



Paper, Pens, & Prose: Discovering Early Manuscripts

THE DEVELOPMENT OF WRITING AND BOOKS



Grades 4–8

History and Geography

The Huntington Library, Art Collections, and Botanical Gardens

This project is generously made possible through a grant from
The Los Angeles Times/Times Mirror Foundation.

I. Introduction

The development of writing has long been considered one of the hallmarks of civilization. Its growth, a result of innovations from around the globe, is a fascinating story of human ingenuity, many elements of which are illustrated in the book collection of the Huntington Library.

II. Objective

- ◆ Students will participate in individual and small group activities leading them to draw conclusions about the development of writing and printing.

III. History-Social Science Standards Assessed

6.2 Students analyze . . . early civilizations . . . in terms of:

9 the evolution of language and its written forms.

7.8 Students analyze the origins, accomplishments and geographic diffusion of the Renaissance, in terms of:

4 the growth and effect of ways of disseminating information (e.g., the ability to manufacture paper, translation of the Bible into the vernacular, printing presses).

Historical Interpretation Skills

Grades 4/5–1

Students identify and interpret the multiple causes and effects of historical events.

Grades 6/7–3

Students explain the sources of historical continuity and how the combination of ideas and events explains the emergence of new patterns.

IV. Background

The recording of information was a function of need. Its many forms resulted from geographic factors (materials available and contacts with nearby cultures' writing systems) and technological advancements such as Gutenberg's use of existing and new materials and devices. What were the reasons for these changes in how information was recorded?

V. Materials Needed

There are many sources for all the pictures and content mentioned in this lesson; at least one reference is given for each topic—see the Bibliography at the end of the lesson.

VI. Preparation

Teachers should assess the questions for suitability to the level of their class, although all can be dealt with by fourth through eighth graders with sufficient teacher direction.

VII. Lesson Activities

1. Select a brief quote to have the students pass from one to the other. Half the class will pass the quote orally (the telephone game); the other half will pass the quote on a piece of paper, having each student recopy it. Compare the final versions of the quote. Use this as a springboard for the discussion of why writing was such an important advance for humans. How is vital information best preserved? Which is generally more convincing—a written or oral record?

[This is a good opportunity to emphasize that writing alone does not guarantee accuracy. Erroneous information can appear on the Internet or even in a book, which is why it is necessary to use multiple sources in research.]

2. Ask the students what they think was first written down. That is, what did humans think it was essential to record?

[Most early writings are believed to have been accounting records—the number of cows someone owned or workers in a temple, for example.]

3. Put the students in small groups and have each group develop symbols for a few simple elements of daily life [sleeping, eating, writing or cat, bicycle, house, for example]. Remind them that the purpose of writing is to

communicate so they should not try to “trick” each other through the use of confusing symbols. They will probably create “pictograms,” symbols that resemble the object being recorded. Have the students exchange papers and decode each other’s symbols, which they should do rather easily.

4. Tell students that most early languages were pictorial (show relevant pictures) but few modern ones are. [Brookfield (1993); Friedrich (1957); Jean (1992); Robinson (1995)] Interestingly, there is a recent trend to use pictorial symbols on signs, cleaning instructions, and the like. For homework, have the students draw up lists of such signs. Were there any symbols that were not clear?

Have them open a textbook and count the number of *different* words in a paragraph or on a page. How many symbols would they have to learn just to read that selection if we had a pictorial writing system? How many of the words can easily be represented by a picture? Point out that memorizing many symbols would have been so hard that few ordinary people in ancient times would have had the time and skill to do it. Discuss the word “scribe,” and have the class draw up a list of the important characteristics of a good scribe.

[clear writing; someone whose honesty and accuracy could be trusted]

5. Tell the students that there are various forms of recording the sounds of spoken words—symbols can stand for whole words (see #4 above), for syllables (writing “belief” using a picture of a bee and of a leaf), or for a sound (an alphabet). Note that even those languages that started out pictorially have now added sound symbols (e.g., Japanese kanji). Our alphabet, of course, uses twenty-six symbols to stand for our approximately fifty sounds. Have students research how many symbols a Japanese or Chinese student would have to learn.

[Japanese kanji—about 2,000; Chinese (college level)—about 10,000]

You may wish to have the students create “folktales” explaining why Chinese characters are shaped as they are. [Straits Times]

6. As a homework assignment, have the students look around their homes and neighborhoods for material that could be used to write on. The next day chart their answers, add other writing materials to the list, and have the students match each with a logical writing implement.

[Writing materials used at various times—wood, bone, papyrus, bamboo, silk, parchment, waxed tablets, slate, bark, cloth, palm leaves, stone, copper, leather, agave, glass . . . and, of course, paper. Writing implements used on various materials—reed, stylus, quill pens, brush, various pens, pencils, chalk . . .]

Discuss the advantages and disadvantages of the materials on the list, some of which the students can try.

[A reed pressed into clay, for example, works better than dragging a stylus through it; a pen might get caught in the grain of a piece of wood, a brush would not; only one side of papyrus can be used but both sides of parchment; waxed tablets could be erased, carved stone could not; etc.]

What types of fonts would suit various materials? [Wong (1999)]

[Stone requires fairly straight lines; parchment users try to save precious space with closely written letters . . .]

Have the students create personal lettering using the present day Roman alphabet, then write a short message in their fonts. Post the messages. Which fonts are easier to read? to write? What characteristics make them easier?

7. Inks are a fascinating topic for students to research. [de Hamel (1992)] One common formula was to mix lampblack (the soot that accumulates on the lamp above the flame) with hide glue. Ground charcoal and water will make a simple ink.
8. Once a writer had settled on materials and societies had moved beyond basic accounting records, what would be written? Have the students make a list of what types of books they think early peoples would want to write or read.

[Early Egyptian texts included not only accounting records, but laws, bills of sale, religious writings, stories of the king's exploits, calendars, and books on medicine, cooking, and astronomy. (Jean)]

How many of these were on the students' list?

9. What form did these "books" take? Some were scrolls, some in codex (book) form; palm leaf books looked like a Venetian blind. [Brookfield (1993)] What would determine the best form for a given material?

[Papyrus is delicate and will break if regularly bent at a fold so it is better suited to a scroll . . .]

How would a library full of scrolls be different from a library full of books? Which type of "book" is easier to carry around? to find specific information in?

10. How were books assembled? Have the students compare a twenty-four leaf book made of twelve folded sheets of paper tucked one inside the other to a twenty-four leaf book made of twelve sheets of paper assembled in "mini-books" of three sheets, then stacked on each other. The latter system is still used for high-quality modern books.
11. Tell the students that a box of textbooks arrived at the school with a missing chapter. Your class has been asked to copy that chapter so students arriving next year can have a complete book. Have them open the textbook to

whatever chapter you have selected and begin copying the content. Tell them to do the best job they can. After a few minutes, stop them and collect the papers. Mark any errors and note how far students typically got. The next day, explain that it was just a simulation of the problems faced by Medieval scribes. Have the students measure how much of the book they copied and calculate how long it would have taken them to copy just that one chapter. How can errors be corrected without having to recopy the whole text?

[Various marginal corrections were used by Medieval copyists.]
[de Hamel (1992)]

Discuss how society would have been different when all books were made by hand.

12. Read about Johann Gutenberg. Point out that he did not “invent” printing, but he did use existing technology to make printing with moveable type functional in a writing system suited to it. Such printing had been developed in China but was of much more limited use with a language of thousands of characters instead of just 26 letters and 12 or so punctuation marks. Discuss or have the students research the technological elements of Gutenberg’s achievement. [Gould (1998); Friedman (1998)]

[A press based on those used to extract oil from olives; letters carved on steel rods; a mold that made consistently sized letters; a sturdy, inexpensive metal alloy for type; and an ink that resisted smudging]

Use a photograph of an early printing press or print shop to explain the process. [Brookfield (1993); Jean (1992)]

Place the students in small groups and have them chart all the logical consequences of printing they can think of. Post and compare the charts. Be sure to mention such results as increasing standardization of spelling and mechanics as reading and writing spread from isolated parish schools to the broader community. [Thorpe (1999)]

13. The development of writing and printing are usually seen as advances in civilization. Ask the students if they can imagine why people (other than those such as copyists who would be put out of business) might have opposed the growth of writing and printing.

[There was concern that the invention of papyrus would lead to the loss of memory; Plato reported that Socrates additionally feared that writing would deprive learners of the chance to question what they were taught; a Medieval German monk suggested that printing lacked the morally edifying aspects of copying; in the Reformation it was thought that reading the thoughts of others would keep people from thinking for themselves. Finally, a seventeenth-century governor of Virginia said,

“Thank God there are no free schools or printing . . . for learning has brought disobedience and heresy into the world and printing has divulged them. . . .”]

14. And so we come to the modern world. How has communication changed in the last two centuries?

[Radio, television, and the internet have taken communication from a local to a global scale.]

As a homework assignment, have the students chart the benefits and drawbacks of getting news from radio, television, newspapers, the internet, and news-magazines. Create a master chart of their responses.

Note that while television news may lack depth—the content of a thirty-minute news show would fill less than one page of a newspaper—Theodore White pointed out its power in this quote from *In Search of History*:

“The Birmingham riots were made for television, and the sight television brought the nation was unprecedented. . . . What had been private shameful relations between Birmingham’s blacks and whites became a national horror spread across the land by television.”

How is this change like the change caused by Gutenberg’s printing press? Note also the role of newer technologies such as the Internet and fax machines in sparking youthful rebellions in China and at World Trade Organization meetings.

15. Ask the students to respond to these questions:

How have copy machines changed the world?

[If you used them, tell the students of your experiences with ditto and mimeo machines and Thermofax copying.]

What about computers, which were to have plunged us into a “paperless society”? Have they done that? What are the problems created by computers? Benefits?

[Note the incessant printing of revisions that consume paper, the problem of recovering data from obsolete formats. . . .]

Would the students rather read a paper book or a book on a computer screen? Are we approaching the death of handwriting and the book, or is there something in us that will always appreciate the utility and beauty of print on paper?

VIII. Extension Activities

1. Have the students make paper from pulp and from papyrus. Which is easier to make? to write on?
2. Students can interview a longtime printer about what fonts are appropriate for a book, for a poster, and how the craft has changed during his or her life. What does he or she predict for the future of printing?

IX. Vocabulary

<i>papyrus</i>	a type of paper invented by the ancient Egyptians, made from the stem of the papyrus plant
<i>parchment</i>	a writing material made from prepared animal hide
<i>quill</i>	one of the flight feathers of a bird, used for writing
<i>reed</i>	a slender stem of a grass plant, used for writing
<i>stylus</i>	a pointed writing instrument

X. Bibliography

- Brookfield, Karen. *Book*. New York: A. A. Knopf, 1993.
- De Hamel, Christopher. *Scribes and Illuminators*. Toronto: University of Toronto Press, 1992.
- Friedman, Robert, ed. *The Life Millennium: The 100 Most Important Events & People of the Past 1,000 Years*. New York: Life Books, 1998.
- Friedrich, Johannes. *Extinct Languages*. Translated by Frank Gaynor. New York: Philosophical Library, 1957.
- Gould, David, ed. *How Was It Done?: The Story of Human Ingenuity Through the Age*. Pleasantville, NY: Reader's Digest, 1998.
- Jean, Georges. *Writing: The Story of Alphabets and Scripts*. New York: H. N. Abrams, 1992.
- Peng, Tan Huay. *Fun with Chinese Characters*. Singapore: Federal Publications, 1986.
- Robinson, Andrew. *The Story of Writing*. New York: Thames and Hudson, 1995.
- Thorpe, James. *The Gutenberg Bible: Landmark in Learning*. San Marino, CA: Huntington Library, 1999.
- Wong, Frederick. *The Complete Calligrapher*. New York: Watson-Guption, 1980. Reprint. New York: Dover Publications, 1999.