



## ***Speculative Fiction and the Ethics of Medical Research***

by Stefanie Carter-Dodson, 2014 CTI Fellow  
Southwest Middle School

This curriculum unit is recommended for:  
8<sup>th</sup> grade language arts

**Keywords:** Sequencing, chronology, character arc, theme, central idea, supporting details, fiction, eugenics, ethics

**Teaching Standards:** See [Appendix 1](#) for teaching standards addressed in this unit.

**Synopsis:** This unit uses fiction as a vehicle for instruction in both discrete reading skills and a rigorous examination of themes applicable to ethics in medical research. Using Daniel Keyes' *Flowers for Algernon*, students will consider the relationship between medical research and human test subjects. Connections will be drawn between Keyes' fictional portrayal of exploitative medical research conducted on an intellectually disabled, socio-economically disadvantaged man and the true-to-life examples that mirror this scenario. Students will engage in a study of thematic parallels between this narrative and, North Carolina's eugenics program, and the Tuskegee Syphilis Study.

*I plan to teach this unit during the coming year in to 52 students in 8<sup>th</sup> grade language arts.*

*I give permission for the Institute to publish my curriculum unit and synopsis in print and online. I understand that I will be credited as the author of my work.*

## Speculative Fiction and The Ethics of Medical Research

*Stefanie Carter-Dodson*

### Introduction

While I was in college, working as a waitress, healthcare was always an issue. Though I had access to basic medical services through the campus clinic, dental care and any major medical services were out of reach. For my friends who were not students, there was no safety net for medical care. In this network of uninsured students and service workers, a frequently used method of obtaining services was to participate in medical trials. Though I found the trials, and the possibility of having one's wisdom teeth removed with an experimental anesthetic, terrifying enough to keep me away, I did, on occasion, "donate" plasma for money.

During the time that I was a plasma donor, it was clear to me that the crowds of people in the plasma bank waiting room were making donations out of dire financial need. To be clear, this is not a pleasant or easy process. Donating plasma is extremely uncomfortable, often painful, and can leave your body dehydrated and calcium depleted. This not only means that the plasma-giving process makes you feel badly afterward, but repeated donations have the potential for real harm to the human body. The plasma industry in the United States harvests plasma more frequently than is permissible in European countries, increasing the amount an individual can earn based on bi-weekly donations.<sup>i</sup> At the time, I didn't have the perspective to see the predatory, class-exploitative aspects of the plasma donation industry. I wasn't even aware that it was, in fact an eleven billion dollar industry.

It wasn't until reading *The Immortal Life of Henrietta Lacks* in the Intersections of Science, Technology and Culture seminar that I was able to situate my experiences with monetized plasma donations within a larger narrative, and understand that medical research has a history of benefiting from the social ills of poverty, indigence, and ignorance. In the instance of Henrietta Lacks, cervical cells, later known as HeLa cells, were harvested from Henrietta during a hospitalization, then lab-grown, multiplied and sold without her knowledge, leading to a billion dollar industry. In the meantime, Lacks' family remained impoverished, receiving no compensation for the use of HeLa cells.<sup>ii</sup> Lack's disadvantaged social status, being poor and black, was not coincidental to the exploitation of her body for the benefit of others.

Similar to the misuse of Henrietta Lack's cells, the Tuskegee Syphilis Study is a horrifying example of medical researchers denying the basic humanity of their test subject based on the designations of race and class. In this study, researchers lied to hundreds of African-American men, allowing them to suffer from syphilis for forty years

without treatment. Where as Lacks's cells were used without consent, the Tuskegee researchers knowingly misinformed participants about the study, exploiting their ignorance of the situation.

In many ways, medical research is capitalizing on poverty, yet this uncomfortable aspect of modern medicine goes unrecognized by the general public. Further complicating the issue is the diminished access to medical care experienced by individuals experiencing poverty. It is a great injustice that individuals who contribute to the advancement of medicine cannot access the benefits of their contributions. This interaction between the medical research industry and human test subjects creates an invisible marketplace; It is a market with a sinister imbalance of power and the ability to operate below the radar of the general public. This unit is designed to prompt my students to consider the ethics of this invisible market by recognizing beneficiaries of the system and also those who power the system through human capital. Students will think critically about how willingness to use human test subjects in this way reveals our biases in regard to intelligence, education, race, and class. Students will decide for themselves: is this exploitation?

## **Background**

I teach eighth grade language arts and social studies in Southwest Charlotte, North Carolina. Our school is the second largest middle school in the Charlotte-Mecklenburg Schools (CMS), which is one of the largest urban school districts in the country. This year, enrollment is reported at approximately 1,500 students. Enrollment has increased yearly for many reasons, including the school's positive reputation, a widely-drawn school boundary, and exponential housing development in Southwest Charlotte.

The wide area from which we pull our student population has resulted in diverse demographics. Economically, the student population is stratified between lower-income and middle to high-income homes. Based on the 2010 CMS School Progress Report, 57.7% of our student population meets criteria for economically disadvantaged designation. The racial demographics of the school are similarly diverse, with 43% African American, 26% White, 22.8% Hispanic, 3.7% Asian, and 3.8% Other reported on the School Progress Report.

The Hispanic population at the school is one of the fastest growing subgroups. This is reflected in my classroom composition. 54.9% of my students are Hispanic, of which 41.2% is designated with Low English Proficiency (LEP). There are many instances of students who are designated as both LEP and Students With Disabilities (SWD). The percentage of SWD within my classes is 29.4%. These students have a range of disabilities, including Mild Intellectual Disability, Autism, and Identified Learning Disability. An additional 7.8% have 504 Plans in place for Other Health Impairments (OHI) such as ADHD and ADD.

This year, I am teaching on a two-person inclusion team. Instead of following the traditional middle school model, I am able to specialize with a smaller group of students. The inclusion setting allows for Students With Disabilities to learn in the same environment as their non-disabled peers. Currently, I teach a cohort of fifty-one students two subjects per day: social studies in the morning and language arts in the afternoon. I am teamed with an Exceptional Children co-teacher, so the students have the advantage of two teachers for support in the classroom. Only one of my students scored proficient on the 2013 End-Of-Grade Reading Assessment. The tracking of students who exhibit low reading achievement, coupled with LEP and SWD students is helpful in this instance because I am able to work closely with a smaller groups of students in two content areas in which transfer of reading skills is necessary.

### **Content Objectives**

This unit is designed as an interdisciplinary study of fiction and nonfiction texts that aligns with and unifies eighth grade language arts and social studies content. Organized in two sections, students will begin by considering the ethics of medical research as represented in speculative fiction and end with an evaluation of historical medical research and human test subjects. Students will engage with one short story, primary source documents, nonfiction, and visual resources.

#### **Part One: Speculative Fiction**

Using *Flowers for Algernon* as a central text, students will be asked to explore the agency of medical research subjects. In *Flowers for Algernon*, a man with an intellectual disability is persuaded by his teacher to participate in a study that will improve his intellectual capability. The character, Charlie, documents his participation in the study through a series of journal entries. As the story progresses, Charlie becomes more intelligent. At first, this expands his world as he makes connections with the people around him through his increased ability for communication and general understanding. The increase in his cognitive function is meteoric, and Charlie soon surpasses the average level of intellect, even outpacing the scientists who study him. It becomes clear during the course of the study that the effects will not be permanent, and that Charlie will revert back to his previous state. Charlie must bear witness to his own decline.

With this narrative as a base, students will evaluate: 1.) what constitutes informed consent; and 2.) what criteria must be present in order for an individual to be capable of giving consent. How can poverty, social status, education, and cognitive ability affect one's ability to provide consent? Did Charlie have the mental faculties necessary for participation in the study in the first place? What recompense is owed to medical subjects after an experiment? As a way to help students situate their thinking about ethics in medical research, real-world examples of vulnerable populations used for medical research will be provided through North Carolina's eugenics program and the Tuskegee Syphilis Study.

As a culminating activity for part one of the unit, students will read The Hippocratic Oath and determine whether the scientists and doctors in “Flowers for Algernon” upheld their oath to “do no harm.” Students will organize this information along with the criteria for medical malpractice. In groups, students will then hold malpractice trials for Dr. Strauss and Dr. Nemur.

## Part 2: Nonfiction

For struggling readers, organizing the sequence of events over the course of a long narrative can prove difficult, especially when the text must be revisited over the course of many days. As a way to assist in sequencing the narrative, students will use a graphic organizer to construct a timeline of events in the story. The construction of a timeline provides an excellent synthesis of English language arts and social studies standards. By tracking the events, students will have a concrete way to organize their thoughts for summarizing the text and a way to track both the development of the theme (CCSS RL.8.2) and character arc (CCSS RL 8.3). This also corresponds to the North Carolina Essential Standards for social studies through the development of historical thinking through use of timelines and charts for sequencing (8H.1)

As students triangulate primary source and nonfiction texts with this narrative, they will employ these sources learn to interpret multiple perspectives about innovations in science and technology impact the lives of individuals (NCES 8H.1, 8H.3). Use of textual evidence (RI 8.1, RL 8.1) will be a necessary component of the culminating activity for part one of the unit, as students use specific events from the story and the information extracted from The Hippocratic Oath and supplemental malpractice readings in developing their arguments for trial.

## Strategies

The strategies included in this unit are reading-based strategies specifically used to increase reading comprehension. Before beginning this unit, my students will have had direct instruction and modeling on use of active reading strategies and text annotation strategies. Teachers implementing this unit with struggling readers are advised to use these two strategies for reading as a foundation for instruction prior to implementation of this unit.

### Pre-Reading Strategies: Anticipation Guides

Successful comprehension of a text requires an interaction between the reader and the text. The reader must engage prior knowledge, or schema, about the subject and integrate new information into schema. This is a flexible process, with information coming from both the text and the reader’s own experiences. Some struggling readers have difficulties in engaging schema during reading. Sometimes, this is because of a deficiency in background experiences, and when the reader has little or no knowledge of the subject

matter, the reader's engagement with the material is diminished. Other times, the reader has not developed the skill set necessary to modify thinking while reading. A large part of this is the ability to make predictions before reading, modify predictions while reading, and then continue a process of predictions and modifications. Anticipation guides provide a support for activating schema and increasing student interest for a text. In this unit, anticipation guides are provided in the form of Likert scales, front-loaded phrases and vocabulary, and content-related images.

### Say Something

This is a strategy that employs active reading strategies in the context of student reading groups or partner reading. As students read together, they are provided with a sentence stems that scaffold clarifications, evaluations, connections, and predictions. Students stop periodically and make comments about the text. This helps students monitor their thinking, model thinking to their peers, and learn to engage cognitively with a text. <sup>iii</sup>

### Dialectical Journal

A dialectical journal is a double-entry journal in which students record responses to a text. I use this strategy with writer's notebooks or interactive notebooks so that students have a way to revisit their previous thinking and make modifications. Students create two columns in a notebook. In the left column, students record quotes from the text. In the right-hand column, students record their reactions or interpretations of the text.

### Graphic Organizer

Graphic organizers are used to organize information and identify relationships between ideas. This is an important strategy for use with both fiction and nonfiction texts, especially when they are long or complex. In this unit, students will be monitoring the progression of theme and character using a timeline. For nonfiction texts, students will organize main ideas and supporting details, while evaluating the relevance of information.

### SOAPStone

SOAPStone is a strategy that can be used with nonfiction texts and images. The components of SOAPStone are: speaker; occasion; audience; purpose; subject; and tone. In this unit, the strategy is employed with primary source analysis. As with active reading and text annotation, this is a foundational strategy used in my instruction. This strategy will require direct instruction and frequent practice in order for students to implement it successfully. This strategy works well with three-column graphic organizer. In the left column, provide students with the corresponding criteria for analysis and guiding questions. Guiding questions can be adapted depending on the intended outcome for the activity, but the questions should be general enough that students can derive meaning from the document without influence. Students record their responses in the middle

column during individual or paired reading. The third column is used to record clarifications, corrections, or additional ideas generated in small-group or whole-class discussions.

**Speaker:** Who is the speaker? What is the speaker's point of view? Does the speaker seem to be affiliated with an organization? Does the speaker have any apparent bias?

**Occasion:** What is the time period in which this document was created? Does the time period affect the language of the document? Where was the document created? How does this affect the document? Why are the time and place in which this document was created important?

**Audience:** What is the intended audience for this document? Why is this the targeted audience? In what ways did the author craft the message of the document for this audience? How does the type of language used in the document relate to the intended audience?

**Purpose:** Why did the author create this document? What does the author want the audience to think, feel, or do or not do after reading the document?

**Subject:** What is the main idea of the document? What are the important details support the main idea? Does the author address any opposing ideas?

**Tone:** What is the author's attitude toward the subject? What is the author's attitude toward the intended audience? Does the author use more positive or negative language? What words are the most powerfully positive or negative?

### Modifying Primary Source Documents

Modifying primary source documents is a strategy that allows all students, even struggling readers, to interact with a rich curriculum. Primary sources can be modified to update syntax, substitute easier vocabulary, or by chunking sections to facilitate ease of reading. Excerpts of the text can be used with a side-by-side comparison of modern or modified translations.<sup>iv</sup>

### Close Reading

Close reading involves a thorough analysis of a text. For my students, close reading is a teacher-directed strategy in which we parse the text, analyzing word choices with particular emphasis on connotative meanings. Close reading can also be applied to an image, where the image is "read" by careful analysis of details and interpretation of symbols.

### Activities

As a whole, this unit is meant to prompt students to think broadly and critically about the purpose of speculative fiction as a genre. Students will explore how the can be used genre to “illuminate a path we hope or fear humanity can take.”<sup>v</sup> By the end of the unit, students will be able to formulate a response to the unit essential question: How can speculative fiction help a reader think critically about the world?

In order to answer this question, students will need to understand the development of theme, character arc, and comprehend complex texts. Classroom activities are organized according to text and lesson essential question. Within the categories, lesson essential questions are designed to meet the Common Core content standards. These questions are meant to ensure that instruction meets the objectives for student learning.

Students will read *Flowers for Algernon* before beginning a study of the Tuskegee Syphilis Study and North Carolina’s eugenics program. The opening of the unit will include an introduction to speculative fiction and frontloading of subject matter in the form of anticipation guides. Following the short story, students will connect the themes in the text with the author’s intent in writing.

Activities: “Flowers for Algernon”

*How does conflict propel the actions and decisions of a character?*

During the initial stages of the unit, content will focus on the character arc of the protagonist, Charlie. Charlie, who goes through an extreme form of a character arc, beginning the story with little awareness due to his little intellectual disability. Throughout the story, his intelligence progresses, resulting in unfamiliar emotional and social interactions with other characters.. By the climax of the story, as it becomes clear that the results of the experiment are temporary, Charlie has experienced every type of literary conflict. This series of conflicts, coordinated with the series of events of the story, serve as the impetus for change. By identifying the cause and effect relationship between conflict and character development, students will come away with a more complete understanding of the character arc. It is not enough to understand how Charlie changes, the reader needs to understand why he changes.

On day one of the unit, students will be provided with a Likert scale with six statements:

1. Doctors can be trusted to always act in the best interest of their patients.
2. Some people need to have decisions made for them. It’s for their own good.
3. People with more intelligence are better than people with less intelligence.
4. Science should be advanced at any cost.
5. Every person has the right to control what happens to his or her own body.



Students will respond to statements on a scale of agreement/disagreement. The class will discuss each statement and the responses generated by the class.

The reading of “Flowers for Algernon” will be scaffolded with a read-aloud during three sessions. Charlie’s initial diary entries are written in non-standard language, which is meant to demonstrate his cognitive ability. The writing is similar to that of an early elementary student, with phonetic interpretations of words (e.g. “shud rite” instead of should write). This is potentially confusing for students, and read-aloud provides the opportunity to stop for clarification and to discuss the reasons why the text is written this way. This style of writing recurs at the end of the text, when Charlie’s character has regressed. Similarly, the language of the diary entries written from May 15<sup>th</sup>-June 10<sup>th</sup> reflects Charlie’s increased intelligence. Much of the vocabulary in this section of the text will be challenging for students and also requires scaffolded instruction through read-aloud.

In the days between the three designated read-alouds, students will read within mixed-ability (heterogeneous) reading groups. The Say Something strategy will be used to support engagement and reading comprehension. After each session, students will use a timeline matrix to track the events of the story, conflict, and character development.

The culminating activity for this lesson essential question will be a group activity in which students create a visual representation of the cause and effect relationships that provoke the changes in Charlie’s character and how each change in turn causes another development in the plot. As a way to make this chain of causality concrete and tangible, students will use cut-outs of dominos, which they will arrange on poster-sized paper. Each domino will represent an event, conflict, or character development that results in a subsequent event, conflict, or character development. Differentiation will be provided because of the cognitive rigor required in this task. Students will be provided with starter dominos (key events, conflicts, or character developments) as a support.

*How can character development reveal the themes within text?*

At this point in the unit, students will have a strong understanding of Charlie’s character arc. The next step is for them to understand how the author is using this change to support the theme of human value and human intelligence. In “Flowers for Algernon,” Daniel Keyes poses questions through a fictional scenario: Does intelligence increase our humanity? Can altering a person’s cognitive state hinder that person’s humanity? What happens when society values and devalues people based on intellectual ability?

Neil Gaiman’s introduction to the 50<sup>th</sup> anniversary edition to Fahrenheit 451 speaks to the power of speculative fiction in critically exploring contemporary social ills through hypothetical futures. In the previously assigned reading groups, students will be provided with short quotes from Gaiman’s introduction, after which they will be asked to interpret

the quote by rewriting it in their own words in a dialectical journal. Then, they will identify examples from the text, using their completed graphic organizers, which support Gaiman’s assertions about speculative fiction. After sharing these examples, whole class, the class will generate possible themes for the text.

Activities: North Carolina’s Eugenics Program and The Tuskegee Syphilis Study

*What is the relationship between a central idea and supporting details?*

In this section of the unit, students will work with nonfiction texts, including both primary and secondary sources. Topically, the students will be studying real-world examples of the medical mistreatment of intellectually disabled, impoverished, and uninformed citizens. To help students access these texts, and in keeping with content standards, the lesson’s essential questions focus on identifying key details within a text and understanding how these details support and refine the central idea. Throughout this section of the unit, students will use the same graphic organizer format to organize information from readings. During reading, students will identify key details and arrange details within a hierarchy, evaluating which details are most important in refining the central idea.

Day One: As an activating activity, students will be asked to respond to the following quick write prompt: What are some times when science and medicine have been used in ways that might hurt people? As a scaffold for understanding this prompt, familiar images of medical testing (in reference to *Flowers for Algernon*) and images of nuclear and chemical weapons will be shown.

Students will be provided with the logo from the Second International Congress of Eugenics, held in 1921, which declares “eugenics is the self direction of human evolution.” This image is accompanied by a tree, labeled “Eugenics.” Beneath the tree is an extensive network of roots, each labeled with a field of social science. The purpose of the logo is to promote the idea of eugenics as a legitimate, scientific practice and field of study. At this stage in the lesson, students will not have the context for in-depth, critical analysis of the image, but it will serve as an introduction of the motives and rationale of the eugenics movement. This image will require frontloading of terms and a close reading of the message, guided by the teacher.

Before applying a critical lens to eugenics practices in North Carolina’s history, students will need a context for understanding what eugenics is and how it was used. As a way to build background knowledge, students will begin by reading secondary sources. A modified version of Paul Lombardo’s article, “Eugenic Sterilization Laws” will provide initial exposure to the topic. As students read, they will use the graphic organizer to track development of the central idea and record key details. Following reading, the teacher will facilitate summarization the day’s lesson using a whole-class SOAPStone analysis

of the eugenics logo. At this stage in the lesson, students will have a stronger understanding of the topic and will be able to apply this to a second close reading of the image.

Day Two: Students will continue to build a schematic base by reading and interpreting secondary sources provided by NC Learns. First, students will use the central idea/key details graphic organizer while reading “Eugenics in North Carolina.” Students will transfer skills for identifying central idea and details by reading the charts of eugenical [sic] sterilization presented to the North Carolina Board of Eugenics in 1935.

Day Three: By day three, students will be prepared to approach the content through the lens of multiple perspectives. In this lesson, students will contrast the arguments made by the Human Betterment Foundation (HBF) with actual narratives of the lives impacted through mandatory sterilization. Students will read a modified version of the primary source document, “Human Sterilization.” Students will be asked to identify the criteria used by HBF to justify forced sterilization. After reading, students will discuss how the attitudes toward eugenics victims compares with the treatment of Charlie in *Flowers for Algernon*.

Day Four: Students will choose an area of research base on interest. Using Cold Spring Harbor’s Eugenics archive, students will engage in a self-directed webquest. Students will select an area of specialization from the following:

- Sterilization laws
- Marriage Laws
- Popularization of eugenics
- Research Flaws
- Social Origins
- Traits studied

After gathering information from the eugenic’s archives, students will connect the eugenics program to the Tuskegee Syphilis Study using the Center for Disease Control’s (CDC) website. The CDC website provides an overview of the Tuskegee Syphilis Study. Students can access information to build background knowledge (e.g. facts and information about syphilis) and access frequently asked questions. For this activity, students will take guided notes over sections of the website, including:

- Overview of the study
- Timeline of the study
- Research implications: How Tuskegee changed research practices

After gathering information, students will be asked to answer the following questions: Is the Tuskegee Study similar to North Carolina’s eugenics program? Is the rationale

used to justify experimentation on these people in some way similar to the rationale of the proponents of eugenics? How have the researchers violated ethical standards?

Day Five: In groups, students will read the President Clinton’s 1997 apology for the Tuskegee Syphilis Study. During reading, students will record details in the graphic organizer format used throughout the unit. After reading, Students will be asked to form an argument about whether the apology is enough to make rectify the injustice committed against the study’s participants. Students will complete a choice board activity, in which they complete one of the following tasks:

- Write a set of ethical guidelines that researchers must follow. Be specific in creating these rules. Include an outline of consequences if these rules are broken.
- Create a blueprint for a monument that will commemorate the victims of the eugenics program or Tuskegee Syphilis Study. The monument must have an inscription.
- Re-write President Clinton’s apology letter in another format: song, poem, picture book, comic strip, etc. Include the details from your graphic organizer.

In closing the unit, all students will reflect on the following quote from *Flowers for Algernon* in dialectical journals:

“How strange it is that people of honest feelings and sensibility, who would not take advantage of a man born without arms or legs or eyes—how such people think nothing of abusing a man born with low intelligence.”<sup>vi</sup>

Variations of the quote will be juxtaposed which modify the last line, “a man born with low intelligence” to reflect the class and race issues discussed in the unit (e.g. “a man born [poor], “a man born [mentality ill],” “a man born [black]”).

## **Appendix 1: Teaching Standards**

CCSS RL8.2 Reading literature standard 8.2 states that students must be able to “determine the theme or central idea of a text,” and track how it is developed through literary elements like characterization and setting. Students will work with this standard through a study of Charlie’s character arc. Charlie’s character also provides the basis for interpreting the themes of the text.

CCSS RL 8.3 Reading literature standard 8.3 is utilized in the unit as students analyze the ways in which Charlie is characterized through his speech, thoughts, and interactions with other characters. This standard is also employed in the activity in which students look for cause and effect relationships in the plot, i.e. “analyze how... incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.”

CCSS RI 8.1 Reading for Information standard 8.1 dictates that students must use textual evidence to support their inferences and conclusions about a text. Students will use this standard throughout the unit as they respond to nonfiction texts in speech and in writing.

CCSS RL 8.2 Students will employ this standard as they track the central idea of a text, identify supporting details, and establish a hierarchy among details.

NCES 8H.1 Students will engage with this standard according to clarifying objectives 8H1.2 and 8H1.3 as they interpret historical documents representing multiple perspectives and use both primary and secondary sources in “historical inquiry.”

NCES 8H.3 Students will engage with this standard according to clarifying objective 8H3.2 as they consider how advancements and innovations, in this context represented by medical research, has affected the people of North Carolina and the United States.

### **Reading List for Students**

Centers for Disease Control and Prevention. December 30, 2013. Accessed November 24, 2014. <http://www.cdc.gov/tuskegee/index.html>. The CDC website provides an overview of the Tuskegee Syphilis Study. Students can access information to build background knowledge (e.g. facts and information about syphilis) and use this resource as an extension after completing the webquest activity assigned in day four of the nonfiction section.

"2.9 Eugenics in North Carolina." Eugenics in North Carolina. Accessed November 24, 2014. <http://www.learnnc.org/lp/editions/nchist-worldwar/6164>. This resource provides an overview of the practice of eugenics-based, forced sterilization in North Carolina. Students will use this text as a base for understanding. This resource is highly accessible for students, and includes hyperlinks for definitions.

"Image Archive on the American Eugenics Movement." Image Archive on the American Eugenics Movement. Accessed November 24, 2014. <http://www.eugenicsarchive.org/eugenics/>. Cold Spring Harbor’s website has an interactive archive of the American eugenics movement. Students will use this resource in the webquest assigned in day four of the nonfiction section.

Keyes, Daniel. *Flowers for Algernon*,. New York: Harcourt, Brace & World, 1966. This text serves as the focal point of the unit. At each stage of the unit, students will be asked to connect new information with this fictional narrative of a human test subject. This text can be difficult for students to access because of the stylistic choices of the author. The text is written in first person narration, and the spelling and syntax of the narrator, Charlie, correspond with his level of intelligence. The beginning and end of the text are written in elementary-level language, with

phonetic misspellings. Mid-way through the story, as Charlie becomes immensely intelligent, the writing correspondingly has difficult vocabulary and allusions that will be unfamiliar to the majority of students.

Lombardo, Paul. "Social Origins of Eugenics." *Social Origins of Eugenics*.

Accessed November 24, 2014. <http://www.eugenicsarchive.org/html/eugenics/>  
This article provides an overview of sterilization laws. It is recommended that this reading be modified for struggling readers.

### Reading List for Teachers

Beers, G. Kylene. *When Kids Can't Read, What Teachers Can Do: A Guide for Teachers, 6-12*. Portsmouth, NH: Heinemann, 2003. Kylene Beers provides multiple strategies for increasing reading comprehension for struggling readers. Strategies include before, during, and reading tasks. The role of metacognition is stressed in the majority of Beer's strategies.

Orwell, George, and Thomas Pynchon. *1984*. Barcelona: Debolsillo, 2013. The fiftieth anniversary edition of *1984* has an introduction from Neil Gaimon which is referenced in the fiction section of the unit. The introduction provides an argument for the function of speculative fiction as a warning about social ills.

Skloot, Rebecca. *The Immortal Life of Henrietta Lacks*. New York: Crown Publishers, 2010. Referenced in the introduction, this biography is not used in the activities of the unit, but was integral to the formation of the unit's concept. Teachers who are interested in using this unit are encouraged to read this text in order to establish context for the unit.

Wineberg, Sam, and Daisy Martin. "Tampering with History: Adapting Primary Sources for Struggling Readers." *National Council for the Social Studies* 73, no. 5 (2009): 212-16. This journal article provides the argument for for modifying primary source documents, as well as practical advice in how to modify documents while still maintaining the fidelity of the text.

---

### Notes

<sup>i</sup> Wellington, Darryl. "The Twisted Business of Donating Plasma." *The Atlantic*, May 28, 2014.

<sup>ii</sup> Skloot, Rebecca. *The Immortal Life of Henrietta Lacks*. New York: Crown Publishers, 2010.

<sup>iii</sup> Beers, G. Kylene. *When Kids Can't Read, What Teachers Can Do: A Guide for*

---

*Teachers, 6-12*. Portsmouth, NH: Heinemann, 2003.

<sup>iv</sup> Wineberg, Sam, and Daisy Martin. "Tampering with History: Adapting Primary Sources for Struggling Readers." *National Council for the Social Studies* 73, no. 5 (2009): 212-16.

<sup>v</sup> Orwell, George, and Thomas Pynchon. *1984*. Barcelona: Debolsillo, 2013.

<sup>vi</sup> Keyes, Daniel. *Flowers for Algernon*,. New York: Harcourt, Brace & World, 1966.