FOR TEACHERS ONLY

The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

VOLUME 1 OF 2
MC & THEMATIC

GLOBAL HISTORY AND GEOGRAPHY

Thursday, August 16, 2012 — 12:30 to 3:30 p.m., only

SCORING KEY FOR PART I AND RATING GUIDE FOR PART II (THEMATIC ESSAY)

Updated information regarding the rating of this examination may be posted on the New York State Education Department's web site during the rating period. Visit the site at: http://www.p12.nysed.gov/apda/ and select the link "Scoring Information" for any recently posted information regarding this examination. This site should be checked before the rating process for this examination begins and several times throughout the Regents Examination period.

Scoring the Part I Multiple-Choice Questions

Follow the procedures set up by the Regional Information Center, the Large City Scanning Center, and/or the school district for scoring the multiple-choice questions.

Multiple Choice for Part I
Allow 1 credit for each correct response.

Part I

1 ..... **4**	13 ..... **1**	26 ..... **1**	39 ..... **1** .....
2 ..... **2**	14 ..... **4**	27 ..... **2**	40 ..... **1** .....
3 ..... **2**	15 ..... **1**	28 ..... **1**	41 ..... **2** .....
4 ..... **1**	16 ..... **3**	29 ..... **4**	42 ..... **1** .....
5 ..... **3**	17 ..... **4**	30 ..... **2**	43 ..... **3** .....
6 ..... **1**	18 ..... **4**	31 ..... **4**	44 ..... **1** .....
7 ..... **4**	19 ..... **2**	32 ..... **2**	45 ..... **3** .....
8 ..... **3**	20 ..... **3**	33 ..... **2**	46 ..... **4** .....
9 ..... **2**	21 ..... **2**	34 ..... **3**	47 ..... **1** .....
10 ..... **2**	22 ..... **1**	35 ..... **3**	48 ..... **3** .....
11 ..... **3**	23 ..... **3**	36 ..... **1**	49 ..... **3** .....
12 ..... **3**	24 ..... **3**	37 ..... **4**	50 ..... **2** .....
	25 ..... **2**	38 ..... **3**	

Contents of the Rating Guide

For **Part I** (Multiple-Choice Questions):
- Scoring Key

For **Part II** (thematic) essay:
- A content-specific rubric
- Prescored answer papers. Score levels 5 and 1 have two papers each, and score levels 4, 3, and 2 have three papers each. They are ordered by score level from high to low.
- Commentary explaining the specific score awarded to each paper
- Five prescored practice papers

General:
- Test Specifications
- Web addresses for the test-specific conversion chart and teacher evaluation forms

Mechanics of Rating

The following procedures are to be used in rating essay papers for this examination. More detailed directions for the organization of the rating process and procedures for rating the examination are included in the *Information Booklet for Scoring the Regents Examination in Global History and Geography and United States History and Government.*

Rating the Essay Question

(1) Follow your school's procedures for training raters. This process should include:

Introduction to the task—
- Raters read the task
- Raters identify the answers to the task
- Raters discuss possible answers and summarize expectations for student responses

Introduction to the rubric and anchor papers—
- Trainer leads review of specific rubric with reference to the task
- Trainer reviews procedures for assigning holistic scores, i.e., by matching evidence from the response to the rubric
- Trainer leads review of each anchor paper and commentary

Practice scoring individually—
- Raters score a set of five papers independently without looking at the scores and commentaries provided
- Trainer records scores and leads discussion until the raters feel confident enough to move on to actual rating

(2) When actual rating begins, each rater should record his or her individual rating for a student's essay on the rating sheet provided, *not* directly on the student's essay or answer sheet. The rater should *not* correct the student's work by making insertions or changes of any kind.

(3) Each essay must be rated by at least two raters; a third rater will be necessary to resolve scores that differ by more than one point.

Schools are not permitted to rescore any of the open-ended questions (scaffold questions, thematic essay, DBQ essay) on this exam after each question has been rated the required number of times as specified in the rating guides, regardless of the final exam score. Schools are required to ensure that the raw scores have been added correctly and that the resulting scale score has been determined accurately.

Global History and Geography
Content-Specific Rubric
Thematic Essay
August 2012

Theme: Technology

Throughout history, existing technology has been modified or replaced by new technological innovations. These new technological innovations have had various effects on societies and the world.

Task: Select ***two*** technological innovations and for ***each***

- Describe the existing technology that was replaced by this new technological innovation ***and*** how this new innovation changed the existing technology
- Discuss the effects this new technological innovation has had on a society or the world

You may use any technological innovation from your study of global history and geography. Some suggestions you might wish to consider include aqueducts, gunpowder, printing press, caravel, steam engine, factory system, nuclear power, and internet communications.

You are *not* limited to these suggestions.

Scoring Notes:

1. This thematic essay has a minimum of ***six*** components of the task (for ***each*** of ***two*** technological innovations, describing an existing technology that was replaced by a new technological innovation and how this new technological innovation changed the existing technology, **and** discussing *at least* ***two*** effects of this new technological innovation on a society or the world).
2. The society affected by the technological innovation may be the same for each innovation, e.g., both the printing press and the development of the steam engine had an effect on Europeans.
3. The society does not need to be specifically identified as long as it is implied in the discussion, e.g., discussion of the printing press and its effect on the Reformation implies the group is European.
4. The way in which the new innovation changed the existing technology and the effects of the innovation may be the same, e.g., a description of the destructive force of nuclear explosions could address both the new innovation as compared to conventional bombs, as well as the effects nuclear weapons had.
5. The effect of the technological innovation may be the same for each innovation, but the details of how this effect was achieved will differ, e.g., both the printing press in the 15th century and computers of the 20th century improved communication.
6. The response may discuss the effects from a variety of perspectives as long as the position taken is supported by accurate facts and examples.
7. If more than two technological innovations are discussed, only the first two technological innovations mentioned should be rated.

Score of 5:

- Thoroughly develops ***all*** aspects of the task evenly and in depth for ***each*** of ***two*** technological innovations, discussing an existing technology that was replaced by a new technological innovation, how this new technological innovation changed the existing technology, and *at least* ***two*** effects of each technological innovation on society or the world
- Is more analytical than descriptive (analyzes, evaluates, and/or creates* information), e.g., *aqueducts:* contrasts the quality, quantity, and reliability of water supplied by aqueducts in the Roman Empire to the water obtained from wells, springs, and the Tiber River in early Rome, connecting the development of sophisticated engineering techniques to the maintenance of social stability and the growth of cities as aqueducts were constructed throughout the Roman Empire; *steam engine:* contrasts the use of human, animal, and water power to run machines to the use of Watt's modified steam engine as a new source of power for factories, connecting the use of the steam engine to changes in transportation and demographics due to the influence of coal and steam
- Richly supports the theme with relevant facts, examples, and details (*aqueducts:* surveying; Roman arch; tunnels; cisterns; reservoir; Roman baths; *Aqua Appia;* infrastructure; Pax Romana; *steam engine:* use of domestic system; spinning by hand; railroads; steamships; factory system; growth of cities; air and water pollution)
- Demonstrates a logical and clear plan of organization; includes an introduction and a conclusion that are beyond a restatement of the theme

Score of 4:

- Develops ***all*** aspects of the task but may do so somewhat unevenly by discussing all aspects of the task for one technological innovation more thoroughly than for the second technological innovation *or* by discussing one aspect of the task less thoroughly than the other aspects of the task
- Is both descriptive and analytical (applies, analyzes, evaluates, and/or creates* information), e.g., *aqueducts:* discusses how wells and the Tiber River were replaced by the aqueduct system, which brought water more quickly and safely to cities, and how the growth of Roman cities, their culture, and commerce were influenced by the Roman aqueduct system; *steam engine:* discusses the shift from producing goods by hand and harnessing water to the use of steam power for manufacturing in factories in European societies during the Industrial Revolution as well as the social and environmental changes created by this shift
- Supports the theme with relevant facts, examples, and details
- Demonstrates a logical and clear plan of organization; includes an introduction and a conclusion that are beyond a restatement of the theme

Score of 3:

- Develops ***all*** aspects of the task with little depth *or* develops *at least* ***four*** aspects of the task in some depth
- Is more descriptive than analytical (applies, may analyze and/or evaluate information)
- Includes some relevant facts, examples, and details; may include some minor inaccuracies
- Demonstrates a satisfactory plan of organization; includes an introduction and a conclusion that may be a restatement of the theme

Note: If ***all*** aspects the task have been thoroughly developed evenly and in depth for ***one*** technological innovation and if the response meets most of the other Level 5 criteria, the overall response may be a Level 3 paper.

Score of 2:

- Minimally develops ***all*** aspects of the task *or* develops *at least* ***three*** aspects of the task in some depth
- Is primarily descriptive; may include faulty, weak, or isolated application or analysis
- Includes few relevant facts, examples, and details; may include some inaccuracies
- Demonstrates a general plan of organization; may lack focus; may contain digressions; may not clearly identify which aspect of the task is being addressed; may lack an introduction and/or a conclusion

Score of 1:

- Minimally develops some aspects of the task
- Is descriptive; may lack understanding, application, or analysis
- Includes few relevant facts, examples, or details; may include inaccuracies
- May demonstrate a weakness in organization; may lack focus; may contain digressions; may not clearly identify which aspect of the task is being addressed; may lack an introduction and/or a conclusion

Score of 0:

Fails to develop the task or may only refer to the theme in a general way; *OR* includes no relevant facts, examples, or details; *OR* includes only the theme, task, or suggestions as copied from the test booklet; *OR* is illegible; *OR* is a blank paper

*****The term *create* as used by Anderson/Krathwohl, et al. in their 2001 revision of Bloom's *Taxonomy of Educational Objectives* refers to the highest level of the cognitive domain. This usage of create is similar to Bloom's use of the term *synthesis*. Creating implies an insightful reorganization of information into a new pattern or whole. While a Level 5 paper will contain analysis and/or evaluation of information, a very strong paper may also include examples of creating information as defined by Anderson and Krathwohl.

Since the beginning of human history, mankind has been developing technological advancements that replaced older methods. Ultimately, this led to significant impacts on societies and cultures world wide. Two such inventions which have caused a broad impact are both the printing press and the factory system.

The printing press, created by Johann Gutenburg, changed numerous aspects of European Society when it was introduced in the 15th century. Prior to the printing press, books were hand-copied, often by monks, which was a tedious process that required countless hours. As a result, only a limited number of books, primarily the Bible, were produced. This contributed to the strength and influence of the Roman Catholic Church during the Middle Ages, because religious authorities controlled the process. The printing press allowed books, newspapers, and other writings to be produced faster and more efficiently, creating many copies in a shorter period of time. These improvements were made possible by a combination of factors that Gutenburg utilized in his press. These factors included new methods of paper making, movable type, and the mechanical components of the press itself, some of which were ideas diffused from China.

Since producing and distributing literature began on a mass scale, more and more people in Europe and eventually the world were able to have access to written works. This, in turn, spread knowledge as well as increased literacy among various societies and social classes. The increased supply of books helped make them more affordable for the masses. For the first time, the nobility and the clergy were not the only classes wealthy enough to possess books.

The Bible was one of the first books printed in mass numbers and this aided in expanding the influence of Christianity. With more people able to read and interpret the Bible on their own, questions began to arise about religion as well as the structure and role of government. Increased access to written works brought forth by the use of the printing press allowed Luther to reach greater audiences contributing to the Protestant Reformation. Later, in the 18th century, philosophers also relied on the printing ~~press~~ technology to spread the ideas of the Enlightenment. In both movements, this technology allowed individuals to challenge a long-standing authority. The spread of ideas, knowledge, literature, and language sparked by the creation of the printing press played an important role in transforming society.

The development of the factory system specifically in the textile industry revolutionized the nature of work during the British Industrial Revolution. Before this innovation textiles and clothing were made by individuals and families spinning and weaving in their homes, known as the domestic system. This was like scribing books by hand, this was a time-consuming process. Laborers had to create the thread, fabric, and eventually clothes and other textiles. The factory system employed new machinery which allowed faster production of textiles. Soon after, the various steps of textile production were performed at one central location, the factory.

With the rise of the factory system, many people migrated to cities in search of jobs, contributing to increased urbanization. Advances in agriculture displaced some farmers who then looked for factory work in cities.

The concentration and increased number of people in cities led to a decreased standard of living. Urbanization highlighted the differences between the rich and the poor.

Another impact of the development of the factory system was the need for more raw materials and new foreign markets. As factories rapidly increased, domestic resources and consumer demand simply could not keep pace. This necessity was part of what drove imperialism to become a major goal of some European nations in the centuries following. India became a key supplier of cotton and other raw materials for British factories. Urbanization, trade, and imperialism were all consequences of the factory system.

Both innovations have changed multiple aspects of societies around the world. The printing press and the factory system resulted in the faster production of products. Still, the influence of these technologies had complex effects that spanned political, economic, and social spheres around the world.

Anchor Level 5-A

The response:

- Thoroughly develops all aspects of the task evenly and in depth by discussing the printing press and the factory system
- Is more analytical than descriptive (*printing press:* hand-copied books contributed to the strength and influence of the Roman Catholic Church during the Middle Ages because religious authorities controlled the process; printing press spread knowledge as well as increased literacy among various societies and social classes; increased supply of books helped make them more affordable; Bible aided in expanding the influence of Christianity; allowed individuals to challenge a long-standing authority; *factory system:* individuals and families spun and wove in their homes, a time-consuming process; various steps of textile production were performed at one location, the factory; many people migrated to cities in search of jobs contributing to increased urbanization; advances in agriculture displaced some farmers who then looked for factory work; led to a decreased standard of living; drove imperialism to become a major goal of some European nations; India became a key supplier of cotton for British factories)
- Richly supports the theme with relevant facts, examples, and details (*printing press:* Johann Gutenberg; 15th century; monks; paper making; moveable type; Luther; Protestant Reformation; Enlightenment; *factory system:* textile industry; British Industrial Revolution; domestic system; central location; raw materials; foreign markets)
- Demonstrates a logical and clear plan of organization; includes an introduction that is a restatement of the theme and a conclusion that analyzes similarities between the printing press and the factory system such as the faster production of simple products and complex effects that spanned political, economic, and social spheres around the world

Conclusion: Overall, the response fits the criteria for Level 5. Both analysis and details are used to link the innovations to short-term effects as well as long-term movements and consequences. When discussing both the development and the effects of the printing press and factory system, the response demonstrates an awareness of global context and connections.

Throughout history, new technological innovations have changed the lifestyles of many people and even ushered in new eras. Even though these inventions were often aimed to make life easier or improve certain standards, they rarely benefitted everyone who came into contact with them. Sometimes one society's inventions enabled it to conquer its neighbors, educate its masses, or support a revolution. Some inventions, like gunpowder, were used in war while others like the factory system were used to increase production.

Gunpowder was used in guns and cannons; powerful new weapons that often tipped the scales of battles or even wars. Prior to the use of gunpowder, warfare was fought primarily with weapons like catapults, swords, spears, and bows. Often times, combat was fought in close quarters as many of these weapons were rarely accurate at greater distances. Guns did not immediately replace bows because they were also not very accurate and took too long to reload. Slowly, improvement to gunpowder weapons were developed including new firing mechanisms, easier methods of reloading, and useful strategies of firing in battle. Whereas a good archer took years of training to develop their skills, soldiers using early muskets only required a general know-how and could be taught to fire group volleys.

As groups witnessed the effectiveness of guns in battle, many began working to obtain weapons of their own. Europeans soon began using guns as a commodity to obtain goods from groups on the West African coast. As European colonies created an increased demand for slave labor, coastal traders sought the exchange of African slaves rather than other goods. West African civilizations who had obtained guns used them to raid neighboring peoples and defend themselves against slave traders. Eventually, guns were greatly improved allowing conquering armies to use firearms as a key advantage. This made it much easier for Europeans to defeat nations in Africa and elsewhere who did not possess these new weapons. For the societies who had access to these new inventions, it benefitted them greatly. Those without them were left even farther behind. For example, in the late 1700's, the Chinese outlawed opium and tried to stop the British from importing the addictive drug to their nation. The British refused and these tensions eventually led to the Opium Wars. During these battles, the British used superior naval power and firepower against the Chinese, who fought with outdated weapons. Lacking the latest gunpowder technologies, the Chinese lost the war, and were forced to accept a series of unequal treaties.

Gunpowder ultimately replaced many existing weapons and revolutionized warfare.

Another invention was the factory system which revolutionized labor and production. Before this innovation skilled craftsmen usually made goods by hand in their homes or individual buisnesses. This process resulted in a limited number of goods being produced. With the industrial ~~revolution~~ revolution came the factory system. This system and later the assembly line and interchangeable parts increased the speed of production but often displaced skilled workers. Work was now performed in factories, with the assistance of new machines. Typically all members of the working class family labored in these factories Children started working at an early age and women who had often worked at home also joined the ranks of the factory worker. This benefitted the average consumer to whom more finished goods were made affordable. However, working conditions were horrible. Often workers in the factory system faced long hours, dangerous conditions, and low pay. Worker's rights became a controversial issue leading to demands for reform and to the rise of unions.

Often, developed and industrialized countries who possessed factories

did not have all the natural resources they required so Western European countries such as Britian and France colonized much of the world. They engaged in imperialism to obtain the raw materials they needed and also to establish more markets to sell their goods. The factory system had some benefits for the wealthy, business owners and consumers, but at the cost of colonial peoples and factory workers.

The diverse effects of new technological inventions are unpredictable. They can be productive or destructive; it just depends on who had the technology and how they intended to use it. Gunpowder made war easier for some and deadlier for others. The factory system mass-produced goods at a low price but at the expense of a lower standard of living for many of the workers. Both of these innovations replaced older methods and technologies and altered the course of history.

Anchor Level 5-B

The response:

- Thoroughly develops all aspects of the task evenly and in depth by discussing gunpowder and the factory system
- Is more analytical than descriptive (*gunpowder:* catapults, swords, spears, and bows used in close-quarters combat; improvements to gunpowder weapons were developed; societies who had access to guns benefited greatly, those without them were left farther behind; West Africans used guns to raid neighboring peoples and defend themselves against slave traders; in the Opium Wars, British used superior naval power and firepower against the Chinese, who fought with outdated weapons; Chinese forced to accept a series of unequal treaties; *factory system:* skilled craftsmen made goods by hand; factory system increased the speed of production, but often displaced skilled workers; all members of the working class family labored in factories; more finished goods were made affordable; horrible working conditions led to demands for workers' rights, reform, and to the rise of unions; European countries engaged in imperialism to obtain raw materials and to establish markets to sell their goods; benefits for wealthy business owners and consumers, but at the cost of colonial peoples and factory workers)
- Richly supports the theme with relevant facts, examples, and details (*gunpowder:* some weapons rarely accurate at greater distances; group volleys; new firing mechanisms; methods of reloading; guns as a commodity in West Africa; *factory system:* assembly line; interchangeable parts; child labor; women in the workforce; long hours; dangerous conditions; low pay)
- Demonstrates a logical and clear plan of organization; includes an introduction and a conclusion that present both the negative and the positive effects of these technological innovations

Conclusion: Overall, the response fits the criteria for Level 5. The discussion focuses on the revolutionary changes in warfare and production that occurred as a result of the introduction of gunpowder and the factory system in various societies. Analytic statements as well as historical details and examples show how these changes had effects throughout the world.

Technology has come a long way. Everything created has an impact on society, whether beneficial or harmful. Many times, innovations altered or replaced previously existing technologies. The printing press and the factory system caused many changes that affected societies around the globe.

Before the printing press was invented, writers copied literature by hand. It was a tedious and time consuming job. This work was often done by monks working on religious texts. When Johann Gutenberg first introduced the printing press to Europe, books and other documents could be created more easily and in larger numbers. This could be done because movable type allowed for mass production of material at a faster pace.

When the printing press became widely used, books and articles became more available. In addition, people began to educate themselves, causing literacy rates to rise. Even women and girls taught themselves at home.

Another impact of the printing press on Europe was the rapid spread of new ideas. Martin Luther was able to use the printing press to challenge the abuses of the Catholic Church. The combination of increased literacy and the rapid spread of individual ideas led to the rise of new movements in Europe like the Protestant Reformation and later the Enlightenment.

Another technological innovation was the factory system, which started during the Industrial Revolution in England. Before this innovation, most work was completed by individuals or families.

Producing goods by hand at home was known as the domestic system. Guilds sometimes influenced the prices of these goods. When the factory system came along, new jobs, such as those in the textile industry, emerged. More goods began to be mass produced by the new methods and machinery of the factory system.

There were many social consequences of the factory system on English society. One effect was a stronger division between social classes. As more goods were mass produced, more money flowed into the upper class factory owners' pockets, which led to more profits. This allowed many upper class women and children to spend time at home, take care of household duties, purchase new luxury goods, and enjoy new leisure time.

Aside from all this glamour, workers sometimes suffered due to the factory system. The factory system did create more jobs, but often too many people moved from the rural areas to work in factories. Urbanization added to problems like overcrowding, disease, pollution, and crime. With the increased amount of available workers, laborers were sometimes paid less, working class women and children began to work for even less pay and under dangerous conditions for the benefit of factory owners and their families. Many were crippled or killed while working with machinery. Their health worsened day after day. There was a huge gap between the working class and middle class.

Technology can have a wide variety of effects on society. The printing press was mostly beneficial. People were more educated as generations went on. Now, books are available everywhere. The factory system,

on the other hand, gave some people tremendous wealth. Many people wanted cheap and affordable goods. However, people who made those manufactured goods in factories, worked in horrible conditions. Factories also contributed to environmental issues, which would harm humans later on. It works in a vicious cycle.

Anchor Level 4-A

The response:

- Develops all aspects of the task but does so somewhat unevenly by discussing the factory system more thoroughly than the printing press
- Is both descriptive and analytical (*printing press:* writers copied literature by hand; tedious and time consuming job; when the printing press was introduced, books could be created more easily and in larger numbers; moveable type allowed for mass production of material at a faster pace; people began to educate themselves causing literacy rates to rise; Martin Luther challenged the abuses of the Catholic Church; rise of new movements in Europe; *factory system:* before the factory system, work was completed by individuals or families; producing goods by hand at home was known as the domestic system; many goods began to be mass-produced by new methods and machinery; stronger division between social classes; more money for upper class factory owners; upper class women and children had more time to spend at home, purchase luxury goods, and enjoy leisure time; workers sometimes suffered due to the factory system; urbanization added to problems like overcrowding, disease, pollution, and crime; huge gap between working class and middle class)
- Supports the theme with relevant facts, examples, and details (*printing press:* monks; Johann Gutenberg; rapid spread of ideas; Protestant Reformation; Enlightenment; *factory system:* Industrial Revolution in England; guilds influenced price of goods; textile industry; lower wages; women and children began to work in factories; dangerous conditions)
- Demonstrates a logical and clear plan of organization; includes an introduction that is a restatement of the theme and a conclusion that recognizes the innovations discussed had varying impacts on people depending on their social class

Conclusion: Overall, the response fits the criteria for Level 4. The response does a good job of summarizing both the short-term and long-term effects of each technology discussed. However, the discussion of the printing press lacks the analysis and depth that the explanation of the factory system offers.

Technology has grown to become an integral part of our existence. Many people tend to accept innovations not as luxuries but as necessities. Technology, much like the fast paced and ever changing world we live in, is constantly evolving. Early technology began with the invention of stone tools. Changes in agricultural techniques brought ~~by~~ the Neolithic revolution and the rise of permanent settlements. New innovations were created as more needs arose. Today we live in an era of computers, cellphones, and other modern devices.

Technology has fueled the spread of ideas. Prior to the era of modern communication made possible by television, the internet, and phones most knowledge was spread by the use of books. Books today are produced at an astonishing rate. In the Middle Ages, books of all sizes were written by hand, a slow and tedious process. Consequently, there were not a great deal of books in the European world. This meant the price of books was extremely high and the vast majority of individuals were illiterate. There was simply no easy way for common people to learn to read. That all changed when a man named Johannes Gutenburg created one of the most important inventions known to man, the printing press. This innovation was built upon previous printing technologies from China. Gutenburg's press allowed for the rapid reproduction of various printed materials.

The printing press changed Europe in many ways. The price of books dropped dramatically as a result of the increasing supply

of them, made possible by the printing press. With more and more books becoming affordable to the public, European literacy rates increased overtime. As literacy rates grew, traditional religious texts multiplied and eventually new types of writing emerged. Another important effect of the printing press and the changes it brought was its impact on the spread of ideas. With books now being produced at a rapid pace, the influence of ideas reached more people, who would be exposed to the new ideas of the Renaissance, including humanism and secular thought.

Another key invention that helped connect people and places, and spread ideas was railroads. Prior to the widespread construction of railways, most means of travelling included moving by foot, horse, or ship. These methods of transportation were slower than railroads and weather ~~and~~ terrain had a great impact. Transportation saw a major change of pace with the introduction of the locomotive. The locomotive was capable of carrying large loads at greater speeds, over longer distances. By using new breakthroughs in steam power from the Industrial era, the movement of people and goods across land was only limited by the pace at which tracks could be laid.

As the speed of travel increased, trade became more rapid, distant places became more connected, broader markets were created, and the spread of people and ideas increased dramatically. The combination of these effects brought on by the railroads was that

transport became easier and less expensive. Eventually, railroads provided a military advantage to those who possessed them. Railroads allowed troops and weapons to be moved more efficiently. Prussian forces, under Bismarck, used the extensive German railroad system as a key advantage in their wars of unification.

The world has been greatly shaped by technology. The world we know today is the result of thousands of years of technological advancements and innovations. There have been many important advancements such as the railroad and printing press that have contributed to the modern world we live in today. Innovations have allowed people to gain access to places, ideas, and cultures that in earlier times may not have been possible.

Anchor Level 4-B

The response:

- Develops all aspects of the task by discussing the printing press and railroads
- Is both descriptive and analytical (*printing press:* prior to the era of modern communication, most knowledge was spread by the use of books; books of any size were written by hand, a slow and tedious process; consequently, there were not a great deal of books in the European world; price of books was extremely high, and the vast majority of individuals were illiterate; built upon previous printing technologies from China; the price of books dropped as a result of increasing supply made possible by the printing press; European literacy rates increased; new types of writing emerged; people would be exposed to the new ideas of the Renaissance, including humanism and secular thought; *railroads:* prior to railroads, means of traveling included foot, horse, or ship; methods were slower and weather and terrain had a great impact; locomotive was capable of carrying large loads at greater speeds over longer distances; used steam power from the industrial era; trade became more rapid and distant places became more connected; transport became both easier and less expensive; railroads provided a military advantage to those who possessed them; moved troops and weapons efficiently; Bismarck used German railroad system in wars of unification)
- Supports the theme with relevant facts, examples, and details (*printing press:* television; Internet; phones; Middle Ages; Johann Gutenberg; traditional religious texts; *railroads:* only limited by pace at which tracks could be laid; broader markets; Prussian forces)
- Demonstrates a logical and clear plan of organization; includes an introduction and a conclusion that highlight how the printing press and railroads increased the global connections of various people, goods, and ideas

Conclusion: Overall, the response fits the criteria for Level 4. The response offers insight and substantial evidence about both technological innovations and how they affected societies in similar ways. However, the response does not include the level of analysis often found in a Level 5 paper.

Over time societies have changed as new technologies altered or replaced the outdated inventions of yesteryear. While gaining popularity these new innovations often diffuse throughout the world causing major effects on the lives of people and the environment around them. Examples of these new inventions are the printing press and nuclear power, which brought major change to the world.

In Medieval times whenever someone wanted to record an event or to write a book it had to be written by hand. The people in Society who did this were often religious men or royal officials. In time Johann Gutenberg developed the Printing press in Europe expanding on and modifying the chinese innovation of block printing. This new invention made it so people didn't have to write books by hand. Although some skill was required in producing and arranging printing blocks, it was much easier to create many copies once this task was completed. Interest in the Printing Press grew and became widely used.

The introduction of the Printing Press widely effected the world. The time needed to make a book drastically decreased because it didnt need to be done by hand. As a result books became cheaper more available and increasingly more popular. Since the price of books ~~dro~~ decreased more people learned to read and had greater access to more ideas and knowledge.

The Printing Press was also influencial on religions because the spread of religious beliefs allowed people to interpret religious books themselves. Martin Luther and John Calvin took advantage of this new situation and their new ideas spread leading to new types of Christianity.

Another invention that changed the way humans live is Nuclear power. Before Nuclear Power electricity was sometimes produced through hydropower. Often people used waterwheels in rivers to turn turbines to create electricity. A second way people used to ~~was~~ make electricity was through the burning of fossil fuels. The burning of these fuels would boil water, making steam, which creates pressure, turns turbines making electricity. Nuclear power is produced when the energy from splitting atoms is harnessed. With Nuclear power fossil fuels or fast rivers were no longer ~~a~~ needed to produce power.

Using Nuclear power caused significant changes and effects to societies. Nuclear plants do require a constant water source. Nuclear reactors, where the splitting of atoms takes place, gets very hot and needs to be cooled. When ~~pt~~ problems disrupt this cooling process, catastrophes can result. In 2011, Japan suffered an earthquake which led to a failure of some of their cooling systems, and eventually a dangerous nuclear meltdown.

In contrast, a positive effect of using Nuclear power is their are no green house gases emitted into the atmosphere. This decreases Global warming and its harmful effects on the Earth. Although nuclear power is not renewable, it doesn't rely on fossil fuels to produce energy. Nuclear power has some advantages as well as some drawbacks.

Everyday their are new technologies being introduced, replacing their predecessors. Thogh these innovations can be useful for societies, they sometimes influenced unintended consequences. For instance, the ideas unleashed with the printing press led to religious warfare. Additionally the widespread ~~w~~use of nuclear energy has led to some major catastrophes. Inevitably new technologies will continue be created, causing change and unexpected effects on society

Anchor Level 4-C

The response:

- Develops all aspects of the task by discussing the printing press and nuclear power
- Is both descriptive and analytical (*printing press:* events or books were written by hand by religious men or royal officials; printing press developed in Europe expanding and modifying the Chinese innovation of block printing; new skills were needed, but copying books became easier with the printing press; time needed to make books drastically decreased; books became cheaper, more available, and more popular; more people learned to read and had greater access to ideas and knowledge; spread of religious beliefs allowed people to interpret religious books for themselves; spread of new ideas lead to new types of Christianity; *nuclear power:* before nuclear power, hydropower or fossil fuels were used; nuclear power made possible by harnessing energy from splitting atoms; fast rivers no longer needed to produce power; when nuclear reactors have problems, catastrophes can result like nuclear meltdowns; positive effect of nuclear power is the lack of greenhouse gasses emitted decreasing harmful effects on Earth; nuclear power is not renewable)
- Supports the theme with relevant facts, examples, and details (*printing press:* medieval times; Gutenberg; moveable type; printing blocks; Martin Luther; John Calvin; *nuclear power:* water wheels; turbines; steam pressure; cooling process; Japanese earthquake; global warming)
- Demonstrates a logical and clear plan of organization; includes an introduction and a conclusion that restate the theme

Conclusion: Overall, the response fits the criteria for Level 4. The response includes numerous relevant supportive details for both technologies, demonstrating a good understanding of the task. However, the response is sometimes more descriptive that it is analytical.

Throughout history, technology has had a huge impact on the lives of a people. From the beginnings of civilizations until now new types of technology have been created and improved our lives. In the past a few important inventions have been created that had an impact on people around the world. Two of these inventions were the printing press and nuclear weapons.

Prior to these inventions, the world was a very different place. Before Gutenburg created the printing press, it was difficult to make any printed materials. In countries such as England, there were few written records. These included records kept by monarchs and handwritten copies of books made by monks. This time-consuming and tedious process caused the price of books to be extremely high and only affordable to the upper classes. The printing press changed this, as it allowed materials to be copied much quicker and more efficiently. This inovation changed the world culturally, but technology can change other parts of society also.

Nuclear weapons are another example of an important technology that has changed the world. Before its invention, warfare was limited to conventional bombs, guns, and other weapons which caused massive destruction, but not on the same scale as nuclear weapons. Nuclear weapons had the ability to destroy much larger areas with a force never before seen. These capabilities were first demonstrated by the use

of the atomic bombs on Japan during WWII. The cities of Hiroshima and Nagasaki were destroyed resulting in the deaths of tens of thousands of people and many more who suffered from radiation sickness. The effects of these inventions are numerous, and complex.

Because of the creation of the printing press, the social hierarchy of Europe began to change. The increased output of books brought on by the creation of the printing press led to many positive effects. More books meant that the price of individual books decreased thus allowing people of lower classes to acquire reading materials. This increased literacy, and therefore education. This may have ~~caused~~ allowed for more mobility for lower classes. Families previously of lower classes were sometimes able to move up a little bit due to the increased education. Individuals, like Martin Luther, were able to challenge long standing authority, like the Catholic Church. The increase in education allowed Luther to spread his ideas and ~~expose~~ expose abuses he saw in the Church.

Nuclear weapons also had an extended effect on the world. Nuclear weapons have contributed to tensions in the international community. It is understood that access to nuclear weapons has created new power struggles between nations. After the United States first used them, nuclear bombs became a symbol of the division between powers of

the world. Nations tried to create and acquire nuclear weapons in order to gain power. Because of this, new treaties were created to limit the number of countries with these weapons.

New technologies have been changing those in power around the world for years, and will continue to do so. Although not in the same way, many people are affected by every new technological innovation.

Anchor Level 3-A

The response:

- Develops most aspects of the task in some depth for the printing press and nuclear weapons
- Is more descriptive than analytical (*printing press:* prior to the printing press, it was difficult to make any printed materials; there were few written records; price of books was extremely high and only affordable to upper classes; printing press allowed written materials to be copied much quicker, changing the world culturally; social hierarchy of Europe began to change; increased output of books led to lower prices and increased literacy and education; may have led to more mobility for lower classes; challenge to long-standing authorities like the Catholic Church; *nuclear weapons:* before nuclear weapons, warfare was limited to conventional weapons; ability to destroy much larger areas; first demonstrated by use of atomic bombs on Japan in World War II; cities of Hiroshima and Nagasaki destroyed; tens of thousands of people killed instantly; contributed to tensions in the international community; new power struggles due to access to nuclear weapons; symbol of divisions between powers of the world)
- Includes some relevant facts, examples, and details (*printing press:* monks; Gutenberg; records of monarchs; handwritten copies of books; Martin Luther; *nuclear weapons:* guns; Hiroshima; Nagasaki; radiation sickness)
- Demonstrates a satisfactory plan of organization; includes an introduction and a conclusion that are somewhat beyond a restatement of the theme

Conclusion: Overall, the response fits the criteria for Level 3. The response is primarily descriptive and repetitive. The strength of the response is the explanation of the effects of the printing press and nuclear weapons. The description of the existing technology that was replaced by these innovations is not fully developed.

Technology quickly becomes obsolete. As mankind develops, so does its thirst for technological advancement. Throughout history, existing technology has been modified or replaced by new technological innovations. Two such innovations, the factory system and nuclear weapons, have had various effects on societies and the world.

During the early 1800s, England began an Industrial Revolution. Prior to this, many products were made by hand at an extremely slow rate. Manufactured goods were expensive because of the amount of manual labor put into them. During this Industrial Revolution, the factory system was introduced changing the nature of how goods were produced. These changes were made possible in part due to England's surplus of raw materials like coal and iron. British factory systems, which eventually included the assembly line, increased output dramatically. Work that was once done at the homes of many individuals was now completed in factories with machines. This changed the skills required for a worker to be able to produce products. Factory owners, in an attempt to make as much money as possible, would exploit workers in any way they could. Men, women, and even young children could be forced to work long days, with extremely low pay and in unsafe conditions. Working too slow could

result in getting immediately fired or being punished by factory managers. Another result of the factory system was an increase in Britain's role in international trade. Goods produced during this period were sold on global markets throughout the British empire. Colonies also continued to play a vital role in Britains dominance in world trade. The factory system may have helped the British economy, but ultimately had some negative effects on the individual workers.

Nuclear weapons are one of the most controversal examples of mankind's technological advancements. Compare to the force of the first atomic bomb, other weapons were not nearly as destructive. A traditional bomb could blow up a building or maybe a street, but nuclear weapons could demolish entire cities. Near the end of World War II, Japan refused to surrender to the otherwise victorious United states. In an extreme attempt to force Japan to surrender, the United States dropped atom bombs on two civilian cities. These bombings completely obliterated the physical parts of the cities as wellas killing thousands of civilians. Even areas outside the immediately destroyed zones left people with radiation sickness, a side effect of the nuclear explosions that also sometimes led to

cancer. After World War II, nuclear weapons became one central part of the conflict known as the Cold War. Both the United States and the Soviet Union began to stockpile nuclear arms and continued to develop technology related to their use. The tensions created by this arms race climaxed with the Cuban Missile Crisis. Nuclear weapons were not used during the Cold War as both nations took measures to avoid a nuclear war. The fear of the use of nuclear weapons still presents issues for societies around the world today.

People of the world will always strive to create more useful technologies. Though some use of technology is beneficial, at times it has also been used to exploit people. Throughout history, old technology has been replaced by newer innovations. Societies, have been affected by mankind's need for progress.

Anchor Level 3-B

The response:

- Develops all aspects of the task with little depth for the factory system and some depth for nuclear weapons
- Is more descriptive than analytical (*factory system:* prior to the factory system, many products were made by hand at an extremely slow rate; goods were expensive because of the amount of labor put into them; made possible by England's surplus of raw materials; increased output dramatically; work was now completed in factories with machines; changed the skills required; factory owners exploited workers; increased Britain's role in international trade; *nuclear weapons:* other weapons were not nearly as destructive; nuclear weapons could demolish entire cities; United States dropped atom bombs on two civilian cities in Japan; thousands killed; during the Cold War, the United States and the Soviet Union stockpiled nuclear arms; arms race climaxed with the Cuban missile crisis; fear of the use of nuclear weapons still present in societies today)
- Includes some relevant facts, examples, and details (*factory system:* Industrial Revolution; coal and iron; assembly line; men, women, and young children worked long days; low pay; unsafe conditions; *nuclear weapons:* traditional bombs; World War II; radiation sickness; led to cancer)
- Demonstrates a satisfactory plan of organization; includes an introduction and a conclusion that are slightly beyond a restatement of the theme

Conclusion: Overall, the response fits the criteria for Level 3. The treatment of the factory system and nuclear weapons includes relevant details and minimal analytical statements. The description of the development of nuclear weapons and the technology they replaced is limited.