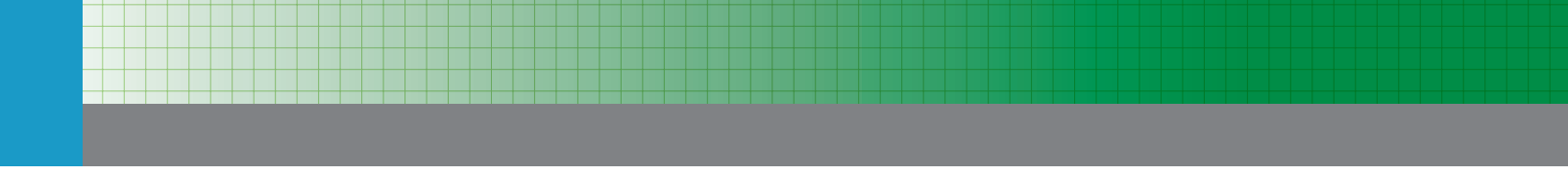


APPENDIX

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MASTER GLOSSARY

Alzheimer's Disease: A form of dementia, or loss of brain function, that gradually worsens over time and affects behavior, thinking, and memory.

Animal Rights: Animal rights organizations advocate that non-human animals deserve the same rights as humans and that the use of them in any way, including as household pets, entertainment, and food, is inhumane and unethical. Some animal rights organizations advocate violence to prevent the use of animals, but not all. Those that do tend to be underground organizations to avoid prosecution.

Animal Rights Activist: A person who believes that animals should be given similar considerations as human beings, should not be considered property, and should be awarded basic rights.

Animal Welfare: Animal welfare organizations work with biomedical research regulatory bodies and agencies that promote animal research to ensure the ethical and humane use of animals. Animal welfare activists believe that it is morally acceptable to use animals for human purposes, as long as the animal's welfare (physical and psychological well-being) is protected. These organizations do not argue that animals should never be used by humans and do not advocate violence.

Animal Welfare Activist: A person who believes that it is morally acceptable to use animals for human purposes, as long as the animal's welfare (physical and psychological well-being) is protected.

Animal Welfare Act of 1966 (AWA): A federal law that governs the care, handling, treatment, and transportation of animals in situations that include: laboratories, animal dealers and breeders, exhibitors, and transporters of animals. The law sets out minimum standards for housing, ventilation, lighting, shelter, and veterinary care.

Anti-inflammatory Drugs: Drugs used to treat inflammation. These drugs counteract the reactions caused by damaged cells, which release chemicals that stimulate the immune system, leading to swelling and increased flow of cells to the damaged site.

Ape: Members of the superfamily *Hominoidea* that includes gorillas, chimpanzees, orangutans, and siamangs. Their use in biomedical research is extremely rare and banned in some countries.

Bacteria: Tiny, single-celled organisms. These prokaryote organisms lack a nucleus and organelles within the membrane of the cell. Bacteria can form an association with other organisms that cause them to become pathogens, which can cause human disease and death from infections such as cholera, diphtheria, tuberculosis, and tetanus.

Basic Research: Fundamental questions that are asked in order to enhance the knowledge base of a subject, rather than to cure a specific disease or condition.

Biochemical Pathways: A series of chemical reactions that occur within a cell and are catalyzed by one or more enzymes.

Bioethics: A subfield of ethics applied to the life sciences. It helps us, as a society, to make decisions about how to best gain and use scientific knowledge in the fields of biology, biotechnology and medicine.

Biomedical Research: Research that supports the field of medicine, including clinical trials with animals and humans to study the safety and efficacy of new drugs, treatments, techniques, or devices.

Blood Glucose: Also called blood sugar, glucose is a simple sugar that is the basic fuel used by cells in the body. The blood glucose level is a measurement of glucose in blood.

Computer Model: A computer program that attempts to simulate the behavior of a system, generally through the use of a mathematical model.

Cytokines: Protein molecules that are secreted by the nervous system and immune system. These signaling molecules play a role in communication between cells.

Dementia: A loss of brain function that may affect thinking, language, memory, and behavior.

Diabetes: A disease characterized by a high blood glucose level and treated with injections of insulin and other medications. There are three main types of diabetes: Type I, Type II, and gestational diabetes, the latter of which only occurs in pregnant women.

Differentiation: The process by which a less specialized cell transforms into a more specialized type of cell.

Dissection: Surgery conducted for educational or experimental purposes on a non-living organism to view internal structures.

Dosage: A prescribed amount of a medication.

Duties-based Ethical Theory: An ethical theory that focuses on the **act** itself (as opposed to the consequences of that act), and asks the question, "Would it be acceptable if everyone else were to act in this way? Is the **action**, no matter the consequences, **right** or **wrong**?" This theory can also be thought of as, "The ends do not justify the means."

Embryo: An organism at its earliest stages of development, after fertilization of the egg and first cell division. In humans, an embryo is the first eight weeks after fertilization, after which the developing organism is called a fetus.

Ethics: A field of study that looks at the moral basis of human behavior and attempts to determine the best course of action in the face of conflicting choices.

Eukaryote: Any organism that has a nucleus and specialized organelles within its cell(s). All of the living research models are eukaryotes, except bacteria.

Euthanasia: The practice of ending an animal's life while minimizing pain, distress, and anxiety before loss of consciousness. Most often accomplished through the administration of drugs.

Free Radicals: Atoms or groups of atoms with an unpaired number of electrons. These highly reactive atoms can damage DNA.

Genome: An organism's entire genetic information, encoded in either DNA or RNA (for many viruses). Scientists have been able to sequence the genome of some organisms.

Hair Transplant: A surgical treatment for male pattern baldness that involves taking hair follicles from a donor part of the body and transplanting them into a recipient part of the body (usually the scalp). The donor site is chosen based on the hair follicles' genetic resistance to balding.

Hereditary Condition: Also called a genetic disorder, a hereditary condition is a condition or illness caused by abnormalities in genes or chromosomes. The genetic defect can be inherited from an individual's parents and/or passed down to his or her children.

Humane: Treating animals with respect and care.

Informed Consent: In a research study with human volunteers, each research subject must be capable of understanding the facts and risks of the study, and the researchers must clearly relay this information. Informed consent is this exchange of information, followed by the volunteer providing their consent to participate in the study.

Institutional Animal Care and Use Committee (IACUC): Federal law states that any organization that uses laboratory animals for research or instruction must have an IACUC that oversees the care and use of laboratory animals.

Insulin: A hormone that causes cells in the body to take glucose from the blood into the cells where it can be used.

Insulin Receptors: A receptor in the body that is activated by the presence of insulin, which causes uptake of glucose.

Lower/Higher Organisms: "Lower" organisms are those for which there is less ethical concern about their use due to their level of neurological development or complexity. "Higher" organisms are those for which there is more ethical concern about their use in research.

Magnetic Resonance Imaging: Also known as a MRI, this imaging technique is used to look at structures inside the body.

Male Pattern Baldness: A genetic condition that causes hair loss in a predictable pattern along the temples and crown of the head.

Microbe: Also called a microorganism, a microbe is one of a group of microscopic organisms that includes bacteria, fungi, archaea, protists, green algae, plankton, and planaria.

Mitochondrial Function: The mitochondria are organelles that generate ATP, the cell's source of energy. The mitochondria also perform functions that include controlling cell growth and death, signaling, and cellular differentiation.

Model: A representation of a phenomenon, object, or idea. A model can be developed to represent a phenomenon, object, or idea using a more familiar one (like using an analogy).

Model Organism: An organism that is used in research because it is easier to study a particular aspect in that organism, rather than in humans and higher organisms. Model organisms tend to be small, able to reproduce rapidly with many offspring, inexpensive to house and maintain, able to be manipulated genetically on the molecular level, and well-studied by other scientists. Major model organisms include *E. coli* bacteria, yeasts, slime molds, fruit flies, zebrafish, and mice.

Molecular Genetics: A specialty within the field of biology that studies the structure and function of genes at the molecular level.

Monkey: Non-human, non-ape primates, including rhesus macaques, baboons and marmosets. Rhesus monkeys are the most common type of non-human primate used in biomedical research.

Moral: Codes of conduct governing behavior; an expression of values reflected in actions and practices.

Moral Duty: The duty or obligation that arises out of a consideration of what is right and wrong.

Motor Neurons: Neurons (nerve cells) in the central nervous system that help control muscle movement.

Neurological Diseases: Disorders that affect the brain, spinal cord, and nerves.

Neuron: Also called a nerve cell, a neuron is a specialized cell in the nervous system (brain, spinal cord, and nerves) that processes and communicates information through electrical and chemical signals.

Non-human Primate: Member of the order Primates, not including humans.

Outcomes: The consequences or end results of an action.

Outcomes-based Ethical Theory: An ethical theory that focuses on the **consequence** of an act, and asks the question, "What are the **consequences** of the action?" In getting caught, the bad outcome (e.g., getting in trouble, losing points on the assignment, or being seen as dishonest) would outweigh any benefits from the cheating. This theory can also be thought of as, "The ends **justify** the means."

Primate: Member of the order Primates, which includes anthropoids (monkeys and apes—which include humans) and prosimians (galagos, lemurs, lorises, and tarsiers).

Prokaryote: Any organism that does not have a nucleus or membrane-bound organelles, such as bacteria.

Quadriplegia: The result of a paralyzing injury that causes partial or total loss of the use of arms, legs, and torso, as well as the loss of sensory functions in these areas.

Reduction: One of the 3 Rs of animal research proposed by Russell and Burch. Reduction means using the fewest number of animals possible in a research project to gain statistically significant results.

Refinement: One of the 3 Rs of animal research proposed by Russell and Burch. Refinement means using any technique or procedure that decreases the suffering, or enriches the life of, an animal used in research.

Regenerate: The process of growth and renewal that allows cells, organs, and organisms to be resilient to damaging events. For example, a sea star is capable of regenerating an arm that has been damaged by a predator.

Regulatory Oversight: The amount of supervision by an authoritative body over an activity (i.e., laws, rules or regulations imposed by governments or institutions).

Replacement: One of the 3 Rs of animal research proposed by Russell and Burch. Replacement means replacing conscious, living vertebrates with cell or tissue cultures, computer models, and/or less developed animal species.

Sequenced Genome: A laboratory process that results in the cataloging of an organism's entire genetic information, encoded in either DNA or RNA (for many viruses).

Speciesism: Belief that the human species is superior to all other species, and therefore, that different rights and values should be assigned to humans than to other animals.

Spinal Cord Injury: An injury to the spinal cord as a result of trauma (not disease). An example of the result of a spinal cord injury is quadriplegia.

Stakeholder: Any person, institution, or entity that is interested in, invested in, or will be affected by the outcome of a decision.

Toxicity: The degree to which a substance can cause damage to an organism. A toxic substance is one that may be damaging or poisonous.

Transgenic Organism: A living organism in which genes, or gene regulatory regions, have been added, removed, or modified. The change in DNA will cause the organism to exhibit a new property (immune system change, genetic disorder, etc.) which can be passed to its offspring.

Type II Diabetes: One of the three types of diabetes. Also called Diabetes Mellitus Type II or Adult-Onset Diabetes. The disease is characterized by high blood glucose levels due to insulin resistance and insulin deficiency.

Vegan: A diet that avoids the consumption of all animal products, including milk, eggs, and honey. A vegan may also avoid buying products made from animals, including leather and wool.

Vegetarian: A diet that avoids the consumption of animal meat, such as red meat, poultry, fin fish, and shellfish.

Vertebrate: An animal with a vertebral column (backbone).

Virtues Ethics: As one of the approaches of normative ethics, virtues ethics emphasize the moral character (virtues), rather than duties (actions) or outcomes (consequences of actions).

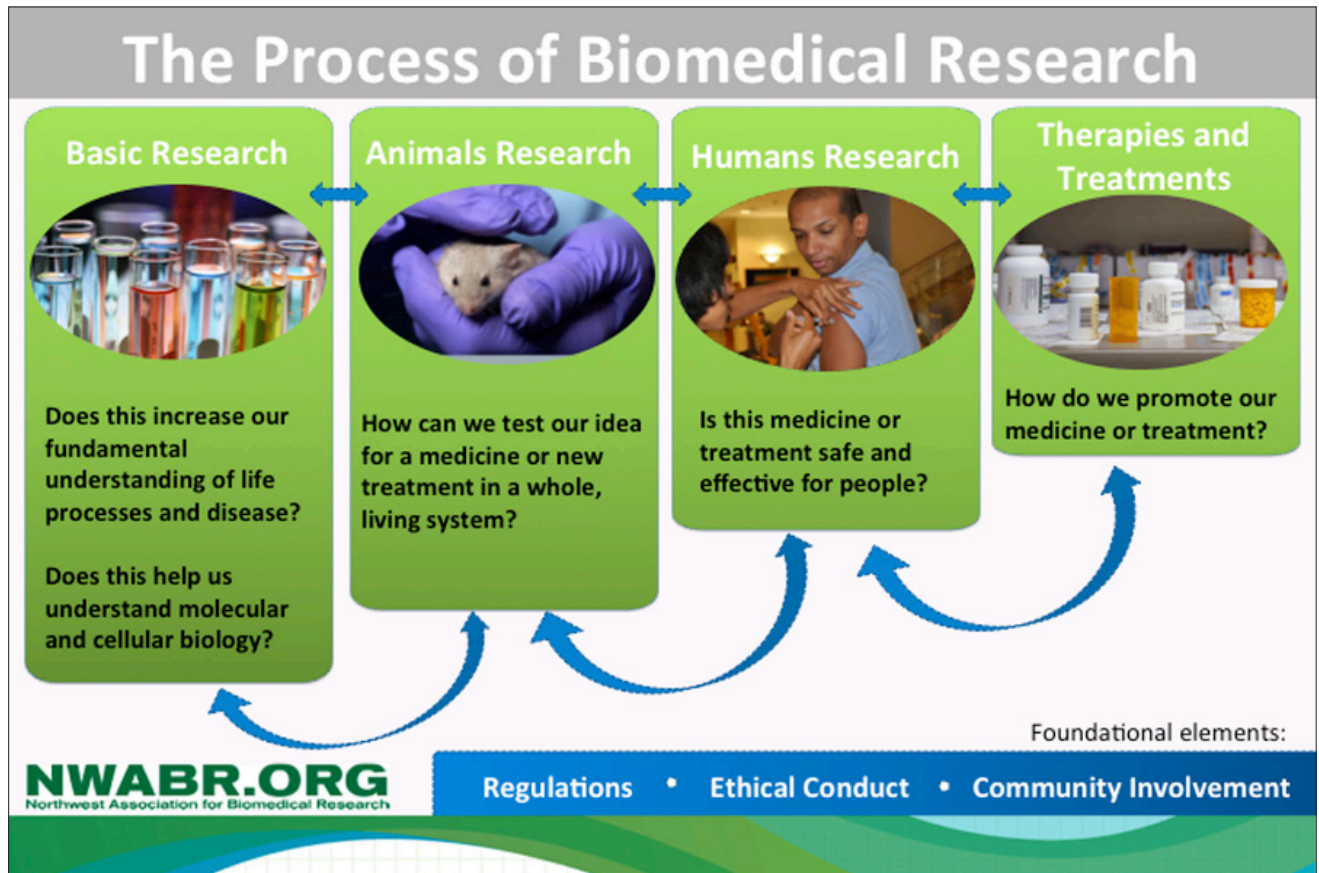
Virus: A tiny organism that can transmit infections and disease, such as influenza and HIV.

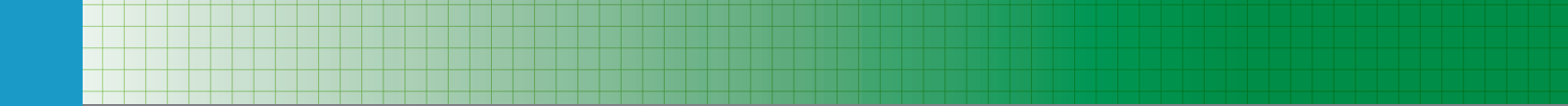
Vivisection: Surgery conducted for experimental purposes on a living organism to view living internal structures. The term is sometimes more broadly defined as any experimentation on live animals. The term is often used by organizations opposed to animal experimentation and is no longer used by practicing scientists.

APPENDIX

A1: Process of Biomedical Research

Teachers may download a copy of this PowerPoint slide from <http://www.nwabr.org>. The document is designed to print at 20 x 30 inches. Teachers wishing to print this as a classroom poster may do so freely.





INTRODUCTION

The study of ethics involves consideration of conflicting moral choices and dilemmas about which reasonable people may disagree. Since a wide range of positions is likely to be found among students in most classrooms, it is especially important to foster a safe classroom atmosphere by creating some discussion ground rules. These ground rules are often referred to as “norms.” An agreed-upon set of ground rules should be in place before beginning *The Science and Ethics of Animal Research* curriculum.

OBJECTIVES

Students will be able to:

- Create and agree to classroom discussion norms.

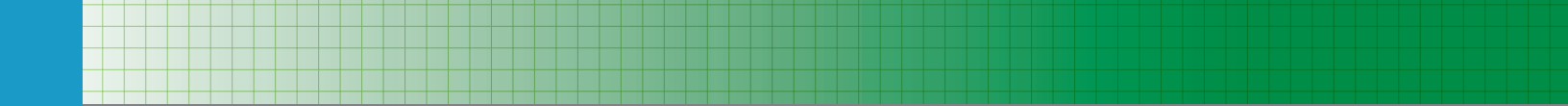
PROCEDURE

Ask the students, “What can we do to make this a safe and comfortable group for discussing issues that might be controversial or difficult? What ground rules should we set up?” Allow students some quiet reflection time, and then gather ideas from the group in a brainstorming session. One method is to ask students to generate a list of ground rules in small groups and then ask each group to share one rule until all have been listed. Clarify and consolidate the ground rules as necessary.

Post norms where they can be seen by all, and revisit them often. If a discussion gets overly contentious at any time, it is helpful to stop and refer to the ground rules as a class to assess whether they have been upheld.

Some possible student ground rules/norms could include:

- A bioethics discussion is not a competition or a debate with a winner and a loser.
- Everyone will respect the different viewpoints expressed.
- If conflicts arise during discussion, they must be resolved in a manner that retains everyone’s dignity.
- Everyone has an equal voice.
- Interruptions are not allowed, and no one person is allowed to dominate the discussion.
- All are responsible for following and enforcing the rules.
- Critique ideas, not people.
- Assume good intent.

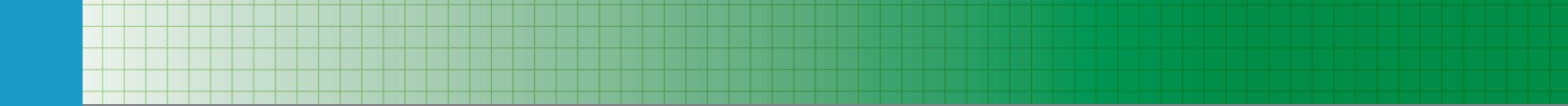


APPENDIX

A3: Chalk Talk Poster Image

Photocopy this image to use for the Chalk Talk posters in *Lesson One*.



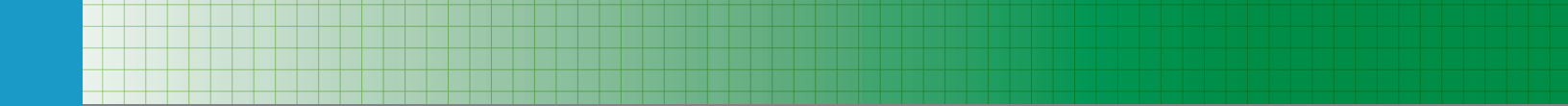


APPENDIX

A4: Animal Research Regulatory Bodies

Resource for teachers and students to understand laws, regulations, and advocacy groups.

Name	Mission & Vision	Actions
<p>United States Department of Agriculture (USDA)</p>	<p>“We provide leadership on food, agriculture, natural resources, and related issues based on sound public policy, the best available science, and efficient management.”</p> <p>http://www.usda.gov/wps/portal/usda/usdahome</p>	<p>A subset of the USDA, the Animal and Plant Health Inspection Service (APHIS) is composed of animal care and husbandry experts that work to set standards of human care and treatment of animals. Standards are implemented and compliance achieved through “inspection, education, and by working closely with states, industry, and non-governmental organizations.”</p> <p>http://www.aphis.usda.gov/</p>
<p>Office of Laboratory Animal Welfare (OLAW)</p>	<p>“The Office of Laboratory Animal Welfare (OLAW) provides guidance and interpretation of the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals, supports educational programs, and monitors compliance with the Policy by Assured institutions and PHS funding components to ensure the humane care and use of animals in PHS-supported research, testing, and training, thereby contributing to the quality of PHS-supported activities.”</p> <p>http://grants.nih.gov/grants/olaw/olaw.htm</p>	<p>Institutions that are funded with money from the Public Health Service (PHS) must provide OLAW with written evidence of how animals will be used in their laboratories. All use must adhere to the guidelines set by PHS policy on the Humane Care and Use of Laboratory Animals. OLAW conducts evaluations of the laboratories and investigates all allegations and/or indications of noncompliance.</p> <p>http://grants.nih.gov/grants/olaw/olaw.htm</p>
<p>Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC International)</p>	<p>“The Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC International) is a voluntary accrediting organization that enhances the quality of research, teaching, and testing by promoting humane, responsible animal care and use. It provides advice and independent assessments to participating institutions and accredits those that meet or exceed applicable standards.”</p> <p>http://www.aaalac.org/about/mission.cfm</p>	<p>As well as adhering to local, state, and federal laws, institutions volunteer to participate in AAALAC’s program. An AAALAC-accredited institution has demonstrated “that they meet the minimum standards required by law, and are also going the extra step to achieve excellence in animal care and use.”</p> <p>http://www.aaalac.org/about/index.cfm</p>
<p>Institutional Animal Care and Use Committee (IACUC)</p>	<p>“The Institutional Animal Care and Use Committee (IACUC) is a self-regulating entity that, according to U.S. federal law, must be established by institutions that use laboratory animals for research or instructional purposes to oversee and evaluate all aspects of the institution’s animal care and use program.”</p> <p>http://iacuc.org/</p>	<p>IACUCs are formed at the institutional level. To begin animal research, researchers must submit all protocols and animal use procedures they will use to their local IACUC for approval and permission to begin.</p> <p>The IACUC conducts regular site visits to ensure that all approved protocols are being followed and that no unapproved protocols are taking place.</p>



APPENDIX

A5: Animal Welfare and Research Advocacy

Resource for teachers and students to understand laws, regulations, and advocacy organizations.

Animal welfare organizations work with biomedical research regulatory bodies and agencies that promote animal research to ensure the ethical and humane use of animals. These organizations do not argue that animals should never be used by humans and do not advocate violence. The animal welfare organizations below are only a few of the organizations at work today. There are many diverse organizations in existence and vary by types of animals advocated for and work done to achieve their goals.

Name	Mission & Vision	Actions
<p>National Association for Biomedical Research (NABR)</p> <p>and</p> <p>Foundation for Biomedical Research (FBR)</p>	<p>“On behalf of the biomedical research community, the National Association for Biomedical Research advocates for sound public policy in support of ethical and essential animal research.”</p> <p>http://www.nabr.org/About_NABR/Mission_Statement.aspx</p> <p>FBR educates the public about the essential role of humane animal research.</p> <p>http://www.fbresearch.org/default.aspx</p>	<p>NABR works to promote ethical use of animals by working with members and government to educate others and work toward supportive legislation.</p> <p>http://www.nabr.org/About_NABR.aspx</p>
<p>Pro-Test Standing up for Science</p>	<p>“Pro-Test aims to counter the irrational arguments of anti-vivisectionists by raising public awareness of the benefits of animal research and creating an environment where scientists can speak out about their work and be proud of the contributions they make. We stand for science, reasoned debate and, above all, the promotion of the welfare of mankind.”</p> <p>http://www.pro-test.org.uk/about.php</p>	<p>Pro-Test is a student led organization in the United Kingdom that works to educate the public about the need for ethical animal research in the interest of developing medicine for humans and animals alike. Pro-Test advocates attending protests and sharing knowledge and information to ensure that continued research takes place and does so in an ethical and humane manner.</p>
<p>Understanding Animal Research</p>	<p>Understanding Animal Research aims to achieve understanding and acceptance of the need for humane animal research in the UK by maintaining and building informed public support and a favorable policy climate for animal research.</p> <p>http://www.understandinganimalresearch.org.uk/about_us/</p>	<p>Understanding Animal Research works to educate the public about animal research. They advocate contacting government to ensure the continued humane and ethical use of animals in animal research.</p>
<p>American Society for the Prevention of Cruelty to Animals (ASPCA)</p>	<p>The ASPCA’s mission, as stated by Henry Bergh in 1866, is “to provide effective means for the prevention of cruelty to animals throughout the United States.”</p> <p>http://www.aspc.org/about-us/about-the-aspc.html</p>	<p>The ASPCA has been given legal authority to investigate and arrest individuals for crimes against animals. They work to ensure that animal welfare and animal cruelty laws are imposed and upheld.</p> <p>http://www.aspc.org/about-us/about-the-aspc.html</p>
<p>Animal Welfare Institute (AWI)</p>	<p>“Since its founding in 1951, AWI has sought to alleviate the suffering inflicted on animals by people.”</p> <p>http://www.awionline.org/ht/d/sp/i/208/pid/208</p>	<p>The AWI works to educate the public and encourage others to speak to Congress and other government officials to advocate for the ethical and humane use of animals in all aspects.</p> <p>http://www.awionline.org/</p>

Animal Welfare or Animal Rights?

Name	Mission & Vision	Actions
Humane Society of the United States (HSUS)	"Celebrating Animals, Confronting Cruelty." http://www.humanesociety.org/about/overview/	"The HSUS protects all animals through legislation, litigation, investigation, education, science, advocacy, and field work." http://www.humanesociety.org/about/contact/frequently_asked_questions.html

The Humane Society of the United States (HSUS) portrays itself as a moderate animal welfare group but is *not* affiliated with local county and state animal shelters also called the Humane Society. The *Center for Consumer Freedom* considers HSUS to be an animal rights group.

http://activistcash.com/organization_overview.cfm/o/136-humane-society-of-the-united-states

APPENDIX

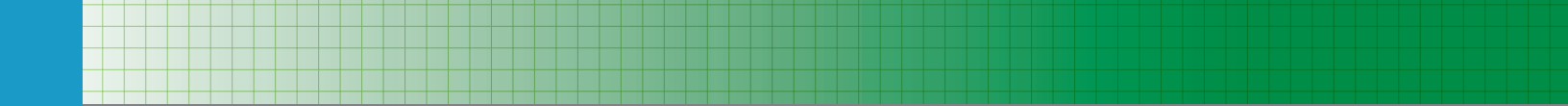
A6: Animal Rights Organizations

Resource for teachers and students to understand laws, regulations, and advocacy groups.

Animal rights organizations advocate that non-human animals deserve the same rights as humans and that the use of them in any way—including as household pets, entertainment, and food—is inhumane and unethical. Some animal rights organizations advocate violence to prevent the use of animals, but not all. Those that do tend to be underground organizations to avoid prosecution.

The animal rights organizations below are only a few of the organizations at work today. There are many diverse organizations in existence. They vary by the type of animal they advocate for and the work they do to achieve their goals.

Name	Mission & Vision	Actions
Animal Liberation Front (ALF)	To effectively allocate resources (time and money) to end the “property” status of non-human animals. http://animalliberationfront.com/ALFront/mission_statement.htm	Members of ALF work to stop all uses of animals, including ownership, through active protest and demonstrations. In some instances, protests and demonstrations are organized at the private homes of individuals who work in the animal use fields. Some acts of demonstration include violence, threats, and release of animals. (A lot of other animal rights organization are spin-offs of ALF.)
People for the Ethical Treatment of Animals (PETA)	“PETA focuses its attention on the four areas in which the largest numbers of animals suffer the most intensely for the longest periods of time: on factory farms, in laboratories, in the clothing trade, and in the entertainment industry. We also work on a variety of other issues, including the cruel killing of beavers, birds, and other ‘pests,’ and the abuse of backyard dogs.” http://www.peta.org/about/	“PETA works through public education, cruelty investigations, research, animal rescue, legislation, special events, celebrity involvement, and protest campaigns.” PETA also works to eliminate the use of animals as household pets and works to humanely euthanize animals without homes to prevent crueler forms of death. http://www.peta.org/about/



APPENDIX

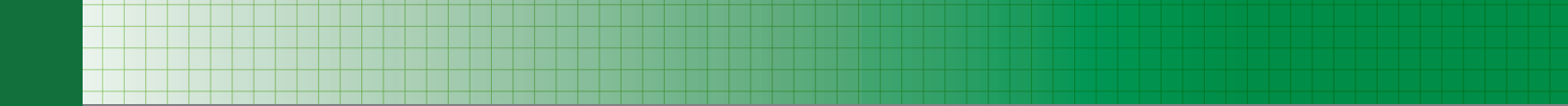
A7: Student Handout — *Justify the Answer*

Name _____ Date _____ Period _____

A strong justification should have the following components:

✓	A good justification includes:	Which means...
<input type="checkbox"/>	A DECISION	A position (claim) has been clearly stated. The decision relates directly to the ethical question.
<input type="checkbox"/>	FACTS	The facts and science content can be confirmed or refuted regardless of personal or cultural views. This can be used as evidence to support the claim.
<input type="checkbox"/>	ETHICAL CONSIDERATIONS	Ethical considerations may include duties-based and outcomes-based ethical perspectives. This can be used as evidence to support the claim.
<input type="checkbox"/>	STAKEHOLDER VIEWS	There are a variety of views and interests in the decision and more than one individual or group will be affected by the outcome.
<input type="checkbox"/>	ALTERNATE OPTIONS and REBUTTALS	No one decision will satisfy all parties. A thorough justification considers strengths and weaknesses of various positions.
<input type="checkbox"/>	REASONING and LOGIC	A logical explanation that connects the evidence to the claim is provided.

For our purposes, the justification for the decision is more important than the position on the decision.



INTRODUCTION TO ETHICAL THEORIES AND TERMS

HOW DO ETHICS DIFFER FROM MORALS AND VALUES?

The terms “values,” “morals,” and “ethics” are often used interchangeably. However, there are some distinctions between these terms that are helpful to make.

- **Values** signify what is important and worthwhile. They serve as the **basis** for moral codes and ethical reflection. All individuals have their own values based on many aspects including: family, religion, peers, culture, race, social background, gender, etc. Values guide individuals, professions, communities, and institutions. One expression of values might be that “life is sacred.”
- **Morals** are codes of conduct governing behavior. They are an expression of values reflected in actions and practices. Morals can be held at an individual or communal level. For example, “one should not kill” provides a guideline for action based on values.
- **Ethics** provide a systematic, rational way to work through dilemmas and determine the best course of action in the face of conflicting choices. Ethics attempt to find and describe what people believe is right and wrong, and to establish whether certain actions are actually right or wrong based on all the information available. For example, ethics might address a question such as, “If killing is wrong, can one justify the death penalty or kill in self-defense?”

Some teachers find the following analogy useful:

- **Values** are represented by the **heart**. They signify what is important, meaningful, and true for each of us.
- **Morals** are represented by the **hands**. They are demonstrated by our behavior. They signify how values are “put into practice” as actions.
- **Ethics** is represented by the **head**. Ethics rely on reasoned judgment, and provide a systematic, rational way to determine the best course of action in the face of conflicting choices.

DUTIES-BASED ETHICAL THEORY

"Moral Rules and Duties" or "Deontological Ethics"

Summary

In this perspective, the focus is on the nature of an **act** itself and not what happens as a result of that action.

The emphasis is on being motivated by moral duties and acting in accordance with them. Respect for persons and other living organisms is also stressed in this view.

The German philosopher Immanuel Kant (1724-1804) was a major proponent and developer of this approach to ethics. Kant formulated a "categorical imperative" (a command that is absolutely binding, without exceptions), and stated it in several ways:

1. *"One must act only in such a way that one could will one's act to become a universal law or rule (maxim)."*

One should act only in ways that would be acceptable if everyone else acted that same way.

2. *"Act in such a way that always the action treats humanity never simply as a means, but at the same time as an ends."*

One should not treat persons as a means to an end only, where the outcome is the only concern.

Kant distinguishes between perfect and imperfect duties. Perfect duties must always be done—do not commit suicide, do not kill innocents, do not lie, etc. Imperfect duties must only sometimes be done—develop our talents and ourselves, contribute to the welfare of others, etc.

Contributions

- Offers consistent principles or rules.
- Treats persons as ends in themselves and never as only a means to an end.
- Recognizes individual rights.

Challenges

- Does not offer a way to deal with conflicting obligations.
- Perfect duties permit no exceptions, which can sometimes be morally difficult to reconcile.
- Does not offer much guidance about forming and applying moral rules in real-life settings.

From *An Ethics Primer*, <http://www.nwabr.org>.

Adapted with permission from Laura Bishop, Ph.D., Kennedy Institute of Ethics, Georgetown University.

OUTCOMES-BASED ETHICAL THEORY

“Consequentialist” or “Utilitarian” Ethics

Summary

The focus of this perspective is on the **consequences** of the action.

The morally appropriate act is one that maximizes the amount of whatever outcome is deemed good and identifies it as intrinsically valuable, useful, or desirable.

Consequentialists seek to bring about the greatest good for the greatest number of people. English philosophers Jeremy Bentham (1748- 1832) and John Stuart Mill (1806-1873) were crucial in the development of utilitarianism as a form of consequentialist ethics. In its most implicit and traditional form, utilitarianism identifies “pleasure” as the good that must be maximized and “pain” as the evil that must be minimized. Utilitarians want to maximize happiness so they determine which actions will have the best outcome in terms of happiness or pleasure, and act so as to bring them about. Moral action is that which results in good or desirable consequences. The rightness of the act is measured by the good or bad consequences it brings about—more good is better. Contemporary utilitarian philosophers identify other values as “good” such as friendship, health, knowledge, etc.

Terms associated with consequentialism: Utility, consequences, ends, outcomes, cost/benefit analysis, “the ends justify the means.”

Contributions

- Considers the interests of all persons equally.
- Directs attention to the consequences of actions.
- Offers a familiar form of reasoning—thinking about consequences to guide actions.
- Can be used to establish public policy.

Challenges

- Interests of majority can override the rights of minorities.
- Bad acts with good consequences might be permissible.
- Ignores or does not do justice to the particular and morally significant relationships that make up our lives—the highly personal nature of “duty.”
- Makes people responsible for too much; requires too broad a view. Must take into account all people and all consequences.
- Hard to determine what counts as a benefit or harm; hard to compare benefits/harms.

From *An Ethics Primer*, <http://www.nwabr.org>.

Adapted with permission from Laura Bishop, Ph.D., Kennedy Institute of Ethics, Georgetown University.

ADDITIONAL ETHICAL PERSPECTIVES AND THEORIES

Ethicists defend their positions using different ethical perspectives and theories. In addition to duties-based and outcomes-based perspectives, three other major perspectives are described below.

Principles

An action is right if it follows the principles:

- **Respect for Persons:** Respect individuals and their autonomy (right to make independent choices).
- **“Do Good” or Beneficence:** Be of benefit.
- **Do No Harm, or Non-maleficence:** Minimize harm.
- **Justice:** Treat others equitably, distribute benefits/burdens fairly.

The principles provide a combination of rules and outcomes-based perspectives. For example, respect for individuals and justice are focused more on rules, and beneficence and non-maleficence require looking at the outcome of an action. The principles are widely used in biomedical ethics. Suppose a person who was dying wished to be killed. The principle of autonomy might be interpreted to say that in order to respect that individual’s wish, they should be killed. However, suppose the patient had asked a doctor to do the killing. A doctor who had vowed not to harm others might invoke the principle of non-maleficence and decide they could not kill the patient.

Virtues

An action is right if it conforms to a model set of attributes inherent in a particular community.

Virtues-based ethics look at the overall character that is considered desirable by a community. It then asks, “What would the virtuous person do?” Ancient Greeks identified certain virtues that are still widely recognized today as important, such as compassion, honesty, courage, and forgiveness. Virtues ethics looks at the whole person and their behaviors over their lifetime in many situations. For example, killing may not be considered in harmony with a virtuous character that emphasizes forgiveness.

Care

An action is right if it acknowledges the importance and value of interpersonal relationships. Care ethics also looks at the underlying power structures of a situation. For example, an ethicist using the perspective of care might look at how an oppressive or exploitative social structure may underlie an act of killing.

Each of these perspectives allows different questions to be asked in an ethical dilemma. For example, in looking at different solutions one might ask: “Which one provides the greatest good for the greatest number?” “Which solutions are the most fair to the parties involved?” or “Which are consistent with moral rights and duties?” Familiarity with these perspectives can provide you with language to describe and defend your position, and help you see how your arguments align with established philosophical perspectives.

