



Teacher's Guide to Mini-Research Written Report Models

Two Mini-Research Format Models

- 1. Formal Report Using In-Text References*
- 2. Informal Report Using an Executive Summary*

Includes the Unique *Draft Summary* and *Rubrics Evaluation* Models:

- Digital summary replaces and serves the purpose of hand-written note cards
- Helps curb plagiarism by providing teacher summary information to support the report
- Saves teacher and student time in eliminating the use of formal citations
- Integrates critical thinking through the use of engaging issues and essential questions
- Rubrics model that can be adapted by teacher for use in evaluating mini-research

MINI-RESEARCH *FORMAL* REPORT FORMAT MODEL

(This is a Model for an *Optional* Cover Page)

UPPER DUBLIN HIGH SCHOOL

(You may want to include a graphic image here)

The Ethical Implications of Genetic Cloning

Student: Tammy Weisman

Science—Biology II

Teacher: Mr. Carl Janetka

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THE ETHICAL IMPLICATIONS OF GENETIC CLONING

By Tammy Weisman

This is a model of the **formal report format** used for a mini-research report. It represents a report that summarizes how the cloning of a sheep named Dolly, in Scotland, opens up a new world of ethical controversy as well as wonderful opportunities for mankind. **(Schmickel)**

It requires the student to (1) Search *eLibrary* or eLibrary BookCarts to get relevant information, (2) browse each article to determine its significance to the assigned Essential Questions for Critical Thinking, (3) save the significant articles in *My List*, (4) copy and paste citations and *significant information* to a new and separate *Draft Summary* document, (5) get signed approval of the *Draft Summary* from the teacher, (6) create a final report, using *in-text references*, that connect the student's report/presentation to the *Works Cited* and information from the *Draft Summary*, and (7) attach the signed *Draft Summary* to the final report.

The teacher's assigned Essential Questions ensure that the student uses critical thinking in the mini-research process to solve problems or form reasoned opinions on engaging issues such as the one on "Ethical Implications of Genetic Cloning." The teacher will also have to provide some guidance in Searching *eLibrary* with key words, or create a custom BookCart of relevant resources for the research. **(Hotz)**

Saving information to disk, school server, or emailing it through My List is recommended instead of printing each article and citations. Printing wastes library resource in paper and ink, wastes time in retyping, and generally introduces typo errors for citations and other information selected and included in the final report. For schools that have computer lab(s) and/or library computer access for students, saved articles can be browsed off-line, freeing computers that are on-line for more student research **(Will)**.

Students will copy and paste *significant essences of each article* and citations to a *Draft Summary* document. The teacher then conferences with the student using the *Draft Summary* to judge whether the student has enough relevant information to address the *Essential Questions* assigned

for the report/presentation. The discussion may include creating an optional outline. The teacher would sign these documents and expect them to be attached to the final report/presentation as validation to prevent plagiarism. **(Norris)**

The finished report could be an individual or team report. Mini-research reports could also be presented as oral, PowerPoint, or Web pages depending on the skills and experience of the students. Written reports would be range from 150-250 words. Oral reports would be about 2 to 3-minutes. All reports would require citing 3 or 4 resources from the teacher signed Draft Summary. **(Will)**

Reports are shown in *double spacing* so that teachers can utilize this space *for comments* if they choose to make them. A separate evaluation model with rubrics is included in this guide.

This is a model of a high school level formal mini-research report of approximately 250 words, using 4 sources, in-text references, and a *Draft Summary* document attached in place of a *Works Cited*. Shorter reports with 2 or 3 sources are more appropriate for middle school.

Procedures for the *FORMAL* Mini-Research Model

1. Each citation is **copied and pasted** from the original document in eLibrary format, **avoiding complex style** transformations and saving time.
2. Paragraphs of *significant information* from 3-4 documents are **copied and pasted** from the original documents into a **Draft Summary** document and combined with the citation for each. Essential information should address any or all **essential questions either brainstormed or assigned by the teacher**.
3. This collection of significant information and works cited form the *Draft Summary* document. This demonstrates the student's critical reading skills in about 2 pages of information.
4. The teacher evaluates the *Draft Summary* document **before the report is written** to determine the relevancy and adequacy of the information gathered by the student and how it can be use to respond to the **essential questions**. If approved, the teacher signs the *Draft Summary* document.
5. The **Draft Summary** document is **attached to the final report** to serve as an **informal Works Cited** and to help the teacher validate that the report represent original thinking and is **not plagiarized**.

Draft Summary Model -- Significant Information with Works Cited

Previewed by teacher and then attached to final report (instead of a formal Works Cited)—
Helps to prevent **plagiarism** and saves time in converting to formal citations

Source: By ROBERT LEE **HOTZ** and THOMAS H. MAUGH II, *TIMES STAFF WRITERS* *Biotech: the Revolution Is Already Underway Dolly the cloned sheep made headlines. Los Angeles Times Sunday April 27, 1997 Home Edition Part A, Page 1* Type of Material: Non Dup; Main Story; Series; Chronology Series: *IN OUR OWN IMAGE: Life in a genetically engineered world.*

In creating Dolly from a single adult ewe cell, researchers at Scotland's Roslin Institute crafted the latest living invention to mark the crossroads of science and human values. These experimental creations are more than laboratory curiosities. Indeed, the seeds of the new biology are being sown across millions of farm acres this year, and its fruits are appearing on supermarket shelves and in medicine cabinets in hundreds of thousands of homes. The biological revolution is altering--in ways that we have yet to recognize--our image of ourselves. For many scientists, cloning offers an unprecedented opportunity to engineer new life forms more efficiently, to revive endangered species and to explore treatments for a host of human diseases.

However, critics in the United States and around the world have argued that cloning oversteps the bounds of morality, offering humanity too much power to manipulate living things. And the prospect of cloning human beings, they say, is repugnant. "I am wondering if it is not time to set some limits on science," said Lori Andrews of Chicago-Kent College of Law at the Illinois Institute of Technology, an authority on genetic engineering and reproductive technologies.

Source: Copyright © 1997, *St. Louis Post-Dispatch* George **Will**; *Washington Post Writers Group*, *CLONING CREATES MORAL AMBIGUITIES, St. Louis Post-Dispatch, 27 Feb 1997, pp. 07B.*

Now, what if the great given - a human being is the product of the union of a man and a woman - is no longer a given? The news from Scotland could have immense consequences for mankind's moral life - for thinking about "ought" propositions. In his essay "Making Babies: The New Biology and the `Old' Morality" Kass noted that technological corollaries to the pill - babies without sex - involve not just new ways of beginning life but new ways of understanding and valuing life.

Connections with parents, siblings and ancestors are integral to being human, although not to being a sheep. Can individuality, identity and dignity be severed from genetic distinctiveness, and from belief in a person's open future? When Hiroshima occasioned anxious talk about the dangers of physics, Einstein replied that the world was more apt to be destroyed by bad politics than bad physics. Dolly raises the stakes of biology, but also of philosophy.

Source: Copyright © 1997, *St. Louis Post-Dispatch*, Patrick **Norris**, *A NEW EWE OR A NEW YOU?, St. Louis Post-Dispatch, 2 Mar 1997, pp. 03B.*

If the technology to clone developed human beings were to become feasible, would we justify its use? Although cloning involves a replication of genetic material, it does not "duplicate" the person. Environment plays a substantial role in the development of our abilities and personalities. Nevertheless, our genes contribute significantly to our talents, appearance and temperament. Would it be worthwhile for us to clone people with exceptional intelligence or artistic genius?

Moreover, as a result of reproductive techniques like in vitro fertilization, many single individuals have already used donor sperm or eggs to pass on their genes. An ethical response to this latest scientific discovery and its future uses must mediate between two extremes. Some people believe that any dabbling in genetics usurps a role reserved exclusively to God; that is, only God should play God.

However, God has endowed human beings with intelligence, ingenuity and creativity for a purpose. At first glance, sheep cloning offers significant potential benefits. The technology may offer a way to mass-produce drugs to treat diseases at a lower cost. Though other ethical issues are associated with cross-species transplants, cloning experiments may yield genetically engineered animal organs that can be transplanted into humans with less risk of rejection. Better livestock and more efficient food production may also result from Wilmut's discovery. The technology may even offer a way to save endangered species.

Source: Sharon **Schmickle**; Staff Writer, *Cloning controversy // Cloned people? Senate panel tackles debate // The scientist who cloned a sheep and created a debate in the process says there's no reason*, *Star Tribune*

It is recognized as the first clone from a mature mammal cell, something many scientists doubted was possible. The stunning announcement propelled Wilmut into a whirlwind of debate over the practical, legal and ethical implications of cloning. Within 10 days, bills were introduced in Congress to prohibit cloning humans and to outlaw federal funding on research in human cloning. `Playing God' "Human beings are not God and we should therefore not try to play God," insisted Sen. Christopher Bond, R-Mo., author of one of the bills. "They accused Galileo of playing God, too," retorted Sen. Tom Harkin, D-Iowa, referring to the 17th-century astronomer who was condemned for heresy for arguing that Earth and the other planets revolve around the sun. "This is a constant, common refrain down through the centuries that somehow we are playing God."

SHOULD STEM CELL RESEARCH WITH HUMAN EMBRYOS BE STOPPED?

Executive Summary—by Tammy Weisman

Stem cell research with human embryos has the potential to develop breakthrough cures for a host of genetic diseases that kill millions of Americans and other people in foreign countries. Stem cells are basic cells that develop first in human embryos after fertilization. All other specialized cells in the human body evolve from stem cells by a process that is not fully understood today. By understanding this process, scientists could grow new organs and other specialized cells to replace damaged or diseased cells in human beings, and thereby prolong and extend the quality of their life.

Why would this research not be acceptable and even be supported by everyone? Those who oppose this research argue that it is immoral to use human embryos because in the research process you are destroying a potential human being. Others who support the research argue that by not engaging in research, we are allowing the destruction of existing human beings.

I support the right to do research on existing embryos and if necessary, to have new sources of voluntary donations to increase the supply. If research in our country is stopped, then it will continue in some other country that may not have the best interests of our citizens in mind.

History has shown that when major scientific discoveries have occurred, they are always challenged by religious groups who predict all sorts of dire consequences for humanity. History has also shown, that when these discoveries are adopted and managed well, human beings have always benefited. Many examples of this are second nature to us now: blood transfusions, organ transplantation, vaccination, etc.

Information that Addresses Standard Essential Question 1: What is stem cell research?

Source: *Stem-cell research: Drawing the line; Anonymous; The Lancet 07-21-2001; Page: 163*

Embryonic stem cells are pluripotent, meaning they are capable of developing into any cell type in the human body. Animal research suggests stem cells may some day provide a way to repair or replace diseased tissues and organs and make it possible to treat people with a wide variety of conditions, such as diabetes, Parkinson's disease, and Alzheimer's disease, for which we currently have no cure. Embryonic stem cells are harvested from three sources: aborted fetuses, so-called cadaveric stem cells; embryos left over from in-vitro fertilisation efforts, so-called discarded embryos; and embryos created in the laboratory solely for the purpose of producing stem cells, so-called research embryos.

Information that Addresses Standard Essential Question 2: Who Opposes this research and why?

Source: *Stem-cell research: Drawing the line; Anonymous; The Lancet 07-21-2001; Page: 163*

Opposition to the use of embryonic stem cells from any of these sources comes mainly from those who hold that human life begins at conception and that destroying an embryo at any stage of development is tantamount to infanticide. Some stem cells, however, have also been isolated from adult tissues, and opponents of human embryonic stem-cell research argue that research should be limited to such cells. But the general view of scientists working in this area is that adult

stem cells, while they may one day prove useful for treatment, are simply not as versatile as their embryonic counterparts, because they are already partly differentiated.

Source: *Defending cloning and stem cell research against faith-based curbs*; **Hull, Richard T**; Flynn, Tom; *Free Inquiry* 01-01-2002; Page: 27

The report expressed the concern of conservatives that "society (and not only the embryos) will suffer irreversible moral harm by crossing the boundary that allows nascent human life routinely to be treated as a natural resource." This view turns on seeing embryos at their earliest stages as identical with humans that will, if those embryos are allowed to develop, clearly exist. This key belief, as well as the tactics of some of its proponents, deserves careful investigation. For, if it cannot stand up to nontheistic philosophical analysis, basing governmental policy on it crosses the boundary separating church and state. Information that Addresses Standard Essential Question 3: Who supports this research and why?

Source: *Stem-cell research: Drawing the line*; Anonymous; **The Lancet** 07-21-2001; Page: 163

Advocates of embryonic stem-cell research hold that while embryos certainly deserve respect they are not yet fully human and that the good that may result from medical research studies with their cells justifies their use.

Source: *Defending cloning and stem cell research against faith-based curbs*; **Hull, Richard T**; Flynn, Tom; *Free Inquiry* 01-01-2002; Page: 27

For, if it cannot stand up to nontheistic philosophical analysis, basing governmental policy on it crosses the boundary separating church and state. In 1997, the Council issued "A Declaration in Defense of Cloning and the Integrity of Scientific Research." Thirty-one leaders in biology, philosophy, ethics, and other fields signed this document, which defended the inherent moral licitness of biotechnologies including human cloning.

Source: *Several G.O.P. Senators Back Money for Stem Cell Research*; **Pear, Robert**; *The New York Times*; 06-19-2001; Page: A.18

Two of the senators, Orrin G. Hatch of Utah and Susan Collins of Maine, said such experiments could be conducted safely and ethically under guidelines adopted by the National Institutes of Health. Senator Hatch, a foe of abortion, told Mr. Bush that research with embryonic stem cells is not ethical or morally justified. The president's advisers on science and health policy, including Tommy G. Thompson, the secretary of health and human services, see immense potential value in research with embryonic stem cells. But Karl Rove and other political advisers worry that support for such research would alienate conservative voters, anti-abortion groups and the hierarchy of the Roman Catholic Church.

Source: *Ethicist weighs in on stem cell research*; **Jim Buckell**; *The Australian*; 04-09-2003; EDITION: 1

Dr. Young said stem cell research was progressing rapidly and if opportunities to extend stem cell lines available for research did not expand in the US, companies such as Genron would consider shifting overseas. Already it was developing proposals to shift work to Canada, Korea, China or Singapore, where restrictions were not so great.

Source: *Cancer, Up Close and Personal*; **Golden, Carl**; *The New York Times*; 03-30-2003;

I, and others like me, understand the position of those who oppose stem cell research on the ground that it represents destruction of human life. To us, it represents saving lives. We are not eager to engage in an abstract argument, probably never to be settled, over when life actually begins; many of us are painfully aware of when life actually ends.

Procedures for the *INFORMAL* Mini-Research Model

1. Each citation is copied and pasted from the original document in eLibrary format, *avoiding complex style transformations and saving time*. These documents can come from independent student searches or from teacher/librarian BookCarts.
2. Paragraphs of essential information from 3-4 documents are copied and pasted from the original documents and combined with the *citation* for each. Significant information should address any or all the three essential questions.
3. This *Draft Summary* document of three or four citations and significant information demonstrates the student's critical reading skills (about two pages of information).
4. The teacher evaluates the Draft Summary document before the written report to determine the relevancy and adequacy of the information gathered by the student in response to the essential questions.
5. This Draft Summary document is attached to the final report to serve as an informal bibliography and to help *validate* that the report represents *original thinking* and is not *plagiarized*.
6. Each final report includes an original ***Executive Summary*** that states the reasoned opinion of the student, the three essential questions, the citation(s) and the supporting evidence from the Draft Summary document.

EVALUATION MODEL FOR MINI-RESEARCH REPORTS

Mini-research reports **are not term papers**. They need to be relatively easy to evaluate or teachers will be reluctant to assign them. For this reason, this model will focus mostly on the research process (and the inherent *higher-order thinking skills--HOTS*) that are necessary to reach informed conclusions. Traditional reports typically focus on reaching correct conclusions, the mechanics and format of the content, correct citations, and language arts skills.

Teachers can create their own system by varying the **Worth** factor or by including additional criteria or excluding existing criteria. Use the model below as a guide, but keep it simple! Critical thinking elements are shown in (***red bolded italicized text***).

Recommended Evaluative Criteria	Worth	Score
1. The essential questions for research were clear, relevant, and purposeful as they related to the question/issue/problem assigned. (<i>Brainstorming</i>) OPTIONAL with <i>INFORMAL</i> model or when teacher assigns essential questions to save time.	10	8
2. The search results related to the essential questions were effective in accessing appropriate information. (<i>searching skills</i>)	5	5
3. The <i>Draft Summary</i> of the research results provided a variety of viewpoints and was relevant and sufficient to answer the essential questions in step 1. (<i>analyzing and organizing</i>)	20	15
4. The report/project included recommended citation formats for 3-4 sources summarized and approved in the <i>Draft Summary</i> (<i>organizing</i>)	5	5
5. The report/project used recommended format models correctly (<i>organizing</i>)	5	5
6 The report/project demonstrated a high level of use of correct language arts mechanics (<i>drafting and editing</i>)	10	8
7. The report/project answered the essential questions effectively (<i>analyzing and synthesizing</i>)	10	10
8. The report/project flowed from an attention-grabbing introduction to development of important details, to a conclusion based on facts/expert opinions presented in the details (<i>synthesizing</i>)	30	25
9. The report/project was both meaningful and interesting to others (<i>presenting</i>)	5	5
Totals	100	86