



MISSISSIPPI

EXEMPLAR

Units & Lessons

ENGLISH LANGUAGE ARTS

Grade 10

Lesson 4: Collecting and Connecting Data

Focus Standard(s): W.10.7

Additional Standard(s): W.10.6, W.10.8, SL.10.1, SL.10.2

Estimated Time: 7-8 days

Text(s): Student-collected primary and secondary sources

Resources and Materials:

- Handout 1.2: Learning Targets for the Unit
- Handout 1.4: Research Paper Samples
- Handout 2.1: Ideas to Remember About Problem Solving
- Handout 4.1: Source Information/Data Collection Sheet
- Handout 4.2: Sample Source Information/Data Collection Sheet
- [How to Know if a Source is Reliable?](#)
- [MLA Formatting and Style Guide](#)
- [Mendeley](#)
- [Read Write Think lesson](#)
- [Read Write Think Resource](#)
- Ted Ed video [“This App Makes It fun to Pick Up Litter”](#)
- [Validity](#)
- Computer lab or enough laptops for each student to conduct research

Lesson Target(s):

Students will show understanding of the following concepts:

- Research is conducted primarily to solve problems or answer a question in order to improve our quality of life.
- Sometimes one problem reveals another problem or question to answer.
- Researchers may have to reframe/revise their questions/problem statements to ensure they are investigating the actual problem.

- A research topic or question can be altered/revised based on the information available, narrowed if too much information is available, broadened if too little information is available.
- Not all sources are reliable.
- Not all information is valid.
- Both primary and secondary sources can help a researcher solve a problem or answer a question.

Students will complete the following actions:

- Generate and refine research questions and/or problems.
- Conduct research to answer a question or solve a problem.
- Evaluate the reliability and validity of sources and instruments to collect information.
- Utilize a valid, reliable, and ethical data-collection method.
- Evaluate sources to avoid collecting sources that contain false information or bias that makes the information unreliable.
- Make connections between and among various sources of information.

Guiding Question(s):

- How do I determine solutions to a problem through reliable, valid, and ethical research?
- How can I ethically collect reliable, valid data and information from both primary and secondary sources?
- How do I make connections between and among various sources of information?


Vocabulary

Academic Vocabulary:

- Data Collection
- Methods/Methodology
- Primary Sources
- Research Instrument
- Secondary Sources
- See this section in previous lessons for review of other words.

Instructional Strategies for Academic Vocabulary:

- Introduce words with student-friendly definition and pictures
- Model how to use the words in writing/discussion
- Read and discuss the meaning of word in multiple contexts
- Students create pictures/symbols to represent words
- Students write/discuss using the words
- Students act out the words or attach movements to the words

<p>In-ConTEXT Vocabulary:</p> <ul style="list-style-type: none"> Students should analyze the sources they have chosen before/as they read and utilize the strategies suggested to the right. 	<p>Strategies for Teaching How to Determine Meaning from Context Clues:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Use the CPR context clue strategy.
<p>Direct Instruction Text Vocabulary:</p> <ul style="list-style-type: none"> Students should analyze the sources they have chosen before/as they read and utilize the strategies suggested to the right. 	<p>Instructional Strategies for Direct Instruction Text Vocabulary:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Introduce words with student-friendly definition and pictures <input type="checkbox"/> Model how to use the words in writing/discussion <input type="checkbox"/> Students create pictures/symbols to represent words <input type="checkbox"/> Students act out the words or attach movements to the words
<p>Symbol Type of Text and Interpretation of Symbol</p>	
	<p>Instructional support and/or extension suggestions for students who are EL, have disabilities, or perform/read well below the grade level and/or for students who and/or a more advanced text for students who perform/read well above grade level</p>
<p>✓</p>	<p>Assessment (Pre-assessment, Formative, Self, or Summative)</p>
<p style="text-align: center;">Instructional Plan</p>	
<p>Anticipatory Set/Introduction to the Lesson</p> <p>Tell students that they will watch Ted Ed video “This App Makes It fun to Pick Up Litter” again. Direct students to answer the following questions as they watch the video:</p> <ul style="list-style-type: none"> What data and information did he collect? What was his purpose? How did he collect his data? What conclusions did he make from his data? How did he use it to help others? 	

Replay the Ted Ed video [“This App Makes It fun to Pick Up Litter”](#) from Lesson 2. Have students discuss the answers to the questions. Clarify and validate their responses, as needed. Review the following terms using the strategies listed in the academic vocabulary section: methods/methodology, data collection, primary sources, secondary sources, research instrument.

Understanding Lesson Purpose and Student Outcomes

Explain to students that they must refine their questions, problem, and solution, and that they will do this through research.

Have students view the research section of **Handout 1.2: Learning Targets for the Unit**. Explain to them that they will learn all about themes, how they are different from central ideas, and how to develop a theme, and they should use this sheet to monitor their comprehension and the completion of the lesson targets as they progress throughout the unit. Tell them that they will not accomplish all of these skills today. They will stop at “Both primary and secondary sources can help a research solve a problem or answer a question” and “Make connections between and among various sources of information.”

Direct them to check off as they accomplish each target and to highlight the ones they do not think that they mastered.

Activity 1: Introduction to Information and Data Collection

During the following whole-class discussion, have students add ideas to their **Handout 2.1: Ideas to Remember About Problem Solving**.

Note: Students may need to be provided with an extra copy to continue adding.

T: Because data and information about the problem is vital to solving the problem, we will begin to collect data. Data and information can be collected for all different purposes and in many different ways during the problem-solving process. First, you may need to understand more about the problem. (Provide students with, display, or direct students to locate **Handout 1.4: Research Paper Samples** for your following examples.) For example, if my problem was that students did not read, I may have to research reasons why they do not read. Who or what would be my source?

S: (Students should view **Handout 1.4: Research Paper Samples** and respond by saying students, research articles/reports, or experts in the field.)

T: So in what way would I collect this information?

S: (Students should view **Handout 1.4: Research Paper Samples** and respond by saying through interviews, surveys, or reading information.)

Discuss both primary and secondary sources and qualitative and quantitative data and when each of them should be used, being sure to reference **Handout 1.4: Research Paper Samples**. Explain how finding experts in secondary sources is key. The information should be up to date, unless it is necessary to have dated material (i.e., you are researching how something has changed over time and need to look at older sources of information). Explain why an expert is better than just finding any source. Explain how to determine the information. Also, discuss the type of questions you would ask if you interviewed/surveyed students. Discuss if they would leave it open-ended or provided choices. Discuss how asking the right questions and providing the right choices is important to get valid results. Remind students to add ideas to their **Handout 2.1: Ideas to Remember About Problem Solving**.

T: Great! You all are showing understanding of research methods and instruments. From this information and data, I would develop a list of solutions. Once I have collected this information, I still haven't solved my problem. I have come up with possible solutions. So what if more questions arise about these solutions. For example, what if from my initial research and data collection I found that students didn't like to read because they weren't interested in the topics. At this point, what would I need to do?

S: (Students should respond by saying collect more information, conduct additional surveys by asking about what topics interest theme, research a list of books that most students love to read.)

T: See, additional questions and the need for additional information and data arises in the process of research and problem solving. Therefore, it is helpful to start with an initial plan of action based on your problem statements and root causes. This plan of action is about your method for research.

Display the following questions and have students work with their teams to answer these questions:

- What do you need to research first?
- How do you need to collect this information?
- From whom would be a reliable source to collect this information?
- What would be the best way to collect this information? Do you need to develop any collection instruments (e.g., surveys, interviews, focus group questions)?
- How much information do you need and from how many different sources?
- What factors do you need to consider to ensure that the information collected is reliable and valid?

Provide support by monitoring conversations to validate appropriate and correct responses and correct any misconceptions. Use **Handouts 1.4: Research Paper Samples** as a reference for students who are struggling. Also, help extend students' thinking by directing them to think about other perspectives. To do this, ask them the following questions:

- Have you thought about every possible perspective?
- What if you collected information from a different group of people?
- What if you collected information in a different way or with a different instrument?
- What if you combined your information from this source with another source?

Note: Make sure students have access to a formatting guide such as [MLA Formatting and Style Guide](#).

Activity 2: Information and Data Collection Model

After students have had time to answer their questions and you have provided support, provide them with **Handout 4.1: Source Information/Data Collection Sheet**. Direct students to think about the research samples in **Handouts 1.4: Research Paper Samples**, specifically the research process to get this final product. Display **Handout 4.2: Sample Source Information/Data Collection Sheet**.

Model and think-aloud to show students how to complete **Handout 4.1: Source Information/Data Collection Sheet** by using hypothetical information from the sources in **Handouts 1.4: Research Paper Samples**. Be sure to point out how quotation marks mean direct quotes and how the text that does not contain quotation marks means that the information has already been paraphrased. Emphasize to students the importance of not forgetting quotation marks so they do not incorporate information into their own writing without paraphrasing it or properly quoting it.

Note 1: The “Tag It” section is for students to categorize the information into central ideas that may become the central ideas of their own paper. They should ask themselves under what category would they place this information. They should write single words or phrases and draw lines to the information in the second column. Also, this may be better to do after the information is collected completely.

Note 2: Under the “About My Sources” section, the information is hyperlinked to a resource that explains what type of information should be recorded.

Note 3: If access is available, have students use an electronic copy of this form to avoid running out of space.

Note 4: An alternative to using **Handout 4.1: Source Information/Data Collection Sheet**, is to use [Read Write Think Resource](#). It guides students through the same activities of collecting information about the resource and deciding how the information is related under a category label.

Extensions and/or a more advanced text for students who perform/read well above grade level:

- Have students use a digital data collection resource, such as [Mendeley](#).

Activity 3: Student Information and Data Collection

In a lab setting or with laptops, take time to show students how to use and take advantage of technology to link to other information and to display information flexibly and dynamically. For example, show students how to use Google Docs or another program that allows them to access and enter information into the same document at the same time.

Have students determine the focus of their research collection process for the time. If they are collecting information from online sources, they will label their group 'A' for the moment. If they are creating research collection tools, they will label their group 'B' for the moment. It is also acceptable for the group to divide this responsibility. Since both groups have different needs at different times, instruct them to change the labels as their needs change so that you can be aware of their progress.

If the students identify as 'A' at the moment: They must watch a tutorial on how find reliable sources, such as [How to Know if a Source is Reliable](#), and create a checklist of things to remember when researching sources online.

Note: A tutorial may not be enough scaffolding for students. If so, see this [Read Write Think lesson](#) to prepare a mini-lesson for evaluating sources. This resource also offers extension and assessment activities.

Students who identify as 'A' should end their research collection by debriefing with the group on their findings, tagging (in the "Tag It" section) their findings, and discussing what other information needs to be collected.

Note: An alternative to using **Handout 4. 1: Source Information/Data Collection Sheet**, is to use this [Read Write Think Resource](#). It guides students through the same activities of collecting information about the resource and deciding how the information is related under a category label.

If the students identify as 'B' at the moment, they must watch a tutorial on how to create valid data collection instruments, such as [Validity](#), and create a checklist of things to remember when creating valid data collection instruments.

Note: Students may need additional tutorial videos based on their needs. For example, if they are going to conduct a focus group, they need to view a tutorial that advises them on best practices for doing so.

Students who identify as B' should end their discussion by deciding who, when, how, and where they will implement their research tool.

Note: Some groups will need to complete both 'A' and 'B' activities.

Explain to students who complete 'B' activities that once they collect their data, they should debrief with the group about their findings, tag (in the "Tag It" section) their findings, and discuss what other information needs to be collected.

Note: An alternative to using **Handout 4. 1: Source Information/Data Collection Sheet**, is to use this [Read Write Think Resource](#). It guides students through the same activities of collecting information about the resource and deciding how the information is related under a category label.

Activity 3: Methodology

Tell students that effective researchers are transparent by including the method they used to collect data. This serves two purposes: it strengthens (or weakens, if the method is invalid or unreliable) their findings and it provides opportunity for other researchers to replicate the process with a different group or with slightly different setting to further the research on the same concept.

Use the research samples in **Handout 1.4: Research Paper Samples** to model for students how to write a methodology section. Label the parts of the section. Have the group write their own section using their information. Have one group swap with another group to evaluate (not correct). Have the groups correct and revise their methodology section based on the feedback. Tell students to save this for the next lesson because they will add it into their research paper.

Reflection and Closing

Have students reflect on how they accomplished the learning targets on **Handout 1.2: Ideas to Remember About Problem Solving**.

Homework

Over multiple days (but before Activity 3), students should collect information as needed from sources outside of school (e.g., focus groups, interviews, and surveys) and bring back to group.

Handout 4.1: Source Information/Data Collection Sheet

About The Source	Information/Data Collected (Include page numbers, if applicable, beside the information recorded.)	Tag It
<u>Author:</u> <u>Title of source:</u> <u>Title of container:</u> <u>Other contributors:</u> <u>Version:</u> <u>Number:</u> <u>Publisher:</u> <u>Publication date:</u> <u>Location:</u>		
<u>Author:</u> <u>Title of source:</u> <u>Title of container:</u> <u>Other contributors:</u> <u>Version:</u> <u>Number:</u> <u>Publisher:</u> <u>Publication date:</u> <u>Location:</u>		

Handout 4.2: Sample Source Information/Data Collection Sheet

About The Source	Information/Data Collected (Include page numbers, if applicable, beside the information recorded.)	Tag It
<p><u>Author:</u> T.E. Ryan <u>Title of source:</u> Motivating novice students to read their textbooks. <i>Journal of Instructional Psychology</i> <u>Title of container:</u> <u>Other contributors:</u> <u>Version:</u> <u>Number:</u> vol. 33 no. 2 <u>Publisher:</u> <i>Journal of Instructional Psychology</i> <u>Publication date:</u> 2006 <u>Location:</u></p>	<p>Thinks reading comprehension is the cause. “Students do not continue to comprehend when they experience disappointments on multiple occasions.” (page 12)</p> <p>(Note: You should include additional information from this resource in this same blank.)</p>	<p>reason= reading comprehension</p> <p>(Note: You may need the same tag or a different one.)</p>
<p><u>Author:</u> Rebekah Nathan <u>Title of source:</u> My freshman year: What a professor learned by becoming a student. <u>Title of container:</u> <u>Other contributors:</u> <u>Version:</u> <u>Number:</u> volume 6 no. 2 <u>Publisher:</u> Cornell University Press <u>Publication date:</u> 2007 Spring <u>Location:</u></p>	<p>links low levels of reading comprehension to a student’s desire for more personal time (p. 111). (Note: See also A National Endowment for the Arts report (p. 8).)</p>	<p>reason= reading comprehension linked to personal time</p>
<p><u>Author:</u> E.J. Paulson</p>	<p>“In addition, college developmental reading is often seen as consisting of content-area textbook reading and study assistance—a way to “get students through” their other college courses. In some contexts, a focus</p>	<p>reason= no value on comprehension due to</p>

<p><u>Title of source:</u> Self-selected reading for enjoyment as a college developmental reading approach</p> <p><u>Title of container:</u></p> <p><u>Other contributors:</u></p> <p><u>Version:</u></p> <p><u>Number:</u></p> <p><u>Publisher:</u> <i>Journal of College Reading and Learning</i></p> <p><u>Publication date:</u> 2006</p> <p><u>Location:</u> Ithaca</p>	<p>on skill building can be beneficial for many aspects of students' academic lives given an appropriate metacognitive, strategy-construction approach." (p. 51)</p> <p>"a study-skills approach to college developmental reading falls short. Instead, we must focus on encouraging and instilling in developmental reading students the belief that reading has intrinsic value" (p. 52)</p> <p>"This trend toward giving troubled readers less authentic reading than their more proficient classmates is replicated in college developmental reading classes if the class is built around word analysis instead of being built around reading real texts." (p. 53)</p>	<p>instructor's approach</p>
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For training or questions regarding this unit,
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