



Title: Ancient Greek Influences in Science and Math
Grade: 6th grade | **Subject:** Language Arts, Social Studies, and Library Media
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Rationale:

Students are learning about Greek culture in their social studies book. I talked with the sixth grade teachers and I offered to do a lesson. Students are going to create a class time line using their research. Students will create a Greek scientist/mathematician trading card to place on the timeline. Trading card must have all the elements and have a drawn picture or a created symbol.

Objectives:

1. TLW access and conduct a successful search for biographical information using WilsonWeb Biography.

Standards Addressed:

1. *Library Media Content Standards*
 - 6004 Use appropriate resource materials to locate and evaluate information. *
 - 6005 Use note-taking, outlining, and summarizing to record and present information.
2. *Cross Curriculum Standards*
 - Reading/Lang. Arts 604: Read and comprehend non-fiction to demonstrate understanding.
 - SS 6005: Use a variety of sources in data gathering and reporting skills.
3. *Information Power*
 - Standard 1: Student who is information literate accesses information efficiently and effectively.
 - Standard 2: The student who is information literate evaluates information critically and competently.
 - Standard 6: The student who is an independent learner is information literate and strives for excellence in information seeking and knowledge generation.
4. *Nebraska LEARNS Standards*
 - 3.1 Students use technology tools to enhance learning, increase productivity, and promote creativity.
 - 5.1 Students use technology to locate, evaluate, and collect information from a variety of sources.

Materials Needed:

1. Laptop computers
2. LCD
3. Pencils
4. Project sheet
5. Rubric
6. Time line in the hallway

Support Materials:

1. Nonfiction books in library
2. OPS database subscriptions
3. Social studies text book
4. Yahoo!igans
5. FactMonster

Anticipatory Set:

How can a time line help us understand a culture?

Procedures:

1. Explain the that the we will be learning more about Greek culture and its influence on today's world through science and math legacies. We will create a class time line to put on the outside library wall.
2. Pass out project sheet and discuss what is expected.
3. Define and record vocabulary: legacy, biography, profession, accomplishment.
4. Review what a time line is and how it can help us make connections from our culture to theirs.
5. We will be making a timeline of important Greek scientists and mathematicians who have influenced the world right up to today. We will construct the time line in the hallway after we research in small groups. We will be using a new database. (Who can tell me 2 databases we have used already?) We will be using a subscription database called WilsonWeb Biography.
6. If you were writing a biography about a famous person, what would you include? (name, dates of birth and death, family, what they did in life, etc.) Would you include anything else if that person were a scientist or a doctor? Pass out the Research graphic organizer. Go over the categories that will be researched and why they were chosen. Remind them of my mantra: "Research is Messy, roll up your sleeves!"
7. Using the LCD and the WilsonWeb web site: Discuss the use of this database. Model how to do a search on Pythagoras who was a Greek mathematician and philosopher. Review skimming and reading for key words and ideas. I record the information on overhead using the same graphic organizer template.
8. Group students by table (about 4 per group) and assign a scientist. Call tables to get their laptops and go to the web site link on the library page.
9. When everyone is on the home page of WilsonWeb Biography, do a whole group search using Pythagoras with the following searches:
 - Guided Search -- Look at the pull down options. Enter your search. Notice that there are 2 Pythagoras hits -- they are the same man. One has a picture of the Mona Lisa -- why? Search and explore the links and picture: why we don't need the "articles" or "books" links for this assignment. With the other links, what types of resources are being offered? (dictionary, encyclopedia)
 - Search -- Same hits as above (no advantage here).

10. Individual Work: Let's try your Greek scientist/mathematician -- how many hits? Some may have several like the Pythagoras search. Many have only one hit.

11. Record our notes and bibliographic information on the note taking sheet. Review how to do the coding. Students must copy the bibliographic information exactly as seen under "Text:" to be incorporated into an MLA bibliography later.

Assessment/Conclusion:

What are the advantages and disadvantages of this database? 5 minutes for table discussion. [Teacher informally assessing through discussions and looking at notes while I go around to the tables].

Advanced Students:

Search one of the databases on the OPS Database Page AND one search engine (Yahooligans or FactMonster) with your scientist. Add to your notes and cite the source (on back of paper). Of the three sources you used, which would you recommend to a friend and why?

***NOTE: Rubric of the final project is included -- there is no formal assessment at this point. According to Engstrom, a rubric assessment of an end product is enough data to analyze these skills (2005, para. 6).

Engstrom, D. (Dec. 2004/Jan. 2005). "Assessing for technological literacy." *The Technology Teacher*, 64(4), 30-32. Retrieved Sept 29, 2005 on WilsonWeb.

Greek Scientist Time Line

Vocabulary:

Legacy --

Biography --

Profession --

Accomplishment --

Circle the Assigned Scientist:

Theon -- first woman mathematician in recorded history

Hypatia was also an astronomer, inventor, and philosopher.

Galen of Pergamum was the most accomplished physician of the Roman Empire

Archimedes, Greek writer on mathematics and science

Ptolemy (Claudius Ptolemaeus), Greek astronomer, mathematician, and geographer

Pytheas, Greek explorer and geographer,

Eratosthenes, Greek polymath and poet

Hipparchus, Greek astronomer and geographer

Pythagoras was a Greek mathematician and philosopher

Hippocrates of Cos was descended from a family of physicians

Citation(s) CODES:

#1. _____

#2. _____

#3. _____

Search the WilsonWeb Biography Web site and record your notes:
 (Some of these may not be present, but look twice to be sure!)

Research	Answer	Source Code
Birth/Death		
Profession(s)		
Home Town		
Education		
Family		
Major Writings		
Brief Life Story		
Major Accomplishment #1		
Legacy/Influence		
Major Accomplishment #2		
Legacy/Influence		
Major Accomplishment #3		
Legacy/Influence		
Interesting Facts or Stories		

Student Name: _____

Making a Poster: Greek Scientist Trading Cards

CATEGORY	4	3	2	1
Graphics – Relevance	The graphic is related to the topic, is clearly recognizable and has a lot of attention to detail.	The graphic is related to the topic, is somewhat recognizable and has some detail.	Graphic relates to the topic but may need some explanation by the student.	Graphic does not relate to the topic or is incoherent.
Labels	All items of importance on the poster are clearly labeled with labels that can be read from at least 3 ft. away.	Almost all items of importance on the poster are clearly labeled with labels that can be read from at least 3 ft. away.	Several items of importance on the poster are clearly labeled with labels that can be read from at least 3 ft. away.	Labels are too small to view OR no important items were labeled.
Required Elements	The poster includes all required elements as well as additional information.	All required elements are included on the poster.	All but 1 of the required elements are included on the poster.	Several required elements were missing.
Attractiveness	The poster is exceptionally attractive in terms of design, layout, and neatness.	The poster is attractive in terms of design, layout and neatness.	The poster is acceptably attractive though it may be a bit messy.	The poster is distractingly messy or very poorly designed. It is not attractive.
Grammar	There are no grammatical mistakes on the poster.	There is 1 grammatical mistake on the poster.	There are 2 grammatical mistakes on the poster.	There are more than 2 grammatical mistakes on the poster.
Content – Accuracy	At least 7 accurate facts are displayed on the poster.	5-6 accurate facts are displayed on the poster.	3-4 accurate facts are displayed on the poster.	Less than 3 accurate facts are displayed on the poster.
Knowledge Gained	Student can accurately answer all questions related to facts in the poster and processes used to create the poster.	Student can accurately answer most questions related to facts in the poster and processes used to create the poster.	Student can accurately answer about 75% of questions related to facts in the poster and processes used to create the poster.	Student appears to have insufficient knowledge about the facts or processes used in the poster.