

Good research involves using a variety of sources and materials. Knowing where to look for information, how to access it, and how to record your findings are important skills and strategies for managing the abundance of information at your fingertips.



Included in this handbook:
TEKS 1E, 20, 21, 22, 23

1 Finding Sources

The **library** or **media center** and the **Internet** are the places you will begin your research. Together, the library and the Internet offer a wealth of resources, including reference works, books, newspapers and periodicals, film, databases, catalogs, government publications, and other miscellaneous sources, such as music scores and maps.

1.1 REFERENCE WORKS

Reference works provide quick information that can help you refine or narrow your search. Reference works are roughly divided into two categories: general reference and specialized reference. Specialized reference works are focused on a particular field or area of study.

Reference Works	Examples
Encyclopedias —detailed information on nearly every subject, arranged alphabetically	<i>Encyclopaedia Britannica</i> Encyclopedia.com <i>Encyclopedia of Economics</i>
Dictionaries —word definitions, spellings, usage, pronunciations, and origins	<i>The American Heritage Dictionary</i> <i>Bartlett's Quotations</i>
Almanacs and Yearbooks —current facts and statistics	<i>World Almanac and Book of Facts</i>
Thesauri —lists of synonyms and antonyms	<i>Roget's International Thesaurus</i>
Biographical References —information on the lives of noteworthy people	<i>The Riverside Dictionary of Biography</i> <i>The International Who's Who</i>
Atlases —geographical and historical maps, charts, and graphics	<i>Rand McNally Atlas of the World</i>
Directories —names, addresses, and phone numbers of people and organizations	telephone books lists of business organizations, agencies, and publications
Indexes —alphabetical lists of newspaper and magazine articles	<i>Readers' Guide to Periodical Literature</i>

1.2 BOOKS

Nonfiction books provide in-depth information on specific topics. Your research may also require that you access fiction, poetry, or dramatic works. The following parts of a book will help you find information quickly and easily:

- **Title page**—a page that gives the book's name and the name of its author and publisher; usually the first full page of a book
- **Copyright page**—a page that gives the copyright date, or the date the book was published; usually located on the reverse side of the title page
- **Table of contents**—a list at the front of the book that gives the title of each chapter or section of the text and the page number on which it begins
- **Preface**—a short, preliminary section of a book in which the writer of the book briefly provides background information and, possibly, acknowledgments
- **Bibliography**—a list of related books and other materials used to write a text; usually placed at the end of the book
- **Glossary**—an alphabetized list of important and/or specialized words and their definitions; usually placed at the end of the book
- **Appendix**—a collection of additional materials that supply background or other related information on subject matter discussed in the main portion of the text; usually located at the end of the book
- **Index**—an alphabetized list of important topics, terms, and details covered in the book, together with the page numbers on which they can be found; located at the end of the book; useful for quickly finding specific information on a topic

For more information, see *Choosing Trustworthy Books*, page 1413.

Two basic systems are used to classify nonfiction books. Most high school and public libraries use the Dewey decimal system. University and research libraries generally use the Library of Congress system.

DEWEY DECIMAL SYSTEM

000–099	General works
100–199	Philosophy and psychology
200–299	Religion
300–399	Social science
400–499	Language
500–599	Natural sciences and mathematics
600–699	Technology (applied sciences)
700–799	Arts and recreation
800–899	Literature and rhetoric
900–999	Geography and history

LIBRARY OF CONGRESS SYSTEM

A	General works
B	Philosophy, psychology, religion
C	History
D	General history and history of Europe
E–F	American history
G	Geography, anthropology, recreation
H	Social sciences
J	Political science
K	Law
L	Education
M	Music
N	Fine arts
P	Language and literature
Q	Science
R	Medicine
S	Agriculture
T	Technology
U	Military science
V	Naval science
Z	Bibliography and library science

1.3 NEWSPAPERS AND PERIODICALS

Newspapers, magazines, and scholarly journals provide concise and current information on specific topics and the news of the day. Microforms are newspapers, periodicals, and reports stored on film (microfilm) or cards (microfiche) and viewable on special machines found at the library.

Types of Publications	Examples
Newspapers —published daily, weekly, or monthly; provide news reports, specialized features, and commentary; may be general or specialized	<i>New York Times</i> <i>Chicago Tribune</i> <i>Sacramento Bee</i>
Magazines —published monthly, quarterly, or at other intervals; provide news, articles on specific topics, and commentary; more in-depth than newspapers	<i>Newsweek</i> <i>Time</i> <i>Musician</i>
Journals —usually academic in scope; related to a specific field of study; highly specialized information	<i>Journal of Music Theory</i> <i>New England Journal of Medicine</i>

For more information, see *Evaluating Newspapers and Periodicals*, page 1412.

1.4 ELECTRONIC RESOURCES

Electronic resources include DVDs, videos, e-books, CD-ROMs, and audio resources. These resources may contain reference materials, movies, documentaries, television programs, books, music, speeches, textbooks, and a variety of resources. While most documentaries, movies, and interviews are available on DVDs or CDs, you may want to directly access a film version. To quickly determine whether the piece is useful for your research, check the following:

- **Description or summary** of the piece—Does it contain the information you need, or is it relevant to your topic? Is it nonfiction or fiction?
- **Copyright date**—How current is the documentary or interview?
- **Producer** of the piece and its **participants**—Is the producer or creator reputable? Who is interviewed or featured?

Writing
Online

THINK
central

Go to thinkcentral.com.
KEYWORD: HML12-R45

1.5 DATABASES AND ONLINE CATALOGS

The library and Internet also offer large databases that allow you to search for articles on any number of topics. Often the library will subscribe to a database service, such as InfoTrac, Newsbank, or SIRS Researcher. The information on these databases is updated regularly.

Electronic catalogs have mostly replaced the card catalog system of book listings, which were filed in labeled drawers in libraries, and can often be accessed from the library's Web site on the Internet.

1.6 OTHER RESOURCES

In addition to the library or media center and the Internet, the following sources can supply information: corporate and nonprofit publications, lectures, correspondence, career guides, recordings, and television programming.

PRACTICE AND APPLY

1. If you were looking through a nonfiction book on the romantic poets, which part(s) of the book would you search in order to find information on William Wordsworth, one of the romantic poets?
2. If you wanted the most current information on a given topic, which source(s) would you search first?
3. Describe a situation in which you might find it useful to search microfiche.

1.7 WEB SOURCES

Whole libraries are on the Internet, as are thousands of other reliable and comprehensive sources for research. To conduct a search efficiently and find the best information for your topic, familiarize yourself with the following terms and procedures.

The main search tools for finding information on the Web are search engines, metasearch tools, and directories. In addition, there are virtual libraries and a host of other sites, such as those of newspaper archives, news associations, encyclopedias, the Library of Congress, and specialized databases.

Search engines—A search engine is a Web site that allows you to look for information on the World Wide Web. Examples include Google, Alltheweb, AltaVista, HotBot, and Go.com.

Metasearch tools—A metasearch tool is similar to a search engine, except that it simultaneously searches multiple search engines for the keywords you request. Examples include Dogpile, SurfWax, and Metacrawler.

Directories—Directories arrange Internet resources into subject categories and are useful when you are researching a general topic. Examples include Lycos, Galaxy, Yahoo!, Web Directory, and About.com.

Keyword searches—In a keyword search, you access a search engine and type in a phrase or term related to your subject, which allows you to retrieve Web sites and documents that have those keywords in them. Here are some tips for doing a keyword search:

- In the search box, type in a specific word or two that clearly identify your subject.
- When you want to find an exact phrase, or words in a certain order, such as “romantic poet” (and not just “romantic” or just “poet”), use quotation marks around the entire phrase. For instance, “romantic poet” will provide results using those words in that order.
- If necessary, replace the end of a word with an asterisk. For example, the keyword *poet** leads to sites that contain *poet*, *poetry*, and *poetic*.

Boolean searches—A Boolean search lets you specify how the keywords in your search are related. This type of search allows you to refine, narrow, or expand your search so that your results are more focused on your topic needs. Use the following tips to conduct a Boolean search:

- For a search containing two or more words that do not need to be in a specific order, use the word AND between the words to indicate that the site or document should contain all the words specified. For example, *Wordsworth AND Keats* will produce results containing both those words, but not in any particular order. For some search engines, you can use a plus sign instead of AND.
- The word OR broadens the search to include all documents that contain either word (*Wordsworth OR Keats*).
- The word NOT—or, for some search engines, a minus sign—excludes unwanted terms from the search (*poetry NOT contemporary*).

Each Web site you encounter in your search will have a **URL** (uniform resource locator), which is its Web address. The abbreviation usually located at the end of the URL indicates the type and purpose of the Web site.

URL ABBREVIATIONS AND MEANINGS

- .COM** commercial—product information and sales; personal sites; some combinations of products and information, as at World Book Online
- .EDU** education—information about schools, courses, campus life, and research projects; students’ and teachers’ personal sites
- .GOV** United States government—official sites of the White House, NASA, the FBI, and other government agencies
- .MIL** United States military—official sites of the army, navy, air force, and marines, as well as the Department of Defense and related agencies
- .NET** network—product information and sales
- .ORG** organization—charities, libraries, and other nonprofits; political parties

1.8 YOUR OWN ORIGINAL DATA

Sometimes you will need information that you just can’t find in books or online. A good way to get in-depth, first-hand information is by interviewing experts, conducting surveys, and recording data from your own observations, field work, or experiments.

Interviews with experts—Whatever the subject of your research, look for people who have knowledge or experience in that field. For example, if you were researching the *Titanic*, you might interview someone from the Titanic Historical Society. Use the following tips when conducting an interview:

1. Plan your questions and rehearse what you will say.
2. During the interview, listen carefully and take notes. Ask permission if you want to record the interview.
3. Request clarification and ask follow-up questions when necessary.
4. After the interview, review your notes and summarize the conversation. If you recorded the conversation, you might want to transcribe it.
5. Identify strong statements you might want to quote directly.
6. Send a thank-you note to the interviewee.

Oral histories—For some kinds of presentations and papers, you may want to include an **oral history**, or a story of a person’s experiences told by that person in his or her own words. For example, if you were writing a paper on the London bombing in World War II, you might want to include an oral history of someone who experienced it firsthand. To conduct an oral history, follow all the tips for conducting an interview.

Surveys—Surveys allow you to gather information from a broad range of people through the use of a **questionnaire**. For example, you may want to gather and compare people’s opinions, preferences, or beliefs about a current news topic. Use the following tips to conduct a survey or to distribute a questionnaire.

1. Plan the survey. Choose whether you want to use multiple-choice questions, yes/no questions, open-ended questions, true/false questions, or a rating scale. Write up your questionnaire.
2. Determine the sample population, or group of people, you want to survey.
3. Administer the survey the same way to each person. You may ask people to respond in person, on the phone, or by e-mail, but the method should be the same for each, with the questions asked in the same manner and order.
4. Once the questionnaires have been completed, compile the answers and interpret the responses. Was there a clear preference or opinion from the entire group? Do certain groups of people think one way while others think another? What conclusions can you draw from the results?
5. Summarize your results in writing; use charts or graphics to provide a visual representation of the data.

Independent observation and field research—Field research and independent observation include any purposeful observations you make at a site or event related to your topic. For example, if you were writing a report on how people behave at an art museum, you might spend a day at the museum, recording the activity you observe. For some research projects you may want to set up a **field study**, which is a systematic series of observations or a planned course of data collection. For some topics, you might conduct experiments, as for a report in a science class.

2 Collecting Information

Once you have your sources, you will need to sort through the information. To make the process useful and manageable, you will want to take detailed notes, arrange your information in a logical and organized manner, and make sure your sources are reliable and credible.

2.1 NOTE-TAKING

As you go through your sources, write down information that is relevant to your search.

Source list—You will need to document the sources where you find your information or evidence so that you can credit the sources in your work. Record all the information needed to identify each source you use in your research in the form of a list. Number each source card so that you can refer to it when you take notes and add documentation to your report, as in this example for a book.

1. Dickens, Charles. *Oliver Twist*. New York: Modern Library, 2001. Print.

Notes—As you read your sources, write down all relevant facts, quotations, statistics, anecdotes, and examples separately in your notes. When you're ready to draft your paper, you can choose the best method of organizing your information. Here is an example of a note featuring an exact quotation from the Charles Dickens novel.

1. "Oliver saw, but too plainly, that resistance would be of no avail. He held out his hand, which Nancy clasped tight in hers" (114).

HERE'S HOW

TAKING NOTES

Follow these guidelines as you take your notes:

- **Write a heading** indicating the subject of each note.
- **Write the number of the corresponding source** from your source list.
- **Put direct quotations in quotation marks.**
- **Record the number of the page** where you found the material.

HERE'S HOW

MAKING SOURCE LISTS

Follow these guidelines when you make source list:

- **Book** Write the author's or editor's complete name, the title, the location and name of the publisher, and the copyright date.
- **Magazine or Newspaper Article** Write the author's complete name (unless the article is unsigned), the title of the article, the name and date of the publication, and the page number(s) of the article.
- **Encyclopedia Article** Write the author's complete name (unless the article is unsigned), the title of the article, and the name and copyright date of the encyclopedia.
- **World Wide Web Site** Write the author's or editor's complete name (if available), the title of the document, publication information for any print version of it, the date of its electronic publication, the name of any institution or organization responsible for the site, and the date when you accessed the site.

When recording information in your notes, you can use the following forms of **restatement** to avoid **plagiarism**, or presenting someone else's work as your own:

Paraphrase—When you paraphrase, you restate the writer's idea in your own words. Be sure to enclose in quotation marks any of the author's exact words that you include in a paraphrase.

Summary—When you summarize, you restate the main idea of the original, including key facts and statistics, but in a shorter version, usually about one-third the length of the original. A summary omits unnecessary details.

Quotation—When you use a writer's exact statement, you will need to place quotation marks around it. Be sure to copy the words exactly as the writer wrote them, including all punctuation. Use quotations for

- extremely important ideas that might be misrepresented by paraphrases
- clear and concise explanations
- ideas presented in unusually lively or vivid language

2.2 OUTLINING

Once you've organized your notes in a way that is suitable for your topic, you can create a formal **outline** of how the information will be arranged in your report. An outline can be written in one of two ways: as a sentence outline or as a topic outline. The **sentence outline** contains entries written in sentence form; the **topic outline** contains only phrases or words that represent the ideas. With either choice, each main idea in the outline is designated by a Roman numeral. The subtopics that support the main ideas are designated with indented capital letters. The details that explain the subtopics are designated with indented numerals and lowercase letters.

MODEL: SENTENCE OUTLINE

Title: The Two Worlds of Oliver Twist

Introduction: Dickens blurs the distinction between good and evil.

I. Dickens depicts the underworld of London by showing both evil criminal characters and those who commit crimes due to poverty or misfortune.

A. The criminal characters are cruel and brutal.

1. Sikes and Monks are characterized as men who will do anything to get what they want.

2. Fagin's amorality is shown in his manipulating children into committing crimes.

B. The good characters have believable human weaknesses and failings.

II. The civilized world of London is populated with people who are far from perfect.

MODEL: TOPIC OUTLINE

Title: The Two Worlds of Oliver Twist

Introduction: Dickens blurs the distinction between good and evil.

I. The underworld of London

A. The criminal characters

1. Sikes and Monks

2. Fagin

B. The good characters

II. The civilized world of London

2.3 CHECKLIST FOR EVALUATING SOURCES

The information . . .

- ☒ is relevant to the topic you are researching
- ☒ is up-to-date (This point is especially important when researching time-sensitive topics, such as many related to science, medicine, and sports.)
- ☒ is from an author who is qualified to write about the topic
- ☒ is from a trusted source that is updated or reviewed regularly
- ☒ makes the author's or institution's purpose for writing clear
- ☒ is written at the right level for your needs (For example, a children's book is probably too simplistic, while a scientific paper may be too complex.)
- ☒ has the level of detail you need—neither too general nor too specific
- ☒ can be verified in more than one source

3 Sharing Your Research

At last you have established your research goals, located sources of information, evaluated the materials, and taken notes on what you learned. Now you have a chance to share the results with people in your world—and even beyond. Here are some options you may choose to present your work:

- Give a speech to your classmates or to people in your community.
- Create a power presentation using desktop publishing software and share it with classmates, friends, or family members.
- Describe your research findings on your own Web site.
- Summarize the information in a newsletter or brochure.
- Share the results of your research in a formal research paper. If appropriate, include graphics and spreadsheets as a way to present data.