

**Teacher Materials**

**The Great Inka Road System:  
How is the Inka Road an example of innovation?**

**Lesson Components**

**Fly-out from Cusco to Machu Picchu**

Image	Description
	<p>Video Fly-out: View a video fly-out from Cusco to Machu Picchu. Notice the diversity in the landscape and consider why a road system built on this terrain would be innovative.</p>

**Exploring the Inka Road System in the Andes**

**Topic 1: A Road in the Andes**

Image	Description
	<p>Map: Investigate a map of South America with an overlay of the Inka Road system. Analyze the extent of the system.</p>

# The Great Inka Road System

Exploring the Inka Road System in the Andes  
Topic 2: Impressions of the Road

Image	Description
	<p>Lithographs: Explore drawings of Inka life created by the renowned Inka illustrator, Felipe Guaman Poma de Ayala.</p>
	<p>Lithographs: Explore illustrations of the Great Inka Road and bridges drawn by the Spanish conquerors.</p>
<p><b>“Quotes”</b></p>	<p>Quotes: Read quotes and paraphrased quotes about impressions of the Great Inka Road system from Spanish chroniclers during Inka times, a Quechua bridge master, and a professor of engineering today who works at the Massachusetts Institute of Technology (MIT), a university known for its excellence in technology and innovation.</p>

# The Great Inka Road System

Exploring the Inka Road System in the Andes  
Topic 3: Inka Bridge Types

Image	Description
	<p>Photo Gallery: Analyze the various bridge types used by the Inka to connect the road system in the Andean terrain, noticing how each design is attuned to the natural environment.</p>

## Student Worksheet

- [How is the Inka Road an Example of Innovation?](#)

## Connection to the Compelling Question

- In this lesson, students use evidence from a variety of sources to build their own understanding of innovative Inka engineering as applied to the development of the Inka Road system.

## Ideas

- Exploring the Inka road system: Students can investigate the fly-out video, maps, images, lithographs, and quotes independently or in small groups.

## Contemporary Connections

- As an extension, ask students to examine the quotes provided to find evidence that demonstrates how Inka innovation is still relevant today.

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# The Great Inka Road System

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## Suggested Lesson Procedure

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### Hook

- Show the video fly-out from Cusco to Machu Picchu as a starting point to explore the Inka road system.
- Ask students: What is the difference between a single road and a road system? Can you think of an example of a road system where you live?
- Ask students: Why is the Inka Road not straight, like most major highways today?
- Engage the class in whole-group discussions and ask:
  - Would you consider any road system innovative? Why or why not?
  - Would a 25,000-mile road system built in the rugged Andes mountain environment 500 years ago be innovative?
    - (If yes) What makes that innovative?
    - (If no) Why doesn't that qualify as innovative?
- How does the freeway system in the U.S. compare to the Inka road system? (For a history of the U.S. freeway system, refer to: <https://www.fhwa.dot.gov/infrastructure/history.cfm>)

### Exploring the Inka Road System in the Andes

- Finding solutions to the challenges of building an extensive road system in rugged terrain requires innovation. Students investigate how the Inka used innovation to design a complex road network attuned to the natural environment.
- Working independently or in small groups, students investigate the Inka road system along three angles: characteristics of the road system; purpose(s) of the road system; and the kinds of innovation required for its construction. The exploration can be structured as a jigsaw using the three angles followed by a whole-class sharing and discussion of highlights from each angle. To guide their exploration of the featured sources, students use the worksheet *How is the Inka Road an Example of Innovation?* See below for an explanation of the sources students will encounter, organized by topic.

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# The Great Inka Road System

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## Suggested Lesson Procedure

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### 1. Characteristics

A Road in the Andes: Students explore a map and video fly-out to learn about the location, extent, and variety of terrain in the Inka Empire. Students consider why a road system built on this terrain would be innovative.

### 2. Purpose(s)

Impressions of the Road: Students view lithographs from Guaman Poma de Ayala and the Spanish chroniclers to understand who used the road and for what purpose. Quotes, and more accessible paraphrased quotes, give students insights about the unique and innovative qualities of the road, gleaned from the impressions of early chroniclers at the time of the Spanish conquest and of an engineering professor today.

### 3. Innovation

Inka Bridge Types: The diversity of Inka bridge types shown in a photo gallery speaks to the innovative problem solving that the Inka utilized to tackle difficult transportation and communication challenges. Students use this case study of Inka bridges to explore how each design is attuned to the natural environment.

## Forming Conclusions: Innovations in the Inka Road System

Students use evidence from the sources they examined and construct a response to the question, “How is the Inka road system an example of innovation?”

## Wrap up

Discuss student responses. Ask them what evidence they found to support their conclusions.

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*Next: Students examine Inka innovation by learning about the only surviving suspension bridge designed by the Inka—the Q’eswachaka.*

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