## Grade 7 Assignment

**This assignment is *strongly* aligned to the standards.**

*Teacher Notes*

**Introduction**

This Teacher Notes document provides instructional support for implementing the strongly aligned assignments to the [*KAS for Social Studies*](https://education.ky.gov/curriculum/standards/kyacadstand/Documents/Kentucky_Academic_Standards_for_Social_Studies.pdf)*.* To examine why this assignment is strongly aligned to the *KAS for Social Studies*, engage with the [Grade 7 Assignment Review Protocol](https://education.ky.gov/curriculum/standards/kyacadstand/Documents/Grade_7_SAL_Assignment_Review_Protocol.pdf) for this assignment.

It is important to note that the assignment(s), indicated throughout the Teacher Notes with shaded boxes, and related resource(s) represent one example. It is not a requirement nor a suggestion for school curriculum. While the Kentucky Department of Education (KDE) is responsible for the development of high-quality academic standards, state law assigns each local district the authority to develop the school’s curriculum and determine appropriate instructional resources based on language found in [Kentucky Revised Statute (KRS) 160.345](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Fapps.legislature.ky.gov%2Flaw%2Fstatutes%2Fstatute.aspx%3Fid%3D51319&data=05%7C01%7Clauren.gallicchio%40education.ky.gov%7Cd7e4118aebe74301935d08da63f51820%7C9360c11f90e64706ad0025fcdc9e2ed1%7C0%7C0%7C637932201576774398%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Nw%2BeZs0pD2iXofQylinAQ2JsFkBfkXtocfzyn8mip%2BM%3D&reserved=0). It is under the discretion of the superintendent to determine the local curriculum, including the evaluation and selection of instructional resources. The KDE does not adopt, select or recommend specific curricula for coursework. Per KRS 160.345(g), “the local superintendent shall determine which curriculum, textbooks, instructional materials, and student support services shall be provided in the school after consulting with the local board of education, the school principal, and the school council and after a reasonable review and response period for stakeholders in accordance with local board of education policy.”

This Teacher Notes document contains guidance and information on how to scaffold student understanding of the inquiry practices and the disciplinary strands cited to engage with assignments aligned to the supporting and compelling questions*.*

***KAS for Social Studies* alignment:**

* 7.I.Q.1 Develop compelling questions, focusing on the growth and expansion of civilizations from 600-1600.
* 7.I.Q.2 Generate supporting questions, using the disciplines of social studies, to help answer compelling questions related to the growth and expansion of civilizations between 600-1600.
* 7.E.ST.3 Explain how growing interdependence and advances in technology improve standards of living.
* 7.G.HI.2 Examine ways in which one culture can both positively and negatively influence another through cultural diffusion, trade relationships, expansion and exploration.
* 7.G.GR.2 Use maps and other geographic representations, geospatial technologies, and spatial thinking to interpret the relationships between humans and their environment.
* 7.I.UE.1 Use multiple sources to develop claims in response to compelling and supporting questions.
* 7.I.CC.1 Construct explanations, using reasoning, correct sequence, examples and details with relevant information and data, while acknowledging the strengths and weaknesses of the explanations concerning the growth and expansion of civilizations.
* 7.I.CC.3 Evaluate how individuals and groups addressed local, regional and global problems throughout the growth and expansion of civilizations.
* 7.I.CC.4 Use a range of deliberative and democratic procedures to discuss current local, regional and global issues.

*Educators may have to engage with a standard multiple times throughout a year in order to meet the full intent of the standard. As a result, the following assignment example may not encompass the entire scope of the standards identified*.

**Overview:**

Students will explain how growing interdependence and advances in technology improved standards of living during the growth and expansion of civilizations from 600-1600. Students examine the ways in which one culture can both positively and negatively influence another through trade relationships of the Silk Road, Mediterranean, the Trans-Saharan and the Indian Ocean network. Additionally, students explore the high costs of luxury goods to understand how a new period of exploration was stimulated among Europeans, who built on and refined technologies originating in Asia, such as the compass, astrolabe and gunpowder. This supports students in answering the supporting question, “How did the technology of advanced civilizations influence Europeans as they attempted to enter world economic markets during the period of exploration?”

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| **Setting the Stage: Compelling Question** |

| **7.I.Q.1** Develop compelling questions, focusing on the growth and expansion of civilizations from 600-1600.**Compelling Question:** “How can technology transform civilization?” |
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**Compelling Questions**

Compelling questions are open-ended, enduring and center on significant unresolved issues. It is important to note that while this assignment provides a compelling question to demonstrate alignment, student development of compelling questions is a critical part of the inquiry process. Since 7.I.Q.1 states “develop compelling questions,” teachers should provide opportunities for students to develop their own compelling questions focusing on the growth and expansion of civilizations from 600-1600. Teachers may implement strategies, such as creating a [Wonder Wall](https://www.madlylearning.com/wonderwall/) to support students in developing their own compelling questions. For more information on compelling questions, visit Section B: “What are Compelling Questions and how do students ask them?” from the [Inquiry Practices of the *KAS for Social Studies*](https://education.ky.gov/curriculum/standards/kyacadstand/Documents/Inquiry_Practices_of_KAS_for_Social_Studies.pptx)module.

Prior to engaging with this compelling question, ensure that students broaden their understanding of the term “technology.” Post the term “technology” on the board and have students define “technology” using their own words. In order to prompt student thinking, students may consider describing the characteristics of technology or identifying examples of technology to construct their own definition, as an example.

Once students have defined “technology,” have students work with a partner to share their individual definitions of technology. Have students reflection on the following:

| * What parts of the definition of technology were the same?
* What parts of the definition of technology were different?
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Next, have students complete the [Parts, Purposes, Complexities](https://pz.harvard.edu/sites/default/files/Parts%20Purposes%20Complexities_1.pdf) strategy on an astrolabe by having students examine the following sources:

* The British Museum. (1712) *Astrolabe.* The British Museum. <https://www.britishmuseum.org/collection/object/W_OA-369>.
* Greenwood, William. (2018, January 28). *How to use an astrolabe.* The British Museum*.* <https://www.youtube.com/watch?v=N8oWGwcdFmA>.

Prior to using the graphic organizer, support students in understanding the terms “parts,” “purposes” and “complexities” as understanding these terms will support students in successfully engaging with this strategy. While working in pairs, have students identify the parts, purposes, and complexities of the astrolabe by completing the following graphic organizer:

| **Parts** | **Purposes** | **Complexities** |
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Here is an example from a Kentucky classroom:

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Once the students have completed their graphic organizer, have them discuss the following questions:

| * How did your analysis of an astrolabe support your definition of technology?
* How did your analysis of an astrolabe challenge your definition of technology?
* How would you revise your definition of technology to reflect what you have learned from the astrolabe?
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When students have completed their graphic organizer and completed the discussion questions in pairs, conduct a whole class discussion where students share their takeaways from the analysis of an astrolabe. Visit [Leading Discussions](https://bokcenter.harvard.edu/leading-discussions) for more information on how to conduct whole group discussions. Next, have students consider their original definition of technology. Ask students if this definition encompasses all of the possibilities of the term “technology”. If not, have students construct a class definition of technology based on what they have learned. While whole class definitions of technology will vary based on student responses, a sample definition, may include but is not limited to:

“The application of knowledge to solve problems.”

Students may complete this work individually, with a partner or in a small group in order to ask these questions.

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| **Supporting Question** |

| **7.I.Q.2** Generate supporting questions, using the disciplines of social studies, to help answer compelling questions related to the growth and expansion of civilizations between 600-1600. **Supporting Question:** “How did the technology of advanced civilizations influence Europeans as they attempted to enter world economic markets during the period of exploration?” |
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**Supporting Questions:**

Supporting questions are aligned to the compelling question and can be answered through using the concepts and practices of each social studies discipline. In grade 7, students are expected to generate supporting questions. Strategies such as [See, Think, Wonder](https://pz.harvard.edu/sites/default/files/See%20Think%20Wonder_2.pdf) [may be used to support students in this work.](https://pz.harvard.edu/sites/default/files/Think%20Puzzle%20Explore_1.pdf) For more information on developing supporting questions, visit “Section C: What are Supporting Questions, and how do students ask them?”

from the [Inquiry Practices of the *KAS for Social Studies*](https://education.ky.gov/curriculum/standards/kyacadstand/Documents/Inquiry_Practices_of_KAS_for_Social_Studies.pptx)module.

**Investigation: Part 1**

| **7.G.HI.2** Examine ways in which one culture can both positively and negatively influence another through cultural diffusion, trade relationships, expansion and exploration. |
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Transition students into investigating the supporting question by having students examine the ways in which one culture can both positively and negatively influence another through trade relationships of the Silk Road, Mediterranean, the Trans-Saharan and the Indian Ocean network by examining secondary sources through a [jigsaw activity.](https://www.jigsaw.org/) Prior to dividing students into groups of four, ensure that students understand the success criteria:

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| I can describe the ways in which one culture can both positively and negatively influence another through trade relationships of the Silk Road, Mediterranean, the Trans-Saharan and the Indian Ocean.  |

In a whole group discussion, ensure that students understand that they are required to demonstrate their understanding of positive and negative effects of multiple trade relationships at the end of this jigsaw activity.

First, divide students into groups of four and assign each member of the group one of the sources below. It is important to note that the following sources may be excerpted, adapted or translated based on the needs of the students.

| * Cartwright, M. (2018, May 22). [Trade in Ancient Greece](https://www.ancient.eu/article/115/). *Ancient History Encyclopedia*. <https://www.ancient.eu/article/115/trade-in-ancient-greece/>
* Cartwright, M. (2019, March 12). [The Camel Caravans of the Ancient Sahara](https://www.ancient.eu/article/1344/). *Ancient History Encyclopedia*. <https://www.ancient.eu/article/1344/>
* Daggett, Adrianne. (2016, October 19). The Indian Ocean: A Maritime Trade Network History Nearly Forgot. *Discover Magazine.* <https://www.discovermagazine.com/planet-earth/the-indian-ocean-a-maritime-trade-network-history-nearly-forgot>
* Harris Castelo, Shannon. (2014, June 3). The Silk Road: Connecting the ancient world through trade. *Ted Ed*. <https://www.youtube.com/watch?v=vn3e37VWc0k>
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If you have uneven groups, visit the [Jigsaw Method](https://www.youtube.com/watch?v=euhtXUgBEts) for an additional overview of this method and tips for troubleshooting issues. Then, have students do the following:

| Complete [Cornell Notes](http://coe.jmu.edu/learningtoolbox/cornellnotes.html) as you engage with each source. Use [Sketchnoting](https://www.verbaltovisual.com/what-is-sketchnoting/) in your notes to support your understanding of the interactions between cultures of various world regions through trade networks.  |
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Once the students have completed their Cornell notes on their assigned trade network, have them reflect on their learning by asking self-regulation feedback questions to ensure that they are prepared to form expert groups.

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| Ask yourselves the following questions:* How can I reflect on my own learning?
* What further doubts do I have regarding this task?
* Can I now teach someone else about my assigned trade network?
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If students identify any gaps in their understanding after answering the self-regulation feedback questions, encourage them to ask their peers or their teacher for additional help in clarifying any misconceptions.

Second, have students form “expert groups.” In these “expert groups,” students will discuss the trade network they examined, using the questions below, to prepare a presentation for their jigsaw group. For guidance on how to organize students into small groups, teachers may reference [Using Roles in Group Work](https://teachingcenter.wustl.edu/resources/active-learning/group-work-in-class/using-roles-in-group-work/) or [Setting up and managing small group work](https://library.teachingworks.org/curriculum-resources/materials/social-studies-setting-up-and-managing-small-group-work/).

| In these discussions, students should discuss and prepare a presentation that includes the following:* What regions of the world did this trade network impact?
* What goods, ideas or technologies were traded?
* Did this trade network have a positive impact on the region? If so, use relevant examples and details to support your statement.
* Did this trade network have a negative impact on the region? If so, use relevant examples and details to support your statement.
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As students are creating their presentations, provide meaningful feedback to ensure students’ products are meeting the success criteria of this investigation. Some questions teachers may ask include, but are not limited to the following:

* Does your product meet the success criteria?
	+ If the product does not meet the success criteria, ask the following questions:
		- What information is not correct?
		- What additional information is needed to meet the criteria?
		- How can the student elaborate on the information provided?
* How well has the product been created?

For guidance on how to create a presentation, visit [Create a Presentation “All About a Topic”](https://applieddigitalskills.withgoogle.com/c/middle-and-high-school/en/create-a-presentation-all-about-a-topic/overview.html) for guidance on how to create an interactive presentation on the assigned topic.

After students have prepared their presentation, ask students to return to their jigsaw groups and do the following:

| In your jigsaw groups, each student will present the information on their trade network while other students take notes and ask questions to address any misconceptions or possible gaps in knowledge in the presentation. Students will take turns presenting their trade network.  |
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To support students in sharing the information they have learned with their peers and addressing any misconceptions, have students provide each other with peer to peer feedback. One way to achieve this is to have students apply the success criteria to each other’s presentations to provide formative feedback to identify areas of improvement. Students may ask each other the following question:

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| Can you describe the ways in which one culture can both positively and negatively influence another through the trade relationship presented by my peer? |

If students identify any gaps in their understanding after answering this peer to peer feedback question, encourage them to ask their peers or their teacher for additional help in clarifying any misconceptions.

Lastly, students will complete the following graphic organizer to demonstrate their understanding of the following question:

| Based on what you learned from your small group presentation and discussion, how can one culture positively and negatively influence one another through trade relationships? While completing the graphic organizer below, use relevant examples and details from what you have learned to support your claim.  |
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| **Trade Network** | **Positive Impact of one culture on another** | **Negative Impact of one culture on another** | **Relevant example and/or detail that supports the claim**  |
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Here is an example from a Kentucky classroom:

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| **Trade Network** | **Positive Impact of one culture on another** | **Negative Impact of one culture on another** | **Relevant example and/or detail that supports the claim**  |
| Trans-Saharan | The Trans-Saharan traderesulted in more than themovement of salt, gold, and other desired items. This trade network moved ideas and new technology that helped create more wealth than had ever been seen before and the spread of a major world religion. New breeds of camels became the main source of travel, even in today’s world, that was shared through this trade network, and needing to feed and provide water for these animals through oases stops made time and places for cultures to interact longer. Wealth led to the creation of major West African Empires such as Mali and Songhai. Thespread of Islam brought Arabic architecture to towns across the Sahara and more accurate scales for weighing gold dust. | There were many dangers in traveling across the Sahara and in the people being moved through the network. The most crucial impact with negative consequences was moving enslaved people from Western parts of Africa to Mediterranean and East African ports. | The Camel Caravans of theAncient Sahara, from 2019,shared that traded items changed “depending on the particular rich elites in the north and south ofthe desert.” The Catalan Atlas picture shows images of Arabic mosques, a rich king with a gold crown, and a trader on a camel which shows viewers what was seen most at that time through trade. |
| Indian Ocean | The Indian Ocean Network connected the Asian, Mediterranean, and Africancivilizations to show how trade existed a long time before Marco Polo explored the world. Glass beads and porcelain from Persia and Asian countries were found in the cemeteries of people in early African civilizations. Grains from the East African coast were shared to present day Pakistan and northern India. Other items traded were ivory, salt, animal skins, spices, and gold. Cities that were founded on coastlines became major trading ports which became part-time homes for traders which allowed for ideas to be exchanged. Evidence also points that the first large settlement on Madagascar was founded by people from Indonesia and not from Africa.Economies of glass beads and porcelain gifts with gold bullion and political alliances from trade were the most positive impacts from the Indian Ocean Trade Network. | Negative impacts of cultures coming together have been seen through increased warfare whencities grew larger and needed more territory, and as people of different cultures and faiths clashed with the expansion of non-conforming Europeanexploration. | The article by Adrianne Daggett from 2016 about the Indian Ocean Trade stated, “During its peak, the trade network connected places as far-flung as China, Rome and southern African kingdoms such as Great Zimbabwe. In terms of the sheer amount of goods moved, the maritime trading system rivaled its more famous inland relative, the SilkRoad.” |
| Mediterranean Trade | The Mediterranean Trade Network helped to move trade all over the Mediterranean civilizations such as Greece, Egypt, and Etruscans, but also as far west as North West Africankingdoms, north toward Scandinavian civilizations and east to the coasts of the Black Sea. Important food items like olives and meat were traded fortools and animal hides within thecloser areas right off the Mediterranean Sea. Highly desired exports that helped to stretch the trade routes with the farthest civilizations included wheat, grain, metals for tools, and papyrus. Pottery helped keep items stored for long tripsand during times of drought, and ship building materials like wood and iron or copper brought colonization of Greeks and Phoneicians across theMediterranean lands mixing bothpeople and culture together for new types of governments and economic systems. | This network also allowed for the movement of people who began to desire more territory over timethrough warfare, pushing each civilization out of power over timesuch as Romans conquering Greeks. | The article, Trade in AncientGreece, by Mark Cartwright,provides information about how trade within and around the Mediterranean Network helped to spread the influence of Greek and Phoneician cultures throughout this part of the world. “Contacts spread across the Mediterranean driven by social and political factors such as population movements, colonization, inter-state alliances,the spread of coinage, thegradual standardization ofmeasurements, warfare, andsafer seas following thedetermination to eradicatepiracy.” This shows why thetrade network was so successful, and this next example shows us how far away Greek exports havebeen found from the center of Greece. “Fine Greek pottery was also in great demand abroad andexamples have been found as far afield as the Atlantic coast of Africa.” |
| Silk Road | The Silk Road is the most wellknown and used trade route fromancient to modern times. Thefirst group of routes on landconnected the Eastern part of theMediterranean civilizations toCentral Asia and then from hereto China. Later routes wereextended using bodies of waterfrom the Mediterranean Sea andthe Pacific Ocean. Items werethen moved and traded throughthe Roman Empire and to Japan.The Silk Road affected culturethe most through economy (silkproduction across the world),moving ideas (Buddhism grewdue to cultures interactingthrough traders), and modern dayworld interconnectedness. | Diseases, such as measles, smallpox,and bubonic plague, moved along the Silk Road andall began in the Easterncivilizations. The Black Death killed almost half of Europe’s population in four years after spreading on trade ships into towns. | Mr. Greene said that The SilkRoad affected rich and non-rich people through changing economic systems to help non-royal people become rich and helping develop modern daygovernments by the spread of ideas, but also by negatively changing world populations through the spread of disease. |

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**Investigation: Part 2**

| **7.E.ST.3 Explain how growing interdependence and advances in technology improve standards of living.** |
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Remind students that interregional trading systems, such as the Silk Roads, Indian Ocean Maritime System and the Trans Saharan routes were created through consumer demands for luxury and specialty items. This demand for consumer goods led to the development of cities along the trade routes.

To investigate the impact of the interregional trading systems, have students read and annotate the following article:

* Khan Academy. (2017). *Development of new trading cities.* Khan Academy*.* <https://www.khanacademy.org/humanities/world-history/medieval-times/development-of-new-trading-cities/a/development-of-new-trading-cities>

Visit [Making Annotations: A User’s Guide](http://www.readwritethink.org/files/resources/lesson_images/lesson1132/AnnotationGuide.pdf) for more information on how to annotate an article.

When students have completed their annotation of the article, conduct a [Roundtable/Brainstorm](http://archive.wceruw.org/cl1/cl/doingcl/brain.htm) where share their answers to the following question:

| How did growing interdependence improve standards of living?  |
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Students may use information learned from the jigsaw activity, in addition to the material learned from the [Development of new trading cities](https://www.khanacademy.org/humanities/world-history/medieval-times/development-of-new-trading-cities/a/development-of-new-trading-cities) article, to complete this activity.

Next, explain to students that demand for Asian luxury goods continued to expand during the period of the Crusades, as Europeans sought access to markets from which they were geographically remote. Due to the highly specialized or environmentally dependent nature of many of these items, the cost for them was high. These high costs stimulated a new period of exploration among Europeans, who built on and refined technologies originating in Asia, such as the compass, astrolabe and gunpowder.

Have students research important technologies that originated during this period using the sources provided to complete the chart below. It is important to note that the following sources may be excerpted, adapted or translated based on the needs of the students.

Sources:

* Cheongju Early Printing Museum -Google Arts and Culture. The invention of movable metal type: Goryeo technology and wisdom. *Google Arts and Culture.* Retrieved from: <https://artsandculture.google.com/exhibit/the-invention-of-movable-metal-type-goryeo-technology-and-wisdom/jQLywilonG6kIg>
* IEEE REACH. (2013). Early Maritime Navigation - The Compass. *IEEE REACH.* Retrieved from: <https://reach.ieee.org/multimedia/the-compass/>
* King, Alessandra. (2004, January). *A brief history of numerical systems.* Ted Ed*.*: <https://www.youtube.com/watch?v=cZH0YnFpjwU&feature=youtu.be>.
* Poppick, Laura. (2017, January 31). The Story of the Astrolabe, the Original Smartphone. *Smithsonian Magazine.* Retrieved from: <https://www.smithsonianmag.com/innovation/astrolabe-original-smartphone-180961981/>
* Wenddorf, Marcia. (2019, April 20). The Long and Complex History of Paper. *Interesting Engineering.* Retrieved from: <https://interestingengineering.com/the-long-and-complex-history-of-paper>
* Whipps, Heather. (2008, April 7). How Gunpowder Changed the World. *Live Science*. Retrieved from: <https://www.livescience.com/7476-gunpowder-changed-world.html>

| **Invention** | **Country/Region of Origin** | **Why is this invention significant to the development of civilizations?**  | **How did the use of this invention expand beyond the country/region of origin?** | **How did this technology impact the standard of living?**  |
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| [Hindu-Arabic Numerals](https://interestingengineering.com/video/understand-use-arabic-numerals-just-five-minutes) |  |  |  |  |
| [Paper](https://interestingengineering.com/the-long-and-complex-history-of-paper) |  |  |  |  |
| [Movable Type](https://artsandculture.google.com/exhibit/the-invention-of-movable-metal-type-goryeo-technology-and-wisdom/jQLywilonG6kIg) |  |  |  |  |
| [Compass](https://reach.ieee.org/multimedia/the-compass/) |  |  |  |  |
| [Astrolabe](https://www.smithsonianmag.com/innovation/astrolabe-original-smartphone-180961981/)  |  |  |  |  |
| [Gunpowder](https://www.livescience.com/7476-gunpowder-changed-world.html)  |  |  |  |  |

Here is an example from a Kentucky classroom:

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| **Invention** | **Country/Region of Origin** | **Why is this invention significant to the development of civilizations?**  | **How did the use of this invention expand beyond the country/region of origin?** | **How did this technology impact the standard of living?**  |
| Hindu-ArabicNumerals | India | It made calculationsmore consistent and reliable and connected civilizations through common measurements and values withtrade. | Mayans added a zero to their number system which made the numerals evenbetter for place holders instead of a blank or as a value in math. Arab merchants, scholars, and conquers spreadit into Europe and replaced Roman numerals. | It was difficult to make largenumbers in different Societies because they used symbols.The symbols were long strings as the numbers increased andweren’t the same in eachCivilization. The new numeralssystem only used 10 symbolsand didn’t change as it spread through the world. This made trade easier. |
| Paper | China | Before paper was invented, people used materials suchas silk, bamboo, clay, or animal skin. These materials were either expensive, heavy to carry, easily destroyed, or hard to find in large amounts. Paper was easy to create, lightweight, inexpensive, and more durable. Paper allowed for information to be transferred over large parts of the world quickly. | The Silk Road spread paper to other parts of the world from China. Other than writing purposes, theChinese found other uses for paper such as tea bags, paper Money, newspapers, and eventually book making. The Silk Road spread paper use to the East and West and papermakers were captured by other civilizations during warfare, such as the Ottoman Turks, to teach the secrets of papermaking. | Paper helped governments tomake more copies of lawsand policies. It also helped toincrease the amount ofInformation spread to allpeople with the invention of newspapers. The combination of the printing press and paper went beyond newspaper to book making, and is still important today in everyday use for notes, school work, and large scale book publishing. |
| Moveable Type | Korea | Metal type casting took less time, made it easier to publish materials (that looked nice and were easy to read) and to record and transmit information. Books about religion, medicine, science, laws and more helped to make societies more unified. | This invention helped to spread the ideas of Buddhism and Confucianism, left to religion reform and civil revolution as the Mongols moved down into China, Korea, and through other East Asian countries. | Before moveable type was created, people had to share printed information by handwriting (rewriting) words. Mistakes were made often and it took a lot of time to make copies. Even earlier wood block printing took a lot of time as people had to hand carve the blocks and wood wore down easily. |
| Compass | China | Trade and exploration increased due to the use of compasses and maps with compass coordinates included. | The first use of the compass was as spiritual guidance. A magnetic stone was carved into the shape of a spoon and placed on bronze. As it always pointed in the same direction, users that a divine spirit was showing them the path to a good life. Compasses became used for navigation at sea when an English monk stated sailors needed compasses on every ship without having to use landmarks or observations of winds, birds, and position of the sun or stars, of which none are accurate during poor weather. | Sailors and people on land could both navigate easier. Compasses are used today in personal and work areas such as hiking, construction, the military and miners. |
| Astrolabe | Europe and Islamic World | Civilizations were able to make advancements in math, astronomy, and time telling by using and improving the astrolabe. These three uses by themselves could help with crops, trade, travel, economic systems, and the sharing of culture through teaching others how to use the device. | Astrolabes were used in meteorology to use astrology to help predict weather patterns. Explorers like Christopher Columbus and Bartolomeu Dias used astrolabes with other tools to help navigate through oceans and seas, which also opened new trading routes that sailors would have needed to use the astrolabes themselves to follow the routes over and over. | The invention of the astrolabe helped users tell time, make mathematical calculations, show the direction of cities for travel and prayer, spiritual guidance using astrology and astronomy, and banking. All of this made the tool an advancement in technology combining tools to help people to travel and do business easily. |
| Gunpowder | China | Once gunpowder was created, it was used in all wars and most weapons were adapted to include gunpowder or created to use gunpowder in new ways for the purpose of winning wars. The winners of these wars expanded countries by wiping out large armies and blasting through the walls that protected Medieval cities for centuries. | Like paper, gunpowder, and weapons using gunpowder like rocket arrows, were spread through trade on the Silk Road. Gunpowder cannons and other weapons using gunpowder were used by Ottoman Turks, the English and the French, and eventually led to the development of handguns. | Gunpowder changed the face of warfare from being a mostly close hand held weapon strategy to one at a distance. Soldiers no longer had to see the faces of the men they were attacking. Protection weakened because walls and stone fortifications didn’t keep enemies out. Our modern armies were created to train people with guns to protect others without guns, and to take over weaker kingdoms. The only positive impact of gunpowder was the invention of fireworks. |

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**Investigation: Part 4**

| **7.G.GR.2** Use maps and other geographic representations, geospatial technologies, and spatial thinking to interpret the relationships between humans and their environment. |
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Next, have students think spatially about the growth and expansion of civilizations. Have students access the following map:

* Martinjanmansson. (2018, May 19). *An Incredibly Detailed Map Of Medieval Trade Routes.* Merchant Machine. <https://merchantmachine.co.uk/medieval-trade-routes/>.

Have students ask geographic questions about the information presented on the map. Questions students may ask may include, but are not limited to, the following:

| * Where are the trade routes located and why do you think they are there?
* How does the physical geography of the regions where the trade routes are located influence the trade routes?
* What are some economic and/or environmental impacts of the trade routes?
* How do trade routes solve problems?
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Visit[*Geographic Skills 1 from National Geographic*](https://www.nationalgeographic.org/geographic-skills/1/)for more information on asking geographic questions.

**Task Aligned to the Supporting Question:**

| ***KAS for Social Studies* alignment:** * 7.I.Q.2 Generate supporting questions, using the disciplines of social studies, to help answer compelling questions related to the growth and expansion of civilizations between 600-1600.
* 7.E.ST.3 Explain how growing interdependence and advances in technology improve standards of living.
* 7.G.HI.2 Examine ways in which one culture can both positively and negatively influence another through cultural diffusion, trade relationships, expansion and exploration.
* 7.G.GR.2 Use maps and other geographic representations, geospatial technologies, and spatial thinking to interpret the relationships between humans and their environment.
* 7.I.UE.1 Use multiple sources to develop claims in response to compelling and supporting questions.
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In these assignments, students are required to synthesize information learned through engaging with the disciplinary strand standards to answer a supporting question.

| **Task Aligned to the Supporting Question:** Construct a claim to answer the supporting question: “How did the technology of advanced civilizations influence Europeans as they attempted to enter world economic markets during the period of exploration?”In your response, be sure to include:* your knowledge of how growing interdependence and advances in technology improved the standards of living.
* your knowledge of the ways in which one culture can both positively and negatively influence another through cultural diffusion, trade relationships, expansion and exploration.
* The use of multiple sources to develop your claim.
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Below are examples from Kentucky classrooms:

**Strongly Aligned**

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| The technology of advanced civilizations influenced Europeans as they attempted to enter world economic markets by connecting them to new ideas, better tools to travel, and a growing desire to take over more territory for resources during the period of exploration. Eventually, protection for traders and explorers, and European warfare, made new economies that pushed Europe into the lead spot of world economy. Before Europe was even a set of kingdoms, the East Asian civilizations, African civilizations, and the Arabic World had been trading on the Silk Road, the Mediterranean Sea, the Indian Ocean, and the Trans-Saharan Route. Evidence of this trade was seen in glass beads from Asia being found in African graves and Ancient Greek pottery found all over the Mediterranean cities. Governments saw the opportunity in political alliances through trading and how these routes could be expanded to get to other parts of the world for colonization.Europeans made upgrades and invented new tools to the devices that more advanced civilizations created to travel and trade better. The astrolabe and the compass were used by travelers for centuries in their original forms before Europe improved them. The astrolabe from the Arabic World and the Compass from China helped all travelersto make more accurate maps and stay on course. An English Monk during the time of exploration wrote that sailors needed compasses on every ship. Paper from China and movable type from Korea helped spread information throughout Europe which led to the invention of the printing press in Europe. The printing press and paper helped spread ideas all over the world including details of exploration.With gunpowder from China and iron from Africa, Europe was able to create weapons that won wars. Cannons were made to break down walls and forts. Guns were developed so armies could defeat enemies quicker than swords and arrows. These cannons and guns were used to protect sailors and land traders, like the camel caravans in Africa and Arabia, from piracy. Explorers conquered civilizations in the New World with the use and threat of guns. Evidence of how Europe went farther around the world with improved technology and some of their own is seen in maps that show the development of trading routes from the ancient world to the time of European exploration.Advanced civilizations such as China, India, Africa, Korea and the Arabic World influenced Europeans to make connections for new ideas, tools for travel, and design new weapons as they attempted to enter world markets during the period of exploration. Europe needed to trade more and go farther which pushed them to improve the astrolabe, the compass, and extend trade routes. To gain territory and protect themselves from neighboring countries, Europeans took paper and movable type to spread information and gunpowder to make new weapons. Europe took over the world in land and economy through becoming leaders in exploration of new lands with rich resources, advanced technology, and guns. |

**Partially Aligned**

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| Europeans took technology from the advanced civilizations around them and made improvements so they could win territory wars and dominate the growing global economic markets. Although Europeans had not developed their civilizations as much as the Chinese, Greeks, Romans, or Arabic world had, they were able to use their knowledge of science to make improvements on the technologies for travel, information sharing, and weapon making. Theastrolabe made travel easier and maps better by allowing users to use lines of latitude with the stars or sun. This helped them to know the direction they traveled in to chart their routes. The addition of the compass took away theproblem of travel when the weather wasn’t clear because the magnetic needle always pointed north. This helped connect Eurasian trade routes to African trade routes, and more north to England. Now, travelers could move around any time of day and any time of the year without waiting a long time. Paper and movable type shared from Asia through the Silk Road could record travels and pass information. Newspapers shared what was going on in theworld or locally. Science and medicine improved as knowledge from the Middle East could be spread on trade networks through printing books to European countries which made the standard of living improve. Gunpowdermade weapon making explode as Europeans combined materials from Asia and Africa. Europeans wanted to win wars with each other to become rich or spread and protect their religion. As gun making sped up, even explorerswould have cannons and guns to protect their ships at sea from piracy and themselves as they explored new lands. Guns made Europe even richer and more powerful in the world because other civilizations in the world wantedguns and would trade or provide gold to purchase them. The simple inventions of older civilizations helped Europeans to travel farther, spread information, and win wars so they could take control of the global Economy.  |

**Weakly Aligned**

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| Europeans were really smart. They traveled on old roads and made guns. They also made people use gold for money. Europe explored the world and took over. They didn’t like Chinese civilizations and stole their ideas. |

**Task Aligned to the Compelling Question:**

| ***KAS for Social Studies* alignment:** * 7.I.Q.1 Develop compelling questions, focusing on the growth and expansion of civilizations from 600-1600.
* 7.I.UE.1 Use multiple sources to develop claims in response to compelling and supporting questions.
* 7.I.CC.1 Construct explanations, using reasoning, correct sequence, examples and details with relevant information and data, while acknowledging the strengths and weaknesses of the explanations concerning the growth and expansion of civilizations.
* 7.I.CC.3 Evaluate how individuals and groups addressed local, regional and global problems throughout the growth and expansion of civilizations.
* 7.I.CC.4 Use a range of deliberative and democratic procedures to discuss current local, regional and global issues.
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Assignments aligned to the compelling question are designed to provide guidance on how to have students synthesize the knowledge learned from engaging with the supporting question(s) to investigate enduring and significant unresolved issues addressed by the compelling question. In this example, one supporting question is provided that is aligned to a compelling question. However, students may need to engage with more than one supporting question in order to fully engage with a compelling question. This assignment culminates with students using their historical thinking skills to confront today’s problems.

| **Task Aligned to the Compelling Question:** “How can technology transform civilization?”**Part One:** Construct an explanation, using reasoning, correct sequence, examples and details with relevant information and data to answer the following question: “How can technology transform civilization?” In your explanation, be sure to include examples and details from multiple sources while acknowledging the strengths and weaknesses of the explanations. **Part Two:** Using your knowledge of how technology can transform civilization, evaluate how individuals and groups addressed local, regional and global problems throughout the growth and expansion of civilizations.**Part Three:** Based on your evaluation of how individuals and groups addressed local, regional and global problems throughout the growth and expansion of civilization, use historical thinking skills to confront today’s problems. Draw on what you have learned about how technology can transform civilization to discuss current local, regional and global issues. Be prepared to share your thinking through deliberative and democratic procedures. |
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**Notes for Part One:** All valid claims must be based on logical evidence. In order for students to construct coherent arguments and explanations using their understanding of the social studies disciplines, they must understand how to substantiate those claims using evidence. This skill requires students to collect, evaluate and synthesize evidence from primary and secondary sources to develop and support a claim.

**Notes for Part Two:** Have students engage in [Claim, Support, Question](https://pz.harvard.edu/sites/default/files/Claim%20Support%20Question_0.pdf) to brainstorm and consider ideas on problems from the growth and expansion of civilizations. In order to conduct this activity, students will need to make a claim about the topic, provide evidence to support the claim, and, lastly, ask a question related to the claim.

**Notes for Part Three:** A student’s ability to effectively communicate their own conclusions and listen carefully to the conclusions of others can be considered a capstone of social studies disciplinary practices. Traditional products such as essays, reports, tables, diagrams, graphs, multimedia presentations and discussions can be used to share conclusions with a variety of audiences. In a world of ever-expanding communication opportunities inside and outside their school walls, students should also be able to utilize newer media forms in order to share their conclusions.

In the *KAS for Social Studies,* deliberative and democratic procedures are defined as follows: “a process where deliberation is central to decision making. This process also looks to generate outcomes that promote the common good through reasoning, rather than through a law-making process.” For guidance on how to facilitate deliberative and democratic procedures, visit the [Guide to Classroom Deliberation for Students and Teachers](https://bioethicsarchive.georgetown.edu/pcsbi/sites/default/files/2%20Guide%20to%20Classroom%20Deliberation%20for%20Students%20and%20Teachers%209.30.16.pdf) for information on how to implement norms and routines for classroom deliberative and democratic processes.