How do I evaluate the credibility of sources and determine which ones to use for a specific task?

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Advanced Lesson 5:

How can I recognize bias? Why might I use biased information? What are indicators of misquotes or falsified images? How might I check the facts of a source?

LESSON OVERVIEW: In the last lesson, students learned Google Scholar and investigated tools beyond Google Search. In this lesson, students begin by watching various videos and critiquing them according to the degree of bias, the purpose for the bias, and the impression the messages leave on others. Next, students participate in a jigsaw activity by reading various articles pertaining to misquotes and falsified images (pictures). They learn to sense what triggers doubt by taking into consideration some indicators that lead to skepticism, and then they are presented with some actions they might take to verify the veracity of information sources. Lastly, students annotate a works cited document in order to defend the sources they plan to use for a research project. This will help to validate that the sources they ultimately choose have been vetted.

STANDARDS:
- *K-12 College and Career Readiness (CCR) Anchor Standards for **Writing 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. (Grade specific: **W.6.8, W.7.8, W.8.8, W.9-10.8, W.11-12.8**)
- *K-12 College and Career Readiness (CCR) Anchor Standards for **Writing 1***: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient **evidence.**
- *K-12 College and Career Readiness (CCR) Anchor Standards for **Writing 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.**

RESOURCES/MATERIALS:

- Articles for recognizing bias (provided, or educator selects)
- Articles on credibility (provided)

ESTIMATED TIMING:

- approximately three 50-minute lessons

LESSON DETAILS:

1. **Set the stage.**
    - In the last lesson, students moved beyond Google Search to look at other tools for the research process. However, they still face the challenge of determining which sources are credible to use. This lesson provides experience in understanding bias and tracking facts back to their source.

    - In a brief class discussion, ask students if they have ever encountered information that was incorrect—either by mistake or on purpose—that might have had a negative impact on them or others. This discussion might include conversation around school work, consumer purchases, social interactions, or other aspects of students' personal lives.

- Remind students that they have learned in previous lessons (see Foundational and Accomplished Lesson #5) some basic cues for evaluating the credibility of information. In these lessons, students practiced using their instincts and knowledge to discern credibility. Tell them that in both print and digital sources, savvy researchers have strategies that might help them determine the credibility and accuracy of a source.
- In this lesson, students will begin by looking at bias. Next they will focus on common areas of misinformation on and off the web: quotations and photographs. In both cases, questionable source quality pre-dates the Web. Furthermore, the ease of altering photographs and duplicating quotes out of context in digital formats makes it often difficult to navigate misrepresentations to find authoritative information. They will learn some ways to detect this misrepresentation and verify accuracy. Additionally, students will validate authorship and accuracy of more sophisticated information by revisiting questions from the Foundational and Accomplished Lesson #5: *Who wrote the information? When was it written? Can it be verified?*

2. **Recognize bias in articles/videos.**
   - Arrange students into small groups. Tell them they will look at different short articles or videos that all have an element of bias. In their groups, instruct them to watch the assigned videos or read the articles and respond to all or some of the following questions. Explain that they will then show the video or share the article with the class and present their answers to the questions. You might ask each group to record their responses on a note taking sheet or graphic organizer of their choice in preparation for the brief class presentation.
     - What is the point of view, position, or claim of this source?
     - Why was it produced? Who produced it?
     - How does who produced it explain the bias?
     - How does the purpose of the message dictate the information that is relayed in this video?
     - How does the content impact viewers?
     - Is the information factual? How do you know?
     - Do you feel it is unfairly biased? Why or why not?
     - Even if the video is biased, is it useful information?
   - Below are links to the selected articles you can use for this exercise. This lesson is an excellent place to use videos, but articles are provided since access to videos in classrooms is inconsistent. **Optional:** Collect and show videos of speeches or other content linked to your curriculum.
     - Doctors Say No to GMOs
     - World Health Organization: "20 Questions on Genetically Modified Food"
     - Publicly Funded GMO Research in India Exposed as Fraud to Secretly Sneak in Monsanto Seeds
     - Mexican Maize: The Truth
     - Convention on Biological Diversity: Background on the Cartagenia Protocol
     - **Differentiation:** Arrange students in groups based on interest or readiness. Assign an appropriate video to each group based on the differentiation configuration.
   - Afterward groups have presented, conduct a whole class discussion to compare and contrast the types and degrees of bias and students' overall impressions on this topic. Explain that the next activity focuses on verifying the accuracy of claims.

3. **Verify the veracity of a source (fact checking) and recognize what triggers doubt.**

   Jigsaw strategy overview: Students participate in a jigsaw activity. As a general overview, this is a cooperative learning strategy in which teachers prearrange students into two groups. All students participate in each of the two groups. In the first group configuration (sometimes called "the expert group"), the students read material silently in their assigned groups and then discusses it together. Each group is given different material to read based on interest and/or readability levels. During discussion based on a teacher-directed task, they arrive at a consensus of information and each take notes on what they glean. In the second group arrangement, the "expert group" is disbanded and students are arranged

in mixed groups comprised of at least one student from each expert group. Students then teach others what they learn about their assigned material. Through this strategy, all students are enriched by learning about different material and teaching others what they have learned about a given topic or theme.

TEACHER PREPARATION: For this jigsaw activity, prearrange the class into "expert groups" of four or five students. Students in each "expert group" read a different article that either tells a story or demonstrates a technique around questioning or verifying the authenticity of quotes or photos. Read the material in advance and assign each "expert group" an appropriate source. Print out enough copies for students in each "expert group" or have computers available with Internet access.

○ **Differentiation:** Students may be grouped in their "expert groups" by reading readiness, general computer literacy, or preferences for text vs. preferences for images.

ARTICLES ON CREDIBILITY

READING MATERIAL ABOUT QUOTES:	READING MATERIAL ABOUT IMAGES:
● "Anatomy of a Fake Quotation" by Megan McArdle of *The Atlantic* ● "Google Date Range Filter Simplifies Search Results" by Robert Strohmeyer for *PC World* ● "Misquotes—Searching for Authenticity Online" by James Sullivan of findingDulcinea ● "How to Spot a Fake" by Anna Berkes, research librarian at Monticello	● "Solving a Civil War Photograph Mystery" by the Library of Congress ● "Quick check on the validity of an image" by Daniel M. Russell of Google (for students who enjoy math) ● "Digital Forensics: 5 Ways to Spot a Fake Photo" by Hany Farid, Department of Computer Science, Dartmouth and Fourandsix Technologies (Teacher: make sure to use all five screens.) ● "Photo Tampering Throughout History", Hany Farid and Kevin Connor of Fourandsix Technologies ● "Evolution: A Dove Film" Dove's award-winning short from the Campaign for Real Beauty, showing how supermodel-style images are created. NOTE: this is a video.s

● Remind students that there exists much excellent information, but knowing how to spot problem sources both online and off will help keep their research on the right track. Tell them they will participate in a jigsaw activity in which they learn about ways to verify the accuracy and credibility of quotes and images or what triggered doubt in authors about the authenticity of quotes or images. If students haven't participated in a jigsaw before, let them know that the basic structure involves expert and mixed groups. Explain these specific tasks in the jigsaw process:

● **EXPERT GROUP:** Each expert group member silently reads the assigned article either online or in print version as the teacher instructs. While reading, each person highlights or records responses to any of these questions that are pertinent to the assigned article about quotes or images. Note that not all questions will pertain to each source.

○ How do misquotes evolve?
○ What can I do to verify the accuracy of a quote or image?
○ What's an indication of misquoting or falsifying images?
○ What can trigger doubt that a quote or image might be inaccurate?
○ What sites should be avoided or used to verify credibility?

● Each member then shares and discusses their impressions with the group. As a group, come to an agreement about the most important findings from the article and be ready to share uniform information with others in the mixed group.

● **MIXED GROUP:** Expert group members disband and form a mixed group where they will perform the following tasks: (a) Each person in the mixed group shares what s/he learned about the

assigned reading. (b) As a group, listen carefully to the contributions of each member. Then collectively discuss what was learned and record salient findings on a note taking sheet to share with the whole class.

- **WHOLE CLASS DEBRIEFING:** Use the last few minutes of class for groups to share their impressions with classmates. You might use the previous questions as format for sharing. Remind students to be careful to build on what other groups have shared to avoid duplications.
- **Extension:** Give students a quote and/or a photograph to verify for homework using what they learned in the jigsaw activity to guide them.

4. **Verify credibility of sources.** Students turn their attention to their own sources and use what they learned to determine the veracity of these sources. In doing so, they can determine which sources are best to use to support their research task.

5. **Annotate works cited list.** Once students choose the appropriate sources for their task, they will create a works cited. Directly on the works cited or on an additional sheet of paper, instruct students to defend why they feel each source warrants inclusion. Discuss why this is important to do. For example, they might write something like this: "I selected the page on "How to Spot a Fake" by Anna Berkes, who is a research librarian at Monticello, because I was able to verify the credibility of the author by clicking on a provided link. Plus, I saw that she is a research librarian, which means that checking accuracy is part of her professional expertise. Also, the article appears on the Monticello website. Since Monticello was Thomas Jefferson's estate, this website would have people who work there who are experts on this historical figure and landmark."
    - **Differentiation:** One-on-one or in small groups, students can verbally provide a rationale for why they chose each source.

ASSESSMENTS:
- Participation in discussion and jigsaw activity
- Annotated works cited