

PART 2

GATHERING INFORMATION

OBJECTIVE:

Students learn how to conduct searches, assess and annotate sources, and keep an organized record of their findings. By the end of Part 2, students will have framed their inquiry and gathered their main body of research material.



ACTIVITIES

1- PLANNING FOR SEARCHES

The teacher works with students to determine organizing strategies, and types and locations of sources in order to plan for searches.

2- ASSESSING SOURCES

The teacher explains and models how to assess sources to determine their credibility and relevance to Inquiry Questions.

3- MAKING AND RECORDING NOTES

The teacher explains how to annotate sources and record key information, personal impressions and ideas for further exploration of the Area of Investigation.

4- BUILDING AN INITIAL RESEARCH FRAME

Students reflect on their research strategy based on their findings and build a Research Frame that will guide their further investigation.

5- CONDUCTING SEARCHES INDEPENDENTLY

Students use their Inquiry Questions and Paths to conduct strategic searches for potential sources annotating, making, and recording notes.

MATERIALS:

Texts # 2-6
Potential Sources
Assessing Sources Handout
Taking Notes
Posing Inquiry Questions
Research Frame
Research Criteria Matrix



ALIGNMENT TO CCSS

TARGETED 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. **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. **W.9-10.9:** Draw evidence from literary or informational texts to support analysis, reflection, and research.

SUPPORTING STANDARD(S):

W.9-10.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. **RI.9-10.1:** Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. **RI.9-10.2:** Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text. **RI.9-10.4:** Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone. **RI.9-10.6:** Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose. **RI.9-10.10:** By the end of grade 9, read and comprehend literary nonfiction in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literary nonfiction at the high end of the grades 9–10 text complexity band independently and proficiently.

Activities 1-3 introduce and explain key research proficiencies that students will use with various degrees of independence when searching for sources. While the skills of finding, assessing, and annotating sources are introduced here, support and instruction on their development should continue as students progress through their research. The activities use common texts and student-found material to model searching for and assessing sources as well as a method for annotating texts and making notes. Instruction on these critical proficiencies should be integrated and sustained. A cyclical approach of introductory discussion, modeling, independent practice, and group reflection on experience, taking place over several days, is suggested. Discussion is key for students to process new information and ideas and learn successful practices from their peers. Teachers will need to determine which activities need more time and support based on the proficiency of students. The Research Criteria Matrix can be used to help evaluate these proficiencies.

ACTIVITY 1: PLANNING FOR SEARCHES

The teacher works with students to determine organizing strategies, and types and locations of sources in order to plan for searches.

INSTRUCTIONAL NOTES

Search processes in any type of research involve strategic planning and skills. Students should understand that while the research process relates to informal searching they may have done, one of the purposes of this unit is to develop those informal habits into productive literacy proficiencies. Students will have likely performed online searches based on personal curiosities. The goal here is to encourage that curiosity and make it more productive by teaching them ways to approach searching in a research context. Discuss three aspects of planning for searches: selecting Inquiry Questions, determining where to look for sources and choosing key words or phrases for online searches.

USING INQUIRY QUESTIONS

It's impossible to look for answers to all the questions at once. Effective and efficient searches for information begin with a focus—which is not to say that they don't lead to new and unforeseen directions. An initial focus however, guides searching in productive directions. In addition to the simple use of questions to guide inquiry, it is also helpful to consider how one might sequence those searches, building a base of knowledge that will help inform and direct subsequent inquiry. Students should not feel constrained by a rigid and static system, but should rather build a sense that strategic planning can make research more productive, efficient and successful—especially when dealing with deadlines.

- Introduce students to a few guidelines for planning Inquiry Question-based searches:
 - ◇ Focus searches on specific Inquiry Questions.
 - ◇ Move from general Inquiry Questions to specific.
 - ◇ Move from ones more easily answered to more complex questions.
 - ◇ Group questions around themes. These thematic groups of Inquiry Questions can be referred to as Inquiry Paths. Later in the process when student have more information and understanding about their Area of Investigation, they will return to this idea and spend more time building Inquiry Paths. At this stage, it is enough to introduce the concept the of grouping questions thematically.
 - ◇ Emphasize that the plan is not static, but can evolve as knowledge and understanding of the area deepens.
- Model organizing brainstormed Inquiry Questions into an initial plan using student work or [**Questions and Areas of Investigation from a Topic Resource Repository.**](#)

ACTIVITY 1: PLANNING FOR SEARCHES (CONT'D)

INSTRUCTIONAL NOTES

WHERE TO LOOK FOR SOURCES

A crucial aspect of planning for searches is determining where to look for information depending on the questions asked. Typically, you would not go to a natural history museum to look for a pancake recipe!

- Open with a class discussion on various kinds of sources students found in their pre-searches (articles, fiction, interview, images, field research, primary and secondary sources, interviews, expert opinions, etc.), highlighting those that might be especially relevant to the class topic(s).
- Discuss various places where sources can be found and the associated search methods. You can direct the class discussion by asking these questions:
 - ◇ Which locations would you consider reliable to look for specialized information?
 - * If I am looking for answers to questions relating to specific domains like medicine, biology, history, art, law, or architecture, I should be looking for specialized libraries / library sections or websites.
 - * If I don't know where to look for specialized information, I might want to ask a librarian for guidance.
 - ◇ What sorts of sources should I look for depending on the kinds of information I want?
 - * If I am looking for facts and numbers, I might want to search for reports.
 - * If I am looking for an explanation of an historical or political event, I might look into articles in specialized magazines or books on the subject.
 - * If I am looking for information on a public figure's opinion on a subject, I might look for speeches delivered or articles written by this person, or interviews with this person on the topic.
 - * If I am investigating agricultural practices, I might consider visiting a farm.
- Use the list of Inquiry Questions of a student volunteer, choosing one or two questions and model planning places to look for sources.
- Then have students work in pairs to discuss where they would look for sources to answer their own Inquiry Questions.
- They can keep their notes in SECTION 2 of their Research Portfolios: Gathering and Analyzing Information.

ACTIVITY 1: PLANNING FOR SEARCHES (CONT'D)

INSTRUCTIONAL NOTES

CHOOSING KEY WORDS OR PHRASES

Successful online searches can only be performed by using appropriate words and phrases. The search engine will provide a list of sites based on a request. So the more focused, clear, precise and domain-specific requests are, the more accurate and relevant the search results will be.

Modeling Internet and database searches presents a great opportunity for **vocabulary development** focusing on key domain-specific words, as well as exercises in variations of words, word families, and key distinctions among “synonyms.”

- One activity might involve doing a search with two particular words associated with a student’s Area of Investigation:
 - ◊ After briefly examining the list of resulting titles, change one of the words for a “synonym.”
 - ◊ Discuss the differences in the resulting titles based on differences between the two words.
 - ◊ Explain the notion of domain-specific vocabulary.
- Using a short common text, show how the use of adequate terms is essential to investigating a specific domain and to write or speak about it.
- Using their Inquiry Questions and the sources found during their pre-searches, students prepare an initial set of key words or phrases.
- Instruct students to mark and record domain-specific terms that are relevant to their research in order to use them in their work.

Partnering with the public or school librarian/media center specialist (perhaps actually holding class in the library/center) may help facilitate modeling of appropriate searches.

If technology permits, modeling of online repository and search engine searches should be done live for the class.

ACTIVITY 2: ASSESSING SOURCES

The teacher explains and models how to assess sources to determine their credibility and relevance to Inquiry Questions.

INSTRUCTIONAL NOTES

EVALUATION FACTORS

- Explain why the assessment of a source’s credibility, richness and interest is fundamental to the selection of sources for the research:
 - ◊ to reflect on and evaluate the source of the information
 - ◊ to purge one’s research during the process (eliminating the least credible and relevant)
 - ◊ to identify the most important sources to analyze more deeply through close reading
- Introduce the Assessing Sources Handout, and use it as a guide to lead a class discussion about credibility, accessibility and interest, relevance and richness.



ACTIVITY 2: ASSESSING SOURCES (CONT'D)

INSTRUCTIONAL NOTES

DISCUSSING CREDIBILITY AND RELEVANCE OF MODEL SOURCES

- Using the Assessing Sources handout, model for students how to do a quick analysis of **Text #2 from the Resource Repository** (or a similar background text provided by the teacher).
- Have students read the text themselves with guiding questions to help them look for specific details about the texts. Ask them to annotate the texts and take notes on a draft about details that stood out to them and answer their guiding questions.
- Have students consider and discuss whether it is accessible and potentially interesting to them, making sure they support the answers with elements from the text.
- Then walk students through the handout's process and questions for assessing credibility and relevance.
- Show how the resulting assessment will be recorded on the Potential Sources tool (High, Medium, Low).
- Model and discuss assessing sources of uncertain credibility or suitability for specific Inquiry Questions. **(Texts #5 and #6 in a Topic Resource Repository might present possible models.)**
- Before students move on to assessing their own background sources, they can practice the use of the Assessing Sources process with **Text #3 from the Resource Repository**, working in pairs to talk through their preliminary analysis of the text's *credibility, accessibility, interest, and relevance*.

INDEPENDENT ASSESSMENT OF SOURCES

- Students go back to the sources they have recorded in their Potential Sources tool.
- Using the Assessing Sources Handout, students assess their sources for credibility, accessibility and interest, relevance and richness.
- Students may take this opportunity to purge their sources based on their assessment and make an extra personal note in the "comments" box to record the general outcome of the assessment when relevant.
- The class discusses the outcome of their independent assessment of their sources.
- Students comment about their strategies for purging sources and the difficulties encountered, if any.

ORGANIZING THE RESEARCH PORTFOLIO

- Instruct students to store all their tools, notes and handouts in SECTION 2 of their Research Portfolios: Gathering and Analyzing Information.

ACTIVITY 3: MAKING AND RECORDING NOTES

The teacher explains how to annotate sources and record key information, personal impressions and ideas for further exploration of the Area of Investigation.

INSTRUCTIONAL NOTES

ANNOTATING SOURCES

The first step in recording important information about a source is annotating a printed version of the source with pencil, highlighter or markers, or an electronic version of the source using electronic highlighting and commenting tools. [\(Texts #1-5 from a Topic Resource Repository can be used for modeling and student work on annotation.\)](#)

- The annotation process includes:
 - ◊ marking key information, words, and concepts
 - ◊ recording initial impressions,
 - ◊ identifying areas for possible further exploration,
 - ◊ making connections to other sources,
 - ◊ coding details to the Inquiry Paths of the Research Frame.
- The teacher models the process with part of a common text and provides guides for annotating a text when reading for specific purposes.
- Then students practice annotating the rest of the text individually.
- Student volunteers share their annotations and the class discusses their relevance.
- Explain that annotated texts are valuable sources of information and should always be stored and organized in SECTION 2 of the Research Portfolio.

TAKING NOTES TOOL

The **TAKING NOTES** tool helps students make and organize notes on sources with respect to their Research Frame. It is based on the principle of “two column notes” (also known as the Cornell system), providing spaces for both note “taking” (recording information) and note “making” (commenting on that information). It sets up detail-based textual and cross-textual analysis and claim making. The sheet is divided into three sections: source reference, details and comments. An annotated version is provided for teachers.

INSTRUCTIONAL NOTES

TAKING NOTES

- Introduce the Taking Notes tool.
- Using the same common text, and the Inquiry Questions developed for modeling the process, model taking notes on the tool.
- Then, go back to the notes and add personal comments about the details recorded.
- Students read a new common text. In small groups, they annotate it, and take / make notes on a Taking Notes tool.
- Students will initially use a Taking Notes tool for each source, as it is the most natural and simple way of organizing notes when reading a specific source.

ACTIVITY 3: MAKING AND RECORDING NOTES (CONT'D)

INSTRUCTIONAL NOTES

USING VARIOUS SOURCES TO ANSWER AN INQUIRY QUESTION

- Go back to the two model Taking Notes, from the common texts read in class, and use colored pencils or markers to mark notes addressing the same Inquiry Questions across both sources.
- Explain another way of taking notes based on this observation: Organizing notes by Inquiry Question or Path rather than by source. This allows students to develop a series of key details and comments addressing the same Inquiry Question or Path. Connections can be made and related information can thus be analyzed throughout the research process instead of at the end. This will help students:
 - ◇ see repeated information from multiple sources
 - ◇ identify gaps, as they assess information per each Inquiry Question or Path
 - ◇ make connections between the details collected and draw conclusions
 - ◇ identify new investigation paths based on their analysis of the information collected to that point
 - ◇ determine the need to make adjustments to the Research Frame (adding, eliminating, re-grouping Inquiry Questions, reorganizing Inquiry Paths, etc.)
 - ◇ analyze the information collected for each Inquiry Path easily when they will need to develop their evidence-based perspectives
- This alternate organization of notes can be achieved by coding notes made on sources with colors across multiple Taking Notes tools (if notes are made on paper), or by copy-pasting electronic notes from different sources onto a new Taking Notes tool addressing one Inquiry Question or Path.

TAKING NOTES INDEPENDENTLY

- Students go back to their sources and select the ones that rated higher during the assessing sources process.
- They use their notes in the General Content box in the Potential Sources tool to connect sources to specific Inquiry Questions.
- They read these sources closely using their Inquiry Questions as guiding questions and take notes on a Taking Notes tool.
- They can also use their annotations on paper or on file to identify important details that can be noted on Taking Notes.

This process will encourage them to think about the details drawn from their sources, analyze and connect them. At that point, they will have information that will allow them to plan for the next step: building a Research Frame.

- Instruct students to store their material in SECTION 2 of their Research Portfolios: Gathering and Analyzing Information.

≡ ACTIVITY 4: BUILDING AN INITIAL ≡ RESEARCH FRAME

Students reflect on their research strategy based on their findings and build a Research Frame that will guide their further investigation.

INSTRUCTIONAL NOTES

GROUPING QUESTIONS THEMATICALLY

- Introduce the concept of Inquiry Paths. An Inquiry Path is a broad problem or question that defines a crucial aspect of the Area of Investigation that is necessary to explore for developing an evidence-based perspective.
- Explain the importance of organizing Inquiry Questions thematically, and defining Inquiry Paths within an Area of Investigation
- Model grouping questions thematically and creating Inquiry Paths. The teacher gives each Path a title expressed in the form of a question or problem. **(The Research Frame from a Topic Resource Repository can be used to model forming Inquiry Paths.)**
- Students review their list of Inquiry Questions about their Area of Investigation and determine themes and patterns. Encourage students to refine, combine, elaborate and add questions as they review them for themes.
- They group their questions based on these themes and patterns. Each group becomes an Inquiry Path. They give each Path a title.
- Students can also determine new Inquiry Paths based on their findings at this point, and then develop a series of Inquiry Questions that will help them address that Path.

Depending on ability, students could develop their Paths independently and then review them with a partner or reverse the process, working first with a partner and then completing them independently.

After the work is completed, ask students to reflect on their Area of Investigation, and review all the titles of their Inquiry Paths to make sure that:

- ◇ they cover a wide range of aspects and questions about the Area of Investigation,
- ◇ they are clearly distinct from one another, and
- ◇ they seem to be equally important.

Students may be able to regroup Paths covering similar themes, or create new Paths to cover missing questions about the Area of Investigation.

≡ ACTIVITY 4: BUILDING AN INITIAL ≡ RESEARCH FRAME (CONT'D)

RESEARCH FRAME TOOL

The **RESEARCH FRAME** is the result of the students' exploration of the research topic and the chosen Area of Investigation. It guides students throughout the research process and helps them organize their findings. It contains a brief description of the topic, the Area of Investigation, and several Inquiry Paths containing a list of questions to guide the research strategically.

INSTRUCTIONAL NOTES

- Introduce the Research Frame tool and model building a Research Frame using the work performed grouping the Inquiry Questions:
 - ◇ Each Inquiry Path becomes a high-level direction for their inquiry.
 - ◇ The questions within the Paths become Inquiry Questions to be answered through research.
- Have students work independently to develop a detailed, organized Research Frame based on their grouping of Inquiry Questions.

Framing inquiry through Inquiry Paths allows students to have a plan for comprehensively exploring a topic. At every step of the investigation, students should go back to their Research Frame and ask themselves what they've learned, what questions they have answered, and what questions they should investigate next based on the results of their investigation at that point.

It is important to insist on the fact that the Research Frame is not meant to be "static". It will evolve as the student progresses. Questions within the Inquiry Paths may change, become obsolete, or new questions may be added. Entire Inquiry Paths may need to be abandoned or added as well. Even the framing of the Area of Investigation may evolve, as students may refine their angle of investigation. The Research Frame will also be revised in class as part of the process in Part 4.

Having a plan also frames inquiry as ideas to be explored and questions to be answered rather than beliefs to be proven. At this point in the process, it should be clearly stressed to students that they do not need to know what they think about their Area of Investigation or have a definitive opinion or perspective on it BEFORE they go through the next steps in the investigation. It is important to be explicit with students that they will come to an understanding from which they can develop an evidence-based perspective as a result of the research process, meaning AFTER they investigate.

The Research Frame is one way for students to frame their inquiry. The teacher may compare it to a detective's investigation plan.

- Instruct students to store their Research Frame in SECTION 2 of their Research Portfolios: Gathering and Analyzing Information.

≡ ACTIVITY 5: CONDUCTING SEARCHES ≡ INDEPENDENTLY

Students use their Inquiry Questions and Paths to conduct strategic searches for potential sources annotating, making, and recording notes.

INSTRUCTIONAL NOTES

Students conduct the actual research, reproducing the 3 steps outlined in activities 1-3. They can use the Student Research Plan to guide them in the sequence of steps to follow and the supporting materials to use (tools and handouts).

Teachers should expect students to conduct some searches and find sources outside of class. Teachers should also work with students on their research in class. It is important for students to understand that developing their research proficiencies is central to their literacy education. It is not something they do outside of class, while in class instruction continues on something else (another book, unit, topic, etc.).

Class time during this process can be given to support student development of their searching, source assessing, and note-taking, as well as their ability to manage and monitor their progress through the research process. Teacher can choose to have students work independently, while he or she moves around the room monitoring and supporting, using issues and questions from individual students to instruct the entire class. Students can also work in groups on texts that are relevant to multiple students allowing for peer support.

Throughout all these activities, it is important that students build and maintain an organized Research Portfolio. They should be storing all their sources, tools and notes, coding and organizing them with respect to their Research Frames.

≡ ASSESSMENT OPPORTUNITIES

In this part of the unit students will have produced:

- ◇ Research Frame
- ◇ Potential Sources tools
- ◇ Annotated common texts
- ◇ Annotated sources
- ◇ Taking Notes tools

Evaluate these products, as well as their participation and discussion using the Research Criteria Matrix.

For Part 2, examine student products and performance for initial ability in the following criteria:

- Setting direction for research
- Posing Inquiry Questions
- Framing Inquiry Paths
- Developing research strategies
- Monitoring and evaluating progress
- Conducting inquiry-driven searches
- Assessing sources for credibility and relevance
- Organizing researched information
- Paraphrasing, quoting and referencing sources
- Annotating sources and noting connections and observations
- Reorganizing information based on deepening understanding.