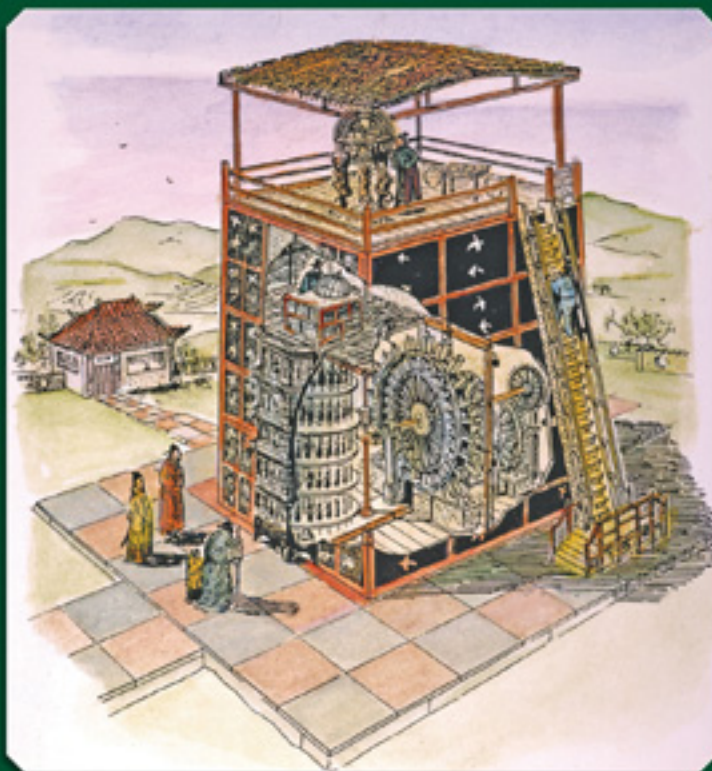


# Industrial Innovation in China

*Centuries before Europe's Industrial Revolution, China was the world's most technologically advanced nation. Why?*



## *Debating* the DOCUMENTS

Interpreting Alternative Viewpoints  
in Primary Source Documents

# Industrial Innovation in China

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The 2017 World History Course and Exam Description of the College Board Advanced Placement Program\* lists five themes that it urges teachers to use in organizing their teaching. Each World History *Debating the Documents* booklet focuses on one or two of these five themes.

### *The Five Themes*

- 1. Interaction between humans and the environment.** (demography and disease; migration; patterns of settlement; technology)
- 2. Development and interaction of cultures.** (religions; belief systems, philosophies, and ideologies; science and technology; the arts and architecture)
- 3. State-building, expansion, and conflict.** (political structures and forms of governance; empires; nations and nationalism; revolts and revolutions; regional, transregional, and global structures and organizations)
- 4. Creation, expansion, and interaction of economic systems.** (agricultural and pastoral production; trade and commerce; labor systems; industrialization; capitalism and socialism)
- 5. Development and transformation of social structures.** (gender roles and relations; family and kinship; racial and ethnic constructions; social and economic classes)

### *This Booklet's Main Theme:*

- 4** Creation, expansion, and interaction of economic systems.

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# Teacher Introduction

## ★ Using Primary Sources

Primary sources are called “primary” because they are first-hand records of a past era or historical event. They are the raw materials, or the evidence, on which historians base their “secondary” accounts of the past.

A rapidly growing number of history teachers today are using primary sources. Why? Perhaps it’s because primary sources give students a better sense of what history is and what historians do. Such sources also help students see the past from a variety of viewpoints. Moreover, primary sources make history vivid and bring it to life.

However, primary sources are not easy to use. They can be confusing. They can be biased. They rarely all agree. Primary sources must be interpreted and set in context. To do this, students need historical background knowledge. *Debating the Documents* helps students handle such challenges by giving them a useful framework for analyzing sources that conflict with one another.



*“Multiple,  
conflicting  
perspectives are  
among the truths  
of history.  
No single  
objective or  
universal account  
could ever put an  
end to this endless  
creative dialogue  
within and  
between the past  
and the present.”*

From the 2011 Statement on Standards  
of Professional Conduct of the Council of  
the American Historical Association.

## ★ *The Debating the Documents Series*

Each *Debating the Documents* booklet includes the same sequence of reproducible worksheets. If students use several booklets over time, they will get regular practice at interpreting and comparing conflicting sources. In this way, they can learn the skills and habits needed to get the most out of primary sources.

### **Each *Debating the Documents* Booklet Includes**

- **Suggestions for the Student and an Introductory Essay.** The student gets instructions and a one-page essay providing background on the booklet's topic. A time line on the topic is also included.
- **Two Groups of Contrasting Primary Source Documents.** In most of the booklets, students get one pair of visual sources and one pair of written sources. In some cases, more than two are provided for each. Background is provided on each source. *Within each group, the sources clash in a very clear way.* (The sources are not always exact opposites, but they do always differ in some obvious way.)
- **Three Worksheets for Each Document Group.** Students use the first two worksheets to take notes on the sources. The third worksheet asks which source the student thinks would be most useful to a historian.
- **One DBQ.** On page 20, a document-based question (DBQ) asks students to write an effective essay using all of the booklet's primary sources.

## ★ *How to Use This Booklet*

### **1. Have students read “Suggestions for the Student” and the Introductory Essay.**

Give them copies of pages 5–7. Ask them to read the instructions and then read the introductory essay on the topic. The time line gives them additional information on that topic. This reading could be done in class or as a homework assignment.

### **2. Have students do the worksheets.**

Make copies of the worksheets and the pages with the sources. Ask students to study the background information on each source and the source itself. Then have them take notes on the sources using the worksheets. If students have access to a computer, have them review the primary sources digitally.

NOTE: If you are using these materials with an AP world history class, an honors class, or some other group of advanced and/or more knowledgeable students, you may want to make more written sources available to them on this topic. Do a basic Internet search for sources that provide additional perspectives and then add to the sources provided here.

### 3. “Debate the documents” as a class.

Have students use their worksheet notes to debate the primary source documents as a class. Urge students to follow these ground rules:

- Use your worksheets as a guide for the discussion or debate.
- Try to reach agreement about the main ideas and the significance of each primary source document.
- Look for points of agreement as well as disagreement between the primary sources.
- Listen closely to all points of view about each primary source.
- Focus on the usefulness of each source to the historian, not merely on whether you agree or disagree with that source’s point of view.

### 4. Have students do the final DBQ.

A DBQ is an essay question about a set of primary source documents. To answer the DBQ, students write essays using evidence from the sources and their own background knowledge of the historical era. (See the next page for a DBQ scoring guide to use in evaluating these essays.)

The DBQ assignment on page 20 includes guidelines for writing a DBQ essay. Here are some additional points to make with students about preparing to write this kind of essay.

#### **The DBQ for this Booklet (see page 20):**

“Above all, China’s technological superiority in Tang and Song times was aided by its powerful, centralized imperial state.” Do you agree or disagree with this statement? Why?

- Analyze the question carefully.
- Use your background knowledge to set sources in their historical context.
- Question and interpret sources actively. Do not accept them at face value.
- Use sources meaningfully to support your essay’s thesis.
- Pay attention to the overall organization of your essay.

## ★ *Complete DBQ Scoring Guide*

Use this guide in evaluating the DBQ for this booklet. Use this scoring guide with students who are already familiar with using primary sources and writing DBQ essays.

### **Excellent Essay**

- Offers a clear answer or thesis explicitly addressing all aspects of the essay question.
- Does a careful job of interpreting many or most of the documents and relating them clearly to the thesis and the DBQ. Deals with conflicting documents effectively.
- Uses details and examples effectively to support the thesis and other main ideas. Explains the significance of those details and examples well.
- Uses background knowledge and the documents in a balanced way.
- Is well written; clear transitions make the essay easy to follow from point to point. Only a few minor writing errors or errors of fact.

### **Good Essay**

- Offers a reasonable thesis addressing the essential points of the essay question.
- Adequately interprets at least some of the documents and relates them to the thesis and the DBQ.
- Usually relates details and examples meaningfully to the thesis or other main ideas.
- Includes some relevant background knowledge.
- May have some writing errors or errors of fact, as long as these do not invalidate the essay's overall argument or point of view.

### **Fair Essay**

- Offers at least a partly developed thesis addressing the essay question.
- Adequately interprets at least a few of the documents.
- Relates only a few of the details and examples to the thesis or other main ideas.
- Includes some background knowledge.
- Has several writing errors or errors of fact that make it harder to understand the essay's overall argument or point of view.

### **Poor Essay**

- Offers no clear thesis or answer addressing the DBQ.
- Uses few documents effectively other than referring to them in “laundry list” style, with no meaningful relationship to a thesis or any main point.
- Uses details and examples unrelated to the thesis or other main ideas. Does not explain the significance of these details and examples.
- Is not clearly written, with some major writing errors or errors of fact.

# Suggestions to the Student

## ★ *Using Primary Sources*

A primary source is any record of evidence from the past. Many things are primary sources: letters, diary entries, official documents, photos, cartoons, wills, maps, charts, etc. They are called “primary” because they are first-hand records of a past event or time period. This *Debating the Documents* lesson is based on two groups of primary source documents. Within each group, the sources conflict with one another. That is, they express different or even opposed points of view. You need to decide which source is more reliable, more useful, or more typical of the time period. This is what historians do all the time. Usually, you will be able to learn something about the past from each source, even when the sources clash with one another in dramatic ways.

## ★ *How to Use This Booklet*

### 1. **Read the one-page introductory essay.**

This gives you background information that will help you analyze the primary source documents and do the exercises for this *Debating the Documents* lesson. The time line gives you additional information you will find helpful.



### 2. **Study the primary source documents for this lesson.**

For this lesson, you get two groups of sources. The sources within each group conflict with one another. Some of these sources are visuals, others are written sources. With visual sources, pay attention not only to the image’s “content” (its subject matter) but also to its artistic style, shading, composition, camera angle, symbols, and other features that add to the image’s meaning. With written sources, notice the writing style, bias, even what the source leaves out or does not talk about. Think about each source’s author, that author’s reasons for writing, and the likely audience for the source. These considerations give you clues as to the source’s historical value.

### 3. **Use the worksheets to analyze each group of primary source documents.**

For each group of sources, you get three worksheets. Use the “Study the Document” worksheets to take notes on each source. Use the “Comparing the Documents” worksheet to decide which of the sources would be most useful to a historian.

### 4. **As a class, debate the documents.**

Use your worksheet notes to help you take part in this debate.

### 5. **Do the final DBQ.**

“DBQ” means “document-based question.” A DBQ is a question along with several primary source documents. To answer the DBQ, write an essay using evidence from the documents and your own background history knowledge.

## ***Industrial Innovation in China***

In 751 CE, Muslim conquerors met and defeated a Chinese army in the Battle of Talas, north of present-day Afghanistan. The outcome of the battle was less important than what the Muslims learned from some Chinese captives. What they learned was how to make paper. Paper was far cheaper and easier to produce than writing surfaces made from hides and papyrus. Thus, books and other written documents became much more widely available. This Chinese invention helped Islamic realms create a highly literate civilization.

Paper was only one of many technological marvels produced by China from 600 to 1200 CE, the approximate dates of the Tang and Song Dynasties. During these centuries, China led the world as an economic power second to none. The modern industrial era, driven by coal, iron and steam, only began in England in the 1700s. Long before that “Industrial Revolution,” however, China enjoyed an amazing era of technological change and invention of its own.

China’s inventiveness and economic growth in the Tang and Song eras was based on an ability to feed far more than just those working the land. New strains of rice from the south allowed Chinese farmers to plant two crops a year. Irrigation systems, water pumps, terracing of hillsides and other techniques added to the land available for farming. China’s iron industry grew rapidly. Iron plows, seed drills and other tools had been available to China’s peasants even earlier, but their design improved steadily in these centuries. Elaborate and growing systems of canals also made it easier to transport food to city markets all over China.

An eleventh-century description exists of a compass made of a magnetized needle floating in water. The rudder and other features made Song China’s ships the best in the world. China is famous for the invention of gunpowder. As

early as 1000 CE, gunpowder was being used in weapons resembling modern flame throwers. The Mongols and others may have carried knowledge of gunpowder to the West, where the earliest cannons appeared in the thirteenth century.

Along with paper, China also developed block printing. In block printing, an entire page was carved in reverse on a wooden surface which was inked and pressed against sheets of paper. Movable and reusable type appeared by 1100. Its usefulness was somewhat limited by the fact that Chinese uses thousands of individual characters rather than just a few letters.

This last point suggests one thing that may have limited China’s development in the long run. Whatever the reasons, it is a fact that China did not in the end lead the world into the true industrial age. Nor did it launch the great Scientific Revolution of the seventeenth century. England and Europe did those things. Aside from limits to the spread of literacy, another factor may have been China’s powerful centralized state and its ruling scholar bureaucrats. These officials were educated in Confucian classic literature. They had little training in technological matters and little interest in scientific studies. A huge middle class of merchants and other professionals did exist in Tang and Song China. However, its political and social influence was much less than in the West.

The historian who has added the most to our knowledge of China’s great technological accomplishments of the past is Joseph Needham. Yet even he has asked “If the Chinese were so advanced in antiquity and the Middle Ages, how was it that the Scientific Revolution, the coming of modern science into the world happened only in Europe?” Perhaps the sources for this lesson will help you to appreciate China’s great technical triumphs while also debating the question Needham asks.

# Great Awakening Time Line

**206 BCE–  
220 CE**

The Han Dynasty rules in these centuries. China has many iron foundries, which the government comes to control. Iron plows that turn the earth with mould boards are available, as is an efficient horse collar not seen in Europe until around the seventh century CE. The first paper with writing on it dates from this time. The rudder and other navigational improvements are invented, with the magnetic compass first appearing even earlier.

**220–581 CE**

China is divided and somewhat chaotic. However, Chinese innovation continues. For example, the metal stirrup first appears in this period. Also, the earliest forms of porcelain are developed. During Tang and Song times, China will become world famous for its porcelain. The central government's examination system for officials disappears. Confucianism declines. Buddhism and Daoism spread.

**581–618**

The short-lived Sui Dynasty unites China. Sui emperors complete the Grand Canal linking northern China around the Yellow River to southern China around the Yangtze River. This allows the large and growing rice crops of the South to be transported throughout China.

**618–906**

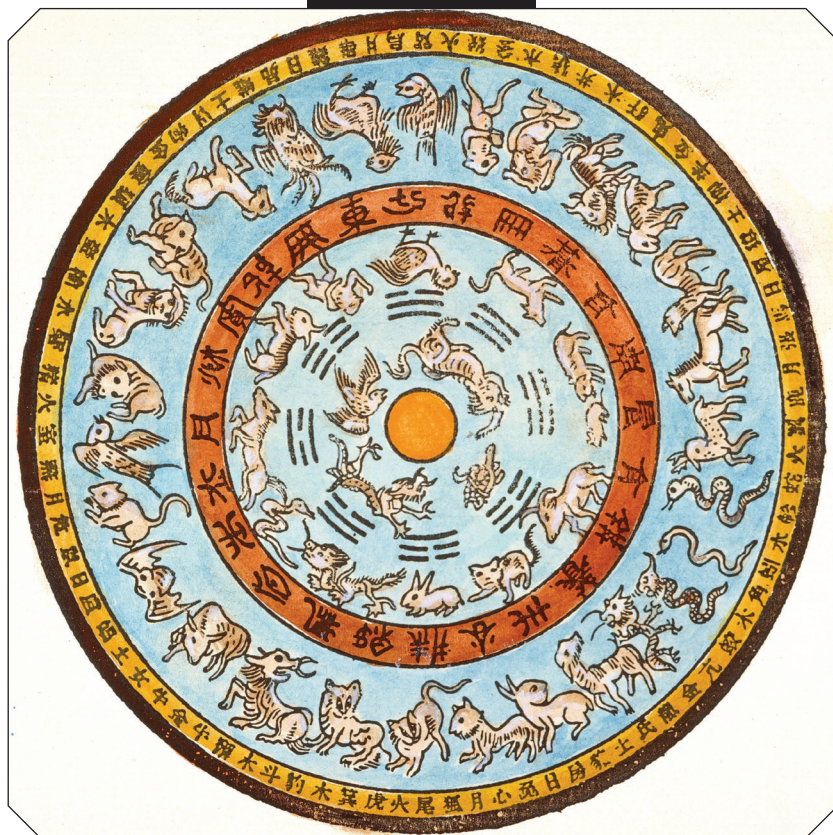
These are the years of the Tang Dynasty. New fast-ripening rice from Vietnam enables two rice crops per year. Steel manufacturing is perfected. The first mechanical clock dates from the eighth century. So also does block printing. At around this time, paper money begins to be used. In the ninth century, alchemists develop gunpowder. The central government revives the exam system for some officials, basing it on Confucian, Buddhist and Daoist teachings

**960–1279**

This is the era of the Song Dynasty. Rapidly rising trade and a growing merchant class result in rapid economic development. Iron production increases ten times over the previous eras. In the eleventh century, movable type is invented, though its use is limited due to the complex Chinese writing system. Gunpowder is used in simple bamboo flamethrowers. Later, primitive bombs and cannons are developed. Meanwhile, the exam system based on Confucian classics is greatly expanded as a way to select government officials. In 1092, Su Sung completes a famous water-driven mechanical clock. Knowledge of its principles of operation is lost during and after the Mongol conquest of China in the thirteenth century.

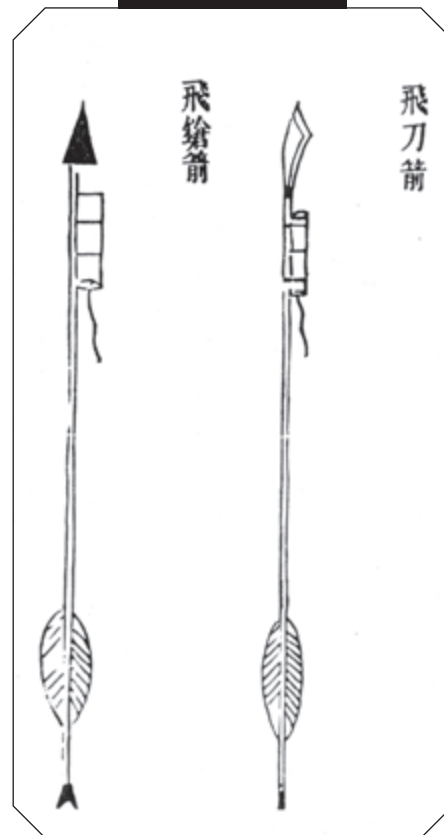
## Primary Source Documents 1 & 2

Document 1



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Document 2



The Granger Collection, New York

### Information on Documents 1 & 2

**Document 1.** A Chinese celestial sphere of the T'ang Dynasty (618–905 CE). This engraving is evidence of the high degree of interest in astronomy and the observed heavens. In fact, this interest was closely related to decisions involving the emperor. His every action was thought to be guided by the heavens, and he himself was in a way the connecting point between heavenly powers and earthly events. A good deal of Chinese astronomical study was undertaken for the practical need the emperor and his officials had to make wise decisions.

**Document 2.** These Chinese black-powder “fire arrows,” or rockets, are an eleventh century CE use of gunpowder. Gunpowder was discovered by Chinese alchemists, probably in the ninth century CE. By the time of the Song Dynasty, China was putting gunpowder to many kinds of military uses. Gunpowder may have been brought to Europe by Mongol armies in the thirteenth century.

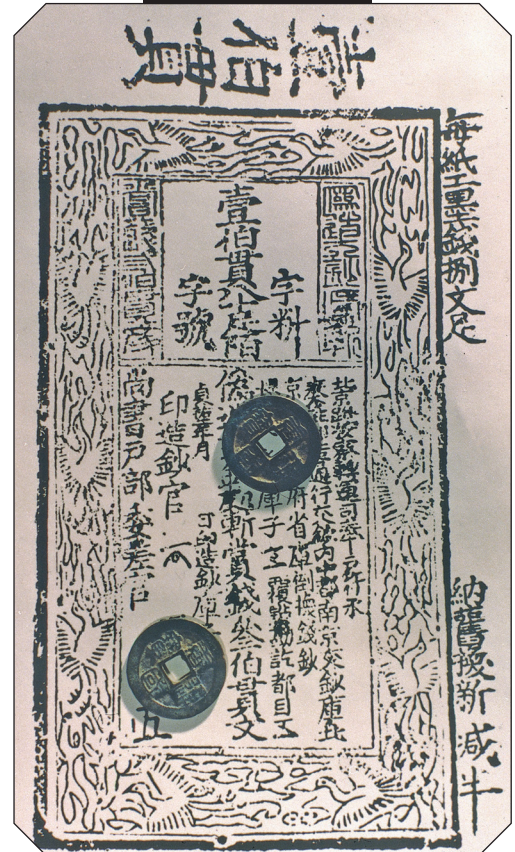
## Primary Source Documents 3 & 4

Document 3



The Granger Collection, New York

Document 4



The Granger Collection, New York

### Information on Documents 3 & 4

**Document 3.** This seventeenth century woodcut is of a ship used in Chinese Emperor Yung Lo's expeditions of the early 1400s. Yung Lo sent an admiral named Zheng He on six voyages to India, Arabia and East Africa. The goal was to establish tributary relations with many states. This meant an exchange of gifts in which China sought to impress other lands with its power and superiority. The huge ships in Cheng Ho's fleet may well have been the most advanced in the world at the time. But Young Lo lost interest and focused instead on major land warfare against the Mongols. China turned away from further sea exploration.

**Document 4.** The Chinese used copper coins for money for a long time. By the time of the Tang Dynasty, as trade increased, these were no longer enough to allow merchants to make a growing number of payments over long distances. Paper money began to be used, along with new forms of credit. These coins and a bill of paper money are from 1214.

## **Study the Documents: Sources 1 & 2**

*Instructions:* Take notes on these questions. Use your notes to discuss the documents and answer the DBQ.

### **1 Visual Features—Doc. 1** \_\_\_\_\_

It's obvious that this celestial sphere does not accurately depict the heavens as they appear at night. What suggests that it is nevertheless meant to be some kind of map of the heavens?

### **2 Interpreting Meanings** \_\_\_\_\_

At the center of the sphere is the North Pole. Around the outer rim are 28 animals representing 28 divisions for measuring the motion of the moon. Why do you think these features of the sky mattered to the Chinese emperor and his officials?

### **3 Making Judgments** \_\_\_\_\_

Chinese alchemists probably first developed gunpowder. Do these alchemists deserve to be called scientists? Why or why not?

## Study the Documents: Sources 3 & 4

*Instructions:* Take notes on these questions. Use your notes to discuss the documents and answer the DBQ.

### **1 Main Idea—Both Docs.**

Write a brief paragraph summing up what both of these illustrations show about China's economy during the Song Dynasty and the centuries just after it.

### **2 Background Knowledge**

What else do you know about the voyages of Zheng-He? Why do you think China turned away from further sea ventures after them?

### **3 What Else Can You Infer?**

Specifically, what does Primary Source Document 4 suggest or imply? For example, what attitudes must exist for merchants and customers to agree to use paper money in exchanges? What would have to be true about law, government, and the economy?

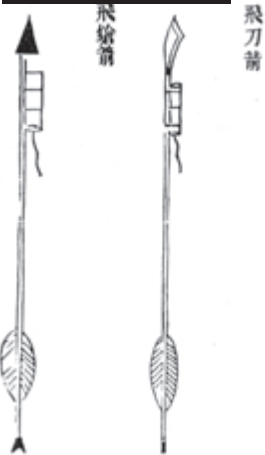
# Comparing the Documents

## ★ The Sources

Answer the question by checking one box below. Then complete the statements on the Comparison Essay worksheet. Use all your notes to help you take part in an all-class debate about these documents—and to answer the final DBQ for the lesson.

**Which of these primary source documents would be most useful to a historian trying to understand China's industrial achievement during the Tang and Song dynasties?**

**Document 2**



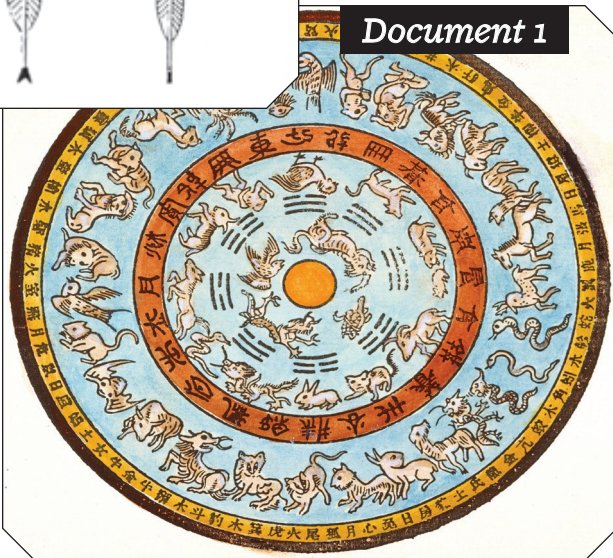
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**Document 3**

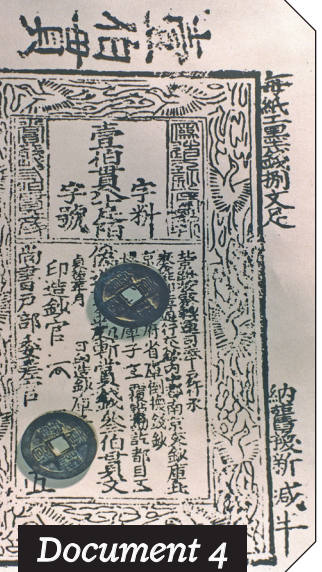


The Granger Collection, New York

**Document 1**



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**Document 4**

The Granger Collection, New York

Documents 1 & 2

☐

Documents 3 & 4

☐

## Comparison Essay

*I chose Documents \_\_\_\_\_ because:*

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*I did **not** choose Documents \_\_\_\_\_.*

*However, a historian still might use the documents in the following way:*

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**Keep this in mind:** Some sources are very biased. A biased source is one that shows you only one side of an issue. That is, it takes a clear stand or expresses a very strong opinion about something. A biased source may be one-sided, but it can still help you to understand its time period. For example, a biased editorial cartoon may show how people felt about an issue at the time. The usefulness of a source depends most of all on what questions you ask about that time in the past.

## Primary Source Document 5



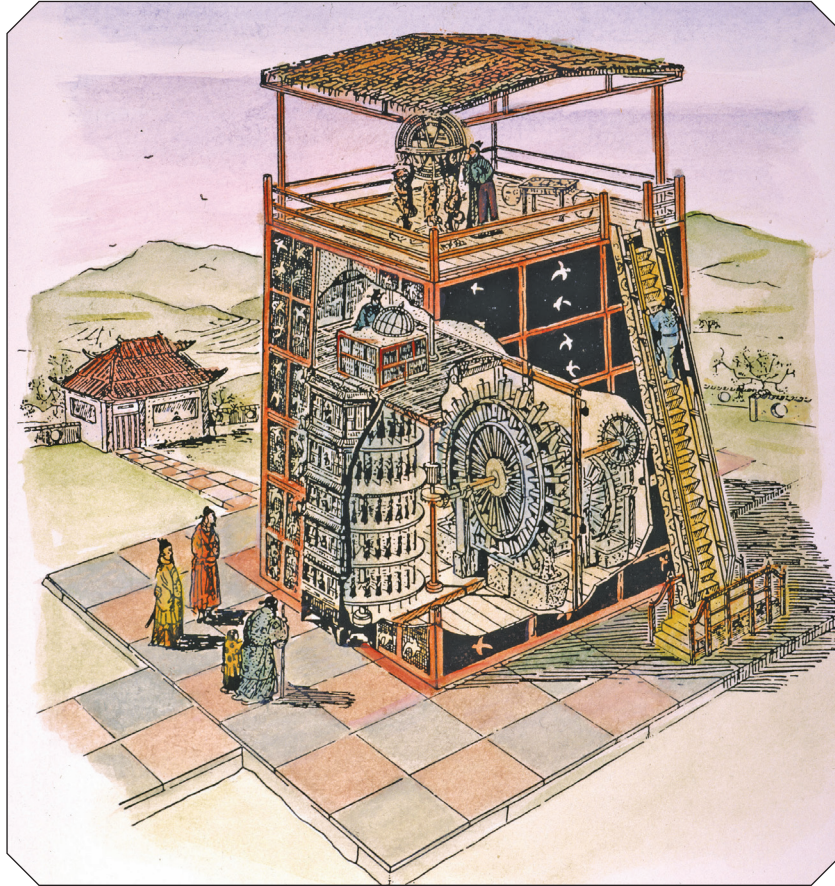
The Granger Collection, New York

### *Information on Document 5*

This is a detail of a painting showing Song Dynasty Emperor Hui Tsung (1082–1135) at a literary meeting. China's technical know-how was amazing. It led the way in the invention of many very important tools and processes in the Tang and Song eras. However, the emperors and China's ruling officials seem to have been much less

interested in science and technology than in literary works. The three levels of exams for government jobs were all based on knowledge of Confucian classics. Confucius was a moral philosopher who stressed good order, familial loyalty, obedience and respect for subordinates, equals, and higher authorities.

## Primary Source Document 6



The Granger Collection, New York

### Information on Document 6

This is Su Sung's famous clock (see the time line). It was built in the eleventh century. Water-driven gears rotate an armillary sphere and a celestial globe. What this means is that parts of the clock imitated the movements of the heavens. The clock was for imperial use, given the official need to

coordinate everything the emperor did with movements of celestial objects. The clock was never made a model for clocks for the general population, and it fell into disuse. Within a few centuries, the Chinese had lost the knowledge of how to build this clock.

## Study the Document: Source 5

*Instructions:* Take notes on these questions. Use your notes to discuss the documents and answer the DBQ.

### 1 Visual Features \_\_\_\_\_

What elements of this painting suggest that this scene is an important gathering of highly admired and important literary figures?

### 2 Interpreting Meanings \_\_\_\_\_

On the painting, an inscription from Emperor Hui-tsung reads in part,  
*"Today as of yore, is our nation a literary giant, and our scholars are drunk on composition and the recital of poetry."*  
Why do you think literary gatherings of this sort were of such importance to China's emperor?

### 3 Background Knowledge \_\_\_\_\_

Explain why China's top imperial officials would have been more aware of and interested in this literary gathering than a similar meeting of engineers or merchants?

## Study the Document: Source 6

*Instructions:* Take notes on these questions. Use your notes to discuss the documents and answer the DBQ.

### **1 Main Idea or Topic**

---

One water-powered mechanism drove all the measuring devices on this clock. It is shown in this diagram. Can you describe it?

### **2 What Else Can You Infer?**

---

How useful to the general public do you suppose this clock was? From what you see here, what can you infer about its usefulness to the population as a whole?

### **3 Drawing Conclusions**

---

Using all sources for this lesson, sum up what you see as the strengths and weaknesses of Chinese technology during the Tang and Song eras.

# Comparing the Documents

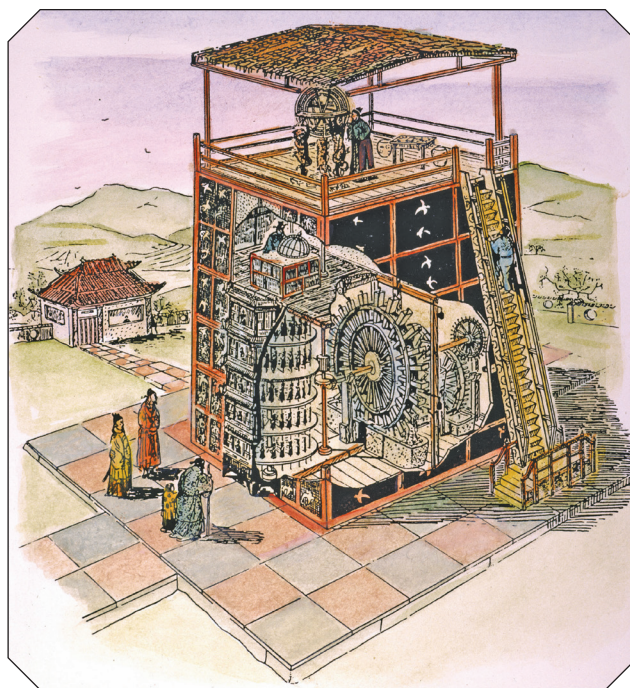
## ★ *The Sources*

Answer the question by checking one box below. Then complete the statements on the Comparison Essay worksheet. Use all your notes to help you take part in an all-class debate about these documents—and to answer the final DBQ for the lesson.

**Which of these primary source documents would be most useful to a historian trying to understand China's industrial achievement during the Tang and Song dynasties?**



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The Granger Collection, New York

*Document 5* ☐

*Document 6* ☐

## Comparison Essay

*I chose Documents \_\_\_\_\_ because:*

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*I did **not** choose Documents \_\_\_\_\_.*

*However, a historian still might use the documents in the following way:*

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**Keep this in mind:** Some sources are very biased. A biased source is one that shows you only one side of an issue. That is, it takes a clear stand or expresses a very strong opinion about something. A biased source may be one-sided, but it can still help you to understand its time period. For example, a biased editorial cartoon may show how people felt about an issue at the time. The usefulness of a source depends most of all on what questions you ask about that time in the past.

# Document-Based Question

Your task is to answer a document-based question (DBQ) on China's industrial achievement during the Tang and Song dynasties. In a DBQ, you use your analysis of primary source documents and your knowledge of history to write a brief essay answering the question. Using all four sets of documents, answer this question. Below are two DBQs. The first is somewhat less demanding than the second. Use whichever DBQ your teacher assigns.

## Document-Based Question

1

**“Above all, China’s technological superiority in Tang and Song times was aided by its powerful, centralized imperial state.”  
Do you agree or disagree with this statement? Why?**

OR

2

**Historian Joseph Needham asks, “If the Chinese were so advanced in antiquity and the Middle Ages, how was it that the Scientific Revolution . . . happened only in Europe?” Using these sources and your background knowledge, try to answer Needham’s question.**

Below is a checklist of key suggestions for writing a DBQ essay. Next to each item, jot down a few notes to guide you in writing the DBQ. Use extra sheets to write a four- or five-paragraph essay.

- *Introductory Paragraph*  
Does the paragraph clarify the DBQ itself? Does it present a clear thesis, or overall answer, to that DBQ?
- *The Internal Paragraphs—1*  
Are these paragraphs organized around main points with details supporting those main ideas? Do all these main ideas support the thesis in the introductory paragraph?
- *The Internal Paragraphs—2*  
Are all of your main ideas and key points linked in a logical way? That is, does each idea follow clearly from those that went before? Does it add something new and helpful in clarifying your thesis?
- *Use of Primary Source Documents*  
Are they simply mentioned in a “laundry list” fashion? Or are they used thoughtfully to support main ideas and the thesis?
- *Concluding Paragraph*  
Does it restate the DBQ and thesis in a way that sums up the main ideas without repeating old information or going into new details?

# Worksheet Answers and Guidelines

Some worksheet questions call for specific answers to factual questions. In these cases, correct answers are provided here. Most worksheet questions are open-ended and call on students to offer their own interpretations and personal reactions. In those cases, we offer suggestions based on the purpose of the question and the sort of interpretive activity it calls for.

## Worksheet 1

### *Sources 1 & 2*

1. There is an obvious circular pattern that appears to have some numerical order. Otherwise, the pattern would be hard to decipher all by itself.
2. Perhaps they were all thought to have some power or influence over the emperor and his actions on earth. Again, however, students would be right to say the images by themselves cannot be easily interpreted.
3. Answers might vary, but in fact alchemy was concerned with chemical reactions, and alchemy did ultimately lead to a more purely scientific form of chemistry in the modern age.

## Worksheet 2

### *Sources 3 & 4*

1. Answers should stress growing overseas trade, greater economic activity beyond local areas, etc.
2. These voyages were not so much for trade or for purposes of direct conquest, but were meant to impress other societies with China's power and wealth and to win recognition of this from them. Why China turned away from this trade is open to much interpretation, but appears to be based on China's self-sufficiency and on the imperial government's greater concerns about land-based threats to its security.
3. A good deal of social trust must exist for people to accept paper as having dependable exchange value; legal systems and central authority are needed to control the money supply; etc.

## Worksheet 3

### *Source 5*

1. Students might note the elegant table settings, elaborate dress, the formal manner of people, etc.
2. Answers here could focus on a broader Chinese imperial concern for tradition and order and fear of times of unrest, or on the specific aim of the examination system to recruit a literate and loyal official class.
3. Following from the answers to the last question, students might note that top officials themselves would have been trained in the literary tradition of Confucian classics, poetry, etc. Merchants, trade, and technology were useful but not much a part of the ruling power structure.

## Worksheet 4

### *Source 6*

1. It is the large waterwheel at the bottom center-right of the structure.
2. It would not have been of any real practical use to the population as a whole, apart from its use in guiding imperial officials and the emperor himself in making key decisions.
3. This is an open-ended matter of interpretation. The sources do seek to focus on China's enormous technical abilities and achievements, but also on its reluctance to distribute them widely or develop them in ways many modern societies have.

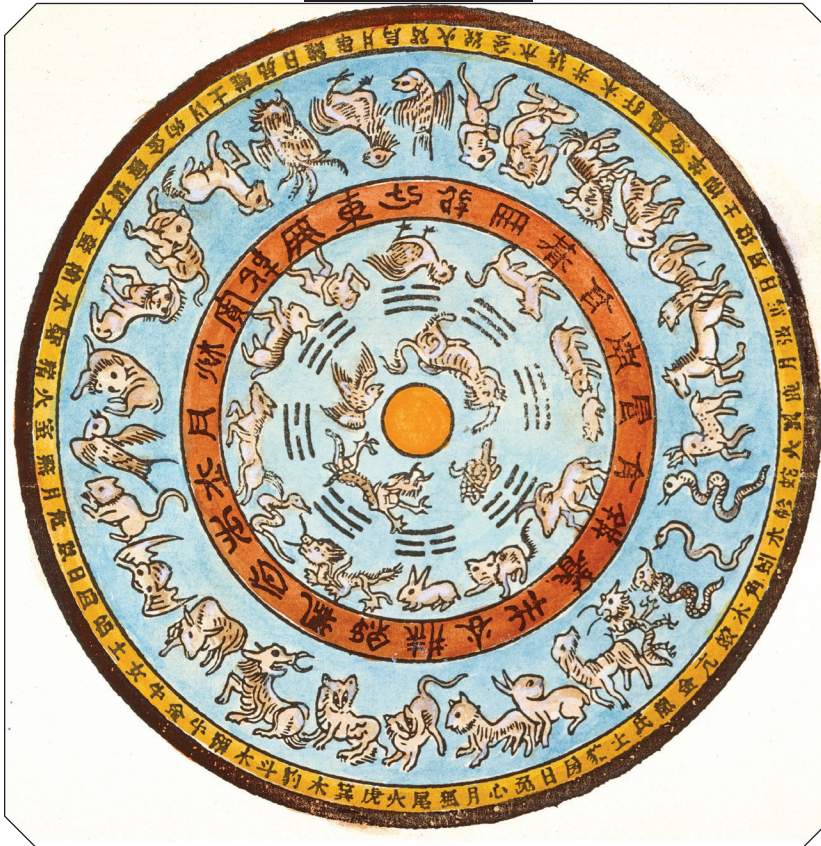


# **Visual Primary Sources**



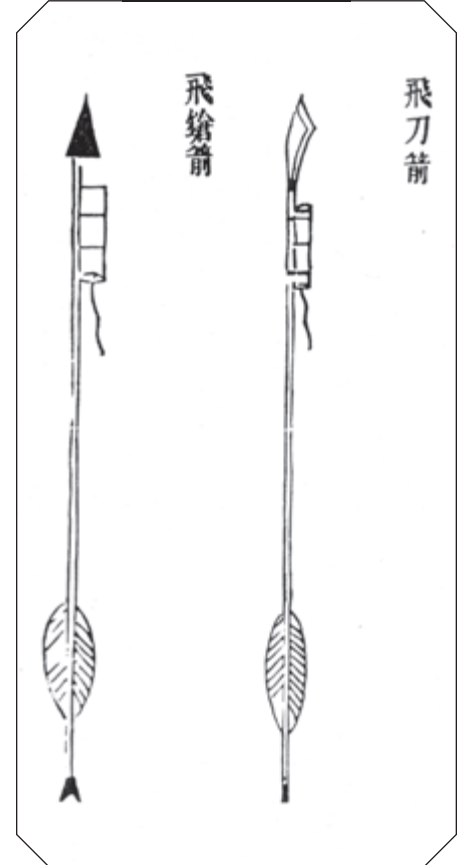
## First Group—Documents 1 & 2

Document 1



The Granger Collection, New York

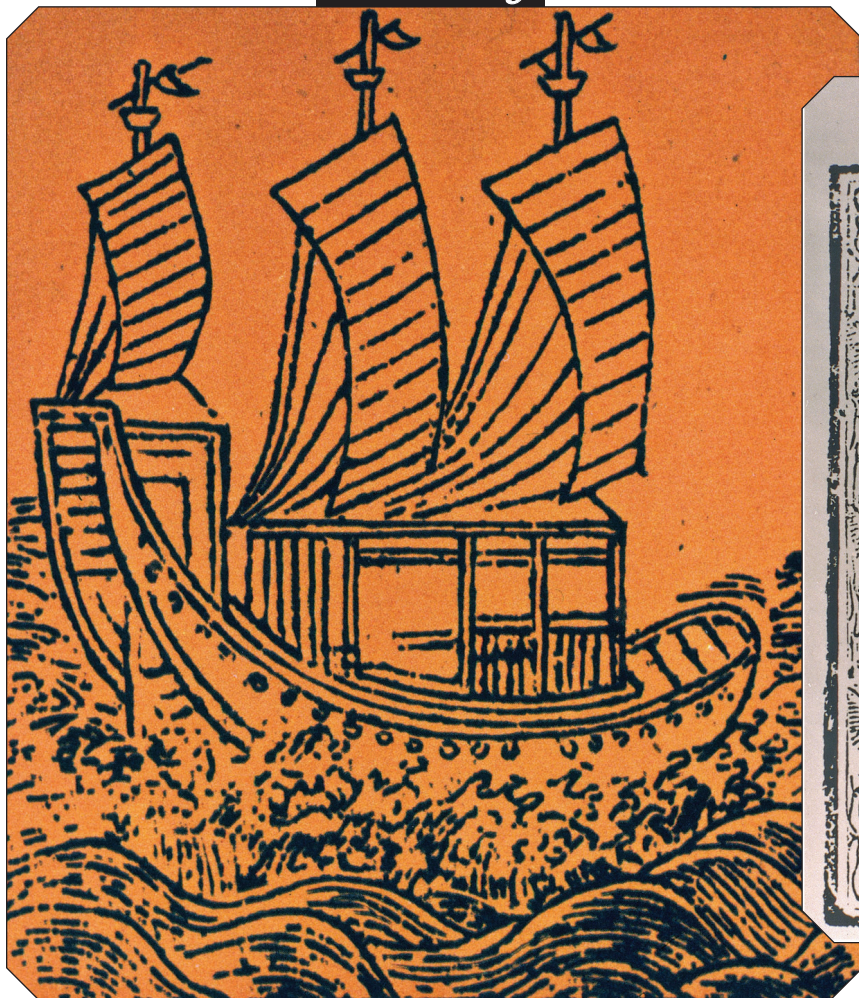
Document 2



The Granger Collection, New York

## First Group—Documents 3 & 4

Document 3



The Granger Collection, New York

Document 4



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## Second Group—Document 5

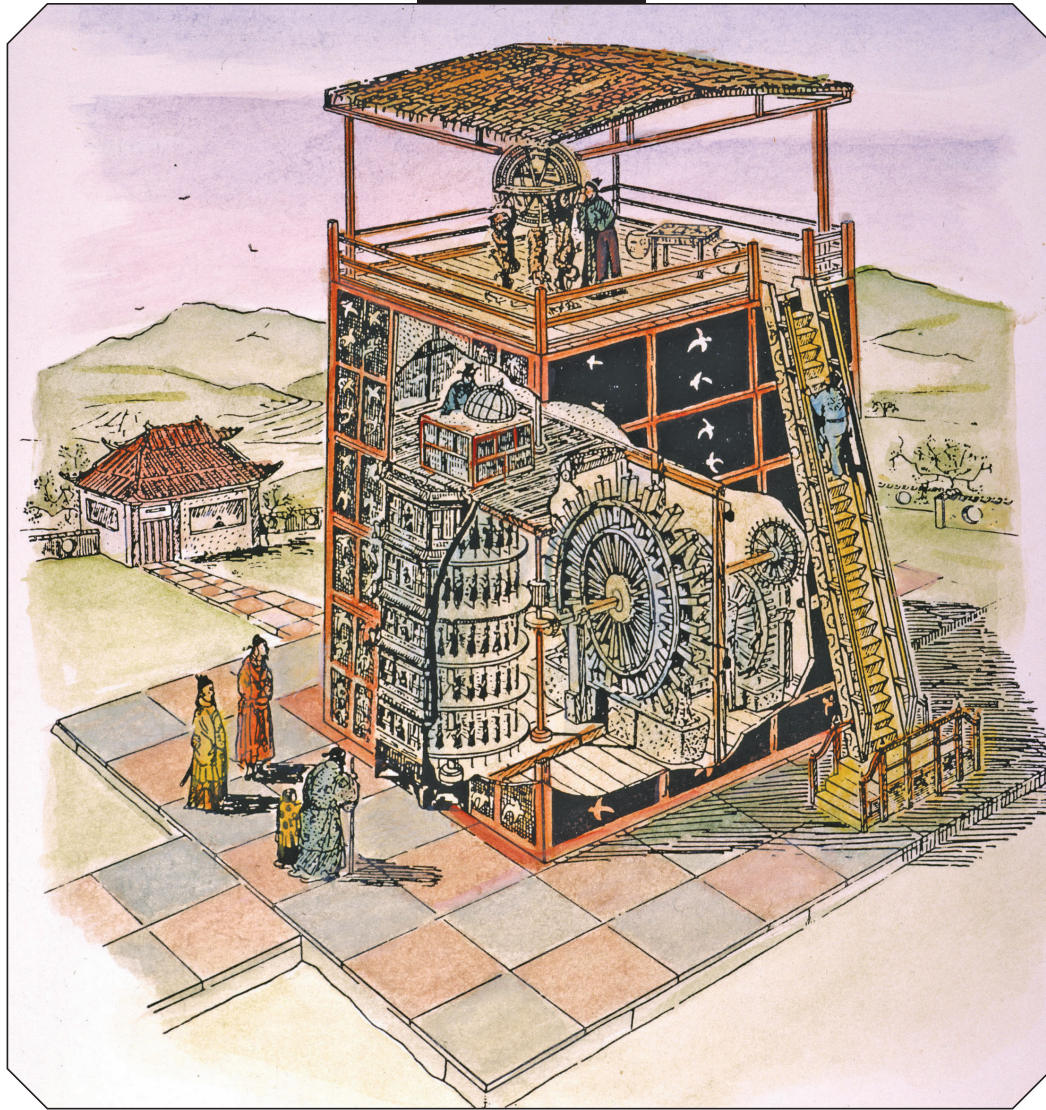
Document 5



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## Second Group—Document 6

Document 6



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