NATIONAL GEOGRAPHIC

Activity*develop*

Technology and Control in Ancient Rome

How did technological innovations help ancient Romans maintain control of their expanding empire?

Overview

Students view and describe Roman technological innovations and analyze how technology helped the Romans control a growing empire.

For the complete activity with media resources, visit:
http://education.nationalgeographic.org/activity/technology-and-control-ancient-rome/

Program

KILLING
JESUS

Directions

1. Have students use the think-pair-share strategy to discuss the importance of technological developments in history.

Ask: *What do you believe the quote "Necessity is the mother of invention" means today? Can you provide a concrete example of this from another period in history?* Have students think independently for one minute, discuss the questions with a partner, and then share their ideas with the class. Next, project the provided map of the Roman Empire. Give students one minute to read the legend and figure out what the color-coding indicates. Ask:

- *What does the legend tell you about the Roman Empire?*
- *Based on the legend, when did the Roman Empire expand to include Britannia?*
- *Imagine you're the emperor of the Roman Empire and live in Rome. As emperor, you need to send a message to the governor of Britannia. How would you send this message?*
- *Are you relying on technology to send the message? Why or why not?*
- *As emperor, what specific challenges would you encounter in controlling all of this territory?*

After discussing those questions as a class, explain to students that in this activity they will learn about inventions that occurred out of necessity in the Roman Empire as it expanded.

2. Have students analyze one Roman technology and explain its impact on the Roman political system.

Distribute a copy of the Roman Technology worksheet to each student and project the aqueduct image at the front of the classroom. Have students take notes in the worksheet as you explain that aqueducts were a major Roman technological innovation that provided Roman cities with freshwater. An aqueduct would start near a source of freshwater and gradually lower itself, letting gravity help the water travel down to the cities. Some Roman aqueducts still function today. After this explanation, check for understanding by asking: *What is an aqueduct?* Then, ask:

- *Why would people be happy with the Roman government for building this? Why would an aqueduct be a major technological improvement for Romans?*
- *As a citizen, would you be more or less likely to support the Roman Empire after they built an aqueduct? Why or why not?*
- *Overall, how do you think the Roman Empire used technology to maintain control of its growing empire?*

3. Conduct a gallery walk of Roman technology.

Explain to students they will participate in a gallery walk. Divide students into small groups and have them travel from site to site with their group, completing the relevant section in Part 1 of the Roman Technology worksheet at each station. As groups progress through the walk, monitor their progress, answering any questions that arise and ensuring students remain on task.

4. Have students make connections between technology and control in the Empire.

After all students have returned to their seats, have them work independently to complete Part 2 of the worksheet, writing their answers in complete sentences.

5. Have a whole-class discussion about Roman technology.

Regroup as a class and have a whole-class discussion about the questions from Part 2 of the worksheet:

- *How did these technologies help the Roman Empire maintain control of their territory?*
- *For the Romans, was "necessity the mother of invention?" Why or why not?*
- *For the Romans, do you think the road was as important a technology to them as the mobile phone is to us today? Why or why not?*
- *Do you think the Roman political system would have been able to survive without these technologies? Why or why not?*

Tip
For step-by-step instructions on conducting a gallery walk, gallery run, or computer version of a gallery walk, refer to this webpage.

Modification

If you have access to laptops or tablets for individual students or small groups of students, you may choose to have students conduct the gallery walk online instead of posting it around the classroom.

Informal Assessment

Collect students' completed Roman Technology worksheets and use the provided answer key to check their understanding and progress toward the learning objectives.

Extending the Learning

Distribute a blank sheet of paper to each student. Explain that students will individually write a request to the Roman governor of a region of their choice (allow students to review the map used earlier in the activity to choose their region), asking that the governor bring one new technology to their city. In their request, students will need to explain to the Roman governor the following:

- the key features of this new technology
- why this new technology will improve the quality of life for the Romans living in this region
- why this technology will be beneficial to the overall peace and stability of the Roman Empire

When students have finished, invite a few volunteers to share their ideas and then collect all student writing.

Objectives

Subjects & Disciplines

Geography
- Human Geography

Language Arts
- Writing (composition)

Social Studies
- World history

Learning Objectives

Students will:

- describe Roman technological innovations
- summarize how these developments helped the Roman Empire maintain political control of its territory

Teaching Approach
- Learning-for-use

Teaching Methods
- Brainstorming
- Discussions
- Information organization
- Visual instruction

- Writing

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
  - Learning and Innovation Skills
    - <u>Critical Thinking and Problem Solving</u>
- 21st Century Themes
  - <u>Civic Literacy</u>
- Critical Thinking Skills
  - Analyzing
  - Applying
  - Remembering
  - Understanding
- Geographic Skills
  - <u>Analyzing Geographic Information</u>

National Standards, Principles, and Practices

National Geography Standards

• **<u>Standard 12</u>:**
The processes, patterns, and functions of human settlement

National Standards for History

• **<u>World History Era 3 (5-12) Standard 3</u>:**
How major religions and large-scale empires arose in the Mediterranean basin, China, and India, 500 BCE-300 CE
• **<u>World History Era 3 (5-12) Standard 5</u>:**
Major global trends from 1000 BCE-300 CE

Common Core State Standards for English Language Arts & Literacy

• **<u>Reading Standards for Literacy in History/Social Studies 6-12</u>:**
Integration of Knowledge and Ideas, RH.6-8.7
• **<u>Reading Standards for Literacy in History/Social Studies 6-12</u>:**
Integration of Knowledge and Ideas, RH.9-10.7
• **<u>Reading Standards for Literacy in History/Social Studies 6-12</u>:**
Integration of Knowledge and Ideas, RH.11-12.7

The College, Career & Civic Life (C3) Framework for Social Studies State Standards

• **Causation and Argumentation: D2.His.14.9-12:**
Analyze multiple and complex causes and effects of events in the past.

Preparation
What You'll Need
Materials You Provide
- Pencils
- Pens
- Writing paper

Required Technology
- Internet Access: Required
- Tech Setup: 1 computer per classroom, Color printer, Projector

Physical Space
- Classroom

Grouping
- Large-group instruction

Accessibility Notes

For students unable to move easily around the classroom, provide handouts of the images and captions on the gallery walk.

Other Notes
Before you conduct the activity, post the "Roman Technology Gallery Walk" images and captions throughout the classroom. Space them evenly around the room.

Resources Provided: Handouts & Worksheets
- Roman Technology
- Roman Technology Gallery Walk
- Roman Technology Answer Key

Resources Provided: Images
- Roman Empire
- Aqueduct
- Roman Technology

Background & Vocabulary
Background Information
As the Roman Empire expanded throughout the Mediterranean world, it faced a political crisis: how could such a large empire be governed effectively? Given the technological constraints of the Classical Era, this proved to be a difficult task. Through a combination of political decisions and

technological innovations, the Roman Empire was able to overcome the challenges of distance to administer and run a complex, functioning imperial system. Technological improvements fell into several categories: communications technology, military technology, and public works.

Prior Knowledge

["geographic location of the Roman Empire within the Mediterranean world", "structure of the Roman political system", "the transition of Rome from republican government to imperial government"]

Recommended Prior Activities

- Physical Geography and Power in Ancient Rome
- Republic to Empire: Government in Ancient Rome

Vocabulary

Term	Part of Speech	Definition
ancient Rome	noun	civilization founded on the Mediterranean Sea, lasting from the 8th century BCE to about 476 CE.
aqueduct	noun	a pipe or passage used for carrying water from a distance.
communication	noun	sharing of information and ideas.
Roman Empire	noun	(27 BCE-476 CE) period in the history of ancient Rome when the state was ruled by an emperor.
technology	noun	the science of using tools and complex machines to make human life easier or more profitable.

For Further Exploration

Video

- National Geographic Channel: Killing Jesus

Partner

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