



This Is the End of the World: The Spread and Impact of the Plague in the 14th Century

OVERVIEW

This lesson focuses on the impact of the 14th century plague on European and world history. This plague was the most deadly disease in recorded human history, killing over 60 million in just a few years. This lesson examines the origin of the plague, the imagined causes of the plague, what really caused it, the spread of the plague to China and Europe, and the political, social, and economic effects of the plague.

TIME ALLOTMENT

About two class periods of 55 minutes each

Make a generalization about the spatial diffusion of the plague in Europe

SUBJECT MATTER

World Geography, World History

STANDARDS

Texas TEKS

World Geography

(http://socialstudies.tea.state.tx.us/teks_and_t_aas/teks/teksworldgeo.htm)

LEARNING OBJECTIVES

Students will be able to:
Explain the causes and the spread of the plague of the 14th century.
Explain the impact of the plague on European and world history.

WG1B Trace the spatial diffusion of a phenomenon and describe its effects on regions of contact such as the spread of the bubonic plague.

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WG21C Construct and interpret maps to answer geographic questions, infer geographic relationships, and analyze geographic change.

WG22C Use geographic terminology correctly.

World History

(http://socialstudies.tea.state.tx.us/teks_and_t_aas/teks/teksworldhist.htm)

WH12C Interpret historical and contemporary maps to identify and explain geographic factors that have influenced people and events in the past.

WH25C Analyzing information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, making generalizations and predictions, and drawing inferences and conclusions.

WH25I Use appropriate mathematical skills to interpret social studies information such as maps and graphs.

WH26A Use social studies terminology correctly.

WH26C Interpret and create databases, research outlines, bibliographies, and visuals including graphs, charts, timelines, and maps.

MEDIA COMPONENTS

Components Used in Lesson:

VIDEO

Video clip from “Monty Python and the Holy Grail” (Python Pictures, 1974)

<http://www.emedicine.com/aaem/topic548.htm#target1>

Photos and medical explanation of causes, symptoms, and treatment for the plague

THIS IS THE END OF THE WORLD: THE SPREAD AND IMPACT OF THE PLAGUE IN THE 14TH CENTURY

<http://www.nlm.nih.gov/medlineplus/ency/article/000596.htm>

Medical explanation of causes, symptoms, and treatment for the plague

http://www.eun.org/eun.org2/eun/en/EUN_Biology/content.cfm?lang=en&ov=25891

Overview and outline of origin, spread, causes, symptoms, and effects of the plague

http://www.click2disasters.com/stories/black_death/images/spread.jpg

Map of the trade routes and spread of the Black Death in the 14th century

<http://www.mrdowling.com/703plaguemap.jpg>

Map of the spread of the plague in Europe from 1347 to 1350

http://eduspace.free.fr/vs_pages/newplague/biology/plague_map/plague_map_animation.html

Animation of the spread of the Black Death in Europe between 1347 and 1350

Other Internet Resources:

http://www.fordham.edu/halsall/source/deca_meronintro.html

The introduction of Boccaccio, The Decameron, which describes the causes of the disease, its spread, symptoms, possible cures, and general effects on the European population.

<http://www.fordham.edu/halsall/jewish/1348-jewsblackdeath.html>

Jewish History Sourcebook: The Black Death and the Jews 1348-1349 CE. Gives information on how the Jews were blamed for the plague and their persecution as scapegoats.

<http://www.byu.edu/ipt/projects/middleages/LifeTimes/Plague.html>

Brigham Young University website on Bubonic Plague. Provides detailed information on the causes and spread of the disease, contemporary accounts of the plague, and short- and long-term effects of the Black Death.

<http://www.biology.lsa.umich.edu/courses/bio118/plague.htm>

Outline and overview of the bubonic plague, its history, symptoms, and causes.

http://www.click2disasters.com/stories/black_death/black_death_ch1.htm

Thirteen short chapters on The Black Death: Scourge of the Middle Ages

<http://jefferson.village.virginia.edu/osheim/intro.html>

Plague and Public Health in Renaissance Europe: A hypertext of narratives, medical consilia, governmental records, religious and spiritual writings and images documenting the arrival, impact and response to the problem of epidemic disease in Western Europe between 1348 and 1530. Published by the Institute for Advanced Technology in the Humanities at the University of Virginia.

<http://history.boisestate.edu/westciv/plague/index.html>

History of the Black Death by Dr. E. L. Skip Knox of Boise State University. Twenty-three slides on the origins and spread of the disease, description of the symptoms, causes of the plague, medical treatments, and effects of the disease.

<http://www.godecookery.com/plague/plague.htm>

The Pestilence Tyme: England During the Plague of 1348-1350. The impact and effect of the plague on England.

<http://4thmoon.com/styx/blackdeath.htm>

Map on the spread of the Black Death along with description of its origins, spread, causes, symptoms, and effects of the disease.

<http://media.dsc.discovery.com/anthology/momentsintime/blackdeath/blackdeath.html>

Interactive Journey to the 14th century and the Black Death. Covers origins, causes, spread, and aftermath of the plague. Has both sound and visuals but requires Flash 6 for the interaction.

<http://www.geocities.com/julia09/blackdeath.html>

History of the Black Death by Julia Herzog. Has a historical time line, describes life in medieval

Europe before the plague, examines both superstitious and scientific causes of the disease, and explains the effects of the Black Death.

http://www.bbc.co.uk/history/society_culture/welfare/black_01.shtml

Black Death by Dr. Mike Ibeji for BBC. Provides information on the origins, causes, spread, and effects of the plague, especially in the British Isles.

http://www.mcn.org/ed/cur/cw/Plague/Plague_Sim.html

A hands-on epidemic simulation of a pilgrimage during the Black Death by Cory M. Wisnia. Includes six different journeys and how the plague affects each journey. Students keep logs of their journeys.

<http://www.theorb.net/textbooks/westciv/blackdeath.html>

The Online Reference Book entry on the Black Death. Continues origin and spread of plague to Europe, descriptions of the plague and its symptoms, and the political, social, cultural, and economic effects of the disease.

RECENT BOOKS

Norman Cantor, *In the Wake of the Plague: The Black Death and the World It Made* (Simon and Schuster, 2001)

John M. Dunn, *Life During the Black Death* (Lucent Books, 2000)

David Herlihy, *The Black Death and the Transformation of the West* (Harvard University Press, 1997)

William H. McNeill, *Plagues and People* (Peter Smith, 1992)

Philip Zeigler, *Black Death* (Sutton Publishing, 1996)

MATERIALS

- Video: “Monty Python and the Holy Grail”
- Computer with Internet connections
- PEST Graphic Organizer (one per group)
- Foldable: Causes and Effects of the Plague (one per student)
- Scissors
- Markers

PREP FOR TEACHERS

CUE videotape/DVD of “Monty Python and the Holy Grail” to scene of bringing out the dead (about 7 minutes into movie)

Bookmark the following websites:

<http://www.emedicine.com/aaem/topic548.htm#target1>

<http://www.nlm.nih.gov/medlineplus/ency/article/000596.htm>

http://eduspace.free.fr/vs_pages/newplague/biology/plague_map/plague_map_animation.html

http://www.eun.org/eun.org2/eun/en/EUN_Biology/content.cfm?lang=en&ov=25891

http://www.click2disasters.com/stories/black_death/images/spread.jpg

<http://www.mrdowling.com/703plaguemap.jpg>

A copy of the Causes and Effects of the Plague Graphic Organizer for each student

A copy of the PEST graphic organizer for each group

INTRODUCTORY ACTIVITY: SETTING THE STAGE

DAY ONE

1. Begin class by explaining briefly to students that today they will be

studying a plague in the 14th century. **PLAY** the video clip from “Monty Python and the Holy Grail” of the scene of bringing out the dead (about 7 minutes into the movie).

Show only about 1:45 minutes of the clip, and **STOP** it just before the entrance of the knight and his squire. Ask students what they saw in the scene. Ask them, based on what they already know about a plague, what was meant by the statement “You soon will be” said to the sick man. Students should make the connection that during a plague many people die and many die quickly. [5-7 minutes]

2. Explain the three learning objectives for the lesson that student will be expected to explain the causes and the spread of the plague of the 14th century and its impact on European and world history. [2 minutes]
3. Review the definitions of the following vocabulary words related to the plague: pandemic, bubonic plague, Black Death, and spatial diffusion. Have students write the definitions in their own words. [5-6 minutes]

LEARNING ACTIVITIES

DAY ONE

1. Begin the lesson by explaining the symptoms and stages of the plague. Focus student learning on the symptoms and stages of the plague. Use the summary sheet of the symptoms and stages of the bubonic plague or have students go to these two websites for information and pictures related to the bubonic plague:
<http://www.nlm.nih.gov/medlineplus/ency/article/000596.htm>

<http://www.emedicine.com/aaem/topic548.htm#target1>

[5-10 without the Internet or 15-20 minutes using the Internet]

2. Spread of the disease [5-7 minutes]

Focus student learning on the origins and spread of the plague. Use the Origins and Spread of the Plague summary sheet to give students information about the origins and spread of the plague from central Asia eastward to China and westward to Europe. Go to the website http://www.click2disasters.com/stories/black_death/images/spread.jpg if you have Internet. Show the map of trade routes of the 14th century and the spread of the disease eastward and westward. Show students that the disease began in central Asia. Ask students questions like:

- “What connects central Asia with China and Europe?”
- “When did the plague first reach China?”
- “When did the plague first reach Europe?”

3. The plague in Europe [10-15 minutes]

Focus student learning on the spread of the plague in Europe. If you have Internet in the classroom, go to the website

http://eduspace.free.fr/vs_pages/newplague/biology/plague_map/plague_map_animation.html.

Before running the interactive map of the spread of the disease in Europe, remind students that they will need to understand how the plague spread geographically. **PLAY** the animation (about 25 seconds long). Then ask the following questions:

- “Where did the plague come from?”
- “What parts of Europe were infected first?”

- “What parts of Europe were infected in 1348? In 1349? In 1350?”
- “In general, in what direction did the plague spread?”
- “In general, from what regions to what regions did the plague spread?”

The teacher will probably need to **PLAY** the animation more than one time for students to find the answers to all these questions.

Go to the website

<http://www.mrdowling.com/703plaguemap.jpg>. Show the map of the spread of the disease in Europe and ask students to develop a summary statement of the spread of the plague in Europe. Be sure that they include the vocabulary words of pandemic and spatial diffusion in the summary statement. Require students to record this summary statement in their notes.

4. Causes of the plague [10-12 minutes]

Focus student learning on the superstitious causes of the plague. Use the three primary sources on the Primary Sources of the Plague summary sheet. Use each primary source one at a time and ask students to identify what medieval Europeans thought were the causes of the plague. In general, they should identify three causes:

- Punishment by God for their sins
- Bad alignment of the planets and stars (astrology)
- Jews poisoning water wells

Students should record these explanations for the plague in their notes.

Explain to students that all of these causes identified by the medieval Europeans were wrong. Ask them to predict what they think was the real cause of the plague. Record their predictions. Focus student learning on the scientific cause of the plague. Show

the image of *yersinia pestis* bacillus from the website http://www.eun.org/eun.org2/eun/en/EUN_Biology/content.cfm?lang=en&v=25891. Ask students to identify what it is. Explain the relationship between the bacterium, fleas, and rats. Use the summary sheet on the Real Cause of the Plague. Ask the questions, “Where will the fleas go if the rats died from the plague?” and “How will the plague be spread to humans?” Review the symptoms and especially how quickly people died from the plague.

5. Demographic effects of the plague [10-15 minutes]
Focus student learning on the effects of the plague on the population of Europe. Ask students “What will happen to the population of Europe if people are dying from the plague?”

Have students count off from one to three. After they finish counting off, have all of them stand up by their desks. Then have all the students who were “ones” sit down. Ask student to think about the plague and why they think these students had to sit down (one-third of the population died). You may want students to recite the old nursery rhyme “Ring around the rosies, Pocket full of posies, Ashes, Ashes, We all fall down” and have the “ones” sit down at the end of the rhyme.

Show students the graph of population changes in Europe between 1000 and 1650. Ask students the following questions:

- “What was the population of Europe just before the plague?”
- “What was the population of Europe just after the plague?”
- “About how many people died as a result of the plague?”
- “What happened to the European population between 1352 and 1400?”

- “How long did it take for the population of Europe to regain its pre-plague level?”
- “What general statement can we make about the effect of the plague on the population of Europe?”

Have students record this generalization in their notes.

DAY TWO

6. Social effects of the plague [5-10 minutes]
Focus student learning on the social effects of the plague. Explain that the decline in population of Europe was one social effect of the plague. However, there were many other social effects. Explain the key social effects were:
- Persecution and expulsion of Jews for causing the plague
 - Increased social mobility of peasants in Europe
 - Shift to more grim forms of art – *danse macabre*
 - Feudal structure of society undermined by the plague
 - Local languages replace Latin as the official language
 - Rise of Renaissance with focus on humanity and nature
- Students should record these effects as notes as you explain them.
7. Economic effects of the plague [8-10 minutes]
Focus student learning on the effects of the plague on the European economy. Explain that in addition to its social effects, the plague had several major economic effects. Ask students to brainstorm possible economic effects of the plague. Ensure that these effects are on the list of key economic effects of the plague:
- Decline in trade because of fear of the plague
 - Rise in wages because of severe shortage of workers

- Rise in cost of goods and services (inflation)
 - Rise in the standard of living for ordinary people
 - Shift from labor intensive farming to herding livestock
- Students should record the economic effects of the plague in their notes.

8. Political effects of the plague [5-7 minutes]

Focus student learning on the political effects of the plague. Explain that in addition to its social and economic effects, the plague also had an impact on the politics of medieval society. Explain that, while the plague had no permanent effects on the course of European politics, some of its political effects were:

- Local leaders died, courts closed, wills could not be probated
- Government attempts to freeze wages and jobs to pre-plague conditions
- Increased social and political unrest (peasant revolts)
- Decline in the influence, power, and authority of the Catholic Church

Students should record these effects in their notes as you explain them.

9. Hands-on activity using PEST graphic organizer on the effects of the plague [8-12 minutes]

Use this activity to help student focus on and process the social, economic, and political effects of the plague. Divide students into groups of about four. Pass out the PEST graphic organizer and the sentences strips on the Effects of the Plague to each group. Have students discuss and place each effect under either the political, economic, and social effects of the plague. Review the correct placements of the political, economic, and social effects of the plague.

CULMINATING ACTIVITY

FOLDABLE ON CAUSES AND EFFECTS OF THE PLAGUE

Pass out copies of Causes and Effects of the Plague graphic organizer. Have students fold the handout and put title (Causes and Effects of the Plague) and student name on the front panel. They may also add other pertinent information and an illustration related to the plague. Inside the graphic organizer on the left hand side each student should list what the medieval people thought caused the plague and the real cause of plague. On the right hand side they should identify at least two or three political, economic, and social effects of the plague in the PEST graphic organizer. On the back panel have students define in their own words the vocabulary words of pandemic, bubonic plague, Black Death, and spatial diffusion and then write a one or two sentence summary of the plague and its relationship to spatial diffusion. Have students share their summaries of the plague and its relationship to spatial diffusion. Ensure that students understand that the plague is an example of spatial diffusion in history. [20-30 minutes]

CROSS-CURRICULAR ACTIVITIES

ENGLISH LANGUAGE ARTS

Have students research the history behind the nursery rhyme “Ring around the rosies, Pocket full of posies, ...” and how this nursery rhyme relates to the plague.

Have students keep a journal that describes the living conditions of the medieval period and the impact of the plague on life in the middle ages.

GEOGRAPHY

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Have students research information on the AIDS disease in the world today. Have students compare and contrast the bubonic plague and AIDS using topics like symptoms, number of deaths, locations, causes, and effects.

- Scissors

ADDITIONAL TEACHER RESOURCES

MATHEMATICS

Have students compute what percentage of the European population died during the 14th-century plague. If the population of the United States in 2003 is about 291 million, how many people would die if the plague killed Americans today with the same mortality rate? How would this affect American society?

- Vocabulary Definitions
- Symptoms and Stages of the Plague
- Spread of the Disease
- Primary Source Excerpts
- Real Cause of the Plague
- Population of Europe, 1000-1650

VISUAL ARTS

Have students make a collage of images and photographs related to the plague or another pandemic disease like AIDS. Each image should be explained with a sentence or two of text and each student should write an explanation of what was learned about the disease.

COMMUNITY CONNECTIONS

Texas Center for Infectious Diseases
2303 SE Military Drive
210-534-8857

Contact the Texas Center for Infectious Diseases for information on infectious diseases today and for guest speakers on the spread and impact of disease.

STUDENT MATERIALS

- Vocabulary
- PEST Graphic Organizer and sentence strips on effects of the plague
- Foldable – Cause and Effects of the Plague
- Markers

APPENDIX A: VOCABULARY OF THE PLAGUE

Vocabulary of the Plague

Pandemic – the spread of a disease across a large area (a country, a continent, or the entire world)

Bubonic Plague – the most likely cause of the plague of the mid 14th century, caused by the bacillus *yersinia pestis* and spread by fleas and rats.

Black Death – another name for the plague of the mid 14th century. People of the time referred to the plague as the pestilence. The term Black Death was not used until the early 19th century to refer to the plague.

Spatial Diffusion – the spread of diseases, foods, plants, animals, and ideas across space and from region to region.

APPENDIX B: SYMPTOMS OF THE PLAGUE

Symptoms and Stages of the Plague

Symptoms of the disease begin to show up within one to seven days after infection. These symptoms include

- Sudden fever and high temperatures up to 105°F.
- Severe headache
- Sore throat
- Chills
- Cough
- Nausea and vomiting
- Aching joints and muscular pain
- Constipation
- Rose colored ring around the bite

After the disease has set in, then the victim suffers additional symptoms:

- Weakness, general discomfort, and extreme exhaustion
- Smooth, oval, enlarged, painfully swollen lymph nodes (buboes), usually in the groin area but also in the armpit and neck
- Sweating and confusion as the fever gets worse
- Swollen lymph nodes turn purple from dried blood boils under the skin
- Gangrene of the extremities
- Death (or recovery) in eight to ten days

How the disease spreads

- Disease invades lymph nodes, causing inflamed buboes
- It then spreads from the lymphatic system to the major organs of the body – lungs, liver, spleen, kidneys, etc. – causing failure of organ systems
- Mortality rate is 40-60% of the infected if disease goes untreated

Pneumonic plague

- Infects the lungs from direct inhalation of the disease from a sneeze or cough
- Severe coughing, shortness of breathe, and difficulty breathing
- Frothy, bloody sputum
- Leads to pneumonia and almost certain death
- 100 % mortality in untreated within 24 hours of infection

Septicemic plague

- Infects the blood and spreads throughout the body
- High fevers and extreme illness
- Diarrhea and black stools, nausea, vomiting, and abdominal pain
- Skin turns deep shades of purple
- 100 % mortality rate

APPENDIX C: SPREAD OF THE DISEASE

Spread of the Disease

1. Origins

The plague erupted in Gobi Desert in the late 1320s. The plague bacillus was alive and active long before, but the disease was relatively dormant for centuries. The disease spread both eastward to China and westward to Europe, probably along the Silk Road trade route.

2. From central Asia to China

Asian nations suffered as severely as Europe. For example, in China, because of the plague, the population dropped from about 125 million to 90 million during the 14th century.

3. From central Asia to Europe

The plague spread along the caravan routes (Silk Road) westward to Europe. In 1345 the plague was on the lower Volga River, by 1346 it was in the Caucasus and the Crimea, and by early 1347 it was in Constantinople. By late summer 1347 it was in Cyprus, in October in Sicily, and by winter it was in Italy.

4. Arrival of plague in Europe (primary source)

“At the beginning of October, in the year . . . 1347, twelve Genoese galleys . . . entered the harbor of Messina [Sicily]. In their bones they bore so virulent a disease that anyone who only spoke to them was seized by a mortal illness and in no manner could evade death. The infection spread to everyone who had any contact with the diseased.”

Internet Resources:

http://www.click2disasters.com/stories/black_death/images/spread.jpg.

Map of the first incidents of the Black Death in Europe and Asia

APPENDIX D: PRIMARY SOURCE EXCERPTS ON CAUSES OF THE PLAGUE

Primary Source Excerpts on
Causes of the Plague

“[In] thirteen hundred and forty-eight years . . . there came into the noble city of Florence . . . a deadly pestilence, which, either because of the operations of the heavenly bodies, or because of the just wrath of God mandating punishment for our iniquitous [sinful] ways. . . .

Giovanni Boccaccio, “Introduction” to *The Decameron* (1348)

The plague “was caused by a particularly unfortunate conjunction [alignment] of Saturn, Jupiter and Mars in the sign of Aquarius that . . . occurred in 1345. This conjunction cause hot, moist conditions, which cause the earth of exhale poisonous vapors.”

Opinion of the medical faculty of Paris, sent to Pope Clement VI (1348)

“In the matter of this plague the Jews throughout the world were reviled and accused in all lands of having caused it through the poison which they are said to have put into the water and the wells – that is what they were accused of and for this reason the Jews were burnt all the way from the Mediterranean into Germany.”

The Cremation of Strasbourg Jewry St. Valentine’s Day, February 14, 1349

APPENDIX E: REAL CAUSE OF THE PLAGUE

Real Cause of the Plague

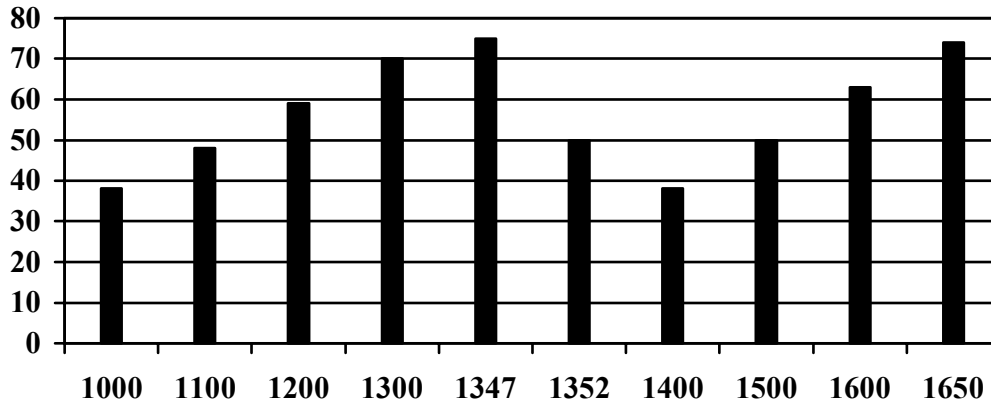
The devastating plague of the mid 14th century in Europe was caused by the bacillus *Yersinia pestis*. The bacteria live and multiply in the stomachs of rat flea. Growing inside the rat flea, the plague bacteria blocks the flea's stomach and food tube so no blood reaches the flea. The flea becomes insatiably hungry and goes on a feeding frenzy. It jumps from host to new hosts, rats as well as humans.

The plague bacteria were transmitted among rodents by flea bites. When a starving flea bites, it not only sucks blood from its host, but it also disgorges the plague bacteria into the blood stream of the host. Infected fleas infect rats and infected rats infect other fleas. Thus, the disease is spread to other fleas and rats. When the rodent hosts become infected and die, the fleas need another source of food and moved on to humans.

Humans are then infected and soon die, usually about three weeks after becoming infected. The plague can also be transmitted from human to human when a plague victim develops pneumonia and spread infected droplets by sneezing and coughing (pneumonic plague).

APPENDIX F: POPULATION OF EUROPE, 1000-1650

Population of Europe, 1000-1650



Questions to ask related to the effect of the plague on the population of Europe:

- “What was the population of Europe just before the plague?”
- “What was the population of Europe just after the plague?”
- “About how many people died as a result of the plague?”
- “What happened to the European population between 1352 and 1400?”
- “How long did it take for the population of Europe to regain its pre-plague level?”
- “What general statement can we make about the effect of the plague on the population of Europe?”

APPENDIX G: POLITICAL, ECONOMIC, AND SOCIAL EFFECTS OF THE PLAGUE

Political, Economic, and Social Effects of the Plague

Political Effects:

Economic Effects:

Social Effects:

APPENDIX H: POLITICAL, ECONOMIC, AND SOCIAL EFFECTS OF THE PLAGUE

Political, Economic, and Social Effects of the Plague

Political Effects:

- Local leaders died, courts closed, wills could not be probated
- Government attempts to freeze wages and jobs to pre-plague conditions
- Increased social and political unrest (peasant revolts)
- Decline in the power and authority of the Catholic Church
- No permanent effects on the course of European politics

Economic Effects:

- Decline in trade because of fear of the plague
- Rise in wages because of severe shortage of workers
- Rise in cost of goods and services (inflation)
- Rise in the standard of living for ordinary people
- Shift from labor intensive farming to herding livestock

Social Effects:

- Significant decline in the population of Europe
- Persecution and expulsion of Jews for causing the plague
- Increased social mobility of peasants in Europe
- Shift to more grim forms of art – *danse macabre*
- Feudal structure of society undermined by the plague
- Local languages replace Latin as the official language
- Rise of Renaissance with focus on humanity and nature

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APPENDIX I: GRAPHIC ORGANIZER

APPENDIX J: GRAPHIC ORGANIZER

Pandemic –

Bubonic Plague –

Black Death –

Spatial Diffusion –

Summary statement about the plague: