



Who Knew?

Products from Early Civilizations We Use Today

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Lesson Description

Products we want, by nature, make our lives easier, solve problems or entertain us. Students can list hundreds of products they are thankful for, but have they ever stopped to consider that some of the great products of today were invented and produced first by early civilizations?

Grade 6

Concepts

- **Economic Wants:** Desires that can be satisfied by consuming a good or service.
- Export: Goods and services produced in one nation or civilization and traded or sold in other nations or civilizations.
- Good: Tangible objects that satisfy economic wants.
- Import: Goods and services bought from sellers in another nation or civilization.
- Natural Resource: "Gifts of nature" that can be used to produce goods and services.
- **Product:** A good or service that can be used to satisfy a want.
- **Specialization:** A situation in which people produce a narrower range of goods and services than they consume.
- **Trade:** The exchange of goods and services for money or other goods and services.

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Economics Arkansas Lesson Plan Standards

Who Knew? Products from Ancient Civilizations

Arkansas Economics Standards

• E.1.6.3 Demonstrate how the division of labor and specialization led to the development of civilizations. This may include the increased productivity and quality of life civilizations experienced as they transitioned out of hunter-gatherer clusters and into agrarian, pastoral, and even feudal societies in which highly specialized skills could be developed, including artisans, cultivators, educators, and warriors.

English Language Arts Standards

- 6.CC.5.SLC: Contribute to the topic, text, or issue, responding to questions with relevant information.
- 6.CC.1.SLC: Express ideas in a collaborative setting, using effective discussion strategies.

Objectives

Students will be able to

- match clues with early products and categorize them under the correct ancient civilization heading
- explain how the product affected the development of the economy and would be considered an achievement for the civilization
- explain the significance of natural resources on product development and specialization of early river valley civilizations
- select what they consider to be the most significant product from an early civilization and present
 an argument to the class as to why that product had the greatest impact on early civilizations and us
 today.

Time required

- 30 minutes for teacher preparation
- 1 class period (45-60 minutes)

Materials required

Visual 1 (Civilization Heading Cards), one copy of each

Visual 2 (Product Focus Cards), one copy of each

Activity 1 (Product Puzzle Pieces), one complete set plus Answer Key

Card stock paper if available

Tape to post heading cards and complete puzzles

Optional: laminating machine and supplies if available

Teacher Preparation

- Prepare materials prior to class.
- Make 1 copy of all four civilization heading cards of Visual 1. Card stock paper or laminated copies are recommended if available.

- Make 1 copy of all product focus cards of Activity 1 on card stock paper, if available, and cut out individual cards.
- Make 1 copy of all four product focus cards of Visual 2. Card stock paper or laminated copies are recommended if available.

Procedure

- 1. Ask students to list 5 products they use every day. Allow time for students to share their lists.
- 2. Tell students that every day we are grateful for many products or goods because they solve problems for us, entertain us, satisfy our wants and make our lives easier. It is easy to think of products or goods that we use today. Many of them have been invented within the past decade, but there are quite a number of products we use today that were first produced by ancient civilizations.
- 3. Post the four civilization heading cards around the room. Tell students that all of the products to be discussed today are credited as an achievement for one of the civilizations posted around the room.
- 4. Distribute a product puzzle piece (Activity 1) to each student. Tell students that half of the cards represent a product of early river valley civilization and the other half have clues associated with one of the products. Students are to first read their puzzle pieces and look around the room to find the person that has a match to complete their puzzle.
- 5. When all students have found their match, present the next challenge. Puzzle partners should discuss which of the four civilizations they feel would be credited for their achievement puzzle. They should walk to that heading card.
- 6. Allow each pair to share about their product and summarize the clues. (*Use the answer sheet to reveal the answers.*) If pairs are not standing under the correct heading, have them move to the appropriate civilization. (*It is important to note that there is some disagreement as to which civilization was credited with first producing that product. This provides a great chance for further research.) Tape or post the products under the correct civilization heading. Have students return to their seats.*
- 7. Products are inspired for many reasons. In ancient civilizations, people used the resources that were available as they settled and began to brainstorm the ways they might produce things to assist them and satisfy their wants. Often, that meant using the resources naturally found in their geographical region. In economics, the term for those resources is natural resources. Natural resources are "gifts of nature" used in the production of goods and services. We are now going to visit each of the civilizations to see how natural resources helped spark inventive ideas which ultimately impacted their economy. In fact, all of the early civilizations we are focusing on today were impacted by the natural resource of rivers. They provided a steady supply of drinking water and made the land fertile for growing crops. It helped provided them a food source with the animals surrounding or living in the water, and it allowed them to be able to travel and trade easier.

- 8. Have students direct their attention to Ancient China and silk. Hold up the silk sign. Ask students to share products that are produced using silk today. (Answers will vary but might include: blouse, tie, scarf) Share that only the very wealthy could afford goods made from silk long ago. Silk comes from a natural resource found in that region. What is it? (silkworm cocoons) The Ancient Chinese invented a fabric that was highly demanded from the silkworm's cocoon, silk. In fact, the product fact card says it proved to be a very valuable export. What does the term export mean? (Goods or services that are produced in one nation or civilization but sold to other nations or civilizations.) There was a great demand for this good in the marketplace, and eventually it led to great opportunities for the Chinese. History records that the Chinese kept the process of harvesting the silk from the cocoon a secret for hundreds of years so they would have an advantage when it came to trading. Did this impact the economy of the Ancient Chinese civilization? (Yes) How? (It allowed them to develop their civilization. They were able to increase the goods they were able to consume as they traded with other civilizations. The Chinese became known for their ability to specialize in the production of silk which built its economy.)
- 9. Move to Ancient Egypt. Focus on the process of shipbuilding. Hold up the shipbuilding sign. What is one natural resource that comes to mind when you think of Egypt and the idea of shipbuilding? (*The Nile River*) Because of the geography of the area, the Nile River was critical to the economy of this civilization. Why was the Nile important? (*This natural resource provided water, food, transportation and excellent soil for growing food.*) Most Egyptians chose to live near the Nile River for this reason. How did the production of ships impact their civilization and their economy? (*Most of the major cities in Ancient Egypt were located along the banks of the Nile River. Ships allowed transportation, trade, fishing, and shipping opportunities.*) Their first boats were said to have been produced using the papyrus plant. Eventually they were made from cedar wood they imported from Lebanon. What does import mean? (*Goods and services bought from sellers in another nation or civilization.*) We know from history that their ship and boat building developed and helped their economy grow. Boats also played a major role in their cultural and religious beliefs as they were used in funeral processions. The Egyptians believed that a boat was needed in the afterlife in order to journey to the heavens. Historians record that there were 35 boats of some type in Tutankhamun's tomb.
- 10. Next move to Ancient Indus River Valley. This civilization left few written records, and we do not know how to read them. Hold up the indoor plumbing card. One thing we can certainly be thankful for is credited to this civilization. This invention solved the problem of how to obtain clean water and remove human waste. The Indus River Valley developed extensive indoor plumbing systems. Historians share that almost every house had a private bathroom. The floors in their homes were made of bricks laid on their sides to make a waterproof platform. The baths were used for religious services and bathing rituals. People would bathe much like a shower, standing up and pouring pitchers of water onto themselves. A small hole would be at the bottom so the water could flow out and into the streets. At first toilets could only be afforded by the wealthy. They were basically stacked bricks with a hole to allow draining. Terracotta pipes connected to each house and carried wastewater into an underground sewer system. This was very helpful if the plumbing was on the second floor. Another natural resource, limestone, was used to prevent leaks in the plumbing system. What natural resources were key in producing the plumbing and septic system? (clay, limestone, water)

11. Finally move to Ancient Mesopotamia. Hold up the wheel card. There are several civilizations who might like to claim credit for this invention, but the oldest wheel was found in Mesopotamia. There were no cars or bicycles at the time, so why would someone need a wheel? The product fact card states it might have first been used to make pottery around 3500 BC. There was an abun-dance of a natural resource in the area that was used in the production of pottery. What was it? (red clay) Pottery was essential to their lifestyle because it was used for preserving and storing food, for drinking vessels, writing tables and statues to name a few. The first wheel was crafted from wood found in the region. How did the wheel help with the production process? (Potters used it to increase production, to make the shapes more uniform and sturdy.) It is noted that Mesopotamia specialized in pottery production and were known for their practical use but also their artistic de-sign. How did the wheel affect their economy? (There was a demand for their pottery. It increased the opportunity to trade with other civilizations.) History notes that later the wheel was used when producing transportation for this civilization, the chariot.

Closure

Review concepts covered in the lesson:

- How have products benefited civilizations in the past and us today? (*They make tasks easier, solve problems, satisfy our wants, entertain us, etc.*)
- In early civilizations, we discovered that many used natural resources found in their region as they produced goods. What is a natural resource? ("Gifts of nature" used in the production of a good or service.)
- What natural resource did we talk about today that benefited the Chinese? (*silkworm cocoons*)
- How did their invention of silk benefit their economy? (It was highly demanded. Only the wealthiest could afford. It allowed them to trade with others and bring more goods into their civilization. It grew their economy.)
- Which civilization is known for their shipbuilding? (*Egypt*) What natural resource was the crux of their development and settlement patterns? (*Nile River*) How did they use ships to strengthen their economy? (*It allowed them to fish, navigate, ship goods, trade and more.*)
- What is one invention the Indus River Valley Civilization is credited for? (*They are known for an extensive indoor plumbing system.*)
- How did the wheel help Ancient Mesopotamia? (*It allowed them to first craft stronger, more uniform pottery which was essential.*)
- How did using the natural resources of the region help these inventors to specialize and strengthen their economy? (Using what was abundant in nature inspired them to produce things that satisfied their wants but were also heavily demanded by other civilizations. This opened the door to trade and helped develop their economies.

Assessment

Instruct students to do a gallery walk around the room and look at all the products posted under each heading that would be credited as an achievement for that civilization. Select the one they feel has made the most impact on their early civilization, today's economy and their personal world.

(**Optional**: If students have a product that wasn't discussed that they feel is the most significant achievement of one of the early river valley civilizations, they may select that product.)

Create a poster spotlighting the achievement and its benefit to the early civilization then and us today.

Present your argument in a 2-3 minute poster session presentation. Cite two sources that support your case.

Create a PowerPoint about the achievement you have selected. Include at least 5 slides that make the argument of how that product benefited the civilization then and us today. Cite two sources that support your case. Write a letter to the archeologist who discovered this product. Explain to him/her the impact of the achievement for the early civilization and for us today. Read the letter to class. Cite two sources that support your case.

Write an essay about the achievement you have selected. Include why this product is the best achievement from the early river valley civilization and for us today. Read the essay to the class. Cite two sources that support your case.

Projects Elements:	Yes	No
Content:		
Early product identified		
Impact on early civilization cited		
Impact on us today cited		
Two sources cited		
Presentation:		
Holds attention of audience with use of direct eye content		
Uses a clear voice and clearly projects voice		
Demonstrates full knowledge of content		
Presents information in a clear and precise manner		

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Sources

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- Chinese Inventions http://asiasociety.org/chinese-inventions
- Cuneiform http://www.ancient.eu/cuneiform/
- Inventions and Discoveries http://www.historyworld.net/wrldhis/PlainTextHistories.asp?Para-graphID=bng
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- Top Ten Things China Invented First http://www.toptenz.net/top-10-things-china-did-first.php
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Ancient China

Ancient Egypt

Ancient Indus River Valley

Ancient Mesopotamia

Product Puzzle Pieces

silk	 This is a soft and lightweight material much desired by the wealthy throughout the world in early civilizations and today. This civilization learned how to harvest this natural resource from the cocoons of silkworms. This civilization managed to guard the secret of the production of this good for hundreds of years.
toothpaste	 This invention was created to solve a problem for this civilization. The bread they ate had grit and sand in it, which wore out their tooth enamel. Early ingredients included the powder of ox hooves, ashes, burnt eggshells and pumice. Archaeologists recently found what appears to be a more advanced recipe and how-to-brush guide written on papyrus that explains how to mix precise amount of rock shale, mint, dried iris flower and grains of pepper to form a "powder for white and perfect teeth."
chopstick and fork	 This product made from bone has been discovered at multiple burial sites. They were an exclusive dining tool for the ruling class, and came in two- and three-pronged varieties like they do now. Due to the nature of this civilization's food customs, this product became popular and much easier to come by. Because their culture did not permit meats to resemble their living form, it was cut into bite-sized pieces.
magnetic compass	 These were not originally produced for navigation but to harmonize environments and buildings in accordance with the geometric principles of this civilization. The earliest reference records a magnetic device and was referred to as a "direction finder." This greatly improved the safety and efficiency of travel, producing maps, and especially oceanic navigation.
mechanical clock	 According to historical research, this was invented by a Buddhist monk and mathematician. This astronomical instrument operated with water steadily dripping on a wheel that made a full revolution every 24 hours. This product was originally called the "Waterdriven Spherical Birds'-Eye-View Map of the Heavens."
city planning	 This civilization laid out their cities on a precise grid system. Cities had a fortified area called a citadel which housed the major buildings of the city. Buildings were constructed of oven baked bricks all uniform in size.

This was said to have been first created one afternoon as the Divine Farmer was resting under a Camellia tree and boiled some water to drink. Dried leaves floated into the tea production pot of boiling water and created a new taste. In the beginning this was used in ritual offerings. Production of this product developed rapidly and became a popular drink around the country and the world. shave and haircut Because they consider hair unhygienic and unclean, this civilization invented tools to keep one clean shaven. A set of sharp stone blades set in wooden handles, later replaced with copper bladed razors, led to new specialists in the civilization. History notes that men, women and even children shaved their heads bald and wore elaborate wigs often made of sheep's wool, vegetable fiber. This invention is a mixture of sulfur, charcoal and potassium nitrate. Because it burns rapidly and generates a large amount of gunpowder heat and gas, it was first used for fireworks. Later it was used by military forces to dispel invasion at the borders. It was thought to be a potion for unlimited life and ended up being a potion for death that is still used today. Although there is some debate, historians give credit for the invention to this civilization. It is noted that it had many uses before it was considered a toy. kite By outfitting these products with bells and flutes, they would howl and sing in the wind and frighten away enemies. The first were said to be flat and rectangular. They were decorated with mythological motifs and legendary figures. During hot summers, many shaved their heads to keep them clean, which was much easier than cleaning them from pests. At the time, looking bald was not considered attractive, so they invented this good. Wig They usually consisted of various sizes of braids set with beeswax. These were worn by both men and women to cover their baldness and to protect their heads from the sun. This invention has been popular through the centuries. Soot and galena were first used in the production process which at the time was called kohl. It was popular with both men and women. eye makeup Status and appearance were essential, so the more of this worn, the better. It was thought that applying a thick coating of this would cure various eye diseases and even keep people from falling victim to the evil eye.

restaurant menu	 Due to populated regions that would trade with each other, hungry merchants could find an abundance of food to eat, but were not familiar with a lot of it. This was created to provide a guide for hungry merchants and foreign travelers as they often were presented food that was unfamiliar to them. These popped up wherever food was sold: temples, brothels, theaters, and tea houses as well as typical food stalls and restaurants.
paper money	 This was introduced as a way for wealthy merchants to avoid having to carry large quantities of copper coins. This simplified the exchange of goods in the marketplace as it eliminated the double coincidence of wants required to complete an exchange. Its original name was 'flying money' because it was so light it could blow out of one's hand.
match	 The first version of this product was said to have been invented by impoverished court ladies during a military siege. Tinder was hard to find during the siege, so this prevented them from starting fires for cooking, heating, etc. These consisted of little sticks of pinewood with sulfur on the end.
door lock	 The earliest record of this invention is traced back to around 4000 B.C. Early records indicate this invention was very large. The biggest ones were 2 feet. A hollow bolt was made in the door and then connected to pins. They were invented to keep you and your belongings safe from intruders.
toilet paper	 This product is essential to every house, school, or business. An Arab visitor to this civilization in 851 AD commented that these people wiped themselves with paper, while the rest of the world was using water, their hands, wood shavings, lace or a sponge on a stick. An advancement in this paper allowed for the royal family to have a perfumed form of this product.
medicine	 Although many civilizations claim this as an achievement, early records document that this civilization was advanced. Doctors knew how to check a person's heart rate by feeling for a pulse in parts of the body. Broken bones were set with splints and treatment was created for wounds. Surgery and surgical techniques were developed to treat conditions.

calendar	 This invention was vital to this early civilization because it could mean the difference between feast or famine. This invention was so closely tied to farming, it divided the year into three main seasons: inundation, growing and harvest. This invention calculated the number of days between one rising of the star, Sirius, and the next and found it to be 365 days. It divided the year into 12 months of 30 days each and added five days for holidays and feasting.
indoor	■ This invention solved the problem of how to obtain clean
plumbing	 water and remove human waste. Baths were very common and used daily. The floors in their houses were made of bricks laid on their sides to make a waterproof platform. At first, toilets were only for the wealthy. They were stacked bricks with a hole in the middle with a drain leading out. If located on the second floor, then terracotta pipes would bring waste water to the streets.
	■ The stones used to grind flour for bread contributed a
breath mints	 lot of sand and grit to their diet, wearing down the tooth enamel. There were no dentists at the time who could provide treatment. This civilization invented these using a combination of frankincense, myrrh and cinnamon boiled with honey and shaped into pellets.
	This are a said and discount of the said and
cuneiform	 This was considered the most significant among the cultural contributions of this civilization. The name comes from the word "wedge," which is associated with the wedge-shaped characters used in this writing system. The early form of this communication was recorded on clay tablets by pressing the wedge symbols into the clay.
	Combala managada bilada an 111.
hieroglyphics	 Symbols represent objects and ideas. This system had two groups: one that represented sounds and one that represented objects or ideas. This system had between 700 and 800 basic symbols called glyphs. Literally translated, it means "language of the gods."
	The material measure of materials and a state of the stat
sails	 The natural resource of water was key in the development of this good. This product could harness the wind to move boats which increased trading opportunities. This civilization was now able to fish in the middle of rivers and canals and get more fish, adding to a surplus of food being brought in by irrigation.

porcelain	 This invention is associated with how this civilization got its name. The skill and the art of production reached its peak and became famous throughout the world. A German physicist created this product in Europe and ended this civilization's monopoly on production.
	■ The Nile River played a major role in the lives of this
shipbuilding	 early civilization. This product aided people in fishing, transportation and trade. At first, they were constructed from the papyrus plant. Later, cedar wood was imported from Lebanon to produce them.
	■ Farmers cultivated wheat, barley, cucumbers and other
irrigation	 Farmers cultivated wheat, barley, cucumbers and other different foods and vegetables using stone hoes to plow the ground before the invention of the plough. This early civilization learned to control the flow of water from the river and used it to help with growing crops. During the main growing season, the flow of water was properly regulated thanks to this invention.
button	 This product was at first more ornamental than functional. They were produced from seashells, stones or metal such as copper. Some were carved into geometric shapes and had holes pierced into them so they could be attached to clothing by using thread.
mathematics	 This civilization needed a system to assist them as they constructed city walls and buildings. They developed a number system in base 60 which led to measuring time (60 seconds = 1 minute) and 360 degrees of a circle. This civilization had formulas and a wide knowledge of basic concepts.
wheel	 Archaeologists don't know for sure who invented this, but the oldest example was found in this early civilization. Originally this invention was not used for transportation, but rather for making pottery. It was likely the Sumer who first used it. This invention helps keep things spinning.

Product Puzzle Pieces Answer Key

Ancient China

Product	Source
chopstick and fork	http://www.history.com/news/hungry-history/a-brief-histo-ry-of-chopsticks
gunpowder	http://www.china.org.cn/top10/2011-03/04/content_22054243_8.htm
kite	http://www.chinahighlights.com/travelguide/culture/kites.htm
magnetic compass	http://www.china.org.cn/top10/2011-03/04/content_22054243_7.htm
match	http://asiasociety.org/chinese-inventions
mechanical clock	http://www.china.org.cn/top10/2011-03/04/content_22054243_2.htm
paper money	http://asianhistory.about.com/od/asianinventions/fl/The-Invention-of-Paper-Money.htm
porcelain	http://www.china.org.cn/top10/2011-03/04/content_22054243_6.htm
restaurant menu	http://www.toptenz.net/top-10-things-china-did-first.php
silk	http://www.china.org.cn/top10/2011-03/04/content_22054243_4.htm
tea production	http://www.china.org.cn/learning_chinese/Chinese_tea/2011-07/15/content_22999489.htm
toilet paper	http://www.todayifoundout.com/index.php/2011/08/toilet-paper-was-first-used-by-the-chinese/

Ancient Egypt

Product	Source
breath mints	http://science.howstuffworks.com/innovation/inventions/5-amazing-ancient-egyptian-inventions6.htm
calendar	http://science.howstuffworks.com/innovation/inventions/5-amazing-ancient-egyptian-inventions.htm#page=4
door lock	http://science.howstuffworks.com/innovation/inventions/5-amazing-ancient-egyptian-inventions.htm#page=9
eye makeup	http://science.howstuffworks.com/innovation/inventions/5-amazing-ancient-egyptian-inventions.htm#page=1
hieroglyphics	http://history-world.org/hieroglyphics.htm
medicine	http://www.orangefieldisd.com/view/12274.pdf
shave and haircut	http://science.howstuffworks.com/innovation/inventions/5-amazing-ancient-egyptian-inventions.htm#page=8
shipbuilding	http://www.ducksters.com/history/ancient_egypt/inventions_and_technology.php
toothpaste	http://science.howstuffworks.com/innovation/inventions/5-amazing-ancient-egyptian-inventions.htm#page=10
wig	http://www.buzzle.com/articles/ancient-egyptian-inventions. html

Ancient Indus River Valley

Product	Source
button	https://www.quora.com/Who-invented-buttons-and-button- holes-on-shirts
city planning	http://www.orangefieldisd.com/view/12274.pdf
indoor plumbing	http://apworldhistory101.com/history-of-india/indus-riv- er-valley/

Ancient Mesopotamia

Product	Source
cuneiform	http://www.ancient.eu/cuneiform/
irrigation	http://www.ancienthistorylists.com/mesopotamia-history/ top-11-inventions-and-discoveries-of-mesopotamia/#ixzz- 3tHMVE8Js
mathematics	http://www.storyofmathematics.com/
sail/sailboat	http://www.brighthubengineering.com/marine-histo-ry/78133-the-sailboats-of-ancient-mesopotamia/
wheel	http://www.ducksters.com/history/mesopotamia/science_and_technology.php

Product Focus Cards



shipbuilding

indoor plumbing

wheel