effects on knowledge and education</i>
8	Other/indecipherable
2	<i>Mentions opposite response (answered better)</i>
35	Don't know/no answer NET
5	<i>Don't know</i>
30	<i>No answer</i>

ASK FORM 2 [N=2,238]:

SC1 Overall, would you say science has had a mostly positive effect on our society or a mostly negative effect on our society?

Jan 7-21

2019

73	Mostly positive
3	Mostly negative
23	Equal positive and negative effects
<1	No answer

Mar 2-28

2016

67
4
27
2

ASK IF SCIENCE HAS HAD A "MOSTLY POSITIVE" EFFECT (SC1=1) [N=1,656]:

SC1POS What are the main ways you think science has had a positive effect on society?

Jan 7-21

2019

56	Medicine NET
31	<i>Better treatments and cures</i>
22	<i>Improvements to health and medicine</i>
6	<i>Life expectancy</i>
2	<i>Medical research</i>
23	Technology and computerization NET
14	<i>Developments in technology</i>
6	<i>Speed of communication and information</i>
3	<i>Convenience and productivity due to technology</i>
1	<i>AI, robotics, etc.</i>
14	Environment and environmental awareness NET
6	<i>Awareness and care for environment</i>
3	<i>Improvements in energy</i>
3	<i>Climate science</i>
1	<i>Global climate change</i>
1	<i>Safety of and access to resources</i>
1	<i>Weather tracking</i>
47	Miscellaneous effect on life and society NET
6	Food NET
5	<i>Improvements to food (safer, better, etc.)</i>
1	<i>Agricultural innovations</i>
<1	<i>GMOS</i>
6	Transportation/infrastructure/engineering NET
4	<i>Transportation</i>
2	<i>Infrastructure improvements</i>
4	Space
1	Safety
1	Genetics NET
1	<i>DNA/genetics</i>
<1	<i>Gene editing of humans</i>
<1	Confirming creationism; linking religion and science
<1	Entertainment
<1	Depends on the way it's used
35	Miscellaneous effects on life and society- other NET
11	<i>Better understanding of the world</i>
8	<i>Quality of life/standard of living</i>
7	<i>Inventions and innovations</i>
5	<i>Increased knowledge</i>
3	<i>General positive</i>
2	<i>General research</i>
1	<i>Education</i>
1	<i>Economic growth</i>
<1	<i>Military defense/strength</i>
1	Other/indecipherable
14	Don't know/no answer NET
<1	<i>Don't know</i>
13	<i>No answer</i>

ASK IF SCIENCE HAS HAD “MOSTLY NEGATIVE” OR “EQUAL POSITIVE AND NEGATIVE EFFECTS” (SC1=2,3) [N=576]:

SC1NEG What are the main ways you think science has had a negative effect on society?

Jan 7-21

2019

11	Issues with scientists and scientific theories NET
5	<i>Issues with scientific studies and theories</i>
4	<i>Deception (from scientists, companies); driven by money</i>
1	<i>The science keeps changing</i>
1	<i>Science is politicized</i>
<1	<i>Theory of evolution</i>
10	Environment and environmental awareness NET
4	<i>Negative effects on environment</i>
3	<i>Global climate change</i>
3	<i>Climate science</i>
<1	<i>Weather tracking</i>
8	Technology and computerization NET
5	<i>Developments in technology</i>
2	<i>Inability to communicate</i>
1	<i>AI, robotics, etc.</i>
6	Medicine NET
6	<i>Lack of cures and treatments; negative effects of current treatments</i>
1	<i>Negative effects on health</i>
<1	<i>Complications with longevity of life</i>
6	Science goes against religion
17	Miscellaneous effects on life and society NET
2	Genetics NET
2	<i>Cloning</i>
1	<i>DNA/genetics</i>
<1	<i>Gene editing of humans</i>
2	Unknown consequences NET
1	<i>We don't know what we're doing</i>
<1	<i>Unknown future consequences</i>
1	Gone too far; some things should be left alone
1	Food NET
1	<i>Negative effects on food</i>
<1	<i>GMOs</i>
1	Unethical
1	Depends on the way it's used
<1	Space
9	Miscellaneous effects on life and society other NET
3	<i>Weapons development</i>
3	<i>General negative</i>
2	<i>Economic loss</i>
1	<i>Negative effects on innovation, industrialization</i>
<1	<i>Anti-chemical comments</i>
<1	<i>General research</i>
7	Other/indecipherable NET
1	<i>Mentions a positive</i>
35	Don't know/no answer NET
2	<i>Don't know</i>
33	<i>No answer</i>

ASK ALL:

CONF How much confidence, if any, do you have in each of the following to act in the best interests of the public? **[RANDOMIZE ITEMS, SPLIT OVER TWO SCREENS]**

	<u>A great deal</u>	<u>A fair amount</u>	<u>Not too much</u>	<u>No confidence at all</u>	<u>No Answer</u>
a. Elected officials					
Jan 7-21, 2019	4	32	50	14	<1
Nov 27-Dec 10, 2018	4	33	48	15	<1
Jan 29-Feb 13, 2018	3	22	52	23	<1
May 10-June 6, 2016	3	24	54	19	1
b. The news media					
Jan 7-21, 2019	9	38	34	19	<1
Nov 27-Dec 10, 2018	10	38	33	19	<1
<i>[Form 1 or 4, N=5,267]</i>					
Jan 29-Feb 13, 2018	8	32	35	25	<1
May 10-June 6, 2016	5	33	40	21	1
c. The military					
Jan 7-21, 2019	36	46	14	4	<1
Nov 27-Dec 10, 2018	41	41	12	4	1
Jan 29-Feb 13, 2018	39	41	15	4	<1
May 10-June 6, 2016	33	46	15	5	1
d.F1 Medical scientists [FORM 1 ONLY]					
Jan 7-21, 2019	35	52	11	2	<1
<i>[Form 1, N=2,226]</i>					
May 10-June 6, 2016	24	60	12	3	1
<i>[Form 1, N=1,549]</i>					
d.F2 Scientists [FORM 2 ONLY]					
Jan 7-21, 2019	35	51	11	2	<1
<i>[Form 2, N=2,238]</i>					
Nov 27-Dec 10, 2018	33	49	14	3	<1
Jan 29-Feb 13, 2018	27	52	17	5	<1
May 10-June 6, 2016	21	55	18	4	1
<i>[Form 2 or 3, N=3,014]</i>					
e. Religious leaders					
Jan 7-21, 2019	13	44	30	12	<1
Nov 27-Dec 10, 2018	15	47	27	11	1
Jan 29-Feb 13, 2018	9	40	34	16	1
May 10-June 6, 2016	13	39	32	14	1

CONF continued ...

f. Public school principals for grades K-12

Jan 7-21, 2019	21	56	18	4	1
Nov 27-Dec 10, 2018	25	55	16	4	<1

*[Form 2 or 3, N=5,351]***TRENDS FOR COMPARISON¹:**

Nov 27-Dec 10, 2018	22	55	17	5	1
May 10-June 6, 2016	13	53	27	7	1

[Form 1 or 4, N=5,267]

g. Business leaders

Jan 7-21, 2019	6	40	43	11	<1
Nov 27-Dec 10, 2018	4	39	43	14	<1
Jan 29-Feb 13, 2018	5	40	42	13	<1
May 10-June 6, 2016	4	37	44	14	1

ASK ALL:POLICY1 Which of these statements comes closer to your own view, even if neither is exactly right? **[RANDOMIZE]**

Jan 7-21

2019

60

Scientists should take an active role in public policy debates about scientific issues

39

Scientists should focus on establishing sound scientific facts and stay out of public policy debates

1

No answer

ASK ALL:POLICY2 Which of these statements comes closer to your own view, even if neither is exactly right? **[DO NOT RANDOMIZE]**

Jan 7-21

2019

54

Public opinion should play an important role to guide policy decisions about scientific issues

44

Public opinion should NOT play an important role to guide policy decisions about scientific issues because these issues are too complex for the average person to understand

1

No answer

¹ For forms 1 and 4 in a Dec. 2018 survey and for a June 2016 survey, the wording of this item was "public school principals and superintendents for grades K-12."

ASK ALL:

POLICY3 In general, would you say scientific experts are... **[DO NOT RANDOMIZE]**

Jan 7-21

2019

45	Usually BETTER at making good policy decisions about scientific issues than other people
7	Usually WORSE at making good policy decisions about scientific issues than other people
48	NEITHER BETTER NOR WORSE at making good policy decisions about scientific issues than other people
1	No answer

RANDOMIZE SECTIONS F1A, F1B AND F1C AND RANDOMIZE SECTIONS F2A, F2B, AND F2C**ASK FORM 1 [N=2,226]:**

RQ1_F1A Medical research scientists conduct research to investigate human diseases, and test methods to prevent and treat them.

In general, would you say your view of medical research scientists is...

ASK FORM 2 [N=2,238]:

PQ1_F2A Medical doctors provide patients with diagnoses of disease and/or treatment recommendations to promote, maintain or restore a patient's health.

In general, would you say your view of medical doctors is...

	Medical research <u>scientists</u>	<u>Medical doctors</u>
Mostly positive	68	74
Mostly negative	7	8
Neither positive nor negative	24	18
No answer	1	<1

ASK FORM 1 [N=2,226]:

RQ2_F1A How much, if anything, do you know about what medical research scientists do?

ASK FORM 2 [N=2,238]:

PQ2_F2A How much, if anything, do you know about what medical doctors do?

	Medical research <u>scientists</u>	<u>Medical doctors</u>
A lot	16	46
A little	67	48
Nothing at all	17	6
No answer	<1	<1

ASK KNOW A LOT/A LITTLE ABOUT MEDICAL RESEARCH SCIENTISTS (RQ2_F1A=1,2) [N=1,897]:

RQ3_F1A Is what you know about medical research scientists because you ... **[RANDOMIZE ITEMS; MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

ASK KNOW A LOT/A LITTLE ABOUT MEDICAL DOCTORS (PQ2_F2A=1,2) [N=2,127]:

PQ3_F2A Is what you know about medical doctors because you ... **[RANDOMIZE ITEMS; MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

Based on those who know a lot/a little about medical research scientists [N=1,897]; medical doctors [N=2,127]:

- a. Know someone who does this

	Based on those asked	
	Medical research	
	<u>scientists</u>	<u>Medical doctors</u>
Yes, know someone who does this	32	69
No, do not know someone who does this	67	29
No answer	1	1

Based on total [N=4,464]:

	Based on U.S. adults	
	Medical research	
	<u>scientists</u>	<u>Medical doctors</u>
Know a lot/a little about this group	83	94
Yes, know someone who does this	27	65
No, do not know someone who does this	55	28
No answer to RQ3_F1Aa/PQ3_F2Aa	1	1
Know nothing at all about this group	17	6
No answer to RQ2_F1A/PQ2_F2A	<1	<1

RQ3_F1A and PQ3_F2A continued ...

Based on those who know a lot/a little about medical research scientists [N=1,897]; medical doctors [N=2,127]:

- b. Learned about this in school

	Based on those asked	
	Medical research	
	<u>scientists</u>	<u>Medical doctors</u>
Yes, learned about this in school	50	51
No, did not learn about this in school	49	49
No answer	1	1

Based on total [N=4,464]:

	Based on U.S. adults	
	Medical research	
	<u>scientists</u>	<u>Medical doctors</u>
Know a lot/a little about this group	83	94
Yes, learned about this in school	41	47
No, did not learn about this in school	40	45
No answer to RQ3_F1Ab/PQ3_F2Ab	1	1
Know nothing at all about this group	17	6
No answer to RQ2_F1A/PQ2_F2A	<1	<1

Based on those who know a lot/a little about medical research scientists [N=1,897]; medical doctors [N=2,127]:

- c. Learned about this in your job

	Based on those asked	
	Medical research	
	<u>scientists</u>	<u>Medical doctors</u>
Yes, learned about this in my job	22	27
No, did not learn about this in my job	77	72
No answer	1	1

Based on total [N=4,464]:

	Based on U.S. adults	
	Medical research	
	<u>scientists</u>	<u>Medical doctors</u>
Know a lot/a little about this group	83	94
Yes, learned about this in my job	18	25
No, did not learn about this in my job	64	67
No answer to RQ3_F1Ac/PQ3_F2Ac	1	1
Know nothing at all about this group	17	6
No answer to RQ2_F1A/PQ2_F2A	<1	<1

RQ3_F1A and PQ3_F2A continued ...

Based on those who know a lot/a little about medical research scientists [N=1,897]; medical doctors [N=2,127]:

- d. Have heard or read about this in the news

	Based on those asked	
	Medical research <u>scientists</u>	<u>Medical doctors</u>
Yes, have heard or read about this in the news	85	74
No, have not heard or read about this in the news	15	24
No answer	1	2

Based on total [N=4,464]:

	Based on U.S. adults	
	Medical research <u>scientists</u>	<u>Medical doctors</u>
Know a lot/a little about this group	83	94
Yes, have heard or read about this in the news	70	69
No, have not heard or read about this in the news	12	23
No answer to RQ3_F1Ad/PQ3_F2Ad	<1	1
Know nothing at all about this group	17	6
No answer to RQ2_F1A/PQ2_F2A	<1	<1

ASK FORM 1 [N=2,226]:

RQ4_F1A Thinking about medical research scientists, how often would you say they ...
[RANDOMIZE ITEMS, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]

ASK FORM 2 [N=2,238]:

PQ4_F2A Thinking about medical doctors, how often would you say they ... **[RANDOMIZE ITEMS, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

- a. **ASK FORM 1:** Do a good job conducting research
ASK FORM 2: Do a good job providing diagnoses and treatment recommendations

	Medical research <u>scientists</u>	<u>Medical doctors</u>
All or most of the time	43	49
Some of the time	47	42
Only a little of the time	8	7
None of the time	2	2
No answer	1	1

RQ4_F1A and PQ4_F2A continued ...

- b. **ASK FORM 1:** Provide fair and accurate information when making statements about their research

ASK FORM 2: Provide fair and accurate information when making recommendations

	Medical research <u>scientists</u>	<u>Medical doctors</u>
All or most of the time	32	48
Some of the time	53	43
Only a little of the time	12	6
None of the time	2	2
No answer	1	<1

- c. Admit mistakes and take responsibility for them

	Medical research <u>scientists</u>	<u>Medical doctors</u>
All or most of the time	13	12
Some of the time	48	46
Only a little of the time	30	32
None of the time	9	9
No answer	1	1

- d. Are transparent about potential conflicts of interest with industry groups in their work

	Medical research <u>scientists</u>	<u>Medical doctors</u>
All or most of the time	15	15
Some of the time	50	50
Only a little of the time	27	24
None of the time	7	9
No answer	1	2

- e. **ASK FORM 1:** Care about the best interests of the public

ASK FORM 2: Care about the best interests of their patients

	Medical research <u>scientists</u>	<u>Medical doctors</u>
All or most of the time	35	57
Some of the time	47	33
Only a little of the time	14	7
None of the time	3	2
No answer	1	1

ASK FORM 1 [N=2,226]:

RQ5_F1A Overall, do you think research misconduct by medical research scientists is...

ASK FORM 2 [N=2,238]:

PQ5_F2A Overall, do you think professional misconduct by medical doctors is...

	Medical research <u>scientists</u>	<u>Medical doctors</u>
A very big problem	14	15
A moderately big problem	34	35
A small problem	46	44
Not a problem at all	5	5
No answer	1	1

ASK FORM 1 [N=2,226]:RQ6_F1A When you hear or read news stories about research misconduct by medical research scientists, do you think of these cases as... **[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]****ASK FORM 2 [N=2,238]:**PQ6_F2A When you hear or read news stories about professional misconduct by medical doctors, do you think of these cases as... **[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

	Medical research scientists	Medical doctors
Isolated incidents	57	60
Signs of a broader problem	42	39
No answer	1	1

ASK FORM 1 [N=2,226]:RQ7_F1A When you hear about problems with research misconduct among medical research scientists, which comes closer to your view, even if neither is exactly right? **[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

	Medical research <u>scientists</u>
Most medical research scientists have good intentions, it's the research system that's broken	66
The research system can work fine, it's the medical research scientists that are the problem	30
No answer	3

ASK FORM 2 [N=2,238]:PQ7_F2A When you hear about problems with professional misconduct among medical doctors, which comes closer to your view, even if neither is exactly right? **[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

	<u>Medical doctors</u>
Most medical doctors have good intentions, it's the system that's broken	72
The system can work fine, it's the medical doctors that are the problem	26
No answer	2

ASK FORM 1 [N=2,226]:

RQ8_F1A How often, if at all, do you think medical research scientists face serious consequences if they engage in research misconduct?

ASK FORM 2 [N=2,238]:

PQ8_F2A How often, if at all, do you think medical doctors face serious consequences if they engage in professional misconduct?

	Medical research scientists	Medical doctors
All or most of the time	13	20
Some of the time	41	50
Only a little of the time	38	27
None of the time	7	3
No answer	1	1

ASK FORM 1 [N=2,226]:

RQ1_F1B Environmental research scientists conduct research on the environment and how plants, animals and other organisms are affected by it.
In general, would you say your view of environmental research scientists is...

ASK FORM 2 [N=2,238]:

PQ1_F2B Environmental health specialists often advise organizations in a local community about environmental risks to human health such as air and water pollution and how to clean up polluted areas.
In general, would you say your view of environmental health specialists is...

	Environmental research scientists	Environmental health specialists
Mostly positive	57	60
Mostly negative	14	11
Neither positive nor negative	29	28
No answer	1	1

ASK FORM 1 [N=2,226]:

RQ2_F1B How much, if anything, do you know about what environmental research scientists do?

ASK FORM 2 [N=2,238]:

PQ2_F2B How much, if anything, do you know about what environmental health specialists do?

	Environmental research scientists	Environmental health specialists
A lot	16	12
A little	65	63
Nothing at all	19	25
No answer	<1	<1

**ASK KNOW A LOT/A LITTLE ABOUT ENVIRONMENTAL RESEARCH SCIENTISTS (RQ2_F1B=1,2)
[N=1,819]:**

RQ3_F1B Is what you know about environmental research scientists because you ... **[RANDOMIZE ITEMS; MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

**ASK KNOW A LOT/A LITTLE ABOUT ENVIRONMENTAL HEALTH SPECIALISTS (PQ2_F2B=1,2)
[N=1,687]:**

PQ3_F2B Is what you know about environmental health specialists because you ... **[RANDOMIZE ITEMS; MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

**Based on those who know a lot/a little about environmental research scientists [N=1,819];
environmental health specialists [N=1,687]:**

a. Know someone who does this

	Based on those asked	
	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
Yes, know someone who does this	25	24
No, do not know someone who does this	73	74
No answer	1	2

Based on total [N=4,464]:

	Based on U.S. adults	
	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
Know a lot/a little about this group	81	74
Yes, know someone who does this	21	18
No, do not know someone who does this	59	55
No answer to RQ3_F1Ba/PQ3_F2Ba	1	1
Know nothing at all about this group	19	25
No answer to RQ2_F1B/PQ2_F2B	<1	<1

b. Learned about this in school

**Based on those who know a lot/a little about environmental research scientists [N=1,819];
environmental health specialists [N=1,687]:**

	Based on those asked	
	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
Yes, learned about this in school	51	44
No, did not learn about this in school	48	55
No answer	1	1

RQ3_F1B and PQ3_F2B continued ...**Based on total [N=4,464]:**

	Based on U.S. adults	
	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
Know a lot/a little about this group	81	74
Yes, learned about this in school	41	33
No, did not learn about this in school	39	41
No answer to RQ3_F1Bb/PQ3_F2Bb	1	1
Know nothing at all about this group	19	25
No answer to RQ2_F1B/PQ2_F2B	<1	<1

c. Learned about this in your job

**Based on those who know a lot/a little about environmental research scientists [N=1,819];
environmental health specialists [N=1,687]:**

	Based on those asked	
	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
Yes, learned about this in my job	18	28
No, did not learn about this in my job	81	71
No answer	2	1

Based on total [N=4,464]:

	Based on U.S. adults	
	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
Know a lot/a little about this group	81	74
Yes, learned about this in my job	14	21
No, did not learn about this in my job	65	53
No answer to RQ3_F1Bc/PQ3_F2Bc	1	1
Know nothing at all about this group	19	25
No answer to RQ2_F1B/PQ2_F2B	<1	<1

RQ3_F1B and PQ3_F2B continued ...

d. Have heard or read about this in the news

Based on those who know a lot/a little about environmental research scientists [N=1,819]; environmental health specialists [N=1,687]:

	Based on those asked	
	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
Yes, have heard or read about this in the news	84	80
No, have not heard or read about this in the news	15	19
No answer	1	1

Based on total [N=4,464]:

	Based on U.S. adults	
	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
Know a lot/a little about this group	81	74
Yes, have heard or read about this in the news	68	60
No, have not heard or read about this in the news	12	14
No answer to RQ3_F1Bd/PQ3_F2Bd	1	1
Know nothing at all about this group	19	25
No answer to RQ2_F1B/PQ2_F2B	<1	<1

ASK FORM 1 [N=2,226]:

RQ4_F1B Thinking about environmental research scientists, how often would you say they ...
[RANDOMIZE ITEMS, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]

ASK FORM 2 [N=2,238]:

PQ4_F2B Thinking about environmental health specialists, how often would you say they ...
[RANDOMIZE ITEMS, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]

- a. **ASK FORM 1:** Do a good job conducting research
ASK FORM 2: Do a good job providing recommendations about how to address risks to human health from the environment

	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
All or most of the time	40	39
Some of the time	45	47
Only a little of the time	10	9
None of the time	2	3
No answer	2	3

RQ4_F1B and PQ4_F2B continued ...

- b. **ASK FORM 1:** Provide fair and accurate information when making statements about their research

ASK FORM 2: Provide fair and accurate information when making recommendations

	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
All or most of the time	35	35
Some of the time	45	48
Only a little of the time	15	11
None of the time	3	3
No answer	2	2

- c. Admit mistakes and take responsibility for them

	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
All or most of the time	16	14
Some of the time	47	49
Only a little of the time	26	24
None of the time	9	11
No answer	2	3

- d. Are transparent about potential conflicts of interest with industry groups in their work

	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
All or most of the time	17	17
Some of the time	49	50
Only a little of the time	24	22
None of the time	7	8
No answer	2	3

- e. **ASK FORM 1:** Care about the best interests of the public

ASK FORM 2: Care about the best interests of people in the community

	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
All or most of the time	38	43
Some of the time	43	41
Only a little of the time	13	10
None of the time	4	4
No answer	2	3

ASK FORM 1 [N=2,226]:

RQ5_F1B Overall, do you think research misconduct by environmental research scientists is...

ASK FORM 2 [N=2,238]:

PQ5_F2B Overall, do you think professional misconduct by environmental health specialists is...

	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
A very big problem	13	10
A moderately big problem	29	26
A small problem	46	47
Not a problem at all	10	14
No answer	1	3

ASK FORM 1 [N=2,226]:RQ6_F1B When you hear or read news stories about research misconduct by environmental research scientists, do you think of these cases as... **[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]****ASK FORM 2 [N=2,238]:**PQ6_F2B When you hear or read news stories about professional misconduct by environmental health specialists, do you think of these cases as... **[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
Isolated incidents	56	62
Signs of a broader problem	42	35
No answer	1	3

ASK FORM 1 [N=2,226]:RQ7_F1B When you hear about problems with research misconduct among environmental research scientists, which comes closer to your view, even if neither is exactly right?
[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]

	Environmental research <u>scientists</u>
Most environmental research scientists have good intentions, it's the research system that's broken	65
The research system can work fine, it's the environmental research scientists that are the problem	32
No answer	3

ASK FORM 2 [N=2,238]:

PQ7_F2B When you hear about problems with professional misconduct among environmental health specialists, which comes closer to your view, even if neither is exactly right?
[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]

	Environmental health <u>specialists</u>
Most environmental health specialists have good intentions, it's the system that's broken	72
The system can work fine, it's the environmental health specialists that are the problem	24
No answer	4

ASK FORM 1 [N=2,226]:

RQ8_F1B How often, if at all, do you think environmental research scientists face serious consequences if they engage in research misconduct?

ASK FORM 2 [N=2,238]:

PQ8_F2B How often, if at all, do you think environmental health specialists face serious consequences if they engage in professional misconduct?

	Environmental research <u>scientists</u>	Environmental health <u>specialists</u>
All or most of the time	12	11
Some of the time	39	44
Only a little of the time	36	32
None of the time	11	10
No answer	1	3

ASK FORM 1 [N=2,226]:

RQ1_F1C Nutrition research scientists conduct research about the effects of food on health. In general, would you say your view of nutrition research scientists is...

ASK FORM 2 [N=2,238]:

PQ1_F2C Dietitians advise people on what to eat using their training in nutrition in order to promote health and manage disease. In general, would you say your view of dietitians is...

	Nutrition research <u>scientists</u>	<u>Dietitians</u>
Mostly positive	51	60
Mostly negative	11	7
Neither positive nor negative	38	32
No answer	<1	<1

ASK FORM 1 [N=2,226]:

RQ2_F1C How much, if anything, do you know about what nutrition research scientists do?

ASK FORM 2 [N=2,238]:

PQ2_F2C How much, if anything, do you know about what dietitians do?

	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
A lot	10	25
A little	63	65
Nothing at all	26	11
No answer	<1	<1

ASK IF KNOW A LOT/A LITTLE ABOUT NUTRITION RESEARCH SCIENTISTS (RQ2_F1C=1,2) [N=1,692]:RQ3_F1C Is what you know about nutrition research scientists because you ... **[RANDOMIZE ITEMS; MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]****ASK IF KNOW A LOT/A LITTLE ABOUT DIETITIANS (PQ2_F2C=1,2) [N=2,041]:**PQ3_F2C Is what you know about dietitians because you ... **[RANDOMIZE ITEMS; MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]****Based on those who know a lot/a little about nutrition research scientists [N=1,692]; dietitians [N=2,041]:**

- a. Know someone who does this

	Based on those asked	
	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
Yes, know someone who does this	22	46
No, do not know someone who does this	77	53
No answer	1	1

Based on total [N=4,464]:

	Based on U.S. adults	
	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
Know a lot/a little about this group	74	89
Yes, know someone who does this	16	41
No, do not know someone who does this	57	47
No answer to RQ3_F1Ca/PQ3_F2Ca	<1	1
Know nothing at all about this group	26	11
No answer to RQ2_F1C/PQ2_F2C	<1	<1

RQ3_F1C and PQ3_F2C continued ...

Based on those who know a lot/a little about nutrition research scientists [N=1,692]; dietitians [N=2,041]:

- b. Learned about this in school

	Based on those asked	
	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
Yes, learned about this in school	45	44
No, did not learn about this in school	54	55
No answer	1	1

Based on total [N=4,464]:

	Based on U.S. adults	
	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
Know a lot/a little about this group	74	89
Yes, learned about this in school	33	39
No, did not learn about this in school	40	49
No answer to RQ3_F1Cb/PQ3_F2Cb	1	1
Know nothing at all about this group	26	11
No answer to RQ2_F1C/PQ2_F2C	<1	<1

Based on those who know a lot/a little about nutrition research scientists [N=1,692]; dietitians [N=2,041]:

- c. Learned about this in your job

	Based on those asked	
	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
Yes, learned about this in my job	16	22
No, did not learn about this in my job	83	78
No answer	1	1

Based on total [N=4,464]:

	Based on U.S. adults	
	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
Know a lot/a little about this group	74	89
Yes, learned about this in my job	12	19
No, did not learn about this in my job	61	69
No answer to RQ3_F1Cc/PQ3_F2Cc	1	1
Know nothing at all about this group	26	11
No answer to RQ2_F1C/PQ2_F2C	<1	<1

RQ3_F1C and PQ3_F2C continued ...

Based on those who know a lot/a little about nutrition research scientists [N=1,692]; dietitians [N=2,041]:

d. Have heard or read about this in the news

	Based on those asked	
	Nutrition research <u>scientists</u>	<u>Dietitians</u>
Yes, have heard or read about this in the news	79	64
No, have not heard or read about this in the news	20	35
No answer	1	1

Based on total [N=4,464]:

	Based on U.S. adults	
	Nutrition research <u>scientists</u>	<u>Dietitians</u>
Know a lot/a little about this group	74	89
Yes, have heard or read about this in the news	59	57
No, have not heard or read about this in the news	15	31
No answer to RQ3_F1Cd/PQ3_F2Cd	1	1
Know nothing at all about this group	26	11
No answer to RQ2_F1C/PQ2_F2C	<1	<1

ASK FORM 1 [N=2,226]:

RQ4_F1C Thinking about nutrition research scientists, how often would you say they ...
[RANDOMIZE ITEMS, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]

ASK FORM 2 [N=2,238]:

PQ4_F2C Thinking about dietitians, how often would you say they ... **[RANDOMIZE ITEMS, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

a. **ASK FORM 1:** Do a good job conducting research

ASK FORM 2: Do a good job providing recommendations about healthy eating

	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
All or most of the time	28	54
Some of the time	57	37
Only a little of the time	10	5
None of the time	3	2
No answer	2	2

RQ4_F1C and PQ4_F2C continued ...

- b. **ASK FORM 1:** Provide fair and accurate information when making statements about their research

ASK FORM 2: Provide fair and accurate information when making recommendations

	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
All or most of the time	24	47
Some of the time	56	41
Only a little of the time	15	8
None of the time	4	2
No answer	2	2

- c. Admit mistakes and take responsibility for them

	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
All or most of the time	11	18
Some of the time	46	50
Only a little of the time	30	21
None of the time	11	8
No answer	2	4

- d. Are transparent about potential conflicts of interest with industry groups in their work

	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
All or most of the time	12	19
Some of the time	49	50
Only a little of the time	28	21
None of the time	9	7
No answer	2	4

- e. **ASK FORM 1:** Care about the best interests of the public
ASK FORM 2: Care about the best interests of their patients

	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
All or most of the time	29	60
Some of the time	51	31
Only a little of the time	13	5
None of the time	5	3
No answer	2	1

ASK FORM 1 [N=2,226]:

RQ5_F1C Overall, do you think research misconduct by nutrition research scientists is...

ASK FORM 2 [N=2,238]:

PQ5_F2C Overall, do you think professional misconduct by dietitians is...

	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
A very big problem	12	6
A moderately big problem	31	18
A small problem	45	51
Not a problem at all	10	23
No answer	2	2

ASK FORM 1 [N=2,226]:RQ6_F1C When you hear or read news stories about research misconduct by nutrition research scientists, do you think of these cases as... **[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]****ASK FORM 2 [N=2,238]:**PQ6_F2C When you hear or read news stories about professional misconduct by dietitians, do you think of these cases as... **[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

	Nutrition research	
	<u>scientists</u>	<u>Dietitians</u>
Isolated incidents	55	75
Signs of a broader problem	43	22
No answer	2	3

ASK FORM 1 [N=2,226]:RQ7_F1C When you hear about problems with research misconduct among nutrition research scientists, which comes closer to your view, even if neither is exactly right? **[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

	Nutrition research <u>scientists</u>
Most nutrition research scientists have good intentions, it's the research system that's broken	67
The research system can work fine, it's the nutrition research scientists that are the problem	29
No answer	4

ASK FORM 2 [N=2,238]:PQ7_F2C When you hear about problems with professional misconduct among dietitians, which comes closer to your view, even if neither is exactly right? **[RANDOMIZE, MAINTAIN SAME ORDER FOR EACH TYPE OF SCIENTIST]**

	<u>Dietitians</u>
Most dietitians have good intentions, it's the system that's broken	72
The system can work fine, it's the dietitians that are the problem	25
No answer	4

ASK FORM 1 [N=2,226]:

RQ8_F1C How often, if at all, do you think nutrition research scientists face serious consequences if they engage in research misconduct?

ASK FORM 2 [N=2,238]:

PQ8_F2C How often, if at all, do you think dietitians face serious consequences if they engage in professional misconduct?

	Nutrition research <u>scientists</u>	<u>Dietitians</u>
All or most of the time	8	13
Some of the time	38	37
Only a little of the time	41	36
None of the time	13	12
No answer	2	3

ASK ALL:

SCM4 How important do you think each of the following types of scientific research is for society? **[RANDOMIZE ITEMS]**

- a. Scientific research that has immediate practical applications

Jan 7-21

2019

64	Essential
29	Important, but not essential
4	Not too important
2	Not important at all
1	No answer

- b. Scientific research that advances knowledge, even if there are no immediate benefits

Jan 7-21

2019

47	Essential
43	Important, but not essential
8	Not too important
2	Not important at all
1	No answer

[DISPLAY BEFORE FIRST QUESTION IN THE Q6F1-Q9F1 SERIES:] Thinking about scientific research findings in general ...

ASK FORM 1 [N=2,226]:

Q6F1 When you hear that scientific research findings have been reviewed by an independent committee, does this make you...

Jan 7-21

2019

52	Trust the research findings MORE
10	Trust the research findings LESS
37	Makes NO DIFFERENCE either way
1	No answer

ASK FORM 1 [N=2,226]:

Q7F1 When you hear that data used in scientific research is being made openly available to the public, does this make you...

Jan 7-21

2019

57	Trust the research findings MORE
8	Trust the research findings LESS
34	Makes NO DIFFERENCE either way
1	No answer

ASK FORM 1 [N=2,226]:

Q8F1 When you hear about scientific research that has been funded by the federal government, does this make you...

Jan 7-21

2019

23	Trust the research findings MORE
28	Trust the research findings LESS
48	Makes NO DIFFERENCE either way
1	No answer

ASK FORM 1 [N=2226]:

Q9F1 When you hear about scientific research that has been funded by an industry group, does this make you...

Jan 7-21

2019

10	Trust the research findings MORE
58	Trust the research findings LESS
32	Makes NO DIFFERENCE either way
1	No answer

[DISPLAY BEFORE FIRST QUESTION IN THE Q6F2-Q9F2 SERIES:] Thinking about recommendations from science practitioners (such as medical doctors, dietitians or environmental health specialists), in general ...

ASK FORM 2 [N=2,238]:

Q6F2 When you hear that a science practitioner's recommendation is based on a review from an independent committee, does this make you...

Jan 7-21

2019

43	Trust the recommendation MORE
17	Trust the recommendation LESS
38	Makes NO DIFFERENCE either way
1	No answer

ASK FORM 2 [N=2,238]:

Q7F2 When you hear that a science practitioner is open to getting a second opinion on their recommendation, does this make you...

Jan 7-21

2019

68	Trust the recommendation MORE
7	Trust the recommendation LESS
23	Makes NO DIFFERENCE either way
2	No answer

ASK FORM 2 [N=2,238]:

Q8F2 When you hear that a science practitioner has received financial incentives from the federal government related to their work, does this make you...

Jan 7-21

2019

14	Trust the recommendation MORE
37	Trust the recommendation LESS
48	Makes NO DIFFERENCE either way
1	No answer

ASK FORM 2 [N=2,238]:

Q9F2 When you hear that a science practitioner has received financial incentives from an industry group related to their work, does this make you...

Jan 7-21

2019

10	Trust the recommendation MORE
62	Trust the recommendation LESS
27	Makes NO DIFFERENCE either way
1	No answer

ASK ALL:

SCM5 In general, how would you say each of the following statements describes most RESEARCH SCIENTISTS? **[RANDOMIZE ITEMS; SPLIT ACROSS 2 SCREENS]**

	Describes research scientists well	Does not describe research scientists well	No answer
a. Intelligent	89	9	2
b. Good communicators	54	43	3
c. Focused on solving real-world problem	75	23	2
d. Close-minded	26	71	3
e. Don't pay attention to the moral values of society	32	65	4

SCM5 continued...

	Describes research scientists well	Does not describe research scientists well	No answer
f. Honest	71	26	3
g. Skilled at working in teams	72	25	3
h. Cold	29	67	5
i. Socially awkward	43	53	4
j. Feel superior to others	43	53	4

ASK ALL:

SCM2 Which of the following best describes what you think about the scientific method?
[RANDOMIZE]

Jan 7-21

2019

63	The scientific method generally produces accurate conclusions
35	The scientific method can be used to produce any conclusion the research wants
2	No answer

ASK ALL:

SCM3 Which of these statements comes closer to your own view, even if neither is exactly right? [RANDOMIZE]

Jan 7-21

2019

55	Scientists make judgments based solely on the facts
44	Scientists' judgments are just as likely to be biased as other people's
1	No answer

[DISPLAY BEFORE FIRST QUESTION IN POP1-POP3 SERIES:] On a different topic ...

ASK ALL:

POP1 Which of these statements comes closer to your view, even if neither is exactly right?
[RANDOMIZE]

Jan 7-21

2019

54	Ordinary people would do a better job solving the country's problems than elected officials
44	Ordinary people would do no better solving the country's problems than elected officials
2	No answer

ASK ALL:

POP2 In general, do you think most of the important policy decisions in this country are made with ...

Jan 7-21

2019

11	A great deal of concern for how the policies affect people like you
32	Some concern for how the policies affect people like you
38	Not too much concern for how the policies affect people like you
17	No concern at all for how the policies affect people like you
1	No answer

ASK ALL:

POP3 Which of these do you think is the better way to solve the country's most pressing problems, even if neither is exactly right? **[RANDOMIZE]**

Jan 7-21

2019

30	Rely more on people who are considered experts about the problems, even if they don't have much practical experience
68	Rely more on people with practical experience with the problems, even if they aren't considered experts
2	No answer

ASK ALL:

KNOW1 Here's a different kind of question. (If you don't know the answer, select "Not sure.") As far as you know...

Oil, natural gas and coal are examples of...² **[RANDOMIZE OPTIONS 1-4]**

Jan 7-21

2019

68	Fossil fuels (Correct)
32	NET Incorrect/Not sure/No answer
5	Biofuels
3	Geothermal resources
6	Renewable resources
17	Not sure
1	No answer

² This question was adapted with permission from the Educational Testing Service (ETS) (2018), The Praxis Study Companion, Middle School Science.

RANDOMIZE KNOW2-KNOW14**ASK ALL:**

KNOW2

A scientist is conducting a study to determine how well a new medication treats ear infections. The scientist tells the participants to put 10 drops in their infected ear each day. After two weeks, all participants' ear infections had healed.

Which of the following changes to the design of this study would most improve the ability to test if the new medication effectively treats ear infections? **[RANDOMIZE OPTIONS 1-4]**

Jan 7-21

2019

- | | |
|----|--|
| 60 | Create a second group of participants with ear infections who do not use any ear drops (Correct) |
| 40 | NET Incorrect/Not sure/No answer |
| 5 | Create a second group of participants with ear infections who use 15 drops a day |
| 13 | Have participants use ear drops for only 1 week |
| 5 | Have participants put ear drops in both their infected ear and healthy ear |
| 16 | Not sure |
| 1 | No answer |

ASK ALL:

KNOW3

Which of the following is an example of genetic engineering? **[RANDOMIZE OPTIONS 1-4]**

Jan 7-21

2019

- | | |
|----|--|
| 56 | Inserting a gene into plants that makes them resistant to insects (Correct) |
| 44 | NET Incorrect/Not sure/No answer |
| 6 | Growing a whole plant from a single cell |
| 8 | Finding the sequences of bases in plant DNA |
| 9 | Attaching the root of one type of plant to the stem of another type of plant |
| 21 | Not sure |
| 1 | No answer |

ASK ALL:

KNOW4

What is the main cause of seasons on the Earth? **[RANDOMIZE OPTIONS 1-4]**

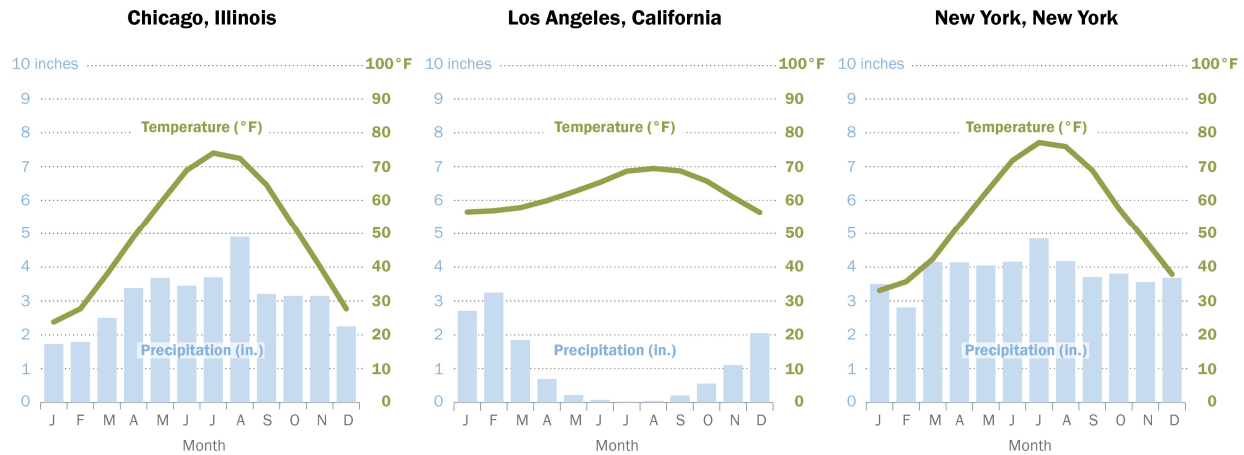
Jan 7-21

2019

- | | |
|----|---|
| 63 | The tilt of the Earth's axis in relation to the Sun (Correct) |
| 37 | NET Incorrect/Not sure/No answer |
| 11 | The distance between the Earth and the Sun |
| 7 | The speed that the Earth rotates around the Sun |
| 4 | Changes in the amount of energy coming from the Sun |
| 15 | Not sure |
| 1 | No answer |

ASK ALL:
KNOW5

These graphs show the monthly precipitation and average temperature for three cities in the United States over the course of one year. **[RANDOMIZE ORDER OF GRAPHS]**



Based on the graphs, which city has the greatest annual range of temperatures? **[RANDOMIZE OPTIONS 1-3 IN SAME ORDER OF GRAPHS]**

Jan 7-21

2019

- | | |
|----|---|
| 59 | Chicago, Illinois (Correct) |
| 41 | NET Incorrect/Not sure/No answer |
| 20 | New York, New York |
| 9 | Los Angeles, California |
| 3 | They all have the same annual temperature range |
| 8 | Not sure |
| 1 | No answer |

ASK ALL:
KNOW6

The time a computer takes to start has increased dramatically. One possible explanation for this is that the computer is running out of memory.

This explanation is a scientific... **[RANDOMIZE OPTIONS 1-4]**

Jan 7-21

2019

- | | |
|----|----------------------------------|
| 52 | Hypothesis (Correct) |
| 48 | NET Incorrect/Not sure/No answer |
| 8 | Conclusion |
| 4 | Experiment |
| 19 | Observation |
| 17 | Not sure |
| 1 | No answer |

ASK ALL:

KNOW7

Many diseases have an incubation period. Which of the following best describes what an incubation period is? **[RANDOMIZE OPTIONS 1-4]**

Jan 7-21

2019

- | | |
|----|---|
| 76 | The period during which someone has an infection, but is not showing symptoms (Correct) |
| 24 | NET Incorrect/Not sure/No answer |
| 4 | The recovery period after being sick |
| 2 | The effect of a disease on babies |
| 5 | The period during which someone builds up immunity to a disease |
| 12 | Not sure |
| 1 | No answer |

NO QUESTION KNOW8**ASK ALL:**

KNOW9

When large areas of forest are removed so land can be converted for other uses, such as farming, which of the following occurs?³ **[RANDOMIZE OPTIONS 1-4]**

Jan 7-21

2019

- | | |
|----|----------------------------------|
| 60 | Increased erosion (Correct) |
| 40 | NET Incorrect/Not sure/No answer |
| 3 | Colder temperature |
| 14 | Decreased carbon dioxide |
| 3 | Greater oxygen production |
| 20 | Not sure |
| 1 | No answer |

ASK ALL:

KNOW10

An antacid relieves an overly acidic stomach because the main components of antacids are... **[RANDOMIZE RESPONSE OPTIONS 1-4]**

Jan 7-21

2019

- | | |
|----|----------------------------------|
| 39 | Bases (Correct) |
| 61 | NET Incorrect/Not sure/No answer |
| 11 | Acids |
| 13 | Neutral |
| 3 | Isotopes |
| 33 | Not sure |
| 1 | No answer |

³ This question was adapted with permission from the Florida Department of Education (2012), Statewide Science Assessment Test Item Specifications, Version 2, Grade 8.

ASK ALL:

KNOW11 Which of these is a major concern about the overuse of antibiotics? [**RANDOMIZE**
OPTIONS 1-4]

Jan 7-21

2019

79	It can lead to antibiotic-resistant bacteria (Correct)
21	NET Incorrect/Not sure/No answer
2	There will be an antibiotic shortage
5	Antibiotics can cause secondary infections
2	Antibiotics will get into the water system
11	Not sure
1	No answer

ASK ALL:

KNOW12 A car travels at a constant speed of 40 miles per hour. How far does the car travel in 45 minutes? [**DO NOT RANDOMIZE]**

Jan 7-21

2019

57	30 miles (Correct)
43	NET Incorrect/Not sure/No answer
4	25 miles
14	35 miles
9	40 miles
15	Not sure
1	No answer

NO QUESTION KNOW13**TOTAL NUMBER CORRECT KNOW1 THROUGH KNOW12:**

Jan 7-21

2019

16	11 out of 11
13	10 out of 10
10	9 out of 11
8	8 out of 11
9	7 out of 11
8	6 out of 11
7	5 out of 11
6	4 out of 11
6	3 out of 11
6	2 out of 11
5	1 out of 11
5	0 out of 11

39	High science knowledge (9-11 correct)
32	Medium science knowledge (5-8 correct)
29	Low science knowledge (0-4 correct)

ASK ALL:

KNOW14

Based on what you have heard or read, which of the following statements best describes the scientific method? **[RANDOMIZE OPTIONS 1-2]**

Jan 7-21

2019

- | | |
|----|--|
| 67 | The scientific method produces findings meant to be continually tested and updated over time |
| 15 | The scientific method identifies unchanging core principles and truths |
| 17 | Not sure |
| 1 | No answer |