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| 10.3.2 | Lesson 3 |

# Introduction

In this lesson, students continue to refine inquiry questions as they begin to frame their research by planning for independent searches. Students learn how to select inquiry questions, plan search locations, and use key words and phrases to conduct effective and efficient research. Additionally, students learn how to assess sources formally for credibility, accessibility, and relevance.

Students begin the lesson by engaging in a research project check-in during which they review their Student Research Plansand informally journal about their research progress and next steps. They then learn how to effectively plan for searches by following a demonstration on how to select inquiry questions that focus research, how to determine the optimal location for finding resources, and how to choose key words or phrases that elicit an efficient search. From there, students discuss how these steps can contribute to finding *credible*, *accessible*, and *relevant* sources using the Assessing Sources Handout. Students then search for *credible*, *accessible*, and *relevant* sources using key words or phrases from their selected inquiry question and record source information on the Potential Sources Tool. Throughout the lesson, teachers and students are encouraged to collaborate with librarians/media specialists as partners in the research process.

The learning in this lesson is assessed via a Quick Write that asks students why the three categories discussed in the Assessing Sources Handout (credibility, accessibility, and relevance) are important to consider when examining potential sources. For homework, students use the Potential Sources Tool to record and evaluate information about three potential sources and explain how two of those sources meet the criteria for being credible, accessible, and relevant.

# Standards

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| Assessed Standard(s) | |
| W.9-10.8 | Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. |
| Addressed Standard(s) | |
| W.9-10.7 | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. |

# Assessment

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| Assessment(s) |
| 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.   * Why are the three categories discussed in the Assessing Sources Handout (credibility, accessibility, and relevance) important to consider when examining potential sources? * Students should use the verbiage of the Assessing Sources Handout to support their response. * Student responses are assessed using the Assessing Sources Handout. |
| High Performance Response(s) |
| A High Performance Response should:   * Articulate that each category is an important aspect of effective and efficient research (e.g., the categories ensure a source is: high in quality or an authority on the topic, based on publisher, publication date, author, and source type (*credibility*); interesting and comprehensible according to a student’s ability (*accessibility*); and related to the research topic and purpose in an appropriate way, while being adequate in scope and richness (*relevance*)). |

# Vocabulary

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| Vocabulary to provide directly (will not include extended instruction) |
| * None.\* |
| Vocabulary to teach (may include direct word work and/or questions) |
| * None.\* |

\*In their research and reading, students will encounter domain-specific vocabulary related to their individual research questions/problems. Students will track some of this vocabulary in their vocabulary journals when conducting independent searches during class and for homework.

# Lesson Agenda/Overview

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| Student-Facing Agenda | % of Lesson |
| **Standards:**   * Standards: Standards: W.9-10.8, W.9-10.7 * Model Source Text: “A Court Allows Payment for Bone Marrow. Should People be Able to Sell Their Parts?” by Alice Park (<http://healthland.time.com/2012/07/02/a-court-allows-payment-for-bone-marrow-should-people-be-able-to-sell-their-parts/>) |  |
| **Learning Sequence:**   1. Introduction of Lesson Agenda 2. Homework Accountability and Research Project Check-In 3. Planning for Searches 4. Assessing Sources 5. Quick Write 6. Closing | 1. 10% 2. 10% 3. 25% 4. 40% 5. 10% 6. 5% |

# Materials

* Student copies of the 10.3 Common Core Learning Standards Tool (refer to 10.3.2 Lesson 1)
* Research Portfolios (refer to 10.3.2 Lesson 1)
* Copies of the Assessing Sources Handout for each student
* Copies of the Potential Sources Tool for each student (several copies)
* Electronic white board/document camera (optional)

# Learning Sequence

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| 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. |
| **Bold text indicates questions for the teacher to ask students.** |
| *Italicized text indicates a vocabulary word.* |
| ⏵ | Indicates student action(s). |
| 🗨 | Indicates possible student response(s) to teacher questions. |
| 🛈 | Indicates instructional notes for the teacher. |

Activity 1: Introduction of Lesson Agenda 10%

Begin by reviewing the agenda and the assessed standard for this lesson: W.9-10.8. Explain that students begin with a research project check-in during which they examine their Student Research Plans and informally journal about their research progress and next steps. They then learn how to effectively plan for searches though a demonstration of how to select inquiry questions that focus research, how to determine the optimal location for finding resources, and how to choose key words or phrases that elicit an efficient search. From there, students discuss how these steps can contribute to finding *credible*, *accessible*, and *relevant* sources. Students then search for these sources using key words or phrases from their selected inquiry question and record notes on their Potential Sources Tool.

* Students look at the agenda.

Distribute or ask students to take out their copies of the 10.3 Common Core Learning Standards Tool. Inform students that in this lesson they begin to work with a new standard: W.9-10.8. Ask students to individually read this standard on their tools and assess their familiarity with and mastery of it.

* Students read and assess their familiarity with standard W.9-10.8.

Instruct students to talk in pairs about what they think the standard means. Ask students to consider in their responses how the standard relates to their current research work. Lead a brief discussion about the standard.

* Student responses should include:
  + We are starting our own research and this standard is about gathering information from multiple sources to conduct the research.
  + *Authoritative* looks like the word *authority*, so it must mean that the information is from a *credible* or academic source. The research has to come from a location that has authority regarding the topic.
  + Each source should be assessed to see if it corresponds to our research topics/areas of investigation. The source needs to be *relevant*, which means it should examine an aspect of the research topic/area of investigation or the research topic/area of investigation itself.
  + It is important not to cheat or plagiarize (say that an idea is ours when it is not).
* Consider providing students with the following definitions: *authoritative* means “substantiated or supported by documentary evidence and accepted by most authorities in a field”; *plagiarism* means “an act or instance of using or closely imitating the language and thoughts of another author without authorization and the representation of that author's work as one's own, as by not crediting the original author.” Students were introduced to the definition of *relevant* in 10.3.1 Lesson 6.
* Students write the definitions of *authoritative* and *plagiarism* in a vocabulary journal.
* In the following unit, 10.3.3, students learn more about the importance of and how to use citations to avoid *plagiarism* when they write.
* If students have completed the Odell Education: Research to Deepen Understanding unit, or grade 9 Module 3, then consider a review of this standard rather than a full-length discussion.

Explain to students that the standard W.9-10.8 works together with W.9-10.7 to guide the inquiry-based research conducted in this unit.

* Students listen
* Standard W.9-10.7 was introduced in 10.3.2 Lesson 1. Consider engaging students in a brief discussion of the relationship between W.9-10.8 and W.9-10.7.

Activity 2: Homework Accountability and Research Process Check-In 10%

Instruct students to take out their 10.3.2 Lesson 2 homework. Instruct students to talk in pairs about how they refined their five specific inquiry questions using the Specific Inquiry Questions Checklist Tool.

* Student responses vary, but may include:
  + I used the Specific Inquiry Questions Checklist Tool to narrow my initial five inquiry questions by making them more specific, complex, and eliciting rich responses that cannot be answered with yes/no. For example, I started out with the question: “Can people sell their own tissues?” While this question is specific, it is also a yes/no question, and therefore limits the scope of inquiry. I revised the question to “Why should people be able to sell their own tissues?”
* Consider asking students: What role do questions play in the research process?

Instruct students to take out the Student Research Plan in the front of their Research Portfolio. Remind students that they received the Student Research Plan in the previous lesson. Explain that the purpose of the plan is to help students track their research progress by informally assessing completed research activities and planning next steps in a research journal. Remind students that the research process is *iterative* (repeating) and *cyclical* (revolving or recurring in cycles), as the Research Plan suggests; there are specific steps that are not “completed” after one time. Journaling about the research process helps students track where they are in this iterative research process. Additionally, journaling helps students reflect on all the research skills that compose standards W.9-10.7 and W.9-10.8.

* Students listen.

Instruct students to focus on Part 1 of the Student Research Plan and write a few sentences in their research journals about their research progress and next steps based on the process outcomes described in Part 1. Instruct students to use the language of the research standards (W.9-10.7 and W.9-10.8) when writing their journal responses.

* Student responses vary, but may include:
  + I was able to narrow down the various topics surfaced in Skloot’s text to a few areas of investigation that I thought were worth exploring. I quickly realized with my pre-searches that researching areas like the history of cell tissue research might not be personally interesting to me and did not lend itself to as many inquiry questions. Instead, I chose to investigate the major aspects of the use and selling of cell tissue because it is going to provide many paths to explore, as revealed in my variety of specific inquiry questions that I was able to develop in 10.3.2 Lesson 2.
* Consider having students write in a notebook or on a separate sheet of paper for the research journal. Students can file the research journal in the Research Portfolio, along with the vocabulary journal.
* While students are writing, consider distributing the 10.3.2 Lesson 2 assessment with feedback so students can use this information for the reflection journal. Then students may file the assessment in their Research Portfolios for later use.
* The purpose of the research journal is to hold students accountable to the research process. Fidelity to the process is vital if students are to conduct effective and efficient research. Providing students with an opportunity to reflect on the research process helps them build a foundation for inquiry that takes place in subsequent modules.
* The W.9-10.7 language aligns to Part 1 of the Student Research Plan includes: “Conduct short as well as more sustained research projects to answer a question (including a self-generated question)”

Instruct students to file the Student Research Plan in the front of their Research Portfolio and to organize 10.3.2 Lesson 2’s homework and assessment in section 1.

* Students file their research and homework information.

Activity 3: Planning for Searches 25%

Explain to students that they are ready to plan for effective searches to conduct formal research now that they have established a research topic/area of investigation and crafted specific inquiry questions.

Inform students that when planning for effective inquiry-based research, there are several steps to follow:

* Select a focus inquiry question
* Determine where to look for sources
* Choose key words or phrases to begin the search

Share with students that effective and efficient searches begin with a focus. The type of research they are conducting in this unit is inquiry-based so the specific inquiry questions students develop for the overarching research topic/area of investigation guides the research focus. Explain to students that the first step in planning for productive searches is to select an inquiry question to focus the research.

Explain to students the following guidelines for selecting inquiry questions to focus research:

* Move from general inquiry questions to specific
* Move from questions that are easily answered to more complex questions with more interesting answers
* As needed, group like questions into themes or categories
* Remember that the questions can always evolve as knowledge and understanding deepens
* Students listen.

Model for students how to select inquiry questions by displaying the following three model questions, focused on tissue ownership, for students to see:

What are doctors and researchers supposed to do with excised body tissue?

What are some ethical issues concerning the selling of human tissues?

What kinds of tissues can people sell while they are still alive?

Explain to students that the question “What are some ethical issues concerning the selling of human tissues?” is the best question to focus the research first because it is specific enough to generate concrete answers, but general enough to generate rich information. The first question may be too broad and general, while the third question focuses exclusively on what a person can sell while “still alive,” and so may be too specific as a starting point.

* Students examine the three model questions and follow along.

Explain that the second step in planning an effective search is to determine the best locations (physical or virtual) for finding the information about the selected inquiry question. Give students the following considerations to help them select and locate the right sources:

* What is my area of inquiry and where could I find sources? For example, if I am looking at tissue ownership, then the field is medical science. I can search in either that section of the library or an online source or website that specializes in the field.
* What type of sources should I be looking for based on the type of information I want? For example, if I am looking for details about tissue ownership, I should investigate medical or science professional organizations, journals, or reports. If I am looking for information about an individual’s experience with the issue of tissue ownership, I could look at news, science, or advocacy websites.
* Encourage students to enlist the assistance of a librarian/media specialist as they determine the best location(s) to find information.

Explain that the third step in planning an effective search is selecting the best key words and phrases for the online search. To determine what key words and phrases to use, instruct students to first consider their research topic/area of investigation. Specifically, they must consider the actual words they use to describe what that is. They should also consider the inquiry question itself. Both their research topic/area of investigation and the inquiry question contain words, concepts, and phrases students can use to begin searching.

* Students listen and follow along.

Demonstrate an online search with key words, concepts, or phrases using the model question:

What are some of the ethical issues concerning the selling of human tissues?

Based on this question and the previous discussion about selecting key words/phrases, this question could lead us to use phrases like “selling human tissue” and “human tissue ethics.” The inquiry question, coupled with our stated research topic/area of investigation (“tissue ownership”) brings additional phrases such as “tissue ownership” and “tissue research.”

* Students listen.

Conduct two model searches as described below, and display the online search results for students to see. Instruct students to take brief notes on the results.

* Enter the search phrase: “selling human tissue”
* Examine results of the search
* Change the search phrase: “human tissue ethics”
* Examine results of the search
* Students listen and take notes.
* Consider using an electronic white board or document camera to display the search results.
* Consult with a school librarian/media specialist for additional search phrase ideas if needed.

Instruct student pairs to discuss the following question:

Are these search results going to produce effective research?

Alternate between the two searches, giving students an opportunity to compare results. Provide students with time to take brief notes.

* Students look at the searches and discuss the question.

Lead a brief discussion of the question.

* Student responses vary, but may include:
  + Both searches appear to offer potential sources because of the quality of where the sources come from. Search results came from a variety of places but these seem like interesting sources and many sources are appearing, which means we are on the right path. The first search yielded results from scientific organizations and governmental research groups, like the National Disease Research Interchange, the Medical Research Council, and the National Institutes of Health. The second search produced articles from periodicals such as the New England Journal of Medicine, the Medical Law Review, the New York Times, and the Journal of Lancaster General hospital.
* As an option for students who may want to investigate more complex texts, searches can be conducted using Google Scholar.

Inform students that substituting a key word with a *synonym* (a “word that means the same”) or a similar word leads to more and sometimes different results. For example, enter the search words: human tissue “rights” instead of “ownership.”

* Students listen.

Activity 4: Assessing Sources 40%

Explain to students that they have begun to establish an understanding of the importance of planning for efficient searches. They now focus on assessing potential sources for credibility, accessibility, and relevance. Explain that it is important to assess potential sources first before reading closely in order to maximize research, and avoid wasting time on resources that do not contribute to deeper understanding.

Distribute the Assessing Sources Handout to students and ask them to read it.

* Students read the Assessing Sources Handout.

Ask student pairs to discuss the following questions:

What are the three categories used to evaluate every potential source?

* The handout evaluates potential sources for credibility, accessibility (and interest level), and relevance (including richness).

Remind students that in the 10.3.1 pre-searches they identified a variety of sources. In this lesson, they narrow their searches by looking for *credible, accessible,* and *relevant* sources for a specific research topic/area of investigation, while being mindful of the steps for planning effective and efficient research as discussed earlier in the lesson.

Direct students to look at the heading of the first section of the Assessing Sources Handout, “Assessing a Source Text’s Credibility.” Define the word *credibility* (form of the word *credible*) as “the quality of being believable or worthy of trust.” Explain to students that sources with credibility are those that have proven their worth through multiple reviews from other authorities in the field, and extensive research on a topic. *Credible* sources have employed the same inquiry methods of research that the students are currently conducting. Explain further that when considering credibility, the handout takes into account a source’s publisher, publication date, author, and type, as each being an important component in evaluating for credibility. Explain these factors are important because a source becomes less *credible* if it comes from a profit-based group, has outdated information, or is written by someone without expertise in the field.

* Students listen.

Direct students’ attention back to the model searches conducted earlier in the lesson using the search phrase “human tissue research.” Select two sources to open. Model for students how to quickly scan a web page and assess the credibility of each—without having to read the source in entirety—using the Assessing Sources Handout. Reinforce that students need to pay particular attention to details about the publisher (and possible connections to the topic), the date of publication, the author’s credentials (and connections to the topic), and the type of source.

* Students reference the Assessing Sources Handout, scan the displayed source, and discuss the source’s credibility.
* Point out to students that the first items listed on a search results page are often paid advertisements, separated only subtly from the rest of the results.
* Ideally, the two model sources selected exemplify one *credible* source and one unreliable source so students can assess the differences.
* Advise students to ask the teacher, librarian, or media specialist if they are not certain about the credibility of a source.
* Refer back to the search page and inform students of the differences between web addresses that end in .org, .com, .gov, and .edu. These are referred to as “top level domains.” Discuss that .org, .gov, and .edu websites can often be considered *credible* because they come from non-profit, government, or education organizations respectively and typically provide more objective information that is not profit-driven, as can be the case with .com addresses. This is not a rule, however, and credibility cannot be judged solely on a website’s top-level domain.

Direct students to look at the second section of the Assessing Sources Handout underneath “Assessing a Source Text’s Accessibility and Interest Level.” Define the term *accessible* as“easy to approach or use”. Explain to students that *accessible* sources are those that are comprehensible based on a reader’s background knowledge and understanding. Additionally, *accessible* sources should be interesting to the reader and align with established inquiry questions. Open one of the model sources used in the previous exercise and discuss as a group how it meets or does not meet the criteria for being accessible.

* Students reference the Assessing Sources Handout, scan the source, and discuss accessibility of the source.
* Make sure students understand that evaluating a source for accessibility is more subjective in nature, depending on an individual’s reading ability and interest level. If after reading two paragraphs of the source, a student cannot comprehend the information or has no interest in what is being communicated, it may be considered inaccessible for that student.

Direct students to look at the third section of the Assessing Sources Handout underneath “Assessing a Source Text’s Relevance and Richness.” Define the term *relevance* (form of the word *relevant*) as “relating to a subject in an appropriate way.” Explain that *relevant* sources are those that are related to the inquiry question and provide accurate, useful, and rich information on the topic with connections to other sources. Relevant sources should further a researcher’s purpose and provide well-supported information. Open the model source used in the previous exercise and discuss as a group how it meets or does not meet the criteria for being *relevant*.

* Students reference the Assessing Sources Handout, scan the source, and discuss the relevance of the source.

Based on the information learned from the Assessing Sources Handout, ask students to think of examples of sources that might not be *credible*, *accessible*, or *relevant*.

* Student responses may include:
  + Wikipedia might not be a *credible* source because it is a crowd-sourced website to which many people who may not have expertise or authority on the topic can contribute.
  + High-level scholarly articles written for professionals might be in*accessible* because the text could be too complex to understand.
  + A source that is twenty years old and only marginally relates to the topic might not be *relevant* because the information it contains may no longer be accurate.

Explain to students that as a group the class now practices assessing a model source (“A Court Allows Payment for Bone Marrow. Should People Be Able to Sell Their Parts?” by Alice Park) for credibility, accessibility, and relevance. Display the Potential Sources Tool to students and instruct them to read it.

* Students review the Potential Sources Tool.
* The model source “A Court Allows Payment for Bone Marrow. Should People Be Able to Sell Their Parts?” by Alice Park is available online through http://time.com.

Briefly highlight the components of the tool and explain that it is used to record basic information about all potential sources and evaluate usefulness according to credibility, accessibility, and relevance.

* Students listen.
* Consider using a model source from one of the searches conducted earlier in the lesson for consistency purposes.

Display the Alice Park model source for reference as use of the Potential Sources Tool is demonstrated.

At the top of the page, after “Topic” write “Tissue Ownership.” After “Area of Investigation,” also write “Tissue Ownership.” On the top left, number the source (begin with 1). Then record the following information about the source:

* Title: A Court Allows Payment for Bone Marrow. Should People Be Able to Sell Their Parts?
* Location: <http://healthland.time.com/2012/07/02/a-court-allows-payment-for-bone-marrow-should-people-be-able-to-sell-their-parts/>
* Author: Alice Park
* Text Type (e.g., article, interview transcript, essay, etc.): Internet article from http://time.com
* Publication Date: 2012

Read aloud the first two paragraphs of the model source, then record pertinent information in the box labeled “General Information/Key Ideas/Personal Comments” as students watch. Explain that this box is intended to capture a researcher’s initial reactions about a source.

* General Information/Key Ideas/Personal Comments: This article considers a person being able to make money by selling their bone marrow due to a recent U.S. appeals court decision making it legal to do so. The article also points out how helpful this decision is for thousands of sick patients who need bone marrow transplants. Then it begs the question: “What other body parts might next be up for sale?”
* Students listen and follow along.
* Explain that the final box, “Connections to Inquiry Paths” is a space for tracking how a given source connects to other related aspects of research, and is used as their research develops further in the process.

Finally, assess the model source for its *credibility*, *relevance*, and *accessibility* in the check boxes at the bottom of the box, talking through the rating process so students can hear the mental processing used for making accurate evaluations, using the Assessing Sources Handout as a guide. This article’s *credibility* can be rated as “High” because it comes from a reliable, objective source, and references court documents and experts in the field of medical science. The article’s *relevance/richness* can be rated as “High” because it deals specifically with the issue of tissue ownership and related ethics. The article’s *accessibility/interest* can be rated as “High” because it is written in a manner that I can read and is easily understandable for people outside the medical science profession.

* Students are not expected to read the text closely at this point. The purpose of this tool is to help students locate useful sources again later.
* A completed Model Potential Sources Tool is in included at the end of the lesson; consider distributing it to students for support as they begin independent searching.

Activity 5: Quick Write 10%

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

Why are the three categories discussed in the Assessing Sources Handout (credibility, accessibility, and relevance) important to consider when examining potential sources?

Remind students to use the Assessing Sources Handout to guide their written responses.

* Students listen and read the Quick Write prompt.
* 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.
* See the High Performance Response at the beginning of this lesson.
* Students’ assessed responses to this lesson’s Quick Write informs their work in the next lesson, 10.3.2 Lesson 4. Collect student responses to redistribute in the next lesson.

Activity 6: Closing 5%

Display and distribute the homework assignment. Distribute an additional copy of the Potential Sources Tool to students. For homework, instruct students to conduct their own searches using an inquiry question they have crafted and vetted for specificity and complexity from 10.3.2 Lesson 2. Remind them to think about the most productive places to look for research, as well as the optimal key words to enter in search engines. Instruct students to reference the Assessing Sources Handout as they search.

In addition, instruct students to use the Potential Sources Tool to record and evaluate information regarding three more potential sources and explain how two of those sources meet the criteria for being *credible*, *accessible*, and *relevant*. Ask students to use this lesson’s vocabulary wherever possible in their written responses.

* Students follow along.
* **Differentiation Consideration:** Some of the topics students are researching may yield complex or inaccessible texts. To address this concern, consider recommending that students make use of free databases accessible through <http://novelnewyork.org/> such as Grolier, Gale, and ProQuest; these databases allow searches by subject/keyword and students may filter the searches so that only texts within certain Lexile ranges are returned. Consider collaborating with a librarian or media specialist to access these databases and create filtered searches that support students’ reading levels.

# Homework

Continue the preliminary research process using an inquiry question to focus your search. Use the Potential Sources Tool to record and evaluate three more potential sources. On the back of the tool, explain how two of those sources meet the criteria for being *credible*, *accessible*, and *relevant* using the Assessing Sources Handout as a guide. Use this lesson’s vocabulary wherever possible in your written response.





