Literacy Design Collaborative

Humans and the Future of Stem Cells

TASK LADDER

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This module is intended to be taught at the conclusion of units of study on microbiology, genetics, and scientific inquiry. The knowledge gained from this module supports content learned in these units in Biology. Stem cell research is a potentially controversial topic that warrants research from balanced informational sources. Throughout the module, students will experience information presented in a variety of formats including texts, videos, and informational graphics. Since claim development is central to argumentation writing, sufficient time is allotted to ensure that students develop clear and strong claim statements. The writing process for this module encourages students to use strong evidence from the texts to support those claims and also to refute counterclaims.

GRADES	DISCIPLINE	COURSE	PACING
9 - 12	Science	Biology	N/A

Section 1: What Task?

Teaching Task

Task Template 2 - Argumentation

Do the costs of stem cell research outweigh the benefits? After reading a variety of informational texts on stem cell research and its implications, write an essay in which you address the question and argue whether or not humans should alter cells and genomes and include what implications may arise in the future from such research. Support your position with evidence from the text(s).

Standards

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

RST.9-10.1

Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

RST.9-10.2

Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.

RST.9-10.4

Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9—10 texts and topics.

RST.9-10.10

By the end of grade 10, read and comprehend science/technical texts in the grades 9—10 text complexity band independently and proficiently.

SL.9-10.1

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9—10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

SL.9-10.3

Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.

WHST.9-10.1

Write arguments focused on discipline-specific content.

WHST.9-10.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task,

purpose, and audience.

WHST.9-10.5

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

WHST.9-10.9

Draw evidence from informational texts to support analysis, reflection, and research.

WHST.9-10.10

Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Louisiana Science Grade-Level Expectations

Identify possible positive and negative effects of advances in biotechnology (LS-H-B4) (LS-H-B1) **Focus**

Summarize the uses of selected technological developments related to the prevention, diagnosis, and treatment of diseases or disorders (LS-H-G5)

Texts

- **Evolution Full Tilt**
- **The Super Cell**
- **The Great Debate Over Stem Cell Research**

Student Work Rubric - Argumentation Task - Grades 9-12

	Emerging	Approaches Expectations	Meets Expectations	Advanced
	1	2	3	4
Controlling Idea	Makes a general claim with an unclear focus.	Establishes a **clear** claim **that addresses the prompt**, with an **uneven focus**.	Establishes **and maintains** a **clear, specific, and credible claim** that addresses **all aspects** of the prompt.	Establishes and maintains a **precise, substantive** claim that addresses all aspects of the prompt. **Acknowledges limitations and/or the complexity of the issue or topic**.
Selection & Citation of Evidence	Includes minimal details from sources. Sources are used without citation.	Includes **details, examples, and/or quotations** from sources that are **relevant to the claim**. **Inconsistently** cites sources.	Includes details, examples, and/or quotations from sources that **support** the claim and **supporting ideas**. **Consistently** cites sources **with minor formatting errors**.	Includes **well-chosen** details, examples, and/or quotations from sources that **fully support** the claim and supporting ideas. Consistently cites sources **using appropriate format**.
Development / Explanation of Sources	Explanation of ideas and source material is irrelevant, incomplete, or inaccurate.	Explains ideas and source material **to support the argument**, with **some incomplete reasoning or explanations**.	**Accurately** explains ideas and source material and **how they support** the argument.	**Thoroughly** and accurately explains ideas and source material, **using logical reasoning to support and develop** the argument.
Organization	Lacks an evident structure. Makes unclear connections among claims, reasons, and/or evidence.	**Groups ideas and uses transitions** to develop the argument, with **some lapses in coherence or organization**.	**Groups and sequences** ideas to **develop a cohesive argument**. Uses transitions **to clarify the relationships among claim(s), reasons, and evidence**.	Groups and sequences ideas **in a logical progression in which ideas build to create a unified whole**. Uses **varied** transitions to clarify the **precise** relationships among claim(s), reasons, and evidence.
Conventions	Major errors in standard English conventions interfere with the clarity of the writing. Language or tone is inappropriate.	Errors in standard English conventions **sometimes interfere** with the clarity of the writing. Uses language and tone that are **sometimes inappropriate** for the audience and purpose.	**Consistently applies** standard English conventions; **minor errors**, while noticeable, **do not interfere** with the clarity of the writing. Uses language and tone **appropriate to the audience and purpose**.	Consistently applies standard English conventions, **with few errors**. Demonstrates **varied syntax** and **precise word choice**. **Consistently** uses language and tone appropriate to the audience and purpose.
Content Understanding (Generic)	Attempts to include disciplinary content in explanation or argument but understanding of content is weak; content is irrelevant, inappropriate, or inaccurate.	Briefly notes disciplinary content relevant to the prompt; shows basic or uneven understanding of content; minor errors in explanation.	Accurately presents disciplinary content relevant to the prompt with sufficient explanations that demonstrate understanding.	Integrates relevant and accurate disciplinary content with thorough explanations that demonstrate in-depth understanding.

Background for Students

This module will introduce you to the purpose and structure of stem cells and how they function in the human body. You will analyze videos and articles describing current uses and research regarding stem cells and the pros versus the cons of stem cell research. You will then analyze how this research can impact the human race in terms of health, disease, and our moral and ethical constructs. During the module, I want you to think about the implications that stem cell research has on the future of humans. You will write an argumentative essay in which you will make a claim (assertion) about whether the pros of stem cell research outweighs the cons, or whether the cons outweigh the pros.

Extension

Not provided

Section 2: What Skills?

Preparing for the Task

BRIDGING CONVERSATION > TASK ENGAGEMENT: Ability to connect the task and new content to existing knowledge, skills, experiences, interests, and concerns.

TASK AND RUBRIC ANALYSIS > TASK ANALYSIS: Ability to understand and explain the task's prompt and rubric.

Reading Process

ACTIVE READING > ANNOTATION: Add your own definition here

ACTIVE READING > NOTE-TAKING: Ability to select important facts and passages for use in one's own writing.

Transition to Writing

BRIDGING CONVERSATION > IDENTIFYING SIGNIFICANT ELEMENTS: Ability to begin linking reading results to writing task.

Writing Process

POST-READING > ACADEMIC INTEGRITY: Ability to use and credit sources appropriately.

PLANNING > PLANNING THE WRITING: Ability to develop a line of thought and text structure appropriate to an argumentation task.

DEVELOPMENT > INTRODUCTORY PARAGRAPH: Ability to establish a claim and consolidate information relevant to task.

DEVELOPMENT > BODY PARAGRAPHS: Ability to construct an initial draft with an emerging line of thought and structure.

REVISION, EDITING, AND COMPLETION > REVISION: Ability to refine text, including line of thought, language usage, and tone as appropriate to audience and purpose.

REVISION, EDITING, AND COMPLETION > EDITING: Ability to proofread and format a piece to make it more effective.

REVISION, EDITING, AND COMPLETION > FINAL DRAFT: Ability to submit final piece that meets expectations.

Section 3: What Instruction?

PACING	SKILL AND DEFINITION	PRODUCT AND PROMPT	SCORING GUIDE	INSTRUCTIONAL STRATEGIES
Preparing for the Task				
20 mins	**BRIDGING CONVERSATION > TASK ENGAGEMENT**: Ability to connect the task and new content to existing knowledge, skills, experiences, interests, and concerns.	**VIDEO CRITIQUE #1: "WHAT ARE STEM CELLS?"** For five minutes, record your first thoughts and reactions to the video. Was the information presented in an unbiased way? Was any information left out? What did you think about it? Use the space provided and the questions at the top to guide you in your video critique. Video Link: http://ed.ted.com/lessons/what-are-stem-cells-craig-a-kohn	• Responses align strongly to the video • An understanding of bias is inferred • Students critically analyze the video and can infer what information was not discussed	• Discuss student critiques in a quick share-out. • Plan for 10 minutes for video, 5 minutes to write, 5 minutes to share out • Each student will write their own video critique, but come together in their cooperative learning groups to discuss their reactions and thoughts. • Clarify timetable for next three weeks and support plans for the task.
	Additional Attachments: **Video Critique Form** **Ted Education - What are stem cells?**			
20 mins	**BRIDGING CONVERSATION > TASK ENGAGEMENT**: Ability to connect the task and new content to existing knowledge, skills, experiences, interests, and concerns.	**VIDEO CRITIQUE #2: "STEM CELL RESEARCH: INVENTING THE FUTURE" AND "SCIENTISTS ARE NOW BEATING CANCER WITH THE HIV VIRUS"** For five minutes, record your first thoughts and reactions to the video. Was the information presented in an unbiased way? Was any information left out? What did you think about it? Use the space provided and the questions at the top to guide you in your video critique.	• Responses align strongly to the video • An understanding of bias is inferred • Students critically analyze the video and can infer what information was not discussed	• Discuss student critiques in a quick share-out. • Plan for 10 minutes for video, 5 minutes to write, 5 minutes to share out • Each student will write their own video critique, but come together in their cooperative learning groups to discuss their reactions and thoughts. • Connect their ideas back to the task.
	Additional Attachments: **Scientists give Cancer Patient a New Trachea** **Scientists are now beating cancer with the HIV virus** **Video Critique form**			
20 mins	**BRIDGING CONVERSATION > TASK ENGAGEMENT**:	**VIDEO CRITIQUE #3: THE ETHICAL QUESTIONS OF STEM CELL RESEARCH** For five minutes, record your	*No Scoring*	• For this video, subtitles are helpful for the students to see the spelling of more difficult science vocabulary • Discuss student critiques in a quick share-

	Ability to connect the task and new content to existing knowledge, skills, experiences, interests, and concerns.	first thoughts and reactions to the video. Was the information presented in an unbiased way? Was any information left out? What did you think about it? Use the space provided and the questions at the top to guide you in your video critique.		out. • Plan for 10 minutes for video, 5 minutes to write, 5 minutes to share out • Each student will write their own video critique, but come together in their cooperative learning groups to discuss their reactions and thoughts. • Clarify timetable for next three weeks and support plans for the task.
	Additional Attachments: **The Ethical Questions of Stem Cell Research.mp4** **Video Critique Form**			
Not provided	**TASK AND RUBRIC ANALYSIS > TASK ANALYSIS**: Ability to understand and explain the task's prompt and rubric.	**TASK ANALYSIS** This is the prompt for your culminating writing product: Do the costs of stem cell research outweigh the benefits? After reading a variety of informational texts on stem cell research and its implications, write an essay in which you address the question and argue whether or not humans should alter cells and genomes and include what implications may arise in the future from such research. Support your position with evidence from the text(s). You will answer the following questions about this prompt on the sheets provided to you: • What does a research paper look like? • What kind of information do you think you need to include in this to convince someone of your opinion? • What does a good argumentative paper look like in the science discipline? Work in your cooperative groups to answer the questions. Actively listen to the ideas of others. It is important that you communicate to your group members about what you expect a high quality research paper to look like.	Not Provided	Create T-chart in the front of the room with criteria for an excellent argumentative essay on chart paper. Leave paper in accessible part of room for remainder of module as a resource.
	Additional Attachments: **Preparing for the Task**			

Reading Process				
30 mins	**ACTIVE READING > ANNOTATION**: Add your own definition here	**ANNOTATIONS** From the text, use the margin space provided to jot down any reactions, comments, questions, summary notes, new vocabulary, etc.	• Identifies relevant elements. • At least 5 annotations per page of text.	• Teach a sample format for note taking. • Model the annotation process for the first two paragraphs. Include an example of a reaction/comment, question, summary, and new vocabulary. • Check that early student work is in the assigned format (or in another format that gathers the needed information effectively). • Check that the students are creating an appropriate amount of annotations per page.
15 mins	**ACTIVE READING > ANNOTATION**: Add your own definition here	**GIST STATEMENT** In twenty words or less, what is the main idea of the article? How is this main idea supported?	• Provides an answer drawn from the text • Marks evidence	• Read through the article once to get the main idea • Read through it again to develop your answers • Compare their answers and evidence with a partner • Participate in a brief discussion of their first answers.
	Additional Attachments: **GIST Statement worksheet**			
20 mins	**ACTIVE READING > ANNOTATION**: Add your own definition here	**VOCABULARY LIST** After reading the article, a class generated vocabulary list from the article will be created on the board. As a class, we will find each vocabulary word in the text and define it in terms of the context it is used in. The vocab words and definition should be done on chart paper and be visible in the classroom for the remainder of the module.	• Lists appropriate phrases. • Provides accurate definitions.	• After scoring, ask some students to share definitions of terms that others overlooked or misunderstood. • After scoring, be willing to provide direct instruction or guide a close reading if needed to work through a key phrase most students missed.
50 mins	**ACTIVE READING > ANNOTATION**: Add your own definition here	**CER: CLAIM, EVIDENCE, AND REASONING** In complete sentences, write a scientific claim that is backed up by evidence and supported by scientific reasoning.	• Makes an defendable and complete claim. • Provides appropriate and sufficient evidence from the data to support the claim. • Provides reasoning that succinctly links evidence to the claim. • Includes appropriate and sufficient scientific principles.	(See attached Instructional Plan for details on how to use this CER mini-task in any course where students will form arguments from reading data.) 1. Review definitions of "claim," "evidence," and "reasoning," and discuss how they are connected. 2. Model how to construct a claim from a text set to help students learn this new skill. Then model how to write statements that support the claim using evidence and reasoning. 3. Have students practice writing claims and evidence/reasoning statements using the same text set. Have them pair-share their own claim/evidence/reasoning statements and/or share-out with whole class.

				4. Have students work individually to complete two versions of a claim statement for the argument they want to give about stem cells. Check in with each student to approve on the statements. After creating a claim, Have students re-read the first article "Evolution full Tilt" with their claim in mind, searching for evidence to support their claim and beginning to fill out the Note Taking for Research Purposes sheet.
	Standards: **CCR.R.8** : Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence. **CCR.R.1** : Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.			
	Additional Attachments: **Claim Statement Guide** **CER Data Table Instructional Strategies.docx** **CER_RUBRIC.pdf** **CER_StudentWork.pdf** **CER Example 1.docx**			
Not provided	**ACTIVE READING > NOTE-TAKING**: Ability to select important facts and passages for use in one's own writing.	**NOTES** From each text, make a list of the elements that look most important for answering the prompt. Do what you need to do to avoid plagiarism. First, fill in your note taking sheet with the appropriate textual citation and where in the text you are citing from. Next, fill in the note taking sheet by summarize the information or use quotations if you are directly copying from the text.	• Identifies relevant elements. • Includes information to support accurate citation (for example, page numbers for a long text, clear indication when quoting directly). • Information supports answering the prompt. • Provides supporting language from text for each item	• Be sure to teach how to appropriately create a citation before this mini-task. • Teach a sample format for note taking. • Model the mini-task for the students. • Check that early student work is in the assigned format (or in another format that gathers the needed information effectively). • Discuss varied answers, allowing multiple students to contribute • Allow final five minutes for students to add to their lists, underlining what they add.
	Additional Attachments: **Note Taking for Research Purposes Example.jpg** **Note Taking for Research Purposes**			
Transition to Writing				
15 mins	**BRIDGING CONVERSATION > IDENTIFYING SIGNIFICANT ELEMENTS**: Ability to begin linking reading results to writing task.	**TEXT GRAFFITI** In your cooperative groups, inspect the picture provided to you. These are political cartoons surrounding stem cell research. Around the edges of the picture (and on the picture itself), respond to the following	Students master this task if: • comments relevant to the photo are written • students discuss the structures they see	Assign students to cooperative groups of 4-5 students. Have a timer available. Distribute one photo to each group. Permit each group to think and respond for 2 minutes. When the timer goes off, instruct students to rotate the picture to the next group, clockwise. For this particular task, students are provided

		question: What do you think about this picture? Do not use any resources other than the picture and your prior knowledge. You will have 2 minutes to write your group's collective responses on the edges of the photo. When the timer goes off, rotate the picture clockwise to the next group. Be prepared to explain your responses to the whole class upon completion.	and how they contribute to function • groups attend to the time limit • students participate in sharing insights	with pictures of political cartoons about stem cell research. The pictures are balanced in regards to pros and cons of stem cell research. If students need a helpful nudge writing graffiti around the pictures, tell them to make reactionary comments, ask questions, add-on to other comments, respectfully agree or disagree with comments from other peers. There are no rigid expectations-just respect and honesty. When all groups and pictures are complete, randomly call on 4-5 students to share their insights about their comments. Correct minor misconceptions.
	Standards: **RST.11-12.4** : Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11—12 texts and topics.			
	Additional Attachments: **Text Graffiti Example 2.jpg** **Text Graffiti Example 1.jpg** **Text Graffiti Pictures**			
15 mins	**BRIDGING CONVERSATION > IDENTIFYING SIGNIFICANT ELEMENTS**: Ability to begin linking reading results to writing task.	**PREPARE FOR SOCRATIC SEMINAR** At your tables, you have been given four questions, each written on a separate piece of paper. You will have two minutes to read the question, and write a response before you must pass on the paper to the next group member. After all four questions have been answered, review the responses as a group and assign a question to each group member to present during the seminar.	• Participation in discussion: must add to your team's answers. • Must share out your assigned question and response	• Divide students into groups of 4. Assign each group to answer a specific set of text dependent questions (4 questions per group). The questions are each on a separate sheet of paper. Round robin style, students write their response on the paper. After each student has had a chance to respond to all four questions, teammates discuss the questions and assign one to each person to share with the class. • The socratic seminar will begin with each student stating what question they had and a brief summary of what their team's responses were. 30 seconds to 1 minute to share. • After all responses have been shared, the seminar is open up to individual responses or reactions to the text or the questions presented.
	Additional Attachments: **Stem Cell Question Printouts.docx** **Socratic Seminar Notebook Questions.docx**			
1 hr and 40 mins	**BRIDGING CONVERSATION > IDENTIFYING SIGNIFICANT ELEMENTS**: Ability to begin linking reading results to writing task.	**SOCRATIC SEMINAR** **PRODUCT:** Participation in Discussion, Socratic Seminar Self Analysis, and Peer Rubric. **PROMPT:** Particpate in the Socratic Seminar discussion by answering - What	• Produces prepared higher-level discussion questions. • Poses at least these questions in discussion. • Follows	***This mini-task works well after students have had an opportunity to closely read a text or paired texts and/or studied background information about the text(s). A Socratic seminar needs pre-class preparation time and a review of appropriate discussion procedures. Student name plates on the inner group desks were helpful***

		"big questions" can further our discussion of the text(s)?	discussion protocol as evidenced by partner's scoring sheet and teacher observation.	***to students to ask each other questions and maintain Socratic seminar norms.*** 1. Read text(s) closely to provide whole class with depth of understanding (prior to class). 2. Provide students with time to draft questions that address higher level "how" and "why" levels of thinking. 3. Create two groups of discussion participants: A) Inner circle speakers, B) Outer circle observers. *Inner circle speakers' roles:* ● One speaker opens discussion with a prepared question ● Make eye contact with other participants ● Refer to text(s) ● Respond to another speaker ● Paraphrase and add to another speaker's ideas ● Add new or follow-up questions *Outer circle observers' roles:* ● Record opening question in seminar discussion ● Chart partner's participation (tally or check marks on rubric) 4. Allow time for mid-point switch in roles so every student has an opportunity as both speaker and observer. *At mid-point, observers should answer the following reflection questions:* ● What is the most interesting point your partner made? ● What would you like to have said during the discussion? *At mid-point, speakers should answer the following reflection questions:* ● How did I extend others' thinking during the discussion? ● How did I honor other participants during the discussion? 5. At the close of discussion, both speakers and observers should answer the following reflection question: How did the Socratic Seminar affect my thinking? *Mini-task author school/organization:* Stuart Pepper Middle School / Meade County, Kentucky and Butler Traditional High School /Jefferson County, Kentucky] *Specific common core state standards that this mini-task addresses include:*

				SL.1—Initiate and participate effectively in a range of collaborative discussions. SL.2—Integrate multiple sources of information presented in diverse formats and media. SL.3—Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric. SL.4—Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience. RI.1/RL.1—Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
	Additional Attachments: **Seminar Post Reflection Example.jpg** **Socratic Seminar Sentence Starters** **Socratic Seminar Self Evaluation** **Socratic Seminar Partner Evaluation** **Socratic Seminar Note Taking Sheet**			
Writing Process				
Not provided	**POST-READING > ACADEMIC INTEGRITY**: Ability to use and credit sources appropriately.	**DEFINITION AND STRATEGIES** We are going to have a brief discussion about plagiarism. Attend to the powerpoint presentation about what plagiarism is and how to avoid it. Let's list examples of plagiarism on the board. Let's list examples of actions that are not plagiarism on the board. Use you citations handout and highlight which forms of crediting authors for their work resonate strongly with you. Be prepared to discuss your rationale with the class.	• Students can define plagiarism and identify instances where a writer should have used citations or paraphrasing when writing • Students can resonate with various ways of avoiding plagerism	Use the powerpoint located in the teacher resources section and present it to students. Use markers and a whiteboard (or a smart board) to lists items stated by the students on the board. Prompt students who may need support in providing examples. Encourage responses from multiple students
20 mins	**PLANNING > PLANNING THE WRITING**: Ability to develop a line of thought and text structure appropriate to an argumentation task.	**BRAINSTORM! - OUTLINE/ORGANIZER** Create an outline based on your notes and reading in which you state your claim, sequence your points, and note your supporting evidence.	• Creates an outline or organizer. • Supports opening claim. • Uses evidence from texts read earlier.	• Provide and teach one or more examples of outlines or organizers. • Invite students to generate questions in pairs about how the format works, and then take and answer questions.

	Additional Attachments: **Brainstorming your Paper**			
15 mins	**DEVELOPMENT > INTRODUCTORY PARAGRAPH**: Ability to establish a claim and consolidate information relevant to task.	**OPENING PARAGRAPH** Write an opening paragraph that includes a hook, a controlling idea, and sequences the key points you plan to make in your composition.	• Provides a hook to pull the reader in • Writes a concise summary statement or draft opening. • Provides direct answer to main prompt requirements. • Establishes a controlling idea. • Identifies key points that support development of argument.	• Offer several examples of opening paragraphs. • Ask class to discuss what makes them strong or weak. • Review the list that students created earlier to identify needed elements (from Cluster 1, skill 2). • Discuss what a hook is and its purpose • Instruct what type of information to offer in the "background information" section. This section should define a stem cell and any information regarding "what is a stem cell" that the reader needs to know. Additionally, their main points that they plan to discuss in the essay should be briefly stated here.
	Additional Attachments: **Writing an Introduction Paragraph**			
40 mins	**DEVELOPMENT > BODY PARAGRAPHS**: Ability to construct an initial draft with an emerging line of thought and structure.	**INITIAL DRAFT** Write an initial draft complete with opening, development, and closing; insert and cite textual evidence.	• Provides complete draft with all parts. • Supports the opening in the later sections with evidence and citations.	• Encourage students to re-read prompt partway through writing, to check that they are on track.
	Additional Attachments: **Body Paragraph Worksheet**			
25 mins	**REVISION, EDITING, AND COMPLETION > REVISION**: Ability to refine text, including line of thought, language usage, and tone as appropriate to audience and purpose.	**MULTIPLE DRAFTS** In editing groups of three, refine composition's analysis, logic, and organization of ideas/points. Use textual evidence carefully, with accurate citations. Decide what to include and what not to include. Trade rough drafts clockwise in a circle, the first round of editing is for grammar and citations. Trade rough drafts clockwise again, this time for content and focus. Scan through the questions on the editing form before you begin to read.	• Provides complete draft with all parts. • Supports the opening in the later sections with evidence and citations. • Improves earlier edition.	• Sample useful feedback that balances support for strengths and clarity about weaknesses. • Assign students in teams of three to provide each other with feedback on those issues. • Students write their own name on the scoring guide, and it travels around the group with their paper to be filled out by team members. • Model helpful feedback for both rounds of editing.
	Additional Attachments: **Editing form.docx**			

20 mins	**REVISION, EDITING, AND COMPLETION > EDITING**: Ability to proofread and format a piece to make it more effective.	**CORRECT DRAFT** Revise draft to have sound spelling, capitalization, punctuation, and grammar. Adjust formatting as needed to provide clear, appealing text.	• Provides draft free from distracting surface errors. • Uses format that supports purpose.	• Briefly review selected skills that many students need to improve. • Teach a short list of proofreading marks. • Assign students to proofread each other's texts two times - once for grammar and once for content with a different editor for each.
	Additional Attachments: **Editing Handout**			
10 mins	**REVISION, EDITING, AND COMPLETION > FINAL DRAFT**: Ability to submit final piece that meets expectations.	**FINAL PIECE** Turn in your complete set of drafts, plus the final version of your piece.	• Fits the "Meets Expectations" category in the rubric for the teaching task.	*None*
	Additional Attachments: **Argumentation Rubric Grading Sheet.docx**			

Instructional Resources

Student Handout

Writer's Notebook

Section 4: What Results?

Student Work Samples

Advanced

- Example Final Draft 1 (Exceeds expectations).pdf
- Example Final Draft 2 (Exceeds Expectations).pdf

Meets Expectations

- Example Final Draft 3 (Meets Expectations).pdf

Not Yet

- Example Final Draft 4 (Below Expectations).pdf

Teacher Reflection

- This module lends itself well to differentiation within the class. It's easily self-guided for some students to move forward while the teacher assists others that need more assistance.
- I found the class-created posters for new vocabulary, rubric analysis, and pros/cons of stem cells very helpful for the students to refer to during the entire module and recommend leaving them up. Additionally, a poster with a checklist of each step of creating the paper was helpful to the students to know where they should be at in the process and keep the big picture in mind. As we accomplished each mini-task, I put a check next to the item on the poster.
- In addition to teaching how to cite as source, modeling in-text citations is absolutely necessary to avoid plagiarism and for the papers to flow smoothly. (Also, emphasizing the balance between citing sources and using your own words to explain your point. Students need to be reminded that the sources should only be used to emphasize and provide examples for their own ideas.
- The one place where students struggled the most is completing the "Notes for Research Purposes" section. This section is essential for writing each body paragraph and without it, makes writing the rough draft overwhelming and misguided. I would recommend modeling how to and not to complete this section. Also, at this point they should have created a claim statement, so the ideas placed into this section should be selected to support either being for or against stem cell research.
- The second time I taught the module, when I modeled each section I did not use stem cell examples. The students were swayed easily and tended to copy the examples I used the first time I used this module, so I used supporting or negating the human impacts of global warming the second time. We had previously studied this and they knew the concept well already, which helped them to focus on the skills being taught rather than the content.

All Attachments

- **Evolution Full Tilt : https://s.ldc.org/u/cggi48q2n1xf5oqu3sq8kxunv**
- **The Super Cell : https://s.ldc.org/u/a1kywt8lzwj0mb163cp2vc1v8**
- **The Great Debate Over Stem Cell Research : https://s.ldc.org/u/vn94rnlqoupkw9yyb56r3xqw**
- **Example Final Draft 1 (Exceeds expectations).pdf : https://s.ldc.org/u/3ww7ss5aq94hy7vo1ywywiph5**
- **Example Final Draft 2 (Exceeds Expectations).pdf : https://s.ldc.org/u/3h80msmpaae6qaxtd6wnp9muk**
- **Example Final Draft 3 (Meets Expectations).pdf : https://s.ldc.org/u/d2qrbldcnerjxbdjderglqosw**
- **Example Final Draft 4 (Below Expectations).pdf : https://s.ldc.org/u/cy7m5be9q4kefnyr5u3d68gt6**
- **Writer's Notebook : https://s.ldc.org/u/37ifscko5ekya9fgofub0870r**