



The Science and Ethics of Animal Research

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The Science and Ethics of Animal Research

Grades 9 -12

Northwest Association for
Biomedical Research
www.nwabr.org

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Today's Web Seminar

- Background
- Strategies for teaching controversial topics
- Lessons and Activities
- Sample Activities
- Assessment
- Q and A

NWABR

Promoting an understanding of biomedical research and its ethical conduct





Share Communication Strategies

Goals:

Showcase Animal Research Curriculum



How can we talk about difficult issues in a civilized manner?



Discussion norm-setting

- Everyone has equal voice
- Critique ideas, not people
- Interruptions are not allowed
- Monitor your own airtime



Explore Stakeholder Views

- Allows students to see the conflict without it being personal.
- Delays asking, “What do *you* think? Why”

Knowledge of Ethical Theories

- Value in understanding different perspectives
- Not rely on 'my opinion vs your opinion'
- Strengthens students' arguments
- Allows for more respectful listening



Structured Conversation

- Role playing with stakeholder views
- Teacher-assigned pro and con position
- Activities that promote listening



Private Disclosure of Stance



Resource: An Ethics Primer



<http://nwabr.org/education/ethicslessons.html>



Let's pause for questions.
Does anyone have a question
about using communication
strategies for civil discourse?



The Curriculum



Wellcome Images

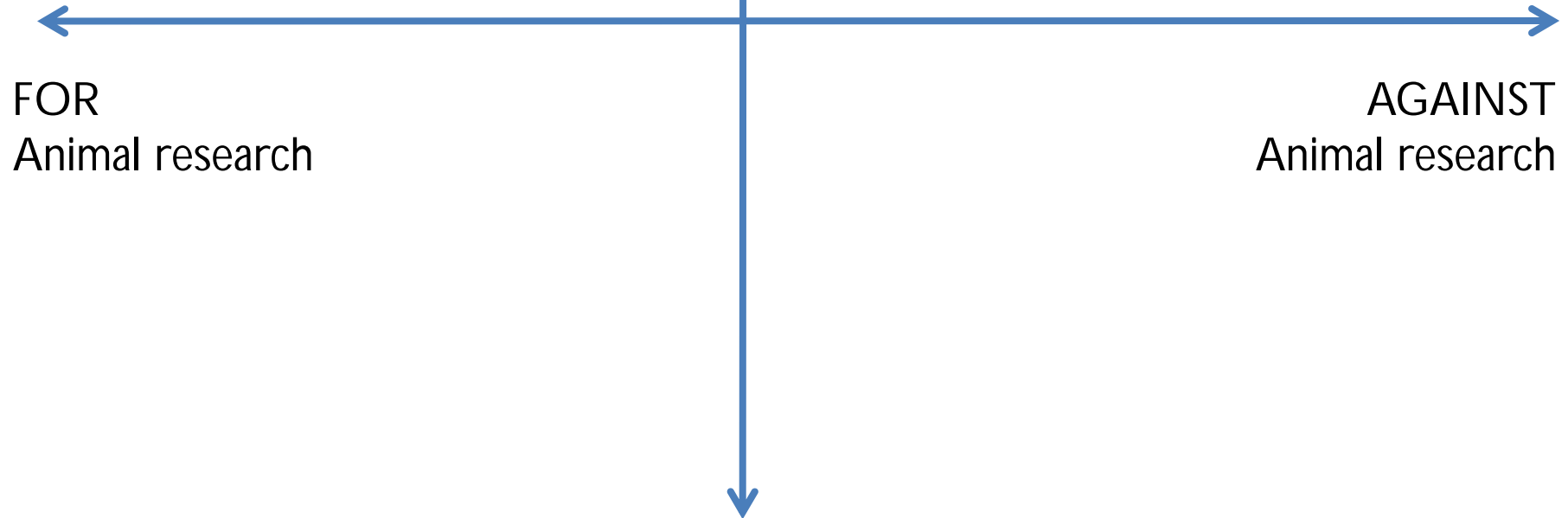
- 1 Formative Assessment
- 5 Lessons
- 1 Summative Assessment





What does this image say to you?

I know A LOT about this topic



FOR
Animal research

AGAINST
Animal research

I know LITTLE about this topic

CHALK TALK: Where do you fall?

Lesson One

How are animals used

Which animals

How many





How are animals used by humans?





% Hunting



% Food



% Euthanized

% Research



94%

4%

2% .3% .1%



Food: 9,000,000,000
Motor Accidents: 365,000,000
Hunting: 200,000,000
Research: 25,000,000
Euthanized: 7,000,000



% Mice and Rats



% Other Vertebrates



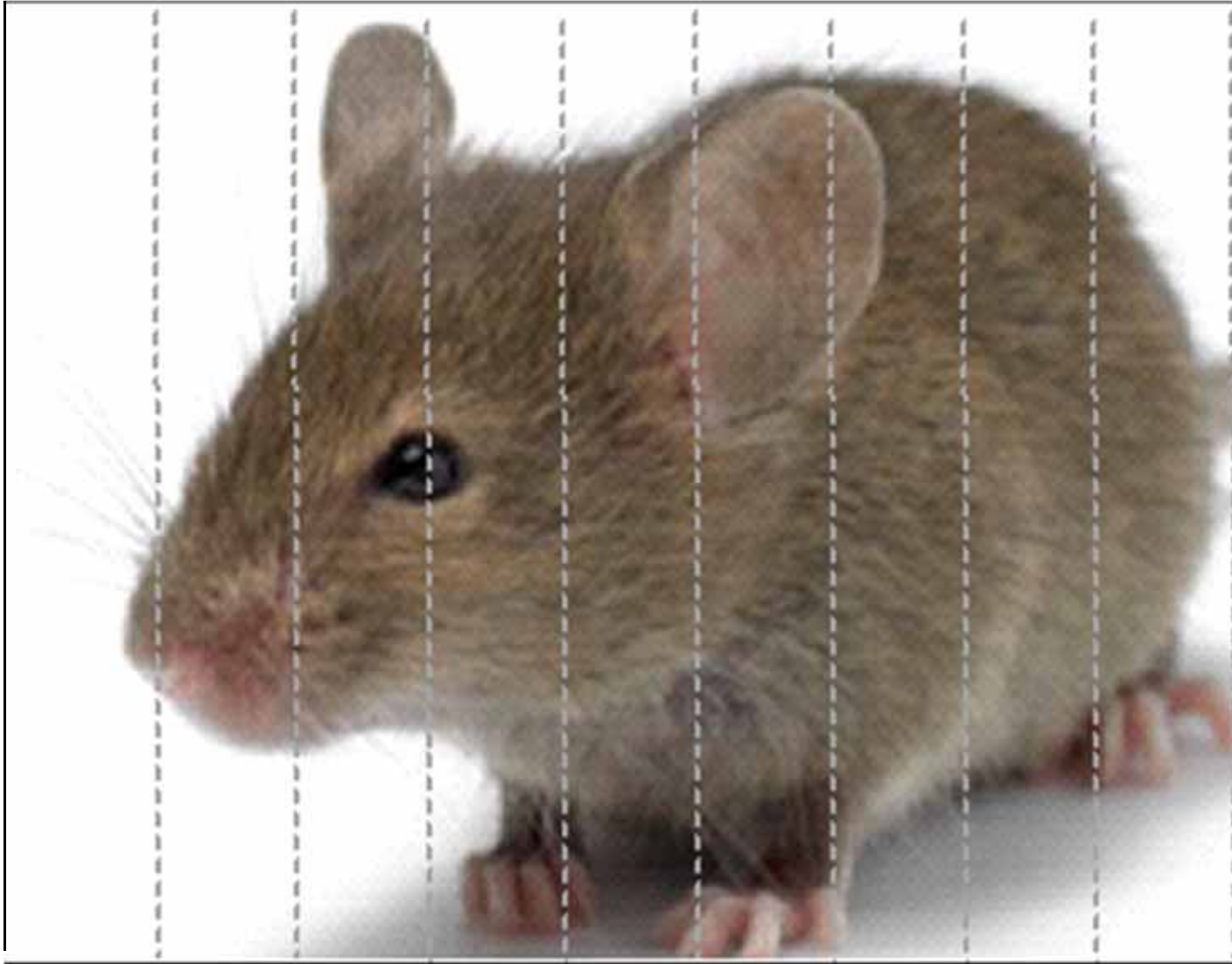
% Non-human Primates



90%

10%

.25%



Mice and rats: 22,500,000

Other vertebrates: 2,500,000

Primates: 50,000



Let's pause for questions
from the audience



Lesson Two

What are model organisms

**How are scientific questions
answered**





Replacement

Can the animal model be replaced by another type of model, such as a cell culture, computer model or tissue culture, or less complex organism?

Refinement

How can techniques and procedures be refined so as to avoid animal suffering? How can the lives of research animals be enhanced through shared housing, social enrichment or diet?

Reduction

How can the number of animals needed in a research project be minimized and still gain useful data?

A great resource:

Understanding Animal Research (UK)

<http://www.understandinganimalresearch.org.uk/>

What R You Watching? Interactive game

[http://www.understandinganimalresearch.org.uk/learning_centre/interactives/
what r you watching/](http://www.understandinganimalresearch.org.uk/learning_centre/interactives/what_r_you_watching/)



Let's pause for questions
from the audience



Lesson Three

**What does the history of
animal research tell us about
current views and policies**



1596–1650

French philosopher René Descartes and his followers believed that animals were unthinking, unfeeling machines. This allowed researchers to perform all manner of experiments on live animals without any moral concerns.

1764

A French philosopher noted that vivisection uncovered organs of feeling in animals, proving that animals were not machines, but feeling beings.

1866

American Society for the Prevention of Cruelty to Animals (ASPCA) was the first humane society to be established in North America. A law to prevent beating of horses came about through early action from ASPCA. Nine years later the American Society for the Prevention of Cruelty to Children was founded.

1947

During World War II, German Nazi doctors performed gruesome experiments on prisoners. In response, the “Nuremberg Code” was developed, requiring animal research before human research to minimize the harm to humans.

1961

In the time period after World War II, additional research money from the Federal government created a demand for more research animals, especially dogs, which had played a large part in animal research in the past.

1966

With increased public pressure after a *Life* magazine article called "Concentration Camps for Dogs" describing a police raid on a dog dealer's facility, Congress passed what would become the **Animal Welfare Act (AWA)**. Mouse models become more prevalent.

1977

Smallpox is eradicated

1977

Public response against testing of cosmetics on animals

1979

Each research institution that uses animals and receives federal money is required to have an **Institutional Animal Care and Use Committee (IACUC)** to oversee the use of all vertebrates (covering rats, mice, and birds).

1985

Animal Welfare Act amended to require that researchers minimize animal pain and distress through use of anesthesia, analgesics (painkillers), and humane euthanasia.

1999

Stop Huntingdon Animal Cruelty (SHAC) began harassing, assaulting, firebombing and vandalizing people and property associated with animal research.

Current

Transgenic mice widely used; search for new models continues.



Let's pause for questions.
Does anyone have a question
about the historical context of
using animals in research?

Lesson Four

What ethical considerations
influence the use of animals



Ethics

helps us to



- Analyze arguments in a structured way
- Come to well-reasoned decisions
- Choose the best course of action in the face of conflicting choices

Ethical Theories

Outcomes-based

How can we bring about the greatest good for the greatest number?

Duties-based

How shall we treat each other and other living things? What are our moral duties to each other?



Which perspective is more commonly used by people AGAINST using animals in research?

Outcomes-based:

How can we bring about the greatest good for the greatest number?

Duties-based:

*How shall we treat each other and other living things?
What are our moral duties to each other?*

Which perspective is more commonly used by people IN FAVOR OF using animals in research?



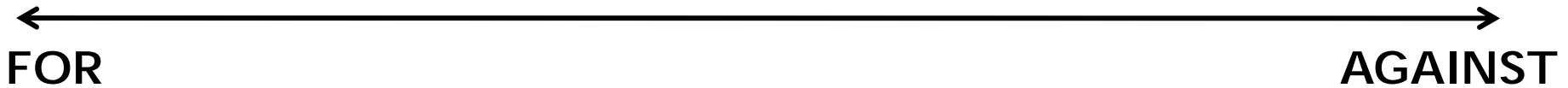
Outcomes-based:
How can we bring about the greatest good for the greatest number?



Duties-based:
*How shall we treat each other and other living things?
What are our moral duties to each other?*

Outcomes-based

The vast benefits of research to both humans and animals outweighs the cost to animals if the research is conducted in a humane way. The *ends* (elimination of polio, smallpox and measles, treatments for cancer and heart disease, etc.) justifies *the means* (using animals—mostly rodents and fish—in studies in which pain and suffering have been minimized or eliminated).



Duties-based

Animals have the basic moral right to be respected for their inherent value and worth, and should not be treated as a 'means to an end.' It is our *moral duty* to speak up for those who are oppressed and cannot speak up for themselves, including animals.

Outcomes-based

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FOR

AGAINST

Duties-based



Animals have the basic moral right to be respected for their inherent value and worth, and should not be treated as a 'means to an end.' It is our *moral duty* to speak up for those who are oppressed and cannot speak up for themselves, including animals.

Outcomes-based

The vast benefits of research to both humans and animals outweighs the cost to animals if the research is conducted in a humane way. The *ends* (elimination of polio, smallpox and measles, treatments for cancer and heart disease, etc.) justifies *the means* (using animals—mostly rodents and fish—in studies in which pain and suffering have been minimized or eliminated).

Animals should be given equal moral weight and value to humans, in which case *the ends* (better health for humans) does not justify *the means* (harm to a larger number of animals). Bringing about the greatest good for one species at the expense of another species is “speciesism” - on par with sexism or racism.



FOR

AGAINST

Duties-based

As human beings with the capacity to study and treat disease, we have the *moral duty* to minimize pain and suffering of people afflicted with disease. As humane research with animals also helps animals, our duty to study and treat disease extends to animals with diseases.

Animals have the basic moral right to be respected for their inherent value and worth, and should not be treated as a ‘means to an end.’ It is our *moral duty* to speak up for those who are oppressed and cannot speak up for themselves, including animals.



Stakeholder Quote:

“Responsible use of animals in research aimed at improving the health and welfare of the mentally ill is the right thing to do, and we will continue because we have a moral responsibility to society to use our skills for the betterment of the world.”
-David Jentsch



Outcomes-based:

How can we bring about the greatest good for the greatest number?



Duties-based:

*How shall we treat each other and other living things?
What are our moral duties to each other?*



Stakeholder Quote:

The rights view says, "We owe it as a matter of strict justice to treat animals in a certain way." In particular we owe it to these animals not to eat them, for example, or not to put them in cages for our entertainment, or not to use them in education or in surgery."
-Tom Regan



Outcomes-based:

How can we bring about the greatest good for the greatest number?



Duties-based:

*How shall we treat each other and other living things?
What are our moral duties to each other?*



Stakeholder Quote:

“...Our view is that because animal studies lead to improved human health, they should be considered acceptable -- provided the studies are highly regulated, the animals are well cared for and suffering is not allowed.”

-Nancy Haigwood



Outcomes-based:

How can we bring about the greatest good for the greatest number?



Duties-based:

*How shall we treat each other and other living things?
What are our moral duties to each other?*



Stakeholder Quote:

“Speciesism is a prejudice or attitude of bias in favor of the interests of members of one's own species...We have to speak up on behalf of those who cannot speak for themselves. The less able a group is to stand up and organize against oppression, the more easily it is oppressed.”

-Peter Singer



Outcomes-based:

How can we bring about the greatest good for the greatest number?



Duties-based:

*How shall we treat each other and other living things?
What are our moral duties to each other?*



Structured Academic Controversy

- Teams of 4 students (2 PRO, 2 CON)
- Teams share top 3 arguments
- Other side listens and repeats arguments
- Teams find points of agreement
- Students may write personal position as homework



Let's pause for questions.
Does anyone have a question
about the ethical perspectives
often framing the animal
research debate?

Lesson Five

**How can we apply this
to a case study**



Decision-Making Framework

- Ethical Question
- Facts - Known/Unknown
- Stakeholders - Values/Concerns
- Alternate Options
- Justification of Position
- Evaluation





What makes a strong justification?

What makes a weak justification?

Assessment

Summative Assessment: Student Action Plan

Students create a final product that...

- Explains the factors that go into conducting animal research
- Describes the history of animal research and how it is an evolving process
- Identifies how the student will exercise his or her personal participation in the use of animals in/by society and the choices the student will make to support his or her view
- Justifies the student's choice according to stakeholders, ethical principles, and knowledge gained from the curriculum lessons

Thank You!



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