

## 10.3.1

## Lesson 9

## Introduction

In this lesson, students continue to read *The Immortal Life of Henrietta Lacks*, from “Various spokespeople for Johns Hopkins, including at least one past university president” to “But there was no such federal oversight at the time” (pp. 194–198). In this excerpt, Skloot describes how the family struggles to understand public information regarding the HeLa cells.

Students continue to build their understanding of how specific sections of text develop and refine specific ideas that have emerged in the larger text. Students discuss their analysis in pairs and also continue to pre-search topics/issues that interest them and gather potential sources for their research. The assessment is a Quick Write that requires students to identify how a specific section of text develops and refines ideas in the larger portion of the text. For homework, students continue to use the Pre-Search Tool to record relevant information about the sources they find, and begin adding vocabulary to their vocabulary journals.

## Standards

Assessed Standard(s)	
RI.9-10.5	Analyze in detail how an author’s ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).
Addressed Standard(s)	
W.9-10.9.b	<p>Draw evidence from literary or informational texts to support analysis, reflection, and research.</p> <p>b. Apply <i>grades 9-10 Reading standards</i> to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning").</p>
L.9-10.2.a	<p>Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <p>a. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.</p>

L.9-10.4.a, c, d	<p>Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grades 9–10 reading and content</i>, choosing flexibly from a range of strategies.</p> <p>a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word’s position or function in a sentence) as a clue to the meaning of a word or phrase.</p> <p>c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology.</p> <p>d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).</p>
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## Assessment

Assessment(s)
<p>Student learning is assessed via a Quick Write at the end of the lesson. Students respond to the following prompt, citing textual evidence to support analysis and inferences drawn from the text.</p> <ul style="list-style-type: none"> <li>How does the section on page 197 from “On March 25, 1976, when Mike Rogers’s Rolling Stone article” to “of Henrietta’s DNA that scientists could use to help identify HeLa cells in culture” develop and refine Skloot’s ideas in this excerpt?</li> </ul>
High Performance Response(s)
<p>A High Performance Response should:</p> <ul style="list-style-type: none"> <li>Identify several ideas in the excerpt that are developed or refined by the identified section of text (e.g., racial injustice, privacy violations, continued disconnect between the medical community and the Lacks family).</li> <li>Analyze how the author’s ideas are developed or refined in the excerpt (e.g., the increase in racial tensions during this time period, such as “the Black Panthers . . . protesting what they saw as a racist health system” and the Tuskegee study, and how this historical background further develops the racial injustices previously explored in the text; the family’s lack of knowledge concerning the use of their blood drawn by McKusick and Hsu to “create a map of Henrietta’s DNA” in a study that included the family’s genetic markers published without consent, again furthering ideas of privacy violations; continued disconnect between the medical community and the Lacks family; and lack of informed consent).</li> </ul>

## Vocabulary

Vocabulary to provide directly (will not include extended instruction)
<ul style="list-style-type: none"> <li>biotech [biotechnology] (n.) – the use of living organisms or other biological systems in the manufacture of drugs or other products or for environmental management, as in waste recycling; includes the use of bioreactors in manufacturing, microorganisms to degrade oil slicks or organic waste, and genetically engineered bacteria to produce human hormones</li> <li>crossed (v.) – combined characteristics of two different types of individuals</li> </ul>
Vocabulary to teach (may include direct word work and/or questions)
<ul style="list-style-type: none"> <li>quantify (v.) – to find or calculate the quantity or amount of something</li> <li>prosperity (n.) – the state of being successful, usually by making a lot of money</li> </ul>

## Lesson Agenda/Overview

Student-Facing Agenda	% of Lesson
<b>Standards &amp; Text:</b> <ul style="list-style-type: none"> <li>Standards: RI.9-10.5, W.9-10.9.b, L.9-10.2.a, L.9-10.4a, c, d</li> <li>Text: <i>The Immortal Life of Henrietta Lacks</i>, pp. 194–198</li> </ul>	
<b>Learning Sequence:</b> <ol style="list-style-type: none"> <li>Introduction of Lesson Agenda</li> <li>Homework Accountability</li> <li>Reading and Discussion</li> <li>Quick Write</li> <li>Vocabulary Journal Introduction</li> <li>Closing</li> </ol>	<ol style="list-style-type: none"> <li>5%</li> <li>10%</li> <li>40%</li> <li>15%</li> <li>25%</li> <li>5%</li> </ol>

## Materials

- Student copies of the 10.3.1 Unit Glossary (refer to 10.3.1 Lesson 1)
- Student copies of the Short Response Rubric and Checklist (refer to 10.3.1 Lesson 1)
- Copies of the vocabulary journal for each student (Optional)
- Student copies of the Pre-Search Tool (refer to 10.3.1 Lesson 8)

① The vocabulary journal is optional. Students may write their vocabulary in a notebook rather than on the vocabulary journal.

## Learning Sequence

How to Use the Learning Sequence	
Symbol	Type of Text & Interpretation of the Symbol
10%	Percentage indicates the percentage of lesson time each activity should take.
no symbol	Plain text indicates teacher action.
	<b>Bold text indicates questions for the teacher to ask students.</b>
	<i>Italicized text indicates a vocabulary word.</i>
►	Indicates student action(s).
💬	Indicates possible student response(s) to teacher questions.
❗	Indicates instructional notes for the teacher.

### Activity 1: Introduction of Lesson Agenda

5%

Begin by reviewing the agenda and the assessed standard for this lesson: RI.9-10.5. In this lesson, students consider how specific sections of text develop and refine specific ideas that have emerged in the larger text by reading and answering questions and annotating the text. Finally, students are introduced to the vocabulary journal to capture new and unfamiliar words in their potential sources as they complete pre-searches for homework.

- Students look at the agenda.

### Activity 2: Homework Accountability

10%

Ask students to work in pairs and share the potential sources they found for homework. Instruct students to first articulate their inquiry question and then briefly explain how each source relates to that question.

- Student pairs share the potential sources they found for homework. The students' responses vary based on the individual research they conducted.

Now ask students to discuss in pairs how the source is relevant to the inquiry question. Remind students that *relevant* means “closely connected to their question.”

❗ To review the definition and explanation of *relevant*, refer to 10.3.1 Lesson 6.

❗ Consider collecting the homework to assess students' research progress.

- 💬 Student responses vary based on their individual research topics/questions and research conducted. Student responses may include:

- My question was, “What privacy rights should patients expect?” The source I found is related to this question because it discusses the HIPAA Privacy Rule that gives doctors who

are both medical researchers and private physicians some guidelines about what they can keep private and what they can share.

① A Model Pre-Search Tool is included at the end of this lesson.

### Activity 3: Reading and Discussion

**40%**

Instruct students to form pairs. Post or project each set of questions below for students to discuss.

Instruct student pairs to read from “Various spokespeople for Johns Hopkins, including at least one past university president” to “popular cell lines in the world, that number is surely significant” (p. 194) and answer the following questions before sharing out with the class. Remind student pairs to annotate the text as they engage in the following evidence-based discussion.

- ① If necessary to support comprehension and fluency, consider using a Masterful Reading of the focus excerpt for the lesson.
- ① Instruct students to consult the 10.3.1 Unit Glossary for the terms found in today’s reading including: *biotech* and *crossed*.

**Why does Skloot quote prices per vial of HeLa products and the number of patents made with HeLa?**

- ☞ She is showing how much money is made from HeLa cells by different for-profit and nonprofit companies. “What we do know is that today, Invitrogen sells HeLa products that cost anywhere from \$100 to nearly \$10,000 per vial” (p. 194).

**Why can Skloot not quantify the professional gain made by scientists? What does *quantify* mean?**

- ☞ She cannot quantify the professional gain because it is not in price per vial or in a number of patents. *Quantify* means “to add up or to represent in numbers.”
- ① If students struggle with the word *quantify*, ask them to think of another word with the root “quant” (quantity). Guide them to see that *quantity* means “amount” and the suffix “ify” means to “make into.” Therefore, *quantify* means “to find or calculate the quantity or amount of something.”

**Skloot begins this section with Hopkins’ claims that “Hopkins never made a cent off HeLa cells.” How is this statement refined by the information that follows?**

- ☞ Skloot’s statements about the “many for-profit cell banks and biotech companies,” (p. 194) such as Microbiological Associates, and later Invitrogen and Bio Whittaker, did profit tremendously from the HeLa cells, even if they were given away for free.

- Skloot implies that Hopkins' profit is not limited to how much Gey sold the cells for, but to the "professional gain" that the HeLa cells and associated research has provided for many medical community members.

Lead a brief whole-class discussion of student responses.

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Instruct student pairs to read from "Lawrence and Sonny knew none of this" to "and gave them to customers at Lawrence's store" (pp. 194–195) and answer the following question before sharing out with the class. . Remind student pairs to annotate the text as they engage in the following evidence-based discussion.

**What is the effect of including the information about the Lacks family right after the information about HeLa profits?**

- Student responses may include:
  - It serves to highlight the disconnect between the Lacks family and the medical community. "Lawrence and Sonny knew none of this" (p. 194).
  - It underscores the lack of control the Lacks family has over the HeLa cells and how they are used. ". . . they made handouts about Henrietta Lack's family being owed their due, and gave them to customers at Lawrence's store" (p. 195).

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Ask students to look more closely at the five paragraphs about Deborah on pages 195–197. Instruct student pairs to read and annotate the Deborah-focused section from "Deborah wanted nothing to do with fighting Hopkins" (p.195) to "*least they can do is give her credit for it*" (p. 197) to identify ideas that are developed or refined in this section.

- Student pairs annotate pages 195–197 for ideas that are developed or refined in this section.
- ① Inform students that there is one section of text that shows a journal entry by Deborah. Explain that they should not try to analyze the grammatical errors, but instead look carefully at what Deborah is saying. Explain that they should think about why Skloot decided to include the whole journal entry instead of just summarizing what Deborah wrote. You may want to ask students:
  - When would you decide to use someone's exact words instead of just paraphrasing what they said?
  - What kind of information is in a journal entry? Why might that kind of information be significant?

When students finish, instruct them to examine the annotation from pages 195–197 and choose two annotations that best illustrate ideas that are developed or refined in this section.

- ▶ Students examine annotation from pages 195–197 and choose two annotations that best illustrate ideas that are developed or refined.

Instruct students to complete a Turn-and-Talk with a classmate about their two annotations, specifically discussing why the annotation best illustrates ideas that are developed or refined in this section.

Annotation discussed may include:

- Exclamation point next to “I was brought up to be quiet, no talking, just listen” (p. 195). This may be included to show how the Lacks family has dealt with authority, including the medical community, which may make them more vulnerable (p. 195).
- Star next to “*You see I am trying to relive that day in my mind.*” This part shows the human story of Henrietta—the one of a dying woman and a troubled family, which supports the idea that the invasion of her body at that time for research added insult to injury. Additionally, this part shows the injury Hopkins committed against Henrietta did not stop with Henrietta, but the pain and damage continues with Deborah (p. 195).
- Star next to “the side for Black’s only, oh yes, I know.” This suggests that Deborah understood the segregation her mother faced at Johns Hopkins (p. 195).
- Exclamation point next to “*No No No. Robbed self.*” (p. 196). “Robbed self” could mean that Henrietta herself was robbed, but it could also apply to her – they robbed her of her mother and of herself. Skloot may have included this to show how violated Deborah feels and to show why the issue is important to Deborah. This also shows that she feels disconnected from her mother and lacks control to change her situation (p. 196).
- Star next to the paragraph that begins “The more Deborah struggled to understand her mother’s cells” This section shows that even though Deborah is reading the biology textbooks, she fundamentally misunderstands how cells work. She believes that her mother can feel pain in each of these cells or will somehow be present spiritually in a genetically crossed species. This shows that Deborah is still disconnected from the medical community that has taken charge of her mother’s cells and legacy (p. 196).
- Star near the sentence “But what bothered her most was the fact that so many scientists and journalists around the world continued to call her mother Helen Lane.” Skloot titled the chapter, “Least They Can Do,” which indicates that this is an important idea. Skloot may be reinforcing the idea that Hopkins did not even do the “least” thing, which was to give credit to Henrietta for her remarkable cells (p. 197).

Circulate around the room to monitor the pair discussion. Listen for students to discuss the above annotation.

Lead a whole-class discussion of the annotation discussion.

- ① This focused annotation supports students' engagement with W.9-10.9.b, which addresses the use of textual evidence in writing.
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Instruct student pairs to read from “On March 25, 1976, when Mike Rogers’ *Rolling Stone* article” to “one of the most important tools in medicine. This was big news” (p. 197) and answer the following questions before sharing out with the class. Remind students to annotate the text while engaging in the evidence-based discussion.

**Why does Henrietta flee north for prosperity? What clues help you figure out the meaning of prosperity?**

- Henrietta went north to get a better life, so *prosperity* means “a better life” or “more money or opportunities.” The clues are that she left a life of “slavery and sharecropping,” so she went north to leave that life behind and seek opportunities.

**Look carefully at the sentence from “News of the Tuskegee study was still fresh” to “impossible to ignore.” What is the effect of using semicolons instead of simply writing three separate sentences?**

- The semicolons connect the events (Tuskegee, Black Panthers, and Henrietta’s story) more closely and show how they all happened around the same time, which adds to the impact of the racial implications of Henrietta’s story.
- ① Remind students of their work with semicolons in Module 10.3.1 in relation to standard L.9-10.2.a. Instruct students to use a highlighter to mark semicolons in the text. Explain that a semicolon is used to connect independent but related ideas in a sentence, and how its use is different from that of a colon.
- ① Remind students of their work with the Tuskegee syphilis study in 10.3.1 Lesson 4.

**What structural choices does Skloot make to show that Henrietta’s story was “big news”?**

- Student responses may include:
  - Skloot uses repetition of the words *white* and *black* to reinforce the racial tensions of the time period as a reason for why Henrietta’s story was popular.
  - Skloot uses provocative words to show the story’s popularity with the public including: *True story, mainstream media, explosive, protesting, racist, impossible, ignore, contaminating, one drop, black blood, uncredited*. Skloot uses this language to illustrate the extreme racial tensions of the time and how the time period fuels the impact of the journal article.
  - Skloot also juxtaposes the racial issues of the past and present to reveal the story’s popularity: “It was a story of white selling black, of black cultures ‘contaminating’ white



ones with a single cell in an era when a person with ‘one drop’ of black blood had only recently gained the legal right to marry a white person” (p. 197).

- ① Explain to students that *mainstream media* is a collective term for the largest and most popular news programs and newspapers.

Lead a brief whole-class discussion of student responses.

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Instruct student pairs to read from “Rogers’s article caught the attention of several other journalists” to “no such federal oversight at the time” (pp. 197–198) and answer the following question before sharing out with the class. Remind students to annotate the text while engaging in the evidence-based discussion.

**What information is being shared with the public about the Lacks family? What is the impact of this shared information?**

- 💬 There are two types of media described here. Newspapers and magazines “published articles about Henrietta, ‘one of the pivotal figures in the crusade against cancer.’” The idea is that Henrietta Lacks and her family were finally getting credit for the cells. However, McKusick also published a map of “forty-three different genetic markers present in DNA from Day and two of the Lacks children,” (p. 197) which, it is explained, is a violation of the Lacks family’s privacy.

Lead a brief whole-class discussion of student responses.

## Activity 4: Quick Write

**15%**

Instruct students to respond briefly in writing to the following prompt:

**How does the section on page 197 from “On March 25, 1976, when Mike Rogers’s *Rolling Stone* article” to “of Henrietta’s DNA that scientists could use to help identify HeLa cells in culture” develop and refine Skloot’s ideas in this excerpt?**

Instruct students to look at their annotations to find evidence. Ask students to use this lesson’s vocabulary wherever possible in their written responses. Remind students to use the Short Response Rubric and Checklist to guide their written responses.

- ▶ Students listen and read the Quick Write prompt.

- ① Display the prompt for students to see, or provide the prompt in hard copy.

Transition to the independent Quick Write.

- ▶ Students independently answer the prompt using evidence from the text.

See the High Performance Response at the beginning of this lesson.

## Activity 5: Vocabulary Journal Introduction

**25%**

Share with students that the research process exposes them to new vocabulary through the reading of a wide variety of academic texts. Instruct students to keep track of vocabulary learned by using a vocabulary journal. Ask students to use the vocabulary journal to record their reflections on the strategies employed to learn the vocabulary.

- ▶ Students listen.

① Because the following lessons in this module are designed to support students' research, the vocabulary journal ensures the application of vocabulary strategies modeled thus far.

Explain to students that the vocabulary they track in their vocabulary journal features words they come across in their searches that are proving to be an obstacle to understanding the text. Additionally, the words should fit into one of two categories. One category is words that are found across multiple texts, in a variety of classes; these are words that might appear in all of their content classes like science, math, English, and social studies. Examples are words like *consent*, *relevant*, and *assess*. The second category of words is vocabulary that is specific to one content area or class. These are words like *HLA markers*, *somatic*, and *genome*. Ask students to record in their vocabulary journal any difficult words that may fit into one of the categories above.

① Share with students the purpose of differentiating between these words: one type of words are those they are likely to encounter often with texts as they proceed with the remainder of high school, college, and their civic lives; the other type are words that may be specific to the domain of their research. For example, *quantify*, *culture*, and *revenue* are words that they may see in their arts, science, and social studies texts; *lead abatement*, *pharmaceutical*, and *serum* are words they may encounter in a science article that would be a potential source related to their area of investigation.

- ▶ Students listen.

① Remind students that the volume of unknown words should not prove such an obstacle that the text is largely inaccessible. The Potential Sources Tool (refer to 10.3.2 Lesson 3) should vet for this type of issue.

Share with students the following strategies that can be employed to determine the meaning of unknown words or phrases:

- Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

- Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., analyze, analysis, analytical). How do changes in prefixes and suffixes affect word meaning?
- Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses) to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology.
- Verify the meaning of the word or phrase (by checking the inferred meaning in context or in a dictionary).

Inform students that etymology can be an important part of learning vocabulary. *Etymology* is the study of the origin of words and the way in which their meanings have changed throughout history.

► Students listen.

- ① Consider displaying the strategies for students to see.
- ① Consider reviewing how to use reference materials (dictionaries, glossaries, thesauruses) to determine word meaning if students need more support.
- ① These strategies come directly from standards L.9-10.4a-d. Consider drawing students' attention to their application of standards L.9-10.4.a, c, d by using context to make meaning of a word; consulting reference materials to clarify its precise meaning; verifying the preliminary determination of its meaning.

Instruct students how to complete the vocabulary journal when it is assigned for homework by explaining the questions for each word ("Describe where you encountered the word/phrase in the research and why it is problematic"; "Explain how you tried to figure out the meaning of the word/phrase"; "Confirm the word's meaning as it is used in the research text by using a reference source (dictionary, encyclopedia, etc.)").

► Students listen.

- ① Consider instructing students to use notebooks or additional paper for the vocabulary journal. The notebook or additional paper can be kept in the Research Portfolio throughout the research process in 10.3.2.

## Activity 6: Closing

5%

Display and distribute the homework assignment. For homework, instruct students to continue with their pre-search by finding three more potential sources and recording the following information: source, title, location, author's name, and relationship to topic using the Pre-Search Tool. Instruct students to begin their vocabulary journals by using the strategies introduced in the lesson.

► Students follow along.

- ① The Pre-Search activity helps to develop students' ability to find relevant sources on their own, as well as to navigate through a wide pool of potential research sources. This activity also helps students to confirm that there is enough information available about their topic to warrant further research.

## Homework

Continue with your pre-search. Find three more potential sources and record the following information: source, title, location, author's name, and relationship to topic, using the Pre-Search Tool. Add vocabulary to your vocabulary journal based on the strategies introduced in class.

## Vocabulary Journal

<b>Name:</b>		<b>Class:</b>		<b>Date:</b>	
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Word	Response
Describe where you encountered the word/phrase in the research and why it is problematic.	
Explain how you tried to figure out the meaning of the word/phrase in context.	
Confirm the word's meaning as it is used in the research text by using a reference source (dictionary, encyclopedia, etc.).	

  

Word	Response
Describe where you encountered the word/phrase in the research and why it is problematic.	
Explain how you tried to figure out the meaning of the word/phrase in context.	
Confirm the word's meaning as it is used in the research text by using a reference source (dictionary, encyclopedia, etc.).	

## Model Vocabulary Journal

<b>Name:</b>		<b>Class:</b>		<b>Date:</b>	
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<b>Word: human genome</b>	<b>Response</b>
Describe where you encountered the word/phrase in the research and why it is problematic.	I saw it in the first article and I did not know what it meant. It is part of the main point of the article.
Explain how you tried to figure out the meaning of the word/phrase in context.	I know what <i>gene</i> means, and <i>genome</i> seems to be similar to that.
Confirm the word's meaning as it is used in the research text by using a reference source (dictionary, encyclopedia, etc.).	The dictionary says, "one haploid set of chromosomes with the genes they contain; broadly: the genetic material of an organism" so it appears to be all the genes that make up a person.
<b>Word: conjoined</b>	<b>Response</b>
Describe where you encountered the word/phrase in the research and why it is problematic.	The word was in an article about twins.
Explain how you tried to figure out the meaning of the word/phrase in context.	I know that it has the word <i>joined</i> in it, and I know that the prefix <i>con</i> can mean <i>together</i> , but I did not know if the twins were together before they were born or after.
Confirm the word's meaning as it is used in the research text by using a reference source (dictionary, encyclopedia, etc.).	The definition said, "being, coming, or brought together so as to meet, touch, overlap, or unite" but that did not help. So I searched "conjoined twins" and that said, "twins that are physically united at some part or parts of their bodies at the time of birth" so it means twins that are physically connected after they are born.

## Model Pre-Search Tool

<b>Name:</b>		<b>Class:</b>		<b>Date:</b>	
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Source Notes	How does this source connect to your potential area of investigation?
<b>Source #1</b> Title: "Genetic Basis for Crime: A New Look" Location: <a href="http://www.nytimes.com/2011/06/20/arts/genetics-and-crime-at-institute-of-justice-conference.html">http://www.nytimes.com/2011/06/20/arts/genetics-and-crime-at-institute-of-justice-conference.html</a> Author: Patricia Cohen	My topic is testing for a genetic predisposition for criminal behavior. This article says that now that the human genome has been sequenced, some researchers are thinking about looking for criminal behavior in genes.
<b>Source #2</b> Title: "Twin Mystique" Location: <a href="http://www.tampabay.com/">http://www.tampabay.com/</a> Author: John Barry	Twin studies are important to this topic because they have the same genetic material, so shared behaviors show a genetic predisposition. This article describes how conjoined twins who have been separated are being studied to see if both twins display similar social behaviors and life choices after separation.
<b>Source #3</b> Title: "A Vision of the Future" Location: <a href="http://www.pbs.org/">http://www.pbs.org/</a> Author: Steven I. Friedland	This article describes how some places might use DNA fingerprinting to figure out if you have a predisposition to criminal behavior. Also, genetic disorders are being considered in trials, so being able to verify a criminal tendency might be effective for the legal system.

**Is there enough source information to research this potential area of investigation?**

Yes, there is. I was able to find different perspectives on this issue.

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