Table of Contents

Table of Contents *(cont.)*

Introduction

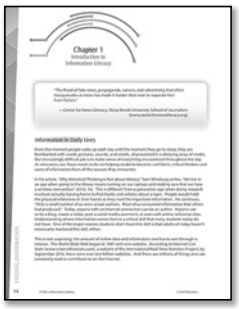
People today live in a world of information overload. Each day, information is shared from countless sources through numerous devices. Learning how to handle this information has become an important daily task for everyone. Teachers and students in today's classrooms benefit from finding, analyzing, and using online information, but students must be taught how to reason critically as they interact with information.

Online reasoning skills serve students in their personal lives as well. By the time they reach upper elementary school, most students are on smartphones, social media, video websites, blogs, and interactive digital games. Students need coaching on how to take in all these information sources, critically think about the content, and apply it to their decision-making. To that purpose, this book was created with research, explanations, and easy-to-use activities to support teachers as they teach the key skills of harnessing and understanding information.

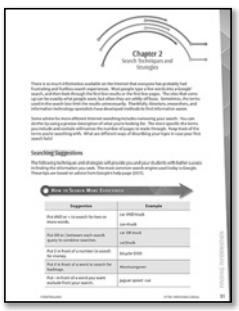
The book is divided into three sections to guide teachers through the necessary lessons and activities needed to encourage critical reasoning. Additional resources are also provided in the appendices to further support teachers. Digital resources are included with this book to better support teachers. (See page 198 for more information.)

Finding Information

This section introduces terms such as *information literacy*, *online reasoning*, and *digital literacy*. The content and activities answer these and other questions: *What is information? What are the information sources people encounter every day?* and *What kinds of information are shared and how?*



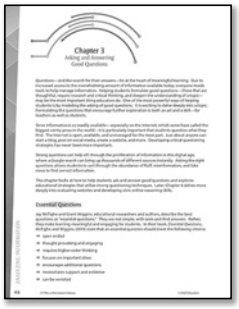
Chapter 1—Introduction to Information Literacy: Learn about the history of digital information and communication.



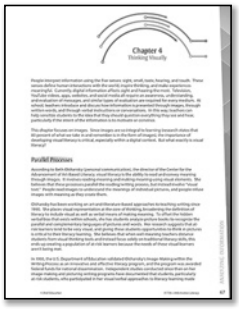
Chapter 2—Search Techniques and Strategies: Discover how to use advanced searches to gather focused information on the Internet.

Analyzing Information

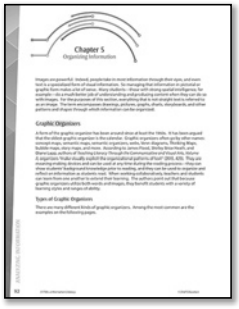
This section provides opportunities to practice critically analyzing and questioning information wisely. Today's students need to become the future's intelligent digital citizens. The content and activities give strong, easy-to-use online reasoning strategies to help students carefully and critically analyze the information they encounter daily. It answers these and other questions: *What makes a good question? Can I trust this source and why?* and *How do I organize and make sense of information?*



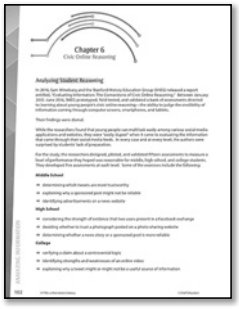
Chapter 3—Asking and Answering Good Questions: Study strong questioning techniques and the differences between open and closed questions, which is at the heart of critical thinking.



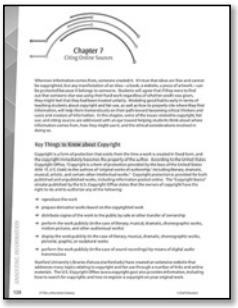
Chapter 4—Thinking Visually: Learn how to find meaning in pictures and words, with an introduction to evaluating the purposes of the information shared.



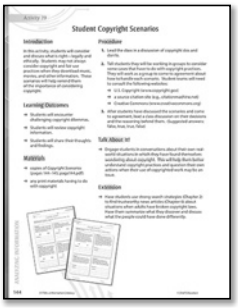
Chapter 5—Organizing Information: Gather tips for how to harness information into organized collections, so it can be reviewed and applied.



Chapter 6—Civic Online Reasoning: Develop civic online reasoning in students to help them evaluate resources and news on the Internet.

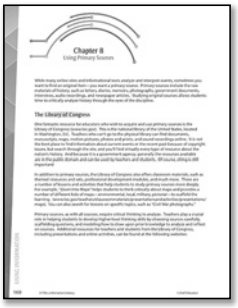


Chapter 7—Citing Online Sources: Investigate copyright regulations and fair use of materials.

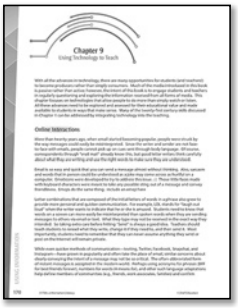


Using Information

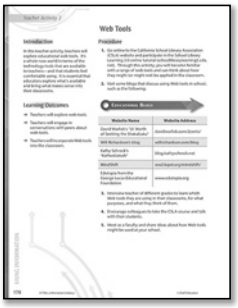
This section provides guidelines for how students can effectively move online information from their devices into knowledge they can use to create and share products. The content and activities answer this question: *How do we use various types of information in our lives?*

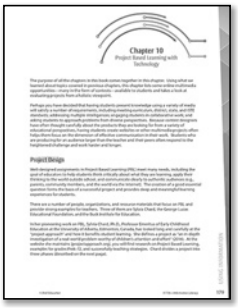


Chapter 8—Using Primary Sources: Discover guidelines for using primary sources in the classroom.

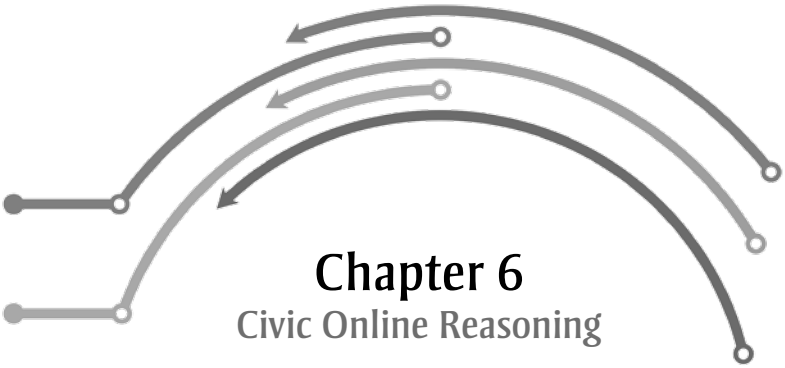


Chapter 9—Using Technology to Teach: Learn about key programs and apps that encourage digital literacy.





Chapter 10—Project Based Learning with Technology: Bring everything together for students to apply what's been learned from the activities in this book.



Chapter 6
Civic Online Reasoning

Analyzing Student Reasoning

In 2016, Sam Wineburg and the Stanford History Education Group (SHEG) released a report entitled, "Evaluating Information: The Cornerstone of Civic Online Reasoning." Between January 2015 and June 2016, SHEG prototyped, field tested, and validated a bank of assessments directed to learning about young people's civic online reasoning—the ability to judge the credibility of information coming through computer screens, smartphones, and tablets.

Their findings were dismal.

While the researchers found that young people can multitask easily among various social media applications and websites, they were "easily duped" when it came to evaluating the information that came through their social media feeds. In every case and at every level, the authors were surprised by students' lack of preparation.

For the study, the researchers designed, piloted, and validated 15 assessments to measure a level of performance they hoped was reasonable for middle school, high school, and college students. They developed five assessments at each level. Some of the exercises include the following activities:

Middle School

- ➜ determining which tweets are most trustworthy
- ➜ explaining why a sponsored post might not be reliable
- ➜ identifying advertisements on a news website

High School

- ➜ considering the strength of evidence that two users present in a social media exchange
- ➜ deciding whether to trust a photograph posted on a photo-sharing website
- ➜ determining whether a news story or a sponsored post is more reliable

College

- ➜ verifying a claim about a controversial topic
- ➜ identifying strengths and weaknesses of an online video
- ➜ explaining why a tweet might or might not be a useful source of information

The authors include actual exercises and sample evaluations in their Executive Summary of the study (sheg.stanford.edu/upload/V3LessonPlans/Executive%20Summary%2011.21.16.pdf). These can be shared with your students to see how they compare to other students around the country. If you want more information, Wineburg often uses Twitter (@samwineburg) to share research and information on how to better prepare students to be effective digital citizens through improved media literacy.

The SHEG researchers describe how only nine percent of high school students in an Advanced Placement history course could see through a lobbyist's language, and only seven percent of college students recognized the bias. While a simple Google search would have exposed the lobby group for what it was, the authors stated, "most students never moved beyond the site itself" (Wineburg et al. 2016, 5). Wineburg and his team worry that democracy is threatened by how easily misinformation about civic issues is allowed to spread. Clearly, students need guidance in navigating today's digital information highway.

Coincidentally, also in 2016, Melissa Zimdars, a professor at Merrimack College in Massachusetts, compiled a list of "False, Misleading, Clickbait-y, and/or Satirical 'News' Sources." This list grew out of an exercise for her students, who were having trouble determining the credibility of sources coming through their social media sites. She categorized websites with labels such as: Fake News, Satire, Extreme Bias, Junk Science, and Hate News. The fact that professors in college are creating documents like this supports SHEG's findings about young people today and their inabilities to think critically while online.

Johns Hopkins University is also working to "improving civic discourse and engagement." Experts there are working to change how people interact and make decisions. They are looking to help people be more open to different perspectives in the world around them (Larimer 2017).

Evaluating News Information

To be information literate, students need to be able to differentiate between news, entertainment, opinions, and advertising. They must be able to separate fact from fiction! They need to find information efficiently and effectively, evaluate information critically and competently, and use information accurately and creatively. They should always think, question, and pay attention—particularly to who is telling the story. Now, more than ever, "schools must teach students to become critical consumers of the information they find online" (Pierce 2017).

Sometimes that isn't easy for students. Luckily, there are reputable sources that exist to help students evaluate online information and guide students in how to critically analyze what they're reading. These sites have become very important for people today who are trying to figure out what is real and what is fake. A good three-minute video to introduce fake news to students is available from FactCheck.org and available through YouTube (youtu.be/AkwWcHekMdo).

The resources listed in the chart on page 104 are available to help you and your students determine the reliability of online information as well as strengthen your own online reasoning skills. Keep in mind, though, that sometimes students still can't get an answer somewhere else. At that point, they need to think critically and use what they know to be information literate.

Website Fact Checkers

Website Name	Description	Website Address
B.S. Detector	This browser extension is powered by OpenSources. It searches all links on a given website for references to unreliable sources using OpenSources's database.	bsdetector.tech
FactCheck.org	The mission of this website is to "reduce the level of deception and confusion in U.S. politics."	www.factcheck.org
OpenSources	The mission of this website is to "empower people to find reliable information online."	www.opensources.co
Politifact	This website "rates the accuracy of claims by elected officials and others who speak up in American politics."	www.politifact.com
Snopes	This website is "the oldest and largest fact-checking site on the Internet."	www.snopes.com

Traditionally, students have gone to libraries for help in finding information, and libraries remain valuable today. Libraries have always been the repository of information within a school or community where students, teachers, and community members can find what they need on every imaginable topic. All the resources in a library have been carefully selected for their value to the school or community. Librarians are trained to evaluate information and make selections based on tried-and-true criteria. They are the go-to source in this arena.

By working closely with school, public, and online librarians and libraries, teachers can further all areas of literacy, help students develop important critical-thinking skills, and encourage lifelong learning and curiosity.

One valuable piece of information to note is that the same criteria that librarians use to evaluate books for inclusion in a library apply across all media. While the terms used vary, the five criteria—currency, relevance, authorship, accuracy, and purpose—cover the field. To provide further insight, two educational librarians, Kathy Schrock and Mary Broussard, share their advice and knowledge on information literacy.

If It's On the Web, It Must Be True

Introduction

In this activity, students will find websites of interest to them and then confirm the information on the sites with two other sources. Students often think that everything on the Internet must be true. Websites usually look very professional, and the idea that they are not all created equal is not obvious.

Learning Outcomes

- Students will use a data sheet to confirm the veracity of the information.
- Students will identify three sources of information.
- Students will question the wisdom of relying on a single website for information.

Materials

- copies of *Website Data Sheet* (pages 119–120; page119.pdf)
- optional: *Website Data Sheet Example* (pages 121–122; page121.pdf)

Procedure

1. Ask students to identify who can develop and post websites (*everyone*). Ask them to discuss ways to determine whether to trust what they see on the web.
2. Distribute and introduce the *Website Data Sheet* (pages 119–120) Tell students they will work in pairs to identify topics and develop questions to research on the Internet. In the example, the topic is *Skateboards: Who developed them?*
3. Have students record their topics and questions on their copies of the *Website Data Sheet*. Tell each pair of students to run their topic and question by you before proceeding online.
4. Instruct each pair of students to go online and find a good website on their topic (i.e., one they feel has strong, accurate information). Direct students to identify two other sources (e.g., book, article, person) to confirm the information they found on the website. They can use the Internet for one of the other sources but not both.
5. Have students discuss the experience of searching for details to support their chosen websites. Have students share whether their websites provided inaccurate or accurate information.
6. Ask students questions, such as the following: *How difficult was it to find three different sources for the same information? How do you know who to believe?* and *What other questions arose after doing this research?*

Talk About It!

- Hold a discussion as to why some articles seem more truthful than others and how our initial reactions influence our belief in an article. Also discuss how the images affect the article—do they shape the tone, mood, or reader's perspective?

Extension

- This activity can be repeated with the initial source as something other than a website (newspaper article, section of a textbook, etc.). Suggest that students find websites on the topic to see if they contain the same information as the initial source.

Name: _____ Date: _____

Website Data Sheet

Directions: Find a good website on your chosen topic. Then, identify two other sources (e.g., book, article, person) to confirm the information you found on the website. You can use the Internet for one of the other sources but not both.

Original Source

Topic:
Question:
Title and URL of website:
Information to be verified:
What about the website makes you believe the information it provides is true?

Alternate Source 1

Alternate source of information:
_____ Confirmed Original Source _____ Did Not Confirm Original Source Support Information:
What about this source makes you believe the information it provides is true?

Website Data Sheet *(cont.)*

Alternate Source 2

Alternate source of information:
_____ Confirmed Original Source _____ Did Not Confirm Original Source Support Information:
What about this source makes you believe the information it provides is true?

1. What questions do you have after doing this research?

2. How do the images affect the articles? Describe how they shape the tone, mood, or reader's perspective.

Website Data Sheet Example

Directions: Find a good website on your chosen topic. Then, identify two other sources (e.g., book, article, person) to confirm the information you found on the website. You can use the Internet for one of the other sources but not both.

Original Source

Topic: *Skateboards*

Question: *Who first developed skateboards?*

Title and URL of website: *A Brief History of Skateboarding*
www.thoughtco.com/brief-history-of-skateboarding-3002042

Information to be verified:
This site says it can be traced to no one specific individual, but in the 1950s a number of surfers came up with the idea of surfing sidewalks at the same time.

What about the website makes you believe the information it provides is true?
The author, Steve Cave, is a longtime skateboarder. He writes about skateboarding for magazines. ThoughtCo. has an "About Us" page and a contact email. The article was updated in April 2017.

Alternate Source 1

Alternate source of information: *www.britannica.com*

XX Confirmed Original Source _____ Did Not Confirm Original Source

Support Information: *It says, "first commercial skateboards appeared in 1959, but crude homemade versions of skateboards, often consisting of nothing more than old roller-skate wheels attached to a board, were first built after the turn of the 20th century."*

What about this source makes you believe the information it provides is true?
The Encyclopedia Britannica has a good reputation for accuracy.

Website Data Sheet Example (cont.)

Alternate Source 2

Alternate source of information: *my dictionary*

XX Confirmed Original Source _____ Did Not Confirm Original Source

Support Information: *This book says skateboards started around 1963 in Southern California. The word came into the dictionary in 1964.*

What about this source makes you believe the information it provides is true?
It is another reference tool that has been put together by people with no bias or agenda.

1. What questions do you have after doing this research?

I wonder if I should still believe the first source that says skateboarding started in the 1950s. I want to believe it because the author is a real person who has been a skateboarder, but I wonder if the skateboard was actually developed in the early 1900s, and then it started to grow in popularity in the 1950s, and then formally acknowledged as a sport and therefore sports equipment in the early 1960s.

2. How do the images affect the articles? Describe how they shape the tone, mood, or reader's perspective.

There were lots of cool images of skateboards and skateboarders, such as Tony Hawk. It made me want to look at more sources.

