



**High Tech High WASC Accreditation  
Sample Writing Workshop Plan  
10<sup>th</sup> Grade Humanities**

**I. Explanation:**

The 10<sup>th</sup> grade writing workshop at High Tech High is collaboration between chemistry, humanities, and math instructors in one of the 10<sup>th</sup> grade teams. Each of the teachers involved teach the same group of students who rotate through their classes together every day.

Each Friday, the teachers involved in the writing workshop dedicate two class blocks (about 3 hours) to improve the students' writing skills. The students are given assignments that bridge gaps between disciplines. For example, in the assignment that follows, students in a humanities class were asked to write and consider the ethical issues associated with fetal stem cell research. This assignment was intended to show the students that topics within the domain of science often are relevant to the study of humanities.

Grades from the writing workshop impact scores in each student's math, humanities, and science classes. The teachers involved in the writing workshop decided upon this structure in order to emphasize the importance of writing across all disciplines of study. In addition, the writing workshop provides opportunities for teachers to spend more time assisting students with their writing, thereby providing a more personalized learning experience for students.



## II. Connection to High Tech High's Habits of Mind:

Thus far, writing workshop assignments have required students to utilize many of the High Tech High habits of mind which include: perspective, evidence, relevance, connection, and supposition. The following sample writing assignment addresses these habits of mind in the following ways:

1. **Perspective:** Students are asked to assume the role of a congressional lobbyist who is urging congress to fund fetal stem cell research.
2. **Evidence:** Students must support their arguments using evidence from a newspaper article associated with the assignment.
3. **Relevance:** Students must understand the potential value of stem cell research to doctors, patients, and scientists in order to argue their position well.
4. **Connection:** Through this assignment, students learned in detail about a debate that is currently raging in the scientific, religious, and political circles within the United States.
5. **Supposition:** Students grappled with issues related to the ethics of stem cell research. For example, "What if extracting stem cells from an embryo kills that embryo?" Alternatively, "Why are adult stem cells less useful for research purposes?"



### III. The Lesson Structure:

Students typically work on writing workshop assignments for two weeks. The first week is used to write rough drafts and conduct peer edits of essays. Students use the second week of the workshop to revise their essays and submit final drafts. The schedule for this particular writing workshop followed the following format

#### Week 1:

- **Monday:** Students receive the essay prompt, article, and grading rubric. The assignment is discussed, and the class reads the article and discusses the main issues.
- **Thursday:** Students submit rough drafts to the teacher.
- **Friday:** For the first 30-40 minutes of the writing workshop, the students conduct peer edits of rough drafts using the grading rubric that they received on Monday. The remainder of the period is devoted to revising their essays. Students submit second revisions to teachers at the end of the writing workshop.

#### Week 2:

- **Friday:** Students receive feedback from their teachers and devote their time to revising their essays into final drafts. Students submit final drafts at the end of the period.



#### **IV. The Writing Assignment:**

##### **Question for Stem Cell Research Paper HTH Writing Workshop**

**The Question:** There are generally two widely varying viewpoints regarding the ethics of stem cell research. Imagine that you are a lobbyist working for the coalition of groups in favor of federal funding for fetal stem cell research. How would you argue your case before congress to convince lawmakers to fund fetal stem cell research?

When taking a position regarding stem cell research, you should attempt to structure your argument in the following manner.

1. What is your argument or thesis?
2. What evidence from the article supports this argument?
3. What is the logical connection between the evidence you have chosen, and your argument?
4. What is the opposing argument to yours?
5. What evidence supports this opposing argument?
6. How would you criticize this opposing argument?



## V. The Article:

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Brave New Cells

Despite a U.S. government ban, research on "cure-all" embryo tissue widens  
By CHRISTINE GORMAN

It's the kind of scene you'd expect in a thriller by Michael Crichton or Robin Cook. A scientist throws some nondescript cells into a lab dish, leaves them alone for a bit and returns to find a disembodied heart thumping away.

That's not quite what's happening in Roger Pedersen's lab at the University of California in San Francisco--at least not yet. But he has managed to turn a group of carefully tended progenitor cells into a patch of thriving, beating cardiac muscle. "It's amazing," Pedersen says, "when you put unspecialized cells away, come back after the weekend and there's a clump of heartlike cells beating before your eyes in a dish."

And that's just the beginning. Someday, scientists hope to use cells like these to cure diabetes, Parkinson's disease and multiple sclerosis, as well as to reverse congestive heart failure and heal spinal-cord injuries. But there are some aspects of this story that are brave new world-ish. Known scientifically as stem cells, Pedersen's marvelously pliable cells are derived from seven-day-old human embryos, which are destroyed in the process. Although not all stem cells are produced this way, embryonic stem cells seem for now to have the greatest potential for medical miracles.

Pedersen--and the handful of other scientists working with human embryonic stem cells--uses embryos left over from fertility attempts that would otherwise be thrown away. Still, treating human embryos like so many tissue factories seems straight out of Huxley. It certainly doesn't sit well with antiabortion activists--or, in many cases, with lawmakers.

In 1996 Congress banned human-embryo research by federally supported scientists, forcing researchers like Pedersen to seek private funding (most of which has been provided by Geron, a Menlo Park, Calif., biotech company).

A lot has changed in the past couple of years, however, that might persuade Congress to reconsider. Last September the National Bioethics Advisory Commission concluded that harvesting stem cells from discarded embryos is morally akin to removing organs from dead people for transplant. Also, the National Institutes of Health has seized on a possible loophole. In their view, federally funded scientists can do research on stem cells as long as someone else--say, in the private sector--actually dismantles the embryos. Most important, a small but influential group of Republicans and Democrats on Capitol Hill has started pushing for a relaxation of federal policy.



To critics, anything that requires the destruction of human embryos--no matter what the reason--is abhorrent. Calling that "worse than abortion," Richard Doerflinger, a director of policy for the National Conference of Catholic Bishops, says, "If [the embryo] is a member of the human family, you cannot destroy that being for the sake of others."

To complicate matters, adults have stem cells too. Lurking in the microscopic nooks and crannies of the brain, bone marrow and other organs, these stem cells live in a state of perpetual readiness. Then when, say, the lining of the intestine becomes worn, the body signals the appropriate stem cells to start a process called differentiation, in which they divide and give rise to lots of mature, fully functioning intestinal cells.

These adult stem cells appear to be fairly restricted in what they can become. (Stem cells in the bone marrow usually give rise to different types of blood cells; stem cells in the muscles generally give rise to muscle.) Otherwise, Kafkaesque as it may seem, you could wake up one morning to find that your foot had turned itself into a liver. In any case, while there's no controversy over the use of adult stem cells, their potential benefit as a therapy seems limited.

Stem cells derived from embryos, on the other hand, can become just about anything--from teeth to muscle to neurons. In fact, they're so strongly primed to differentiate that scientists have a tough time keeping them in their original state. James Thomson of the University of Wisconsin was the first to pull off the feat in 1998. He now has an entire tissue bank of stem cells that he hopes one day to turn into specialized tissue almost at will--eliminating the need for fresh embryos.

Stem cells can also be obtained from aborted fetuses in a process developed two years ago by John Gearhart at the Johns Hopkins School of Medicine in Baltimore. Gearhart harvested cells from the region that gives rise to the testes or ovaries. Such fetal stem cells appear to be as malleable as embryonic ones.

One feature that all stem cells share is an urge to travel. Evan Snyder, a neurologist at Harvard Medical School in Boston, has found that stem cells are attracted to injured tissues, perhaps because of biological cues released by dying or diseased cells. Indeed, one of Snyder's lab colleagues found that a batch of stem cells had migrated from one side of a rat's brain to the other to infiltrate a tumor.

Stem cells are also highly responsive to their surroundings. Researchers have taken adult stem cells from the brains of rats and put them in bone marrow and watched, in astonishment, as they spewed out blood cells. True, they did not form all the different blood-cell types, just a few. But until then no one had known that adult stem cells could adapt even that much to their environment.



There's much more to learn, of course, and many pitfalls to avoid. Consider the case of a 52-year-old American athlete with Parkinson's disease, who in 1989--before human stem cells had been isolated from the brain--traveled to China for a fetal-cell transplant. The goal was to replace some of the diseased neurons in his brain with newly differentiated fetal nerve tissue. While that approach has been at least partly successful in hundreds of other cases, something went dreadfully wrong this time. About two years later, the man suddenly developed trouble breathing and died.

An autopsy uncovered a hard mass of tissue pressing on his brain stem, which controls breathing, among other things. Apparently, the surgeons had scooped up a few extra fetal cells that then migrated and became cartilage, skin and hair cells.

With or without federal funding, stem-cell research will continue. Scientists may even sidestep the abortion issue by figuring out how to make adult cells act more like embryonic ones. But the private sector isn't going to wait to find out if that's feasible. Tens of thousands of embryos are created in in-vitro fertilization clinics each year and never implanted. If the Federal Government wants to have a say in how they get used, it will have to pay for the privilege. --Reported by DanCray/

Los Angeles and Dick Thompson/Washington

## VI. The Grading Rubric:

Writing workshop assignments this term have been assessed using a rubric that stresses expository writing skills. A sample of the rubric follows. Students use this rubric to evaluate each other's papers during the peer-editing phase of the writing workshop.

### Expository Writing Rubric #3

How to use this rubric in evaluating a sample of writing:

- (a) Start with the Mulligan and work your way down the rubric.
- (b) Stop when you reach a number, i.e. 1, 2, 3, 4, or 5, where the piece of writing first fails to meet the requirements of that number. Assign the piece of writing the largest number previously fully achieved.

<b>Mulligan</b>	Does not attempt to respond to prompt or question anywhere in the essay.
<b>1</b>	Attempts to respond to prompt or question somewhere in the essay, even if the essay doesn't meet any of the other criteria.
<b>2</b>	Clearly states position in the first paragraph. The stated position is an appropriate and relevant answer to the question that was asked or to the writing prompt that was given.
<b>3</b>	The required number of pieces of evidence is present and an attempt is made to cite the sources of the evidence, but the relationship between the evidence and the main argument is unclear. The evidence must be relevant to the position stated in the first sentence.
<b>4</b>	Evidence is used properly: a logical relationship between the position and evidence is clearly articulated.
<b>5</b>	Mechanics (grammar, spelling, punctuation, citations) are mostly correct; only a few minor errors are present. Writing is concise