

10.3.2

Lesson 6

Introduction

In this lesson, students construct a frame using the Research Frame Tool to guide their research by establishing inquiry paths that allow them to explore various aspects of their research topics/areas of investigation. Students group their inquiry questions thematically and then formally plan their research using the Research Frame Tool.

Students begin the lesson by refining inquiry questions from Lesson 2, based on search results from Lessons 3–5. The teacher introduces the concept of inquiry paths by modeling how to group inquiry questions thematically. The teacher then shows students how to complete a Research Frame Tool as a way to plan research using grouped inquiry questions. For the lesson assessment, students organize, categorize, and refine their inquiry questions by inquiry paths and independently develop a detailed, organized Research Frame. Additionally, students craft a problem-based question based on the research topic/area of investigation and inquiry paths to guide the rest of their research. For homework, students will select one to two of their strongest inquiry questions to begin pursuing through independent research, following the research steps outlined in Lessons 3–5 (plan for searches, assess sources, annotate sources, record notes, and evaluate arguments) using the appropriate tools for each of the search activities. Additionally, students continue to add new vocabulary they have learned through the research process to the vocabulary journal.

Standards

Assessed 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.
Addressed 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.

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>
---------------------	---

Assessment

Assessment(s)
<p>Student learning in this lesson is assessed via a completed Research Frame Tool, submitted during the lesson's closing.</p> <p>i The Research Frame Tool serves as the assessment for this lesson.</p>
High Performance Response(s)
<p>A High Performance Response should:</p> <ul style="list-style-type: none"> • Provide high-level inquiry paths • Provide a range of inquiry paths, encompassing content and coverage of the problem-based question • Provide inquiry paths that are distinct from one another • Provide inquiry paths that are equally important • Provide questions within the inquiry paths that address appropriate scope and utility <p>i See the Model Research Frame Tool located at the end of the lesson for sample student responses.</p>

Vocabulary

Vocabulary to provide directly (will not include extended instruction)
<ul style="list-style-type: none"> • None.*
Vocabulary to teach (may include direct word work and/or questions)
<ul style="list-style-type: none"> • 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

Student-Facing Agenda	% of Lesson
<p>Standards:</p> <ul style="list-style-type: none"> Standards: W.9-10.7, W.9-10.8, L.9-10.4.a, c, d 	
<p>Learning Sequence:</p> <ol style="list-style-type: none"> Introduction of Lesson Agenda Homework Accountability Inquiry Paths and the Research Frame Research Frame Tool and Assessment Closing 	<ol style="list-style-type: none"> 5% 10% 35% 40% 10%

Materials

- Copies of the Research Frame Tool for each student
- Student Research Portfolios (refer to 10.3.2 Lesson 1)
- Student copies of the Potential Sources Tool (refer to 10.3.2 Lesson 3)
- Student copies of the Taking Notes Tool (refer to 10.3.2 Lesson 4)

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.
	Bold text indicates questions for the teacher to ask students.
	<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: W.9-10.7. Explain that students begin the lesson by refining inquiry questions from Lesson 2, based on search results from

Lessons 3–5. Students learn how to complete a Research Frame Tool as a way to plan/frame research using grouped inquiry questions. Students then organize, categorize, and refine their inquiry questions by inquiry path and independently develop a detailed, organized Research Frame.

- ▶ Students look at the agenda.

Activity 2: Homework Accountability

10%

Instruct students to take out the homework from the previous lesson: Find two potential sources and evaluate the arguments in the sources by using the Evidence-Based Arguments Checklist. Include detailed comments and textual evidence to support your choices in the comments section of the Evidence-Based Arguments Checklist for each potential source.

- ▶ Students take out their homework.

Instruct students to form pairs with a classmate for a Turn-and-Talk about the Evidence-Based Argument investigation. Instruct students to discuss how the checklist deepened their understanding of the argument within one of their sources, focusing on one specific section of the checklist.

- ▶ Students do a Turn-and-Talk about one specific section of the Evidence-Based Arguments Checklist and how it deepened their understanding of one of their source’s arguments.

☞ Student responses will vary depending on their research sources.

① Consider circulating during the Turn-and-Talk to monitor students’ discussions.

① Consider collecting the homework to monitor students’ research progress.

Activity 3: Inquiry Paths and the Research Frame

35%

Introduce students to the Research Frame. Explain that, based on what they learned about conducting independent searches (planning for searches, assessing sources, annotating sources/recording notes, and evaluating arguments), students will now construct a Research Frame to guide the independent searches they will do in the next three lessons (10.3.2 Lessons 7–9). The Research Frame is a formal plan or guide used to list potential inquiry paths and corresponding inquiry questions. Explain that before they can build the Research Frame, students need to refine the inquiry questions developed in Lesson 2 based on the research they have done thus far.

- ▶ Students listen.

Instruct students to take out their specific inquiry questions from Lesson 2.

① The inquiry questions are located in Section 1 of the Research Portfolio.

Ask students to reflect on the preliminary searches conducted in Lessons 3–5 by considering the following guiding questions:

How do the preliminary search results affect your current inquiry questions?

What new inquiry questions are emerging as a result of the preliminary searches? What inquiry questions might need to be eliminated already?

How can the inquiry questions be refined to reflect the search results?

- ▶ Students listen.

Instruct students to apply the guiding questions just discussed and refine the specific inquiry questions from Lesson 2.

- ▶ Students work independently to refine their inquiry questions from Lesson 2.
- 🗨 Student responses will vary by individual research topic/area of investigation.

① **Differentiation Consideration:** Consider referring students back to the vetting process for inquiry questions taught in Lesson 2 if students need more support.

Explain to students that the next step is to categorize the refined inquiry questions into inquiry paths. Explain that an inquiry path is an overarching problem or question that organizes your research questions.

- ▶ Students listen.

Explain that inquiry questions can be grouped thematically. Remind students that they should look for common themes or patterns among the various inquiry questions.

What does *thematically* mean? Use the root word to guide you.

- 🗨 *Thematically* means according to topic, subject, or idea.

① **Differentiation Consideration:** If students cannot define the word *thematically* using the root, consider providing them with the root word *theme* and asking them how it helps define the word.

Explain to students that they must first group the questions thematically to create an inquiry path. Then they can label this inquiry path with an overarching question.

- ▶ Students listen.

Display the following model inquiry questions:

- Does a person have the right to sell his or her own tissue, cells, organs or DNA?
- Who should own tissue, or profit from tissue after it has been surgically removed from a patient's body?

- Have expanding patients' rights slowed down medical progress?
- What kind of research is human tissue used for?
- Do advances in medicine justify the use of human subjects?
- Can a patient withhold use of their tissue even if study of that tissue might benefit society?
 - ▶ Students examine the model inquiry questions.

Model for students how to analyze the inquiry questions for common themes or patterns. Explain to students that the first three questions focus on the individual rights of patients. The last three questions seem to focus on medicine's benefit to society. Suggest that the inquiry path for the first three questions might be: What rights do patients have to their tissue? Inform students that the inquiry path for the last three questions might be: Does society benefit from the use of human tissue and experiments?

- ▶ Students follow along.

Instruct students to determine themes or patterns among their inquiry questions and categorize them accordingly. Instruct students to write possible inquiry path questions/problems for the categorized inquiry questions. Explain that, although students may be tempted to first come up with the path and then group their questions accordingly, this method would ignore the research they did and create paths that are not based on the research findings.

- ▶ Students work independently to create and record inquiry paths from their inquiry questions.

① Students can do this by physically arranging questions on their desk or by taking notes.

Distribute Research Frame Tools to each student.

- ▶ Students examine the Research Frame Tool.

Model for students how to complete the Research Frame Tool. On the top, under "Topic," write "Tissue Ownership." Explain to students that the Area of Investigation changes in this lesson. Before this lesson, students were exploring a general topic that was composed of multiple claims and issues. Inform students that in this lesson they are changing the research topic/area of investigation into a more specific and argumentative problem-based question. Explain to students that this problem-based question will focus their research for the rest of the unit and lead to an argument-based research paper in Unit 3.

- ▶ Students follow along.

Direct students back to the Model Research Frame Tool and under "Area of Investigation" write the following problem-based question:

- Who should own tissue, or profit from tissue after it has been surgically removed from a patient's body?

Explain to students that, based on the various inquiry paths and all the searches up to this point, this is the problem-based question that will yield the richest and most interesting areas of investigation for argument research.

- ▶ Students follow along.

① The area of investigation becomes the problem-based question on the Research Frame Tool.

Inform students that the next step is to group their inquiry questions thematically and then create an inquiry path with a title that is expressed in the form of a question or a problem. These inquiry paths should be distinct from each other but closely related, both to the area of investigation and each other.

Model how to begin completing the Research Frame Tool using the model inquiry questions and inquiry paths discussed above. Instruct students to label each inquiry path with a reference number once they have created a Research Frame. This reference number will be important in subsequent lessons for aligning various sources to one inquiry path.

- ▶ Students follow along.

Activity 4: Research Frame Tool and Assessment

40%

Instruct students to complete a Research Frame Tool independently by grouping or categorizing inquiry questions by themes or patterns, labeling each group with an inquiry path question or problem, and writing reference numbers for the inquiry paths. Additionally, instruct students to craft their problem-based question from their research topic and write on the Research Frame Tool.

Inform students that they will submit the Research Frame for assessment at the end of this lesson. When the Research Frames are returned in the next lesson, students will file them in Section 2: Gathering and Analyzing Information of their Research Portfolios.

- ▶ Students independently complete a Research Frame Tool.

① Consider circulating to offer students help with this task. Confirm that students understand each step and that they are grouping their inquiry questions thematically. Some students may be tempted to first come up with the path and then group their questions accordingly. Remind students that when they do that, they ignore their own research and their paths will not be grounded in their findings. Some students may still have problems organizing their questions; you may choose to group these students with classmates who are researching similar topics to work together to form inquiry paths.

- ① Consider reminding students that the Research Frame is not static (“showing little or no change; lacking movement”). The Research Frame continues to evolve as the research evolves with future searches. Remind students this is the iterative and cyclical nature of inquiry-based research.
- ① Consider reminding students that as they create the Research Frame, they are addressing aspects of W.9-10.8.
- ① The Research Frame Tool serves as the assessment for this lesson.

Activity 5: Closing

10%

Display and distribute the homework assignment. For homework, instruct students to select one to two of their strongest inquiry questions to begin pursuing through independent research by following the research steps outlined in Lessons 3–5 (plan for searches, assess sources, annotate sources, record notes, and evaluate arguments) using the appropriate tools for each of the search activities. Additionally, students should continue to add new vocabulary learned through the research process to the vocabulary journal.

- ▶ Students follow along.

- ① Consider reminding students to use the vocabulary strategies in standards L.9-10.4.a, c, d when completing the vocabulary journal.

Distribute additional search tools (Potential Sources Tool and Taking Notes Tool) for the homework.

Instruct students to select and copy one to two of their strongest inquiry questions from the Research Frame Tool and to record these on a separate sheet of paper to take home for homework purposes.

- ▶ Students select and copy one to two of their strongest inquiry questions from the Research Frame Tool.

Collect the Research Frame Tool for assessment purposes.

- ① See the High Performance Response for assessment criteria.
- ① Return research frames to students in the next lesson (10.3.2 Lesson 7).

Homework

Select one to two of your strongest inquiry questions to begin pursuing through independent research by following the research steps outlined in Lessons 3–5 (plan for searches, assess sources, annotate sources, record notes, and evaluate arguments), using the appropriate tools for each of the search activities. Additionally, continue to add new vocabulary learned through the research process to the vocabulary journal.

Name Model

Topic Patients Rights



Area of Investigation Who should own tissue, or profit from tissue after it has been surgically removed from a patient's body?

INQUIRY PATH	INQUIRY PATH	INQUIRY PATH
Reference: IP # 1	Reference: IP # 2	Reference: IP # 3
Name this Inquiry Path in the form of a brief description or question: What rights do patients have?	Name this Inquiry Path in the form of a brief description or question: Who owns tissue, cells, organs and DNA?	Name this Inquiry Path in the form of a brief description or question: How does donation and compensation affect scientific research?
List all the questions in this Inquiry Path: How do patient's rights affect tissue, cell and organ ownership? What is the history of patient rights? What cases have changed the state of patient's rights? What patient's rights are similar or dissimilar in different countries? How has new technology changed the landscape of patient's rights? How can patient rights infringe on scientific advancement?	List all the questions in this Inquiry Path: What rights do individuals have to their own genetic code? How does payment for tissue, fluids and organs work? In what cases can you refuse to give your tissue? What happens to parts of your body that are removed? What are the medical guidelines for how to treat patient tissue? If scientists base a discovery off of your tissue do they have a right to it?	List all the questions in this Inquiry Path: Are there medical or scientific benefits to limiting patient's rights? Does the complex issue of tissue rights and donations prevent scientific advancement? Are the ownership laws different for non-profit research organizations? How much money is made off of patient tissue? What will happen to scientific advancements if there is no profit in it?