

The Ethical Aspect of Science

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Overview

Rationale

Objectives

Classroom Activities

Annotated Bibliography/Resources

Appendices-Standards

Overview

The purpose of this curriculum is to direct high school civics students to the variety of scientific experiments performed on unsuspecting humans during the 20th and 21st century. The students will make judgments about the moral and ethical decisions scientists must make when performing questionable experiments. This topic was chosen to question the government's (particularly U.S.) responsibilities and culpabilities when applied to such macabre experiments. Should the government permit such experiments? Should the government participate in these experiments? What should be done with newly discovered data from diabolical experiments?

In order to discuss what experiments are immoral there must be a consensus of a definition of moral, and immoral. The students will give their definition of morality, and examine how morals are placed in each individual. The students will see the importance of family in the shaping of these values. Through family rituals, for example, shared meal times including breakfast, lunch and dinner many moral messages are conveyed to the individual who participate or by being absent. Messages like the importance of nutrition that is learned through the food that is cooked which fortifies the body. The food that is cooked for the family and the way in which the food is prepared suggests a moral message to the family. Conversation around the table between sibling and parents also permeates moral messages. How the family interacts at the table or if there is an interaction (families eating together) sends moral messages to each party involved. The student will discuss the importance of meals in the development of learning morals. Family rituals are key to learning morals, holiday celebrations, annual events, and religious functions that are used to teach social acceptable norms. Students will, via the Internet, analyze social norms shared around the world. Decide what is considered good character relationships with siblings,

Although this unit was written for high school civics, it can be adapted to different grade levels. In this curriculum informational texts, the Internet, and primary sources will be used. Teachers interested in studying the moral role of government and civil and human rights of citizens especially U.S. citizens would be interested in using this unit. The unit teaches the process of scientific method, and the ethics involved in each step of this procedure.

Students will apply the moral lesson with the United States Constitution's and cloning, by determining the value of the lives of clones. The students will make critical judgments determining whether a clone should be afforded the same rights as other citizens. The goal is to show how the Constitution is a living document, changing as the United States change. An additional goal is to demonstrate how morals and social norms are used to determine the value of lives. The students will be introduced to the ideology of Social Darwinism and how it can be used to justify questionable experiments on humans. Finally the students will investigate the macabre experiments of the 20th century, including the diabolical experiments in the Nazi concentration camps. They will apply the teachings of Social Darwinism to these experiments and determine if Social Darwinism justifies these experiments.

Rationale

Graduating medical students take the Hippocratic oath, in which doctors swear upon the physician Apollo, to heal, according to their ability. Included in the Hippocratic Oath are the statements: "I will follow the system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous." "I will give no deadly medicine to anyone if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion." "Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption; and further from the seduction of females or males, of freemen and slaves." "While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men in all times." "But should I trespass and violate this Oath, may the reverse be my lot." The Hippocratic oath depicts the importance and influence of their work, and the value of each patient's life. Hippocrates wanted to remind doctors about the power and responsibility that was placed in their hands, that power must not be corrupted, each life is important regardless of the circumstances in which people were placed. Thomas Jefferson wrote in the Declaration of Independence, "We hold these truths to be self evident that all men are created equal and are endowed with unalienable rights that among them are life, liberty and the pursuit of happiness"; giving meaning to the value of each human being, and no person should be denied these well-known rights. Scientists and physicist who conduct human scientific experiments should be reminded of the oath and the words in the Declaration of Independence especially before conducting what could be considered morally and ethically questionable experiments. Are there moral duties the scientist is bound by? If there are, what part of the government, public watch group, or organization(s) exist to be vigilant to stop or halt these scientist? Are scientists free to conduct depraved means for a justifiable end?

Billion dollar drug companies initially had to test the potency and effectiveness of children drugs on test subjects and infants to determine the correct dosage and possible side effects. Were these infants used in these test cases, considered guinea pigs and deemed expendable if there existed some unintended consequence? How are the test subjects selected? Does economics play a role in the selection process? Is gender, race, class, military service, or incarceration deciding factors when determining the next

vulnerable case study participants? Can this be justified by the possibility of finding a cure that will lead to lowering the number of people who might suffer?

The students will study the ethical aspect of science such as, who determines the point where scientists have gone too far in their quest for knowledge and understanding. Should governments agree to restrict or restrain scientists from entering areas of the unknown that could threaten the existence of human kind such as placing in the environment self replicating molecules and have the potential to construct machines with unknown abilities that can manipulate, create and destroy at will. Should governments allow questionable scientific experiments in order to benefit militarily, medically and technically from the research? Should the military have the right to conduct experiments on its enlisted members? The ethics involved in acquiring data from deprived experiments conducted in other countries. The students will study and ask these important questions about the moral principle limits that are to be place on scientific inquiry. The curriculum will investigate how scientist abuse, manipulate, and experiment often setting in motion an array of unintended consequences. It will focus on the demonic, medieval experiments conducted on unwittingly, naïve, and disinclined subjects all in the name of science. The course will relate aspects of Darwinism to these experiments, raising the question? What, if any, moral issues should scientists have when deciding how to conduct experiments. Which lives are considered valuable, and which lives are expendable? What are the philosophical underpinnings that justify these decisions? Is the common good of the mass out weighed by the human rights of a few individuals?

How are individuals selected to take part in these experiments? Is it by happenstance or is there a human inferior/superior belief system involved in the selection process. Charles Darwin Was born on February 12 1809 in Shrewsbury England. Darwin attended Shrewsbury Grammar School along with his brother Erasmus. His father, due to poor grades and having no direction in life, later took Darwin out of Shrewsbury school. He became interested observing varieties of species and plants. Very few people during that period could have speculated about the profound impact Darwin would have on future generations. Darwin's treatises, *The Origin of Species*, *The Descent of Man*, set into motion Darwin's Theory of Evolution, natural selection, and the belief that species lived or died based on the genetic code of the being. Herbert Spencer applied Darwin's Theories to human beings, coining the phrase survival of the fittest. The humans with dominant genetics must preserve the species and eliminate the weak, thus justifying the mistreatment of people who are believed to be inferior. The students will analyze Darwin's theory and apply it to the selection process of the ghastly scientific experiments.

The students will read selections of the book Undue Risk Secret State Experiments on Humans by Jonathan D. Moreno. In this book Moreno illustrates, in comprehensive history, the use of human subjects in atomic, biological and chemical warfare experiments from World War II to the 21-century.

The curriculum will investigate the use of scientific theory and its validation of pseudo-sciences like the 1930's Scientific Racism of the Nazi Party. Students will examine The Tuskegee Experiment, the true 1932 story about a 40-year government backed medical research effort on humans, which led to tragic consequences. Headed by Dr. Brodus and Dr. Douglas this federally funded program pretended to offer free treatment for syphilis patients in Alabama. Unknown to the men involved, the study evolved into a study of the effects of syphilis on patients who don't receive treatment. The students will study what human and civil rights of these individuals were violated. What is an appropriate punishment for the perpetrators and what type of compensation should the victims receive?

The syllabus will focus on the macabre experiments conducted at Auschwitz and Dachau such as freezing/hypothermia experiments, to establish how long it would take to lower the body temperature to extremance and the possibility of resuscitating the frozen victim. Some of these tests included putting a person in an icy vat of water or put the victim outside naked in sub zero temperatures. Other dehumanizing experiments included, genetic experiments, infectious diseases, interrogation and torture, killing/genocide, high altitude pharmacological, sterilization, surgery and traumatic injuries.

Objectives

The herein objective involved meeting the communications standards set by the Pittsburgh Board of Public Education. The first objective of the curriculum is to teach students to analyze and make crucial judgments about what is considered moral and immoral. They will learn how social norms play a crucial role in determining these values. Secondly, the unit will permit students to research and compile information depicting social norms around the world. Thirdly the students will read and use a variety of multifaceted text to discover the scientific experiments done to unknowing citizens. They will also investigate how Social Darwinism can be used to justify the mistreatment of participants. They will write about the lessons learned from the reading. Thirdly, through this curriculum the students will form opinions about the validity and justifications of these experiments. They will discuss the role, justification, and jurisdiction the government should have in these macabre experiments. Optimistically, the students will be inquisitive, encouraged, and share information and work cooperatively.

Strategies and Classroom Activities

The classroom activities are created to introduce the students to the variety of norms for U.S. citizens and people around the world. Students will share their definition of morality and immorality. They will discuss their moral limits, and how social norms teach people morals. They will also research social norms of people around the world and compare them to their own. The students will discuss how the Constitution protects

the rights of its citizens through the Bill of Rights, Civil War Amendments as well as various laws. The wisdom of the founding fathers proven by their creation of a living document will be tested by the students by applying the constitution to clones. The students will determine which (if any) amendments apply to clones. This will bring an understanding of how the founding fathers anticipated the extension of rights afforded to people, during the inception of the Constitution, who did not have them. The students will analyze morals and apply them to scientist and scientific management. They will discover how scientists justify the mistreatment of other living beings for the benefit of mankind. Social Darwinism is an ideology that can be used to help justify the mistreatment of others. The students will study the belief in a superior and inferior, survival of the fittest, the weak shall be eliminated, and its application applied to the scientific experiments conducted during the 20th century. This includes the experiments conducted by the Nazis in the concentration camps during World War II. This unit curriculum is formatted for **The American Odyssey** and **Civics Government and Economics in Action**. After reading various sections they can be assigned various recording techniques. They will be directed to the Internet to investigate social norms shared around the world. They will determine what is considered good social character? What are 2 widely unacceptable social norms? What are 3 traits that are respected and a sign of good character? What jurisdictions and responsibilities are given to the U.S government? There are a variety of activities ranging from videos, textbook, web research, work sheet, discussions, and essays. See Appendix.

Activity and Class Discussion

In order to get an idea of the words that are going to be used in this activity, students will be asked to brainstorm as many synonyms for the words moral, immoral, ethics, unethical. The teacher can write the terms and synonyms on the board for discussion. Teacher will engage students in a discussion of how morals are learned. Students will be asked to share an event in which their morals were tested. For possible essay topics see **Appendix I**. Inform students that morals change over generations. Morals are based on social norms and good character. Morals are a learned behavior.

Students will investigate social norms shared around the world. Students will research using the Internet.

Directions

Log on to www.indianchild.com/character/socialnorms.htm

Click on social norms

Answer the following:

1. What is considered good social character?
2. What are 2 social norms that are widely unacceptable?
3. What are 3 traits that are respected and a sign of good character?
4. List and describe 3 ways social norms are learned?

Activity

Civil Rights or human lives?

Brainstorm the question “Does the Constitution afford equal rights for clones? Examine the Bill of Rights and the 13th, 14th, 15th amendments. Students recite reasons for their opinion. See Appendix I Worksheet *The Clones* raises issues that may be at the forefront of civil liberties in this country, and how a variety of classes, races and genders of people have received civil rights. The 4th amendment prohibits unwarranted searches and seizures, interpreted as the right to privacy. What is done to a clone in the privacy of a home must not be violated. The 13th Amendment prohibits the binding of a person to perform a personal service due to debt. Which prohibits servitude, except as a punishment for a crime after due process and conviction. 14th Amendment grants the rights of citizenship to anyone born in the United States, guaranteed due process of law to protect civil liberties, and equal protection of the law. Discuss the amendments that have jurisdiction involving clones.

Activity

Write the essence of the amendments.

See Appendix I

Textbook **Civics Government and Economics in Action**

Unit The enduring Constitution

Visit the web site: <http://www.usconstitution.net/const.html#Amends>

Activity 4 Examine the rules of ethics involved in scientific experiments. What moral questions are involved when conducting a scientific experiment? What are the social ramifications of scientific experiments?

Students will understand the basic steps involved in Scientific method. Using the Internet students will list and describe the steps involved in scientific method. Analyze the ethics involved in scientific method.

Directions

Log on to www.epa.gov/maia/html/scientific.html

Click on social norms

Answer the following

1. List and describe the steps involved in scientific method.

Log onto

<http://www.bccmeteorites.com/Ch%2016%20Scientific%20Ethics%2006.10.02.pdf>

Answer the following:

1. Define scientific ethics.

2. Name 2 groups that have established codes of ethics for scientists.
3. What are 2 ethical differences in science?
4. Describe the ethic of topic and findings.
5. Describe the ethic and process.

Unit Two: Understanding Darwinism

Activity Charles Darwin is known for the Theory of Evolution and Natural Selection. In essence this theory states that species are in a struggle to survive. The species with the superior abilities will survive while the weaker ones will die off, resulting in a natural selection, in which only the strong survive ultimately creating a superior species through competition. Herbert Spencer applied Darwin's theories to humans with the slogan *survival of the fittest*, thus thrusting the age of Social Darwinism. Social Darwinism is the belief that the rich are superior beings, and were endowed by God. As proof of this favor the affluent were given the ability to create great wealth and power. As a result this theory was used to justify the insatiable greed of the Robber Barons of the 18th and 19th centuries, it also was used to justify colonialism and imperialism of native people around the globe. Businessmen used the theory to justify low wages to their workers. The military uses social Darwinism to justify casualties during wartime. The students will learn Darwin's Theory and discover how it was applied to humans, by using the Internet browser and finding websites discussing Darwinism. Students will discover through this lesson how people can justify the mistreatment of others by using Darwin's Theory. After completing the lesson the students will make judgments about the morality of the theory. The students will complete the sheet "**Creating Ethics Using Darwinism**" to help guide them through this process. (Reading sheet also available) See Appendix III.

Examine the foundation of evolution and its relationship with Natural Selection.
Analyze the application of Darwin's Theory to Social Darwinism. Make judgments about the morality of this theory.

Website <http://library.thinkquest.org/C004367/eh4.shtml>. Provides extensive information surrounding Darwin's theory of Evolution and treatises.

See Appendix III

Activity: Relate the Tuskegee Experiment to aspects of Social Darwinism.

Students will watch and take notes on the video **Mrs. Evers Boys**. The story about a 40-year government backed medical research effort on humans, which led to tragic consequences. The students will take notes on the movie that depicts nuances of Social Darwinism. After discussing the movie and the students will write a complex paper analyzing the application of Social Darwinism to the Tuskegee Experiment.

The Tuskegee Experiment

Objective: 1. Write an essay applying Darwin's Theory to The Tuskegee Experiment.

Unit questions:

Essay must contain: introduction, (thesis statement) body, and conclusion.

Apply Darwin's theory to the ethics of the Tuskegee Experiment

Essay question (select 1):

1. To what degree did the following play a role in the Tuskegee Experiment?
2. How would Social Darwinist justify the Tuskegee Experiment?

Include the terms: Charles Darwin, evolution, inferior, superior, genetics, gene, natural selection, Social Darwinism, survival of the fittest, weak, strong, dominant, recessive, genocide, eugenics, eradicate, obliterate euthanasia. **Underline words 1pt each**

- a. Selection of participants
- b. Philosophy of experiment facilitators (scientist, doctors and nurses)
- c. Length of study
- d. Family members
- e. Government response

To what degree did the following play a role in the Tuskegee Experiment?

- | | | |
|--------------|-------------|--------------|
| a. race | b. age | c. gender |
| d. income | e. genetics | f. geography |
| g. education | h. elitism | |

Activity This activity will investigate the experiments performed on individuals in the United States. These experiments were done without knowledge of some of the individuals while others were not aware of the dangers involved in the study. The students will examine the depths of corroboration by government agencies, hospitals, and the military. The students will read an excerpt from either the Plutonium Files or Undue Risk. The students will give a report on the participation of the person, the name of the experiment, what the experiment was, the agency that conducted the experiment and the outcome of the experiment. Afterwards the students will share and compare information and draw conclusions from these comparisons. **See Appendix III** The 20th Century Experiments.

Students should be assigned various reading on atomic age and the cold war. Textbook **American Odyssey**

Activity The students analyze and examine the United States Holocaust Memorial Museum website. The students will use technology to investigate and make judgments about the validity of the website. They will list the primary source artifacts found at the site and write how these artifacts were used in scientific experimentation. They will also learn the use of science by the Nazis doctors, and researchers to justify euthanasia and scientific racism in their quest to create the Master Race. **See Appendix III.** Sheet **Visiting The Holocaust Museum**

Activity The students will investigate the medical experiments held at the Nazi concentration camps, by researching physicians and discussing the experiments they conducted. The students will use the OPVL method for evaluating primary sources (see **appendix III**) for essay and discussion by reading portions of the Nuremburg transcripts. Students are to select a physician's name from the list (see appendix) Some notables are: the notorious morbidly fascinated German Dr. Josef Mengele, Reich Commissioner for Health and Sanitation, and Hitler's personal assistant Karl Brandt, M.D. Another is president of the German Red Cross and chief surgeon and clinician of the SS, Heinrich Himmler's personal physician and boyhood friend Karl Gebhardt, M.D..

Another defendant was Siegfried Ruff, M.D. who was director of the Department of aviation and responsible for recreating experiments which involved airplane accidents, particularly on low atmospheric pressure. The students will focus on the morality of these experiments. What was the outcome of each of the participants? What laws should be made to ensure that this type of crime is not repeated.

Focus questions:

Why were the Nuremburg trials held?
What challenges confronted the Nuremburg judges?
What was the title of the Physician? (You're researching)
What controversial experiments did the Physician conduct?
Was there an ethical line cross by the physician? Explain.
Why were the experiments controversial?
Explain the sentence the physician was given.
What happened to the physician?
What laws were made to prevent this from occurring again?
What did you learn?

<http://www.law.umkc.edu/faculty/projects/ftrials/nuremburg/nuremburg.htm> Variety of information and transcripts of the Nuremburg Trials and other famous trials.

Annotated Bibliography

An examination of the following texts, and websites will assist in understanding and execute the activities.

Moreno, Jonathan. Undue Risk Secret State Experiments on Humans. New York, W.H. Freeman and Company, 1999. The author presents a comprehensive history of the use of human subjects in atomic, biological, and chemical warfare experiments.

Welsome Eileen. The Plutonium Files. New York, Random House, Inc. 1999. The author reveals a fifty-year cover up surrounding experiments conducted on American citizens in the post war years.

Zinn, Howard. A People's History of The United States 1492-Present New York, Harper Collins Publishers Inc. 1999. The author describes the impact of the Robber Barons and Rebels of the 19th century.

Saffell, David C Civics Responsibilities and Citizenship Ohio, Glencoe/McGraw-Hill

Videos

Mrs. Evers Boys. The story of a syphilis experiment conducted on 399 black men, in which the men were not given medicine to treat the disease.

Websites

www.indianchild.com/character/socialnorms.htm Provides 100 of lessons teaching character education for kids including raising good children, children virtues, social norms, and teaching moral science.

<http://www.bccmeteorites.com/Ch%2016%20Scientific%20Ethics%2006.10.02.pdf>

Provide information about scientific ethics.

<http://www.ushmm.org> Provides information about the Jewish holocaust. Sponsored by US Holocaust Memorial Washington D.C.

<http://www.law.umkc.edu/faculty/projects/ftrials/nuremberg/nuremberg.htm> Variety of information and transcripts of the Nuremberg Trials and other famous trials.

www.epa.gov/maia/html/scientific.htm created by the United States Environmental Protection Agency. Explains Scientific method and its basic steps.

<http://www.usconstitution.net/const.html#Amends> Primary Source of the Constitution lists the Amendments to the U.S. Constitution including explanations.

Website <http://library.thinkquest.org/C004367/eh4.shtml> Provides extensive information surrounding Darwin's theory of Evolution and the vast connections to his theories.

Appendix I

Material

Essay questions

1. Write a 1-page paper describing a time in which your morals were tested. (Include Introduction, body and Conclusion)
2. Explain the situation.
3. Describe the moral dilemma.
4. Describe how you solved the dilemma.
6. How did you justify your solution?

Textbook

Civics Government and Economics in Action

The enduring Constitution

website

Visit the web site: <http://www.usconstitution.net/const.html#Amends>

Name _____ Date _____

What are my norms and morals?

Objectives: Use technology
Describe good social character traits.

Vocabulary: norms _____
Character _____
Morals _____

Directions

Log on to www.indianchild.com/character/socialnorms.htm

Click on social norms

Answer the following:

1. What is considered good social character?

2. What are 2 social norms that are widely unacceptable?

3. What are 3 traits that are respected and a sign of good character?

4. List and describe 3 ways social norms are learned?

5. How does norms help create morals?

The Clones

Vocabulary: value, moral, civil rights, human rights, cloning, D.N.A.

Students and teachers will discuss how the constitution protects citizens against abuses of power and how the founding fathers allowed amendments to be added for an ever-changing country. Through the reading assignments students are familiar with the Bill of Rights and the 13th, 14th, 15th amendments to the Constitution. Start out the discussion by stating the year is 2017 (10 years in the future), the students are citizens and lawmakers for the country. Cloning is possible through new and innovative technology. As with most laws and technology, the laws are far behind the advent of new technology and new

laws must be created in order to catch up with technology. Using samples of D.N.A. from items as simple as a hair, saliva, or sweat of an individual can create clones.

Scenario #1 A scientist creates a clone from a found hair of a famous entertainer unannounced to the entertainer. After the clone is created, the entertainer finds out.

Questions: Did the scientist break any laws?
Were there any civil rights violations? (Yes/no explain.)
What part of the Constitution is applicable?
Who is responsible for the clone?
Who are the clone's parents?
Does the entertainer have any claims to the clone?
Does the clone have human rights? (If so, what are they?)
Does the clone have civil rights? (If so, what are they?)
What laws should be created in this case?

Scenario #2 An infamous, convicted, registered pedophile had a clone created from his/her D.N.A. for pedophilian purposes. He claims that the clone will only be created for this purpose. He also claims it is not considered a human being.

Questions: Did the pedophile break any laws? Explain.
What new laws may need to be created?
What Constitutional amendment addresses this issue? Explain.
Should clones have the same rights as humans?
What if any limits should there be on cloning?
Amendments

Amendment 4 - Search and Seizure. Ratified 12/15/1791.

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized

Amendment 13 - Slavery Abolished. Ratified 12/6/1865.

1. Neither slavery nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction.

2. Congress shall have power to enforce this article by appropriate legislation.

Amendment 14 - Citizenship Rights. Ratified 7/9/1868.

1. All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

2. Representatives shall be apportioned among the several States according to their respective numbers, counting the whole number of persons in each State, excluding Indians not taxed. But when the right to vote at any election for the choice of electors for President and Vice-President of the United States, Representatives in Congress, the Executive and Judicial officers of a State, or the members of the Legislature thereof, is denied to any of the male inhabitants of such State, being twenty-one years of age, and citizens of the United States, or in any way abridged, except for participation in rebellion, or other crime, the basis of representation therein shall be reduced in the proportion which the number of such male citizens shall bear to the whole number of male citizens twenty-one years of age in such State.

3. No person shall be a Senator or Representative in Congress, or elector of President and Vice-President, or hold any office, civil or military, under the United States, or under any State, who, having previously taken an oath, as a member of Congress, or as an officer of the United States, or as a member of any State legislature, or as an executive or judicial officer of any State, to support the Constitution of the United States, shall have engaged in insurrection or rebellion against the same, or given aid or comfort to the enemies thereof. But Congress may by a vote of two-thirds of each House, remove such disability.

4. The validity of the public debt of the United States, authorized by law, including debts incurred for payment of pensions and bounties for services in suppressing insurrection or rebellion, shall not be questioned. But neither the United States nor any State shall assume or pay any debt or obligation incurred in aid of insurrection or rebellion against the United States, or any claim for the loss or emancipation of any slave; but all such debts, obligations and claims shall be held illegal and void.

1. The Congress shall have power to enforce, by appropriate legislation, the provisions of this article.

Name _____ Date _____ period ____

Objective: Describe the 4th, 13th, 14th, amendments.

Describe the issues surrounding the amendments.

Describe some impacts of the amendments.

Define: Constitution _____

Amend _____

Impact _____

Profound _____

TEXT: Civics Government and Economics in Action pg _____

The Bill of Rights established rules for protecting the rights and liberties of citizens, but it did not apply to all Americans. In 1791 less than half of the American population enjoyed the full rights of United States citizens.

Civil War Amendments

Three Amendments were passed as a result of the Civil War. These amendments had a profound effect on American society because they extended the rights of the Constitution to many citizens.

Amendment	Issue	Parties involved	Impact
4th			
13 th			
14 th			
15 th			

1. Describe how each amendment protects citizens rights?

a. 4th

b. 13th

c. 14th

d. 15th

2. Which amendment would be most important to clones? Explain.

3. Which amendment would be least important to clones? Explain.

Appendix II

Evolution Before Darwin

Contrary to many assumptions, evolutionary theory did not begin in 1859 with Charles Darwin and *The Origin of Species*. Rather, evolution-like ideas had existed since the times of the Greeks, and had been in and out of favor in the periods between ancient Greece and Victorian England. Indeed, by Darwin's time the idea of evolution - called "descent with modification" - was not especially controversial, and several other evolutionary theories had already been proposed. Darwin may stand at the beginning of a modern tradition, but he is also the final culmination of an ancient speculation

Charles Darwin and Alfred Russel Wallace

Charles Darwin and Alfred Russel Wallace both independently developed the idea of the mechanism of natural selection ([Natural Selection](#)) after reading Thomas Malthus' *Essay on the Principle of Population* (1798). However, Darwin had been turning the problem over in his mind for some twenty years before he first published *The Origin of Species*. Moreover, Darwin was much more willing to explore the implications of natural selection, particularly in relation to humans, than Wallace was. In addition, Wallace was a champion of rather radical social causes and later openly embraced spiritualism - all elements that resulted in the downplay of his role in the discovery of natural selection.

The term **natural selection** was first used by Charles Darwin in his groundbreaking work *The Origin of Species*, which presented his unique views on evolution. Though the concept of evolution as such did not originate with Darwin, he was the first and most consistent defender of the mechanism of natural selection, which derives from the concepts of **survival of the fittest** and **differential reproduction**. It is the elegantly simple concept of natural selection that underlies much of contemporary evolutionary study and research.

In a very real sense, natural selection is the driving force behind the evolutionary process as we currently understand it. The concept has its roots in the idea of the survival of the fittest, which states that those organisms that are best adapted to their

environment are those that are most likely to survive. In other words, the organisms most capable of existing in a given environment will tend to outlive those that are less capable or surviving in the same environment. To use an obvious example, an animal with white fur will have a definite survival advantage over an animal with dark fur if they both live in Alaska. The white-furred animal is much less likely to be seen and eaten by predators (or noticed and escaped by prey). The differential survival of white-furred animals in this situation is called survival of the fittest.

Another concept, called differential reproduction, is a corollary to survival of the fittest. Differential reproduction is the idea that those organisms best adapted to a given environment will be most likely to survive to reproductive age and have offspring of their own. Organisms that are successful in their environments will be more likely to be successful in reproduction, and therefore the better-adapted organisms will reproduce at a greater rate than the less well-adapted organisms. In the example above, white-furred animals are less likely to be seen by predators and are therefore more likely to survive. Thus, more white-furred animals will make it to reproductive age and have offspring, who will most likely share their genes for white fur. Therefore white fur will come to dominate the population. Differential reproduction, or difference in the rates of reproduction of differently-adapted organisms, will favor the better-adapted organisms at the expense of the worse-adapted ones.

Natural selection is the process by which the organisms with the best or most favorable genetic adaptations out-compete other organisms in a population, tending to displace the less-adapted organisms. This process derives logically from the concepts of survival of the fittest and differential reproduction. Natural selection taking place over the course of many generations can change the basic attributes of the original population of organisms. In the example above, suppose that the original population of animals had dark fur and lived in the forests. In that environment, black-furred individuals would out-compete white-furred ones, which would be easier for predators to spot against the dark forest background. However, if the organisms began a migration into nearby less-forested snowy areas, the white-furred animals would gain a selective advantage over the dark-furred ones. The white fur would render the animals less visible against the light, snowy background. "Survival of the fittest" would mean survival of the white-furred animals, which would then be more likely to reproduce successfully. Over many generations, white-furred animals would come to dominate the population. When this situation occurs, there is said to be a **selection pressure** toward white fur, or white fur is said to be **selected for**.

Darwin used this concept of natural selection to explain the variation he observed within and between species. It became clear that those adaptations which conferred survival advantages in a given environment would come to dominate a population, all else being equal. This idea explained the difference in the shape and structure of the beaks of different types of finches - each type used its beak for a different purpose (i.e., picking up different types of seeds) and therefore the best shape for the beak's purpose was selected by the process of natural selection.

Social Darwinism is a belief, popular in the late Victorian era in England, America, and elsewhere, which states that the strongest or fittest should survive and flourish in society, while the weak and unfit should be allowed to die. The theory was chiefly expounded by Herbert Spencer, whose ethical philosophies always held an elitist view and received a boost from the application of Darwinian ideas such as adaptation and natural selection.

Herbert Spencer, the father of Social Darwinism as an ethical theory, was thinking in terms of elitist, "might makes right" sorts of views long before Darwin published his theory. However, Spencer quickly adapted Darwinian ideas to his own ethical theories. The concept of adaptation allowed him to claim that the rich and powerful were better adapted to the social and economic climate of the time, and the concept of natural selection allowed him to argue that it was natural, normal, and proper for the strong to thrive at the expense of the weak. After all, he claimed, that is exactly what goes on in nature every day.

However, Spencer did not just present his theories as placing humans on a parallel with nature. Not only was survival of the fittest natural, but it was also morally correct. Indeed, some extreme Social Darwinists argued that it was morally incorrect to assist those weaker than oneself, since that would be promoting the survival and possible reproduction of someone who was fundamentally unfit.

Applications of Social Darwinism

Social Darwinism was used to justify numerous exploits which we classify as of dubious moral value today. Colonialism was seen as natural and inevitable, and given justification through Social Darwinian ethics - people saw natives as being weaker and more unfit to survive, and therefore felt justified in seizing land and resources. Social Darwinism applied to military action as well; the argument went that the strongest military would win, and would therefore be the most fit. Casualties on the losing side, of course, were written off as the natural result of their unfit status. Finally, it gave the ethical nod to brutal colonial governments who used oppressive tactics against their subjects.

Social Darwinism applied to a social context too, of course. It provided a justification for the more exploitative forms of capitalism in which workers were paid sometimes pennies a day for long hours of backbreaking labor. Social Darwinism also justified big business' refusal to acknowledge labor unions and similar organizations, and implied that the rich need not donate money to the poor or less fortunate, since such people were less fit anyway.

In its most extreme forms, Social Darwinism has been used to justify eugenics programs aimed at weeding "undesirable" genes from the population; such programs were sometimes accompanied by sterilization laws directed against "unfit" individuals. The American eugenics movement was relatively popular between about 1910-1930, during which 24 states passed sterilization laws and Congress passed a

law restricting immigration from certain areas deemed to be unfit. Social Darwinist ideas, though in different forms, were also applied by the Nazi party in Germany to justify their eugenics programs.

Name _____ Date _____ period _____

Creating Ethics Using Darwinism

Define: Charles Darwin _____
Elitist _____

Expound _____

Ethical _____

Philosophy _____

Colonialism _____

Casualties _____

Capitalism _____

1. The idea of Natural Selection for Charles Darwin and Alfred Russel Wallace was

2. Darwin was interested in applying Natural Selection to _____.

3. His theories led to the publication of the book titled _____

4. Wallace's interests was in _____

5. List two slogans for the term Natural Selection

6. Describe the theory of Natural Selection

7. Describe the concept of Differential Reproduction

8. What role does genetics play in Darwin's Theory of Natural Selection

9. What role does genetics play in Differential Reproduction

10. How did Darwin apply Natural Selection and Differential Reproduction to birds?

11. Social Darwinist argue that the strongest or fittest should

12. Social Darwinist believe that the weak should

13. Social Darwinism was expounded by _____.

14. Herbert Spencer adapted Darwin's theories to the social and economic climate of the time by

15. What did some Darwinist say was morally incorrect? Why?

Applications of Social Darwinism

Describe how Social Darwinism was/is applied for or against:

16. Natives

17. Military action

18. Casualties

19. Colonial Governments

20. Capitalism

21. Big Business

22. Eugenics

23. Nazi Party

UNDERSTANDING AND APPLYING DARWINISM fill in the blanks

24. Social Darwinism is the belief _____.

25. This theory can be used to justify _____.

26. Social Darwinism is morally _____ because _____.

27. Write a brief paragraph describing what you learned

Appendix III

Material

Name _____ Date _____ Period _____

The 20th Century Experiments

Objective: Research individuals who participated in immoral experiments. Relate aspects of Social Darwinism to the justification of the experiments.

Directions: Read Textbook: American Odyssey The United States in the 20th Century Chapter 17 Section 3 Cold War in the Atomic Age pg 576-583

Gather the following information and their corroboration or participation in questionable experiments.

Participant's name

Location

Occupation

Race

Class

Type of experiment

The name of the experiment

Describe the experiment

Agency that conducted the experiment

Outcome of the experiment

1. Prepare a chart to compare information you found with your class mates.
2. What were the similarities?
3. What were some differences?
4. What conclusion can be drawn from the comparisons?
5. What did you learn?

Below are the names and the book to start your research.

Participants

Shields Warren

Helen Hutchison

Willard Libby

Herbert Gerstner

Eugene Saenger

Cecil Kelley

Woodrow Wilson Litton

Clarence Lushbaugh

Maude Jacobs

Book

The Plutonium Files

The Plutonium Files

The Plutonium Files

The Plutonium Files

The Plutonium Files

The Plutonium Files

The Plutonium Files

The Plutonium Files

The Plutonium Files

Carl Heller	The Plutonium Files
Paul Connie Tyrrell	The Plutonium Files
Elmer Allen	The Plutonium Files
Hazel O'leary	The Plutonium Files
Ken Alebeck	Undue Risk
Kikolai Ustinov	Undue Risk
Nathan Schnurman	Undue Risk
John William Allen	Undue Risk
Larwence Altman	Undue Risk
Fred Boyce	Undue Risk
Karl Brandt	Undue Risk

NAME _____ Date _____ period _____

VISITING THE HOLOCAUST MUSEUM

Objective: Learn how to analyze a web site.

Directions: Go to www.ushmm.org
 Browse around the website
 Answer the following

1. What is the purpose of this web site? _____

2. What kind of information can you access from the site?

3. What organization is behind the web site?

4. Do you think the information on this site is valid? Why or why not?

5. What was the most poignant information you found? Explain your answer.

6. What did you learn?

Directions: Go to www.ushmm.org
Click on Deadly Medicine: Creating the Master Race
View the online exhibition
Click on examine key artifacts
Click start
Answer the following:

7. List the primary source artifact and its use in eugenics

Artifact	Use
<hr/>	<hr/>
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7. Describe the commonalities between Social Darwinism scientific racism, and eugenics.

Focus questions:

- Why were the Nuremburg trials held?
- What challenges confronted the Nuremburg judges?
- What was the title of the Physician? (You're researching)
- What controversial experiments did the Physician conduct?
- Was there an ethical line cross by the physician? Explain.
- Why were the experiments controversial?
- Explain the sentence the physician was given.
- What happened to the physician?
- What did you learn?

How To Evaluate A Primary Source
What is the OPVL of The Source?

THE FIVE “W’S”

ORIGIN: Who wrote it?
Where was it written?
When was it written?

Purpose: Why was it written?

Value: What can be learned?

Limitation: Cautions

Directions:

8. Identify the origins of the source.
9. Provide a brief abstract of the source.
10. Complete the remaining steps in the OPVL process

Nuremburg Physicians at the Nuremburg Trials

Wilhelm Beiglboeck

Viktor Brack

Karl Brandt

Rudolf Brandt

Herman Brecker-Freyseng

Fritz Fischer

Karl Gebhardt

Karl Genzken

Siegfried Handloser

Waldemar Hoven

Joachim Mrugowsky

Herta Oberheuser

Helmut Poppendick

Gerhard Rose

Oskar Schroeder

Wolfram Sievers

Kurt Blome

Adolf Pokorny

Hans Wolfgang Robmerg

Paul Rostock

Siegfried Ruff

Konrad Schaefer

Georg August Weltz

COMMUNICATION STANDARDS

Pittsburgh Public Schools

1. All students use effective research and information management skill, including locating primary and secondary sources of information with traditional and emerging library technologies.
2. All students read and use a variety of methods to make sense of various kinds of complex text.
3. All students respond orally and in writing to information and ideas gained by reading narrative and informational texts and use the information and ideas to make decisions and solve problems.
4. All students write for a variety of purposes, including narrating, informing, and persuading, in all subject areas.
5. All students analyze and make critical judgments about all forms of communication, separating fact from opinion, recognizing propaganda, stereotypes, and statements of bias, recognizing inconsistencies and judging the validity of evidence.
6. All students exchange information orally, including understanding and given spoken instruction, asking and answering questions appropriately, and promoting effective group communication.
7. All students listen to and understand complex oral message and identify the purpose, structure, and use.
8. All students compose and make oral presentations for each academic area of study that are designed to persuade, inform, or describe.
9. All students communicate appropriately in business, work and other applied situations.