

Survey questionnaire and topline

2018 PEW RESEARCH CENTER'S AMERICAN TRENDS PANEL
APRIL 23-MAY 6, 2018
TOTAL N=2,537

ADDITIONAL QUESTIONS PREVIOUSLY RELEASED OR HELD FOR FUTURE RELEASE

ASK ALL:

SCI5 On another topic...

All in all, do you favor or oppose the use of animals in scientific research?

Apr 23-

May 6

2018

47	Favor
52	Oppose
2	No answer

TREND FOR COMPARISON

Pew Research Center surveys conducted by telephone: All in all, do you favor or oppose **[INSERT ITEM, RANDOMIZE: the use of animals in scientific research]**?

	Aug 15-25 <u>2014</u>	Apr 28-May 12 <u>2009</u>
Favor	47	52
Oppose	50	43
Don't know/Refused (VOL.)	3	6

ADDITIONAL QUESTIONS PREVIOUSLY RELEASED OR HELD FOR FUTURE RELEASE

RANDOMIZE BIOTECHA-BIOTECHE

ASK ALL:

[SHOW ON SAME SCREEN FOR FIRST BIOTECH ITEM ONLY: Genetic engineering can be used to change the genetic characteristics of animals. Thinking about the following applications of genetic engineering...]

BIOTECHA Do you think genetic engineering of animals to increase their production of specific proteins that will lead to more nutritious meat would be...

Apr 23-

May 6

2018

43	An appropriate use of technology
55	Taking technology too far
2	No answer

ASK ALL:

BIOTECHB

Do you think bringing back an animal that is currently extinct by genetically engineering a closely-related species would be...

Apr 23-

May 6

2018

32

An appropriate use of technology

67

Taking technology too far

1

No answer

ASK ALL:

BIOTECHC

Do you think genetic engineering of mosquitoes that would prevent them from reproducing in order to prevent the spread of some mosquito-borne diseases would be...

Apr 23-

May 6

2018

70

An appropriate use of technology

29

Taking technology too far

1

No answer

ASK ALL:

BIOTECHD

Do you think genetic engineering of animals to grow organs or tissues that can be used for humans needing a transplant would be...

Apr 23-

May 6

2018

57

An appropriate use of technology

41

Taking technology too far

2

No answer

ASK ALL:

BIOTECH E

Do you think genetic engineering of aquarium fish to change their appearance, causing them to glow would be...

Apr 23-

May 6

2018

21

An appropriate use of technology

77

Taking technology too far

1

No answer

ASK WHEN ANY BIOTECHA-BIOTECH=2 AND FILL TOPIC FROM QUESTION STEM. IF MORE THAN ONE BIOTECHA-BIOTECH=2, RANDOMLY SELECT ONE ITEM TO FILL TOPIC [N=2,255]:

NOBIOTECH What is the MAIN REASON you think that [FILL FROM SELECTED ITEM] would be taking technology too far?
[OPEN END RESPONSES NOT SHOWN]

NUMBER OF RESPONSES FILLED AT NOBIOTECH

457	Genetic engineering of animals to increase their production of specific proteins that will lead to more nutritious meat
560	Bringing back an animal that is currently extinct by genetically engineering a closely-related species
181	Genetic engineering of mosquitoes that would prevent them from reproducing in order to prevent the spread of some mosquito-borne diseases
293	Genetic engineering of animals to grow organs or tissues that can be used for humans needing a transplant
764	Genetic engineering of aquarium fish to change their appearance, causing them to glow

NOBIOTECHA What is the MAIN REASON you think that genetic engineering of animals to increase their production of specific proteins that will lead to more nutritious meat would be taking technology too far? **[N=457]**

Apr 23-
May 6
2018

20	General concerns about risk of unintended consequences/long term effects
13	Messing with nature; should leave things the way they are
12	Beliefs about eating meat, nutrition NET
6	<i>We should eat less meat anyways</i>
5	<i>Adding anything synthetic (GMOs, chemicals) to food is bad</i>
1	<i>Beliefs about and standards of nutrition change</i>
11	Negative effect on human health
9	Animal suffering/harmful to animals
9	Messing with God's plan
6	There are other ways to accomplish this
4	We don't know enough about this, need more research
3	This is a slippery slope; could be abused
2	Unnecessary
2	Waste of time and resources
1	Unsure of the motivations of scientists and funders behind this
5	General negative
6	Other
1	Don't know
22	No answer

NOBIOTECHB What is the MAIN REASON you think that bringing back an animal that is currently extinct by genetically engineering a closely-related species would be taking technology too far? **[N=560]**

Apr 23-
May 6
2018

18	They are extinct for a reason
12	Effect on ecosystem, habitats, other species
12	Messing with God's plan
12	Messing with nature and the natural balance of things
11	General concerns about risk of unintended consequences/long term effects
7	Does not serve a need/purpose, unnecessary
5	This is a slippery slope; could be abused
4	Possibility of a Jurassic Park scenario
4	Waste of time and resources
3	Should focus efforts on protecting living/endangered animals
<1	We don't know enough about this, need more research
4	General negative
7	Other
<1	Don't know
21	No answer

NOBIOTECHC What is the MAIN REASON you think that genetic engineering of mosquitoes that would prevent them from reproducing in order to prevent the spread of some mosquito-borne diseases would be taking technology too far? **[N=181]**

Apr 23-
May 6
2018

23	Effect on ecosystem, habitats, other species
23	Messing with nature and the natural balance of things
18	General concerns about risk of unintended consequences/long term effects
8	Messing with God's plan
7	Other methods can achieve the same goal
4	Could create new dangers to human health (diseases, etc.)
2	Accidental extinction of mosquitoes
2	We don't know enough about this, need more research
1	Unnecessary
1	This is a slippery slope; could be abused
3	General negative
8	Other
0	Don't know
19	No answer

NOBIOTECHD What is the MAIN REASON you think that genetic engineering of animals to grow organs or tissues that can be used for humans needing a transplant would be taking technology too far? **[N=293]**

Apr 23-
May 6
2018

21	Animal suffering/harmful to animals
16	Negative effect on human health, opposed to mixing animal and human genetics
11	Messing with God's plan, morally unacceptable
9	General concerns about risk of unintended consequences/long term effects
6	Messing with nature, should leave things the way they are
4	This is a slippery slope; could be abused
3	Waste of time and resources
2	We don't know enough about this, need more research
1	There are other options/methods for those needing a transplant
1	Only available for the wealthy
1	Don't need to extend human life; will lead to overpopulation
1	Unsure of the motivations of scientists and funders behind this
7	General negative
2	Other
<1	Don't know
30	No answer

NOBIOTECHE What is the MAIN REASON you think that genetic engineering of aquarium fish to change their appearance, causing them to glow would be taking technology too far? **[N=764]**

Apr 23-
May 6
2018

23	No purpose or benefit to fish, humans, society
15	Unnecessary
13	Frivolous, changing fish for a cosmetic reason
12	Messing with nature, should leave things be
9	Waste of time and resources
8	Messing with God's plan
6	Animal welfare, possibility of harm to fish
5	This is a slippery slope; could be abused
5	General concerns about risk of unintended consequences/long term effects
2	Potential ecosystem effects if fish were to be released into the wild
1	This already occurs naturally
<1	We don't know enough about this, need more research
<1	Unsure of the motivations of scientists and funders behind this
6	General negative
3	Other
1	Don't know
17	No answer

ADDITIONAL QUESTIONS PREVIOUSLY RELEASED OR HELD FOR FUTURE RELEASE

NOTE: RESULTS SHOWN FOR KNOSCT22-KNOSCT34 INCLUDE 636 RESPONDENTS WHO ANSWERED THESE QUESTIONS APR 23-MAY 6, 2018 COMBINED WITH 1,901 RESPONDENTS WHO ANSWERED THESE QUESTIONS IN A PREVIOUS WAVE FIELDLED MAY 10-JUNE 6, 2016.

ASK ALL:

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

KNOSCT22 Here's a different kind of question. (If you don't know the answer, select "Not sure.") As far as you know...

Which is the better way to determine whether a new drug is effective in treating a disease? If a scientist has a group of 1,000 volunteers with the disease to study, should she... **[RANDOMIZE OPTIONS 1 AND 2]**

Apr 23-
May 6
2018

68	Give the drug to half of them but not to the other half, and compare how many in each group get better (<i>Correct</i>)
32	NET Incorrect/Not sure/No answer
14	Give the drug to all of them and see how many get better
18	Not sure
<1	No answer

[RANDOMIZE ITEMS KNOSCT23 TO KNOSCT34; KNOSCT22 ALWAYS FIRST]**ASK ALL:**

KNOSCT23 Which gas is made as a consequence of burning fossil fuels? Is it... **[RANDOMIZE OPTIONS 1-4]⁶**

Apr 23-
May 6
2018

72	Carbon dioxide (<i>Correct</i>)
28	NET Incorrect/Not sure/No answer
4	Hydrogen
1	Helium
3	Radon
20	Not sure
<1	No answer

NO QUESTION KNOSCT24, KNOSCT25 AND KNOSCT26

⁶ In the Wave 17 May 2016 survey, the question had a minor wording difference: "What gas is made as a consequence of burning fossil fuels? Is it..."

ASK ALL:

KNOSCT27

If the chances that an old bridge will collapse starts at 1% in week 1 and doubles each week (as shown below), what is the chance that the old bridge will collapse during week 7?

Chances the bridge will collapse is...

1%	at Week 1
2%	at Week 2
4%	at Week 3
8%	at Week 4

Enter the % chance that the bridge will collapse at Week 7 (if the bridge is still standing after Week 6)⁷

Apr 23-

May 6

2018

62	64% (<i>Correct</i>)
38	NET Incorrect/Not sure/No answer
20	All other numeric responses
17	Not sure
1	No answer

ASK ALL:

KNOSCT28

Which of the following conditions can be treated effectively by antibiotic medications?

[Check all that apply] **[RANDOMIZE ITEMS WITH ITEMS e AND f ALWAYS LAST]**

Apr 23-

May 6

2018

46	Bacterial infection only (<i>Correct</i>)
54	NET Incorrect/Not sure/No answer

KNOSCT28 INDIVIDUAL ITEM RESPONSES

	<u>Selected</u>	<u>Not selected</u> <u>/No answer</u>
a. Viral infections (such as a cold)	23	77
b. Fungal infections (such as athlete's foot)	28	72
c. Bacterial infections (such as strep throat infections)	83	17
d. Allergic reactions to insect bites	17	83
e. None of these [EXCLUSIVE PUNCH]	2	98
f. Not sure [EXCLUSIVE PUNCH]	9	91

⁷ The phrase "(if the bridge is still standing after Week 6)" was added for clarity in the Apr 23-May 6, 2018 wave.

ASK ALL:

KNOSCT29 If a scientist wants to determine if a new drug is effective at treating high blood pressure by giving half of a group of 1,000 volunteers a new medication and the other half a "sugar pill" she wants to rule out... **[RANDOMIZE OPTIONS 1-3]**

Apr 23-
May 6
2018

59	A placebo effect (<i>Correct</i>)
41	NET Incorrect/Not sure/No answer
4	A third person effect
16	A false consensus effect
20	Not sure
1	No answer

NO QUESTION KNOSCT30**ASK ALL:**

KNOSCT31 Which of these terms refers to health benefits occurring when most people in a population get a vaccine? **[RANDOMIZE OPTIONS 1-3]**

Apr 23-
May 6
2018

34	Herd immunity (<i>Correct</i>)
66	NET Incorrect/Not sure/No answer
8	Population control
35	Vaccination rate
23	Not sure
1	No answer

ASK ALL:

KNOSCT32 Which of the following can be genetically modified?

[Check all that apply] **[RANDOMIZE ITEMS WITH ITEMS e AND f ALWAYS LAST]**

Apr 23-
May 6
2018

39	Selected all (<i>Correct</i>)
61	NET Incorrect/Not sure/No answer

KNOSCT32 INDIVIDUAL ITEM RESPONSES

	<u>Selected</u>	<u>Not selected</u> <u>/No answer</u>
a. An apple	61	39
b. Salmon	53	47
c. A mosquito	46	54
d. Corn	70	30
e. None of these [EXCLUSIVE PUNCH]	2	98
f. Not sure [EXCLUSIVE PUNCH]	20	80

ASK ALL:

KNOSCT33 Humans and mice share the same genetic make-up by... **[RANDOMIZE ORDER LOW TO HIGH; HIGH TO LOW with NOT SURE ALWAYS LAST]**

Apr 23-

May 6

2018

34	About 50% or more (<i>Correct</i>)
66	NET Incorrect/Not sure/No answer
8	Less than 10%
14	Between 11% and 49%
44	Not sure
1	No answer

ASK ALL:

KNOSCT34 Which gas makes up most of the Earth's atmosphere? **[RANDOMIZE OPTIONS 1-4]**

Apr 23-

May 6

2018

31	Nitrogen (<i>Correct</i>)
69	NET Incorrect/Not sure/No answer
9	Hydrogen
9	Carbon dioxide
35	Oxygen
15	Not sure
1	No answer

TOTAL NUMBER CORRECT KNOSCT22 THROUGH KNOSCT34:

Apr 23-

May 6

2018

4	9 out of 9
10	8 out of 9
10	7 out of 9
13	6 out of 9
12	5 out of 9
13	4 out of 9
11	3 out of 9
12	2 out of 9
9	1 out of 9
6	0 out of 9
24	High science knowledge (7-9 correct)
49	Medium science knowledge (3-6 correct)
26	Low science knowledge (0-2 correct)