# RESEARCHING
# TO DEEPEN UNDERSTANDING

## DEVELOPING CORE PROFICIENCIES
## ENGLISH LANGUAGE ARTS / LITERACY UNIT

## GRADES 9-10

# RESEARCH FRAMEWORK

ODELL EDUCATION
www.odelleducation.com

# DEVELOPING CORE PROFICIENCIES SERIES

This unit is part of the Odell Education Literacy Instruction: Developing Core Proficiencies program, an integrated set of ELA units spanning grades 6-12. Funded by USNY Regents Research Fund, the program is comprised of a series of four units at each grade level that provide direct instruction on a set of literacy proficiencies at the heart of the CCSS.

Unit 1: Reading Closely for Textual Details
Unit 2: Making Evidence-Based Claims
Unit 3: Researching to Deepen Understanding
Unit 4: Building Evidence-Based Arguments

The Core Proficiencies units have been designed to be used in a variety of ways. They can be taught as short stand-alone units to introduce or develop key student proficiencies. Teachers can also integrate them into larger modules that build up to and around these proficiencies. Teachers can also apply the activity sequences and unit materials to different texts and topics. The materials have been intentionally designed for easy adaptation to new texts and topics.

Unit materials are available at www.odelleducation.com

# RESEARCHING TO DEEPEN UNDERSTANDING

Literacy is the ability to explore and express meaning in a given medium. There are certain core proficiencies one develops to gain fluency and expressiveness in that medium. One develops attunement to the intricacies of expression and the way meaning is created and constructed in it. One also develops the ability to express understanding and explain that understanding given the evidence at hand. These proficiencies of attention and explanation serve one of literacy's purposes, which is to explore what that medium holds—the aspects of life it illuminates.

Exploration, itself, is a proficiency. There are skills, methods, and habits of mind that we can develop to lead us ever deeper into the experiences accessed in that medium. These skills involve being open to new knowledge, asking questions and finding better and new answers. They involve listening to those around us, building on what they know and have experienced, and incorporating that knowledge into our own exploration. They also involve making connections and organizing what we find, then returning to and refining those questions. As we explore, we also develop our ability to explain what we've come to think and show why we think it. Eventually this exploration—the process of research—leads us to a growing perspective rooted in deep knowledge and understanding.

This unit develops that explorative proficiency: researching to deepen understanding. It lays out a process through which students learn to explore topics with their learning community, posing and refining questions and listening to experiences, and discovering areas they wish to investigate. It develops their ability to determine what they don't know or understand, and where and how to find that information. The unit also develops and supports student ability to archive and organize information in order to see and analyze connections in ways that aid comprehension, deepen their understanding and prepare them to express their evolving perspective.

# HOW THIS UNIT IS STRUCTURED

Instruction in this unit is built around three components: a process for conducting research, a Research Portfolio developed by students throughout the process, and choosing a topic to research. The unit activities integrate these components in a learning progression that develops and supports proficiency in the entire research process.

***Research Portfolio***

The Research Portfolio is a structured collection of the research and analysis that students compile in their investigation. The components of the portfolio guide and archive the student's work in a way that teaches them key critical thinking, academic habits and organizational skills. By the end of the unit, students will have an organized, structured set of sources, annotations, notes, and analysis from which they can successfully accomplish any purpose they may have for their newly developed evidence-based perspective, whether that be an academic research paper or the construction of a product or process plan.

***Instructional Sequence***

The process for conducting research outlined in this unit is introduced and developed over a series of activities. As students work through these activities they create and compile the various parts of their Research Portfolios. While each part of the unit introduces skills associated with the various steps in the research process, it should be understood that the process itself is recursive and that these steps will be repeated and integrated as students conduct inquiry.

**Part 1** introduces students to the idea of researching to deepen understanding and immerses students in a collaborative process for exploring a topic, choosing an Area of Investigation, and developing a detailed frame for their research plan.

**Part 2** addresses essential skills for conducting searches for information based on Inquiry Questions. Skills such as searching for, annotating and making notes on sources needed to answer Inquiry Questions. Introduced here, these skills will be developed throughout the remainder of the unit.

**Part 3** focuses students on the strategic close reading and evidence-based claim-making skills for analyzing key sources in order to develop a deeper and comprehensive understanding of their Areas of Investigation.

In **Part 4**, they review and evaluate their materials and analysis, refining their Inquiry Questions and extending their research where necessary—returning to the skills introduced in Parts 2 and 3.

**Part 5** supports students in organizing their research and synthesizing their analysis in order to develop an evidence-based perspective of their Areas of Investigation. Students can use this perspective and Research Portfolio for creating a range of final products.

# HOW THIS UNIT MIGHT BE EMBEDDED IN CONTENT-BASED CURRICULUM

Along with the research process and the Research Portfolio, the topics students explore and investigate make up the third component of the unit. This unit has been intentionally designed to support student research in a variety of curricular contexts. The activities introducing the research process and the materials that guide and construct the Research Portfolio can be used regardless of the subject matter students choose or need to investigate, or their purposes for that investigation.

Depending on their needs and goals, teachers can connect the instruction of this unit to texts and topics they are covering in their English classroom, as well as those that students are learning in other academic and technical disciplines.

Similarly, this unit outlines, develops, and supports a research process leading to an evidence-based perspective and a Research Portfolio that students can use for a variety of purposes, from a thesis-driven academic paper or presentation, to a design plan for constructing a house or industrial menu, to informing personal or community decision making.

The unit is also designed to support the simultaneous research of students into different Areas of Investigation and even topics. It is recommended, however, for coherence and mutual support and enrichment, that students all explore a general topic, choosing different, but related, Areas of Investigation within it. Again, this general topic can be connected to a variety of larger curricular contexts, from a novel to interdisciplinary subjects.

To support teachers and students in choosing, connecting and exploring topics, this unit can be connected with any of the OE Topic Resource Repositories.

# OE TOPIC RESOURCE REPOSITORIES

Teachers can choose among many approaches for integrating the instructional framework and materials of this unit into the topical context of their class. The unit is designed for adaption to the various contexts in which teachers want to develop their students' research proficiencies. Teachers can also choose whether to have their entire class investigate different areas within the same general topic, or allow students to explore any topic they want. Choosing among these various options depends on the purposes teachers have for their students' research, the literacy proficiency and interest of their students, and the goals teachers have for wider curricular context.

Perhaps the richest class experience would be one in which all students explore the same topic, each determining separate areas or aspects of that topic to investigate. This will provide a coherent learning experience and allow students to explore and build on each other's knowledge.

Approaching the development of research proficiencies in this way is modeled and supported by the OE Topic Resource Repositories. These repositories model how topics can be presented to students. They provide narrative introductions and possible Inquiry Questions to stimulate student interest and thinking. They articulate various directions students could explore within the topic and provide some pre-selected sources and model tools to support instruction of the research process. Teachers may choose to use these Topic Resource Repositories to support their instruction or could take a similar approach with another topic. Places where the repository resources can be used are indicated in the unit plan. Regardless of approach to topic selection, it is important for teachers to review and evaluate the sources students find and analyze to make sure they are of appropriate complexity and richness.

# HOW THIS UNIT TEACHES VOCABULARY

This unit draws on a variety of strategies for teaching academic and disciplinary vocabulary. The primary strategy is the way critical disciplinary vocabulary and concepts are built into the instruction. Students are taught words like "analyze," "perspective," "questioning," and "criteria" through their explicit use in the activities. Students come to understand and use these words as they think about and evaluate their research and analysis and those of their peers. The handouts and worksheets play a key role in this process. By the end of the unit, students will have developed deep conceptual knowledge of key vocabulary that they can transfer to a variety of academic and public contexts. The activities also provide many opportunities for academic vocabulary instruction. Many of the activities focus directly on analyzing the way authors use language and key words to develop ideas and achieve specific purposes.

# HOW THIS UNIT ALIGNS WITH CCSS FOR ELA/LITERACY

The instructional focus of this unit is on building student proficiency in a process for conducting research: developing and refining Inquiry Questions; finding, assessing, analyzing, and synthesizing multiple sources to answer those questions; and organizing and using evidence from those sources to explain understanding in ways that avoid plagiarism. As such, the unit primarily aligns with:
**W.7** (*Conduct research projects based on focused questions, demonstrating understanding of the subject under investigation*);
**W.8** (*Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism*), and
**W.9** (*Draw evidence from literary or informational texts to support analysis, reflection, and research*).

This process involves key moments of both collaboration and independence. As the unit leads students through structured collaborative processes for initiating and refining inquiry, it develops their ability in **SL.1** (*Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively*). At other moments, students are alone in their search for and analysis of sources, building their proficiency for **RI/RL.10** (*Read and comprehend complex texts independently and proficiently*).

The task of writing from researched sources is an important part of larger writing processes. Thus, the unit develops student ability in key aspects of the production of writing expressed in the expectations of **W.4** (*Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience*) and **W.5** (*Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach*). And as they strategically write organized analysis, eventually building to a written evidence-based perspective, students develop their ability for **W.2** (*Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content*).

Students develop these skills throughout the unit through direct instruction and guided practice, and they are assessed continuously through activities, graphic organizers, and written products.

As students develop these primary targeted CCSS skill sets, they also practice and use related reading skills from supporting CCSS. Throughout the research process, they read key sources closely and analyze textual detail to answer their Inquiry Questions, particularly building their growing proficiency for:
**RI/RL.1** (*Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text*);
**RI/RL.2** (*Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas*);
**RI/RL.4** (*Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone*);
**RI/RL.6** (*Assess how point of view or purpose shapes the content and style of a text*); and
**RI/RL.9** (*Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take*).

# SOURCES OF THIS UNIT INSTRUCTION

The instructional ideas contained in this unit are presented as our contribution to the national effort to prepare all US secondary students for college and career readiness. We intend that these principles, activities, tools, and strategies will be taken up, adapted, and improved upon by the educators who use them. While we take full responsibility for the content of the unit, and recognize that mentioning our key sources in no way implies their endorsement of that content, we would like to acknowledge some important influences and reference points for this work: the students and colleagues who contributed to the classroom experiences of our development team; the Common Core Standards; the PARCC ELA Curriculum Frameworks; the EQuIP Quality Review ELA Rubric; and the research on text complexity and text-dependent questioning from Student Achievement Partners.

# DEFINITION OF TERMS USED IN THIS UNIT

**Area of Investigation**: a particular theme, question, problem, or more focused sub-topic within the general topic that warrants investigation.

**Inquiry Question**: questions posed by researchers about their Areas of Investigation to be answered through inquiry.

**Inquiry Path**: groups of Inquiry Questions developed to guide investigation. Each Inquiry Path has a name or title that is the theme of the group of questions. It can also be a more general question that summarizes the specific questions within the group.

**Research Frame**: a written document comprised of the topic, the Area of Investigation, the Inquiry Paths and all the Inquiry Questions within each Inquiry Path. It is the tool that will guide the student throughout the research process.

**Research Portfolio**: the binder or electronic folder where students physically or electronically store and organize all the material related to their personal research.

**Research Plan**: a document presenting the strategic process students follow to guide them through the various stages of inquiry.

**Topic**: the general topic chosen for class exploration.

**Topic Resource Repository**: a repository of information on a topic including a general description, possible Areas of Investigation, source locations and model sources provided by OE to facilitate and support teaching and learning of the research process.

# HOW TO USE THESE MATERIALS

This unit is in the format of a Compressed File. Files are organized so you can easily browse through the materials and find everything you need to print or e-mail for each day. The materials are organized into folders:

## RESEARCH UNIT PLAN

- The Research Unit Plan (outlines the instructional activities of this unit and provides instructional notes)
- Teacher Research Unit Guide (lists the sequence of unit activities and related materials)
- Student Research Plan (guides students through the main steps of the research process)

## HANDOUTS

This folder contains all of the supporting handouts that guide students through the research process, explaining key processes for students and teachers.

It includes the Research Criteria Matrix that aids teacher and student evaluation of student proficiency.

## TOOLS

This folder contains all of the supporting tools that help students build their Research Portfolios, aiding student thinking, habits, and analysis of researched information. Annotated Tools are provided to aid teacher instruction.

## CHECKLISTS

This folder contains all of the checklists that guide students and teachers in the process of evaluating their work based on specific qualitative criteria.

**TOOLS** and **CHECKLISTS** have been created as ***editable PDF forms.*** With the free version of Adobe Reader, students and teachers are able to type in them and save their work for recording and e-mailing. This allows students and teachers to work either with paper and pencil or electronically according to their strengths and needs. It also allows teachers to collect and organize student work for evaluation and formative assessment.

## TOPIC RESOURCE REPOSITORIES

Teachers can elect to use Topic Resource Repositories to support the instruction of the Research Unit Plan. The repositories contain information and sources for stimulating and supporting student research within a broad topic. The repositories contain:

- Information for framing the topic
- Possible Areas of Investigation
- Model Inquiry Questions
- Common source texts for instruction
- Models of Unit Tools

Activities where repository texts should be used are specifically referenced in the Unit Plan.

# INTRODUCTION TO UNIT

| OBJECTIVE: | The teacher explains how critical readers use inquiry and research to deepen their understanding and develop an evidence-based perspective on a topic. Students are introduced to the purposes, the process, and the materials of the unit. |
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**MATERIALS:**
Teacher Research Unit Guide
Student Research Plan

| TEACHER RESEARCH UNIT GUIDE | |
|---|---|
| ***INTRODUCTION*** | **Introduction to Unit** |
| **I. INITIATING INQUIRY**<br>***Students determine what they want to know about a topic and develop inquiry questions that they will investigate.*** | **1. Exploring a Topic** |
| | **2. Conducting Pre-searches** |
| | **3. Vetting Areas of Investigation** |
| | **4. Generating Inquiry Questions** |
| **II. GATHERING INFORMATION**<br>***Students find and take notes on sources that will help them answer their inquiry questions and define the scope of their investigation.*** | **1. Planning for Searches** |
| | **2. Assessing Sources** |
| | **3. Making and Recording Notes** |
| | **4. Building an Initial Research Frame** |
| | **5. Conducting Searches Independently** |
| **III. DEEPENING UNDERSTANDING**<br>***Students analyze key sources to deepen their understanding and answer their inquiry questions.*** | **1. Selecting Key Sources** |
| | **2. Reading Sources Closely** |
| | **3. Discussing Types of Claims** |
| | **4. Writing Evidence-Based Claims about Sources** |
| **IV. FINALIZING INQUIRY**<br>***Students synthesize their information to determine what they have learned and what more they need to know about their area of investigation. They gather and analyze more information to complete their inquiry.*** | **1. Addressing Inquiry Paths** |
| | **2. Organizing Evidence** |
| | **3. Evaluating Research** |
| | **4. Refining and Extending Inquiry** |
| **V. DEVELOPING AND COMMUNICATING AN EVIDENCE-BASED PERSPECTIVE**<br>***Students review and synthesize their research to develop and communicate an evidence-based perspective on their area of investigation.*** | **1. Reviewing Research Portfolios** |
| | **2. Expressing an Evidence-Based Perspective** |
| | **3. Writing a Bibliography** |
| | **4. Communicating an Evidence-Based Perspective** |

# ACTIVITY 1: INTRODUCTION TO UNIT

The teacher explains how critical readers use inquiry and research to deepen their understanding and develop an evidence-based perspective on a topic. Students are introduced to the purposes, the process, and the materials of the unit.

## INSTRUCTIONAL NOTES

Introduce the purposes of the unit: 1) to develop the skills and habits used in conducting independent research to deepen understanding; and 2) to use those skills and habits in developing and communicating an evidence-based perspective on a topic by the end of the research process (in Part 5).

### INTRODUCTORY DISCUSSION OF RESEARCH

Begin the unit with a discussion of the nature, process, and tools of research. This unit approaches research as something literate people do to deepen their understanding of topics and develop a perspective that evolves as new evidence is found, analyzed and incorporated. Discuss with students:

- ◊ how this differs from having an opinion and setting out trying to find support for it
- ◊ how successful researchers follow a general iterative process and use tools and strategies to find, analyze, and organize information
- ◊ how this process leads researchers to adopt different points of view and to explore different paths as a consequence of their findings
- ◊ how a researched understanding and perspective serves many purposes, among them:
  - ⇒ Writing an article, essay, or academic paper on a topic or text
  - ⇒ Developing a position on a controversial issue
  - ⇒ Developing business plans
  - ⇒ Designing and building objects
  - ⇒ Informing personal and community decision-making
  - ⇒ Developing processes and plans
  - ⇒ Writing fictional or historical narratives
  - ⇒ Giving presentations

### OVERVIEW RESEARCH PROCESS AND PORTFOLIO

Overview the two related instructional focuses: 1) a strategic research *process* and 2) an *organizational* system for annotating and archiving sources and making and recording notes and analysis. It's important that students have an initial understanding of the process so they can allow themselves to explore the topic and sources before feeling like they need to develop a final position or thesis. Likewise it's important that students use the portfolio to organize and store their research and analysis so they have a strong record from which to draw upon to develop their evidence-based perspectives into the various products they will create in order to communicate that new perspective.

***Process***

This unit introduces students to a research process. Stress that while students will follow the process sequentially, they will also return to many of the steps and repeat them as their research develops.

Use the Student Research Plan to give students an overview of the process, briefly explaining the elements and importance of each stage. Its purpose is to highlight the general research process, showing the steps students will take and the tools they will use. Students can use it as a guide or checklist while working. They can also use it as a reference for future research projects in ELA or other disciplines.

# ACTIVITY 1: INTRODUCTION TO UNIT (CONT'D)

## INSTRUCTIONAL NOTES

***Portfolio***

Throughout the research process, students are expected to use a structured organizational system for annotating and analyzing sources and recording and storing information. As they work through the steps, they build Research Portfolios consisting of various tools that guide, store, and organize their research and analysis. The portfolio may be either electronic or on paper.

Use the Portfolio Description to introduce and explain the purpose and structure of each section.

The Research Portfolio is not filled sequentially. Its purpose is to organize information and analysis **throughout the research process**, as opposed to compiling and organizing information **at the end of the process**. Organizing information along the way helps focus research and supports comprehension and successful writing.

Inquiry Questions are at the heart of the process and guide students every step of the way. Students are constantly asking and answering questions, and the Research Portfolio is a reflection of the process that they follow. The Research Frame will then help students organize the search and the information even further, grouping Inquiry Questions into coherent Inquiry Paths in a meaningful way.

Student research thus remains organized at all times, allowing them to browse within their materials, to establish connections easily, and to decide what inquiry steps to take next based on the analysis of their current findings.

| PORTFOLIO SECTIONS | CONTENT |
|---|---|
| **SECTION 1: DEFINING AN AREA OF INVESTIGATION**<br>***This section stores all the work you do exploring the topic and choosing an Area of Investigation.*** | Exploring a Topic<br>Area Evaluation Checklist<br>Potential Sources (from pre-searches) |
| **SECTION 2: GATHERING AND ANALYZING INFORMATION**<br>***This section stores all the information you gather throughout your investigation. It also stores your notes and analysis of sources. All the tools should be grouped by source.*** | Potential Sources<br>Annotated Sources<br>Personal Drafts<br>Taking Notes (about sources)<br>Forming EBC |
| **SECTION 3: DRAWING CONCLUSIONS**<br>***This section stores your Notes and EBCs about Inquiry Paths, your research evaluations, and the personal perspective that you come to at the end of your inquiry. Group the Taking Notes, Forming EBC or Organizing EBC by Inquiry Path.*** | Taking Notes (about Inquiry Paths)<br>Forming EBC<br>Organizing EBC<br>Synthesizing EBC<br>Research Evaluation<br>Evidence-Based Perspective |
| **SECTION 4: DISCARDED MATERIAL**<br>***This section stores all the sources and analysis that you have discarded throughout your investigation. The purpose of this section is to keep a record of discarded materials until the end of the research process in case you change your mind and want to use them.*** | |

PART 1

# INITIATING INQUIRY

| OBJECTIVE: | Students learn the purposes and processes of using inquiry and research to deepen understanding. Students initiate inquiry on a topic through collaboratively generating questions to direct and frame research. By the end of Part 1, students will have chosen an Area of Investigation and developed Inquiry Questions. |
|---|---|

## ACTIVITIES

**MATERIALS:**
Texts #1-3
Student Research Plan
TCD Checklist
Exploring a Topic
Potential Sources
Area Evaluation Checklist
Posing Inquiry Questions
Research Criteria Matrix

**1- EXPLORING A TOPIC**
The teacher leads a class exploration of a topic. Students independently explore the research topic.

**2- CONDUCTING PRE-SEARCHES**
Students conduct pre-searches for sources around one or two Areas of Investigation to validate availability of information.

**3- VETTING AREAS OF INVESTIGATION**
Students vet their potential Areas of Investigation and develop a research question or problem.

**4- GENERATING INQUIRY QUESTIONS**
Students generate Inquiry Questions to guide their searches for information regarding their Areas of Investigation.

## 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. **SL.9-10.1:** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

# ACTIVITY 1: EXPLORING A TOPIC

The teacher leads a class exploration of a topic. Students independently explore the research topic.

## EXPLORING A TOPIC TOOL

The **EXPLORING A TOPIC** tool helps students explore potential Areas of Investigation within a topic before choosing the one they will focus on. The tool prompts them to describe potential Areas of Investigation and why it presents an interest to them. They are then prompted to express the area succinctly in the form of a problem or question. It will also guide them in parts of the collaborative exploration process. An annotated version is provided for teachers.

## INSTRUCTIONAL NOTES

### NOTE ON UNIT TOPICS

Teachers can use the materials of this unit in multiple ways, depending on their students and curricular context. The entire class can focus on one topic with each student eventually investigating separate Areas of Investigation within this topic. The class could also focus on two or three topics. Limiting topics allows students to learn about other aspects of a topic from each other, and allows for deeper class discussions, helping students evaluate their plan, their strategic approach to the inquiry, and their findings. It also allows the teacher to model skills using common texts related to student's research and a wider curricular context. Regardless of the chosen approach, teachers can use topics and model common texts provided in the Topic Resource Repositories or choose their own topics and texts of similar richness and suitability. The Text Suitability Form (available for free at www.odelleducation.com) can help guide their research and selection of sources.

It is important for students to explore the topic for a few days to build an initial knowledge base and to discover various aspects of the topic that are of real interest to them. This exploration should take place in and outside of class—supported by interaction with a few common texts, as well as general discussion of the topic with their peers, teachers, and wider learning community.

By the end of these several days, each student should be able to summarize generally the growing conversation and to articulate a few areas that she or he would like to investigate. The Exploring a Topic Tool supports that work and captures it for evaluation by their teacher.

### DISCUSSING TOPICS AROUND COMMON TEXT

- Begin the research process with the idea of exploring a topic.
- Introduce the general topic.
- Make connections to curricular contexts if relevant.
- Use **Text #1 from a Resource Repository** (or a topical text of similar characteristics) to help introduce the topic and to stimulate thinking and interest in the topic.
- Have students read the text in groups of three using Guiding Questions:
    - ◊ What do I find interesting?
    - ◊ What do I want to learn more about?
- Have students share their current knowledge of the topic based on the common text as well as personal previous knowledge: What do they already know about this topic?
- Model posing of questions and have students pose their own about the topic based on the common text and their personal interests: What (more) do they want to know about this topic?

**Sections I-III (Topic Description, Possible Areas of Investigation, and Guiding Questions) of the Topic Resource Repository can be used to help pose questions and generate discussion.**

# ACTIVITY 2: EXPLORING A TOPIC (CONT'D)

## INSTRUCTIONAL NOTES

- After the class discusses their findings, students complete the following sections on page one of the Exploring a Topic tool:
    - ◊ Name
    - ◊ Topic
    - ◊ Brief account of class conversation.
- Work with the class to model filling in the Area of Investigation 1 section based on the class discussion:
    - ◊ They write a sentence describing the area that they would like to know more about. Ideally, this area should be described as a question or problem within the general topic.
    - ◊ Then in a sentence they explain why they are interested in this area of the topic.
    - ◊ Finally, in a sentence they explain how they came to this question or problem.

### EXPLORING A TOPIC INDEPENDENTLY

- Students spend time outside class exploring the topic. Direct them to talk with peers, other teachers, librarians, or other members of their learning community, asking them what they know about the topic and what about it interests them. They should also informally search the Internet, libraries and other places to begin exploring various dimensions of the topic.
- Ideally, orient the students to a media specialist in the school, or organize a session in collaboration with a media specialist to help them identify the tools they can use to perform searches, and learn how to use them efficiently.

Make it clear to students that they are not yet searching for definitive sources or knowledge on the topic, but rather exploring various aspects of it through accessing the knowledge, questions, and perspectives of their learning community.

- Students should bring back to class 2 or 3 new potential Areas of Investigation, using the second page of the Exploring a Topic tool to record their thinking. They follow the same process as for Area of Investigation 1 explored in class, and write sentences to describe the potential Areas of Investigation, why they are interested in these areas and how they came to these questions or problems.
- Instruct the students to work on their sentences and complete the tool in class. They should be:
    - ◊ **Clear**: The meaning of the sentence must be understood immediately by the reader. An easy way for students to check for clarity is to read each sentence to a parent of peer, without giving them any clarification, and ask them to explain what they understood.
    - ◊ **Concise**: They must provide a direct answer to each of the prompts and contain no unnecessary words.
    - ◊ **Correct**: They should present no grammatical or spelling errors.
- Collect the tools to confirm completion and to evaluate for initial coherence.
- Instruct students to store their material in SECTION 1of their Research Portfolios: Defining an Area of Investigation.

# ACTIVITY 3: CONDUCTING PRE-SEARCHES

Students conduct pre-searches for sources around one or two Areas of Investigation to validate availability of information.

## INSTRUCTIONAL NOTES

Introduce the process of performing searches using Inquiry Questions, and the importance of recording the potential sources found.

### POSING INQUIRY QUESTIONS

Using Inquiry Questions is absolutely essential to the research process articulated in this unit. Developing student proficiency for posing general and specific questions to direct inquiry and deepen understanding is a central instructional focus. This questioning process, itself, is iterative and serves specific functions at different stages throughout the process. At this point, the goal of questioning is still explorative. Students have identified general areas of interest and now explore those areas to confirm their interest and the viability of the area to support research. At this stage, the Inquiry Questions are general. By the time these pre-searches (and eventual vetting) are done, students should be able to express their area of interest in a clear and coherent question or problem to guide their research. Once a research direction has been established, the role and nature of the Inquiry Question changes. Now the questions become more specific and serve to guide investigation in a way to gain a coherent and comprehensive perspective on their research question. These more specific Inquiry Questions will eventually make up a "frame" for ensuring sufficient research. At this stage, however, students should be simply introduced to the idea and importance of questioning and use more general questions to explore their potential Areas of Investigation.

- Explain the basic principles of using Inquiry Questions to guide initial searches. Inquiry questions can be simply defined as: questions that identify things you need to know about a topic and that will help guide your research and analysis.
- Brainstorm with the class possible Inquiry Questions that will help students conduct pre-searches on an Area of Investigation. **You may use the models in Section III of the Topic Repository.**
- Remind the students that at this stage of research they are looking for general information that will help them gain background knowledge and understanding of their potential Areas of Investigation.

To guide students in the brainstorming process, you might use the following basic Inquiry Questions from the Posing Inquiry Questions handout:

- ◊ How is it defined?
- ◊ Where did it originate?
- ◊ What is its history?
- ◊ What are its major aspects?
- ◊ What are its causes and implications?
- ◊ What other things is it connected to or associated with?
- ◊ What are its important places, things, people, and experts?

# ACTIVITY 3: CONDUCTING PRE-SEARCHES (CONT'D)

## POTENTIAL SOURCES TOOL

**POTENTIAL SOURCES** is a tool where students record general information about potential sources that they find while conducting research. They can also write a brief description of the content, key ideas / information and write personal comments. An annotated version is provided for teachers.

## INSTRUCTIONAL NOTES

### RECORDING SOURCES

- Introduce the structure and purposes of the Potential Sources tool. The annotated version of the tool can be used as a guide.
- Model its use with information from a few texts **(Texts #1-3 from a Topic Resource Repository, or other books, internet-based sources, etc. of similar complexity and richness)**, connecting the source to one of the general Inquiry Questions from class discussion.
- When modeling, spend some time explaining different ways that notes for the section on "General Content / Key Ideas / Personal Comments" can be made: quotes, facts and numbers, brief description of the content, personal impressions and evaluation of the quality of the content, etc. Explain how this information will be used in the next activity to validate the direction of the research and the availability of sources of information.
- Have students practice using the Potential Sources tool with common Texts #2 and #3 from a Topic Resource Repository (or text(s) provided by the teacher).

### CONDUCTING PRE-SEARCHES INDEPENDENTLY

- Students select two of their potential Areas of Investigation based on their previous assessment of relevance and interest.
- They conduct pre-searches and gather initial basic information, guided by some of their general Inquiry Questions.
- The goal of the pre-searches is to validate the availability of information, confirm further the student's level of interest in the potential Areas of Investigation, and refine the question or problem, and the scope of the area if necessary.
- For the purpose of this activity, students only use part of the tool:
    - ◊ Name; Topic; Source (# - Title - Author - Location - Publication Date); General content/ key ideas / personal comments

  Later on, they will record more information – related to their evaluation of the source's credibility, richness, and interest – when they use the Assessing Sources handout.
- Remind students that at this point, their notes must serve two main purposes: recording general information about a source, and providing relevant information about its content.

# ACTIVITY 4: VETTING AREAS OF INVESTIGATION

Students vet their potential Areas of Investigation and develop a research question or problem.

## AREA EVALUATION CHECKLIST

The **AREA EVALUATION CHECKLIST** guides students in the process of evaluating their potential Areas of Investigation. The checklist is used collaboratively with the teacher to determine if an area warrants investigation.

## INSTRUCTIONAL NOTES

- Students hand in their Exploring a Topic and Potential Sources tools and any initial notes they have from their pre-searches.
- Review the material in preparation for student-teacher conferences.
- Schedule an in-class conference with each student individually.
- The other students can be given time to work on their pre-searches or read additional sources while you are conferencing.
- Begin each conference by introducing the Area Evaluation Checklist. Show students how this tool will guide the conversation. Explain the different criteria.
- Work through the checklist with the student, probing and discussing the area based on the criteria.
- The goal of the conference is for the student to arrive at a written research question or problem.
- At the end of the conference, students file their Exploring a Topic tool, notes, and Area Evaluation Checklists in SECTION 1of their Research Portfolios: Defining an Area of Investigation.

# ACTIVITY 5: GENERATING INQUIRY QUESTIONS

Students generate Inquiry Questions to guide their searches for information regarding their Areas of Investigation.

## INSTRUCTIONAL NOTES

Students should now have decided on an Area of Investigation based on their exploration, pre-searches, and vetting discussion. They will have expressed their area in the form of a problem or overarching question. They now brainstorm **more specific questions** about their Area of Investigation that will guide their research.

Use the Posing Inquiry Questions handout to guide students in the brainstorming process and to help students generate, select, and refine their emerging Inquiry Questions.

- Model posing various types of questions about an Area of Investigation, building from students' reading of common texts **(Model Texts and questions from a Topic Resource Repository can be used).**
- Work through modeling and discussion to help students frame fruitful questions that require and will sustain research.
- Questioning should begin collaboratively, either as an entire class or in small groups.
- Students should help each other pose questions exploring as many possible aspects of the topic areas as possible. As with any brainstorming activity, volume should be the initial goal, allowing students to build off each other's ideas.
- One method could be to rotate each student to the head of the class. The student presents his or her Area of Investigation. The class then brainstorms questions while a scribe (student or teacher) records the questions on the board. When each student's brainstorm session is over, s/he records the questions on a sheet of paper. Students could also each write their questions on notecards as they contribute them to discussion. At the end of the brainstorming, the presenting student collects all the notecards from her peers.
- If technology permits, the collaborative questioning can be done with a Google doc or Smartboard, allowing all the students to share and record their questions electronically.
- Encourage students to build on and borrow questions posed by the group for other students' Areas of Investigation that may be related. (Note: this is a benefit of limiting the class to one or two general topics. If student topic areas are related, brainstormed questions can be left on the board.)
- Once the brainstorming process is over, use the checklist provided in the Posing Inquiry Questions handout to help students vet and refine their Inquiry Questions. Model the process with a student volunteer's list of questions then have students work independently on their personal lists.
- Set a quantitative goal: at the end of the process, each student should have a list of 5-10 good Inquiry Questions.

# ASSESSMENT OPPORTUNITIES

In this part of the unit students will have produced:

- ◊ Exploring a Topic tools
- ◊ Potential Sources tools
- ◊ Area Evaluation Checklist
- ◊ Inquiry Questions

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

The **Research Criteria Matrix** articulates the key proficiencies and habits of the research process that students need to build. The Matrix breaks up the skills into categories, articulating the various criteria within each by which to evaluate student performance. These skills and habits span the entire research process and should be tracked to ensure appropriate development. For each criterion, grade-level performance descriptors are provided to support evaluation.

For Part 1, examine student products and performance for initial ability in the following criteria:

- Setting direction for research
- Posing Inquiry Questions

Structured and purposeful collaboration plays an important role in this initial part. Developing an understanding that research involves a combination of collaborative and independent skills is an essential objective of the unit. Many of the activities are designed for building collaborative literacy skills. The Text-Centered Discussion Checklist can be a resource for supporting this instruction and evaluation. One strategy for using the TCD checklist in this context is to identify one to three of the criteria for the class as a whole to focus on throughout this unit. As students make their way through the unit, teachers can continually return to this focus. For example, the three "Questioning" criteria (Posing Questions, Responding to Questions, and Making Connections) might be a good natural focus for collaboration skills.

When students choose their potential Areas of Investigation, they are asked to produce coherent thinking and writing describing them. They also are expected to articulate each of their refined and vetted potential areas as a coherent problem or overarching Inquiry Questions. Students should receive feedback on the quality of their sentence construction so that they can begin to think about how to more clearly articulate their thinking and research findings.

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. |
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## ACTIVITIES

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

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

## 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 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.

PART 3

# DEEPENING UNDERSTANDING

| OBJECTIVE: | Students analyze key sources through close reading to deepen their understanding and draw personal conclusions about their Area of Investigation. By the end of Part 3, students will have a series of evidence-based claims addressing each Inquiry Path of their Research Frame. |
|---|---|

## ACTIVITIES

**MATERIALS:**
Texts # 7-10
Research Frame
Assessing Sources Handout
Forming EBC
Forming EBC Handout
EBC Criteria Checklist
Writing EBC Handout
Connecting Ideas Handout
Research Criteria Matrix

### 1- SELECTING KEY SOURCES

The teacher discusses how to identify the most relevant sources and helps students select key sources to analyze through close reading.

### 2- READING SOURCES CLOSELY

Students use their Inquiry Questions to read key sources closely, analyzing them for content, perspective, and relevance.

### 3- DISCUSSING TYPES OF CLAIMS

The teacher explains, models and works with students on making various types of evidence-based claims using student research.

### 4- WRITING EVIDENCE-BASED CLAIMS ABOUT SOURCES

Students develop evidence-based summaries and evaluations/interpretations/criticisms of relevant sources using their notes and annotations.

## 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. **RI.9-10.7:** Analyze various accounts of a subject told in different mediums, determining which details are emphasized in each account. **RI (Anchor):** Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take. **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.

**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. **W.9-10.5:** Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific 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.

# ACTIVITY 1: SELECTING KEY SOURCES

The teacher discusses how to identify the most relevant sources and helps students select key sources to analyze through close reading.

## INSTRUCTIONAL NOTES

### CONNECTING SOURCES TO INQUIRY PATHS

- Using the Research Frame, the general comments on content in the Potential Sources tools, and the notes on Taking Notes, model connecting sources to Inquiry Paths.
- The connection is recorded in the "Connection to Inquiry Paths" box using the reference number assigned to each Inquiry Path.
- Students connect their sources to their Inquiry Paths.

### SELECTING KEY SOURCES

- Introduce the idea that some key sources require close reading in order to extract important details and to analyze more deeply their ideas and perspectives.
- The selection should be made based on the assessment of credibility, accessibility/interest, and relevance/richness performed in the Potential Sources tool. Personal notes recorded on the same tool may also help select key sources.
- Model using the information recorded in a Potential Sources tool to select key sources (the Assessing Sources handout can also be used).
- Then have students review their notes on Potential Sources and Taking Notes, and their annotation on the sources to determine which sources need close reading.
- Students select at least one key source per Inquiry Path to analyze through close reading.

# ACTIVITY 2: READING SOURCES CLOSELY

Students use their Inquiry Questions to read key sources closely, analyzing them for content, perspective, and relevance.

## INSTRUCTIONAL NOTES

In this activity, students employ skills developed in the Reading Closely for Textual Details and Making Evidence-Based Claims units to analyze selected sources for content and perspective. The approach to close reading developed in those units and incorporated here involves strategically questioning texts to access deep meaning associated with key textual details. In the Reading Closely unit, students develop this proficiency using a general Guiding Question framework. Now, in the context of their research, students use their Inquiry Questions to guide their analysis. If their students need further work on developing independence in close reading, teachers are encouraged to use the additional materials and approaches contained in the Reading Closely Unit.

# ACTIVITY 2: READING SOURCES CLOSELY (CONT'D)

## FORMING EBC TOOL

The **FORMING EVIDENCE-BASED CLAIMS** tool incorporates skills students develop in the Reading Closely and Making Evidence-Based Claims units. Students use an Inquiry Question to guide their reading, marking details that help them answer this question. Then, they select details that seem most relevant, record their thoughts and connections, and make a claim they have come to from their analysis that answers their Inquiry Question.

## INSTRUCTIONAL NOTES

- Model close reading to answer Inquiry Questions with the students using a common text. **(Text #7 from a Topic Resource Repository presenting rich argumentation and a perspective or a rich student-found source can be used).**
- Orient students to the Forming EBC tool.
- Work through the tool as a class, guiding your reading with an Inquiry Question, marking the text for relevant details, selecting key ones, recording what you think about them and connections you make among them, and (possibly) developing a claim that answers your Inquiry Question from your thinking and the textual evidence.

### INDEPENDENT CLOSE READING OF SOURCES

- Students close read the sources they have selected in Activity 1 using the Forming EBC tool.
- Support students as they work, helping them select details that relate to their Inquiry Questions and make connections among them.

Teachers can choose to have students work across several days in class, reading closely and analyzing a number of their key sources.

- At the end of this activity, instruct students to store their Forming EBC tools in SECTION 2 of their Research Portfolios: Gathering and Analyzing Information.

# ACTIVITY 3: DISCUSSING TYPES OF CLAIMS

The teacher explains, models and works with students on making various types of evidence-based claims using student research.

## INSTRUCTIONAL NOTES

The ability to make claims based on evidence gleaned from a close strategic reading of sources is essential to the research process. Activities 1 and 2 stressed the importance of analyzing sources guided by Inquiry Questions. Now instruction moves to developing an understanding of the different types of claims that may emerge in response to different types of Inquiry Questions.

# ACTIVITY 3: DISCUSSING TYPES OF CLAIMS (CONT'D)

## INSTRUCTIONAL NOTES

Some Inquiry Paths are satisfied with **paraphrasing** claims. Some aspects of research require the collection of information. For example, it might be essential for my research to know, "What are the various ways water can be made potable?" I need to look for sources that contain this information and summarize it in my analysis. Within the same area, another Inquiry Question might be, "What are the most sustainable ways to develop potable water?" Answering this Inquiry Question might involve evaluation on behalf of the researcher and require an **evaluative** evidence-based claim. If my Inquiry Question was, "Why do people buy bottled water?", I might need to make an **interpretive** claim based on my assessment of the evidence. I will also need to make **synthesizing** claims that connect multiple claims associated with several of my Inquiry Questions or paths as I develop my evidence-based perspective.

- As a class, discuss a variety of Inquiry Questions and determine what types of claims and evidence would be necessary to address them. **(Model Inquiry Questions from a Text Resource Repository or student questions can be used as a basis for class discussion.)**
- Explain and model for students making different types of claims to address various Inquiry Questions.
- Select at least one Inquiry Question to model each type of EBC. The EBC Criteria Checklist can be used.
- Use notes on Taking Notes tools to find important related details, and work from Forming EBC tool to develop different types of claims to answer each Inquiry Question.
- At the end of the activity, instruct students to store their material in SECTION 2 of their Research Portfolios: Gathering and Analyzing Information.

# ACTIVITY 4: WRITING EVIDENCE-BASED CLAIMS ABOUT SOURCES

Students develop evidence-based summaries and evaluations/interpretations/criticisms of relevant sources using their notes and annotations.

**INSTRUCTIONAL NOTES**

At this point, students will have analyzed several key sources and discussed the various types of evidence-based claims employed in answering Inquiry Questions. They now develop a few written evidence-based claims addressing some of their Inquiry Questions, based on their analyzed sources.

- Have students pick one of the Forming EBC tools that contains their analysis of a source based on an Inquiry Question.
- Students determine what type of claim is needed to address that particular Inquiry Question.
- Students review the Forming EBC tool and assess whether they have made an appropriately supported claim. They should revise it if needed.
- Based on their Forming EBC tool, students develop the claim into a written paragraph.
    - ◊ The paragraph should state and explain the claim, and incorporate evidence through direct quote and paraphrase to support it.
    - ◊ Proper transitional phrases and citations should be included.
    - ◊ The EBC Criteria Checklist, Writing Evidence-Based Claims and Connecting Ideas handouts can be used to support instruction on writing evidence-based claims.
- Have students determine and write at least two different types of claims that appropriately address different Inquiry Questions. They should then file them in SECTION 2 of their Research Portfolios.

# ASSESSMENT OPPORTUNITIES

In this part of the unit students will have produced:

- ◊ Forming EBC tools
- ◊ Annotated common texts
- ◊ Annotated sources
- ◊ Written Evidence-Based Claims

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

For Part 3, examine student products and performance for ability in the following criteria:

- Posing Inquiry Questions
- Framing Inquiry Paths
- Monitoring and evaluating progress
- 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
- Analyzing sources for inquiry purposes
- Evaluating sources for evidence, claims, and arguments
- Identifying fallacious or unsupported reasoning
- Demonstrating understanding
- Supporting claims

## PART 4

# FINALIZING INQUIRY

**OBJECTIVE:** Students analyze and evaluate their material with respect to their Research Frame and refine and extend their inquiry as necessary. By the end of Part 4, students will have an analyzed body of research addressing their Research Frame from which to develop and communicate an evidence-based perspective on their Area of Investigation.

## ACTIVITIES

**MATERIALS:**
Research Frame
Forming EBC
Organizing EBC
Synthesizing EBC
Connecting Ideas Handout
Research Evaluation
Research Criteria Matrix

### 1- ADDRESSING INQUIRY PATHS
Students review their notes and analysis across the sources to address one of their Inquiry Paths.

### 2- ORGANIZING EVIDENCE
Students review and organize their research and analysis, establishing connections to address all the Inquiry Paths of their Research Frame.

### 3- EVALUATING RESEARCH
Students review and discuss their Research Frames and researched materials to determine relevance, coherence, and sufficiency.

### 4- REFINING AND EXTENDING INQUIRY
Students refine and extend their scope of inquiry based on teacher and peer feedback.

## ALIGNMENT TO CCSS

### TARGETED STANDARD(S):
**W.9-10.2:** Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. **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. **RI.9-10.7:** Analyze various accounts of a subject told in different mediums, determining which details are emphasized in each account. **RI (Anchor):** Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take. **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.

### 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. **W.9-10.5:** Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific 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. **SL.9-10.1:** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

# ACTIVITY 1: ADDRESSING INQUIRY PATHS

Students review their notes and analysis across the sources to address one of their Inquiry Paths.

## ORGANIZING EBC TOOL

The **ORGANIZING EVIDENCE-BASED CLAIMS** tool has been introduced in the Making Evidence-Based Claims unit. It helps students organize results of their findings, including their personal claims and the key ideas and information they have identified in the sources, into a more general claim that synthesizes their findings. Using one or more ORGANIZING EBC tools, students will be able to organize the necessary information to help them in the process of writing synthesizing claims for their Inquiry Paths.

## INSTRUCTIONAL NOTES

At this point, students will have analyzed several key sources, and then used evidence from those sources to develop and write various types of claims to answer Inquiry Questions. They now should begin to review their notes and analysis across the sources to address the Inquiry Paths that have framed their research. Teachers may choose to model this process for the class.

- Have students pick one of their Inquiry Paths.
- Students should compile all their notes, annotated sources, and Forming EBC tools that have been coded to that Inquiry Path.
- Then, using an Organizing EBC tool to organize the most relevant information, they develop a synthesizing EBC that addresses that Inquiry Path. The EBC Criteria Checklist can be used for support.

To tie multi-source analysis around Inquiry Paths more tightly to the close reading process, students can use a Forming EBC tool to build multi-source claims.

- Based on their Organizing EBC or Forming EBC tool, students develop an appropriate claim that addresses one of their Inquiry Paths into a written paragraph.

The paragraph should state and explain the claim, and incorporate evidence through direct quote and paraphrase to support it. Proper transitional phrases and citations should be included.

- Students write their claims in the Synthesizing EBC tool.
- At the end of the activity, they file their material in SECTION 3 of the Research Portfolios: Drawing Conclusions.

# ACTIVITY 2: ORGANIZING EVIDENCE

Students review and organize their research and analysis, establishing connections to address all the Inquiry Paths of their Research Frame.

## INSTRUCTIONAL NOTES

- Once students have had the experience of organizing and writing evidence-based claims to address an Inquiry Path, they should review and organize their research to address the others.
- Have students develop Organizing EBC tools to address each of their Inquiry Paths.
- Depending on organization of evidence, students may develop multiple claims to address some of their Inquiry Paths.

Emphasis here is on forming claims and organizing evidence; it is not necessary for them to write out paragraphs for each one. Remind students to file all their work in SECTION 3 of their Portfolios.

# ACTIVITY 3: EVALUATING RESEARCH

Students review and discuss their Research Frames and researched materials to determine relevance, coherence, and sufficiency.

## RESEARCH EVALUATION TOOL

The **RESEARCH EVALUATION** tool guides students in a process for evaluating their research. The tool consists of three parts to structure collaboration with teachers and peers to determine whether findings are credible, relevant and sufficient. The first part, the Research Evaluation Checklist, is used by teachers in teacher-student conferences. The second part, the Peer Evaluation of Research, presents a protocol for peer reviews. The third part, Revising Research, is used by students to respond to feedback from their teachers and peers. Based on this structured process, students consider alternative approaches to their investigation, which may result in the modification of their Inquiry Paths and the revision of their Research Frames.

## INSTRUCTIONAL NOTES

Peer and teacher reviews of research are an essential step in completing a successful research cycle. Students should have opportunity to present their findings for evaluation and respond to feedback by re-directing and extending their research. Teachers can structure this process through a simultaneous series of teacher-student conferences and peer group discussions.

- Schedule in-class teacher-student conferences for each student.
- Simultaneously, while individual students meet with you, have the other students form groups of three to conduct peer reviews. This two-part process allows students to build presentation and peer review skills and gain multiple perspectives on their research, while assuring a deep evaluation of the research by the teacher.
- Have students prepare for class by organizing their Research Portfolios and reviewing their claims addressing each Inquiry Path.
- Break students into groups of three, each taking turns presenting while the other two review and provide feedback.
- Instruct students to use the questioning protocol in Part 2 of the Research Evaluation Tool: Peer Evaluation of Research to guide their discussion and assessment.
- Peer reviewers use the protocol and tool to evaluate the presenter's research, rotating roles.
- While peer groups are discussing, meet with each student to evaluate their research yourself, using Part 1 of the Research Evaluation Tool: Research Evaluation Checklist.
- Students complete Part 3: Revising Research to plan for responding to peer and teacher feedback.
- The Research Evaluation should be kept in SECTION 3 of the Research Portfolio: Drawing Conclusions.

# ACTIVITY 4: REFINING AND EXTENDING INQUIRY

Students refine and extend their scope of inquiry based on teacher and peer feedback.

## INSTRUCTIONAL NOTES

Based on teacher and peer feedback, students identify how they will refine their scope of inquiry. Responding to feedback will include a combination of the following three activities:

**Refining Investigation**: Students refine and extend their Research Frames.

**Extending Research**: Students search for additional sources based on their revised Research Frames.

**Reading and Analyzing New Sources**: Students read new sources closely to develop relevant evidence -based claims.

### REFINING INVESTIGATION

- Based on their teacher and peer review discussions, students reconsider the scope of their initial Research Frame.
- Students use the Research Evaluation Tool to help structure their revised Research Frame.
- Students may need to pose new questions within existing paths or add a new Inquiry Path. They may need to reorganize questions in their existing Inquiry Paths.
- Students submit a revised Research Frame that addresses peer feedback for the teacher to review.

### EXTENDING RESEARCH

- Feedback may have pointed out gaps in information or perspectives. Information deemed untrustworthy as well.
- Students return to their sources and search for new ones to address these gaps.

### READING AND ANALYZING NEW SOURCES

- Using approaches and materials outlined in Parts 2 and 3, students find and analyze new sources to address their revised Research Frame.
- Students revise EBCs that were deemed unsupported and develop new ones that address additional Inquiry Paths.

### ORGANIZING THE RESEARCH PORTFOLIO

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

# ASSESSMENT OPPORTUNITIES

In this part of the unit students will have produced:

- ◊ Forming EBC tools
- ◊ Annotated common texts
- ◊ Annotated sources
- ◊ Written Evidence-Based Claims
- ◊ Organizing EBC tools
- ◊ Revised Research Frame
- ◊ Potential Sources tools
- ◊ Taking Notes tools

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

For Part 4, examine student products and performance for ability in the following criteria:

- Posing Inquiry Questions
- Framing Inquiry Paths
- Monitoring and evaluating progress
- Assessing sources for credibility and relevance
- Assessing/comparing perspectives and bias
- Redirecting searches
- Paraphrasing, quoting and referencing sources
- Organizing researched information
- Annotating sources and noting connections and observations
- Reorganizing information based on deepening understanding
- Analyzing sources for inquiry purposes
- Evaluating sources for evidence, claims, and arguments
- Identifying fallacious or unsupported reasoning
- Integrating information across sources
- Demonstrating understanding
- Supporting claims
- Collaborating and responding to feedback
- Refocusing inquiry
- Student performance in the peer review discussion can be evaluated using the · Text-Centered Discussion Checklist

PART 5

# DEVELOPING AND COMMUNICATING AN EVIDENCE-BASED PERSPECTIVE

**OBJECTIVE:** Students draw from their research and personal analysis to develop and communicate an evidence-based perspective. By the end of Part 5, students will have an organized body of research and have written an evidence-based perspective on their Area of Investigation to serve as a basis for a variety of purposes.

## ACTIVITIES

**MATERIALS:**
Research Frame
Organizing EBC
Synthesizing EBC
Evidence-Based Perspective
EBC Criteria Checklist
Connecting Ideas Handout
Research Criteria Matrix

### 1- REVIEWING RESEARCH PORTFOLIOS

Students review their Research Portfolios based on their revised Research Frames in preparation for final analysis.

### 2- EXPRESSING AN EVIDENCE-BASED PERSPECTIVE

Based on their claims for each Inquiry Path, students write a final EBC explaining their perspective on the Area of Investigation.

### 3- WRITING A BIBLIOGRAPHY

Students use their Potential Sources tool to write bibliographies listing all their sources.

### 4- COMMUNICATING AN EVIDENCE-BASED PERSPECTIVE

Students organize their evidence and research-based claims into a communication plan or product that addresses their purposes for research.

## ALIGNMENT TO CCSS

**TARGETED STANDARD(S):**

**W.9-10.2:** Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. **W.9-10.4:** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. **W.9-10.5:** Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. **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. **RI.9-10.7:** Analyze various accounts of a subject told in different mediums, determining which details are emphasized in each account. **RI (Anchor):** Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take. **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.

**SUPPORTING STANDARD(S):**

**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.

# ACTIVITY 1: REVIEWING RESEARCH PORTFOLIOS

Students review their Research Portfolios based on their revised Research Frames in preparation for final analysis.

## INSTRUCTIONAL NOTES

After extending and refining their research, students organize their Research Portfolios in preparation for crafting their evidence-based perspective. Section 2 should be complete, containing all the sources, annotated copies, notes and EBCs made by the students during Parts 2-4. The portfolios should also contain Organizing EBC tools for each Inquiry Path that synthesize information across its Inquiry Questions. The claims addressing at least one of the Inquiry Paths should be written out. The claims addressing these Inquiry Paths become the first part of Section 3 of their portfolios and form the basis of their evidence-based perspective on their Area of Investigation.

# ACTIVITY 2: EXPRESSING AN EVIDENCE-BASED PERSPECTIVE

Based on their claims for each Inquiry Path, students write a final EBC explaining their perspective on the Area of Investigation.

## EVIDENCE-BASED PERSPECTIVE TOOL

The **EVIDENCE-BASED PERSPECTIVE** is a written expression of the personal conclusions and perspectives drawn by the students from their research. It results from the analysis of the outcomes of the research, organized and supported by the claims they have developed for each of their Inquiry Paths. Drawing from their Organizing EBCs, students write a synthesizing account of their findings, expressing their perspective and supporting it with evidence and reasoning.

## INSTRUCTIONAL NOTES

- Have students draw from their Research Portfolios to write roughly a one-page synthesis expressing and supporting their perspective on their Areas of Investigation.
- The Writing EBC and the Connecting Ideas handouts can be used.
- These written perspectives should clearly and logically express their perspective, but do not need to fully summarize all of their research. The purpose of this writing is to develop their perspective based on their research. This perspective can then support the development of larger products by incorporating and explaining their entire body of research.
- Students should paraphrase and quote with proper citation the evidence they do use in crafting their perspectives.
- Students can write their perspectives as an in-class writing assignment for which they have prepared by organizing and finalizing their research portfolios.
- After teacher review, students can revise their writing inside or outside of class.
- Students can store their tools in SECTION 3 of their Research Portfolios: Drawing Conclusions.

# ACTIVITY 3: WRITING A BIBLIOGRAPHY

Students use their Potential Sources tool to write bibliographies listing all their sources.

## INSTRUCTIONAL NOTES

As part of their evidence-based perspective and to complete their Research Portfolios, students write a one or two page bibliography of all their sources. Students can work from their Potential Sources tools, transferring the relevant information. Teachers should use the bibliographic format they prefer and provide direct instruction for students on formatting their information accordingly.

# ACTIVITY 4: COMMUNICATING AN EVIDENCE-BASED PERSPECTIVE

Students organize their evidence and research-based claims into a communication plan or product that addresses their purposes for research.

## INSTRUCTIONAL NOTES

The focus of the *Researching to Deepen Understanding* activity sequence has been on just that, deepening each student's understanding of a chosen area of investigation, while also developing and applying the skills of effective inquiry and research: questioning, searching, reading closely, analyzing and recording information, organizing thinking, and generating relevant, research-based claims. At this point, students should have developed a well-supported perspective on their focused topic – a particular way of seeing that topic that has emerged through their inquiry. This perspective, and the understanding it represents, is an important outcome of any good research process. However, research is less meaningful (and potentially less rigorous) if there is no tangible result or product that communicates a student's understanding and perspective. Students and teachers, therefore, should emphasize an intended purpose and an anticipated result or product from the start of their investigation. At this final point in the unit, class activities should then focus on fulfilling students' purposes and generating those anticipated results and products.

Based on the context for the research and its primary purpose(s), any of the following results and products might be generated and evaluated at the end of the unit. For each possible result, the list of options below briefly describes the purpose and result, product, and instructional sequence that a teacher and students might consider. Whichever option is selected, or if another product is intended, teachers are encouraged to use their own best practices for delivering instruction and supporting their students.

# ACTIVITY 4: COMMUNICATING AN EVIDENCE-BASED PERSPECTIVE (CONT'D)

## INSTRUCTIONAL NOTES

**A thesis-driven academic argument, research-based essay, or op/ed piece**

Purpose and Result: If the primary purpose for research is to find, organize, and use evidence to build an argument (whether more formal and academic or less formal and utilitarian) then students' research should result in a set of claims that can be seen as premises from which to construct an argument for the research-based position or perspective they have developed.

Product(s): Students will link the claims they have developed and organize the evidence they have gathered into a logical sequence of premises that make a case for their position on their topic. If the product is to be a written argument, then students may move on to *Core Proficiency Unit IV: Building Evidence-Based Arguments*. To prepare for the writing instruction in that unit, students can produce a well-developed plan for their argument, either in outline or diagrammatic form or in product forms that resemble a legal brief or a précis. Students might also engage in a class symposium, in which they outline their argument, and the evidence behind it, in a peer or jury-type review before other students in the class.

Instructional Sequence: Within the unit, students should read and analyze multiple examples of argumentation in their chosen topic area, both to build their understanding of various perspectives and to study how arguments are constructed (or misconstructed). As they complete their research, students will need to study the relationships among their perspective, claims, and evidence to determine a reasoned plan for argumentation. The instructional focus should be on the logical progression of claims, the adequacy of evidence, and the effectiveness of the case they can make for their position. Peer reviews might play a major role in preparing them to write a final argument.

**A research-based explanation of a phenomenon, issue, event, process, or device**

Purpose and Result: If the primary purpose for research is to deepen students' understanding of how something works, has occurred, is done by experts, or affects our lives, with the intent that that they can explain it in detail, then students should aim their research and thinking at developing a technical, scientific, social, or historical explanation that uses research to help others understand a particular phenomenon, issue, event, process, or device.

Product(s): Students will link the claims they have developed and organize the evidence they have gathered into an explanatory sequence that moves from background information to increasingly sophisticated details and analysis. The result might be a technical paper or manual, or something less formal intended for a general audience (a good model for this kind of writing might be Discovery Learning's *How It Works* web-based explanations), or a historical/social science analysis. In most cases, this will result in a piece of explanatory writing that may be accompanied by visual support, but it could also result in a multi-media presentation or speech.

Instructional Sequence: Within the unit, students should focus on informational sources that will build their understanding of the topic they are investigating and will ultimately need to explain in detail. They should read texts that exemplify how things are analyzed and explained in a particular field (science, social science, technical, the arts, consumer-related, etc.). As they complete their research, they should organize their claims and evidence into an explanatory sequence aimed at a particular audience and purpose. Peer reviews might play a major role in helping them develop explanations that are clear, coherent, and effective.

# ACTIVITY 4: COMMUNICATING AN EVIDENCE-BASED PERSPECTIVE (CONT'D)

## INSTRUCTIONAL NOTES

**An informational presentation incorporating text, graphics and multi-media**

Purpose and Result: If the primary purpose for research is to build the student's own understanding (to inform a decision or support personal development), with an eye to sharing that understanding, then students might aim their research at producing an informational presentation that recaptures and presents what they have learned. This could be about a consumer product, a career option, or a topic of personal or community interest.

Product(s): Students will link the claims they have developed and organize the evidence they have gathered into an informational presentation, most likely one that involves the use of multi-media (e.g., a PowerPoint presentation or website). Students should think about how text, graphics, audio and video can be combined to communicate what they have learned, potentially using links to and content from websites they have searched.

Instructional Sequence: Within the unit, students should focus their research on gaining as much information about their topic as possible, think about how others might use that information, and identify good websites, videos, or graphics that they might use to convey what they have learned to others. As they conclude their research, they should learn how to use presentation or web-design tools to organize and communicate what they want to present, and focus on how text can be used sparingly but effectively in conjunction with other ways of communicating information. Peers can be seen as both practice and real audiences for student products and presentations.

**A reflective narrative of the process by which they have arrived at deepened understanding**

Purpose and Result: If the primary purposes for research are more open-ended, to follow an inquiry path to wherever it may lead, and to learn about the processes of effective research along the way, then students will want to document the "story" of their search and build in reflective points as they progress. The result should be a deepened understanding of both their topic and the experience of inquiry, and an emerging personal heuristic for conducting research that they can apply in future situations.

Product(s): Students will see the claims they have developed and the evidence they have gathered as the products of their search processes, and will focus their thinking and writing on recounting the steps that led to these outcomes and the story of their experiences in the search. This kind of reflective narrative as a research product we first championed by Ken Macrorie, who referred to the product as an "I-search paper," the purpose of which is to document the search as much as to present its results. Students typically use a chronological structure to organize and present their thinking, moving from "What I wanted to learn" to "How I searched and what I found" to "What I ultimately learned," discussing search processes, close readings, evidence gathered, and emerging understandings along the way. For this sort of communication to be most valuable, students should be expected to be reflective about what worked and what didn't, what they would do again and how they would improve their research processes in the future.

# ACTIVITY 4: COMMUNICATING AN EVIDENCE-BASED PERSPECTIVE (CONT'D)

**INSTRUCTIONAL NOTES**

Instructional Sequence: Within the unit, students should concentrate on recording not only what they find but also what they did to find it, tracking their inquiry paths as they bend, branch, and are re-routed. Their claims should be seen as results of their search, and their perspective should be seen as the end point of the research "journey" they have been on. Students can be more open-ended in their search processes, following leads as much as trying to accumulate purposeful information. It is a good idea for them to maintain reflective journals in conjunction with their research journals (where information is recorded), and to also be reflective about their thinking and discoveries as they "make" notes. Peers can be used to help them reflect along the way and as an audience for their developing narrations.

# ASSESSMENT OPPORTUNITIES

After students have completed Part 5, teachers are able to assess if students have been able to successfully conclude a cycle of independent research. Many aspects of the proficiency can and should be assessed. The Research Portfolio can be used as evidence for the development of the full range of criteria expressed in the Research Criteria Matrix for all central areas of proficiency:

1. Setting direction for Inquiry and Research
2. Managing and evaluating research processes
3. Gathering and Assessing Sources
4. Analyzing/integrating/synthesizing Information
5. Recording and Organizing Information
6. Developing and Communicating an Evidence-Based Perspective