

## **Ancient Inca Transportation**

### **Overview:**

This lesson will take place during the teaching of a unit that focuses on the ancient Maya and Inca civilizations. The students will have prior knowledge concerning the Inca civilization before the start of this lesson.

The purpose of this lesson is to provide students with knowledge/information concerning the ancient Inca roadway system. Within this lesson, the students will focus on how the physical environment of the region affected the Inca roadway system. The students will also compare and contrast the ancient Inca roadway system to the current United States roadway system.

### **Minnesota Social Studies Standard:**

#### V. Geography

##### B. Maps and Globes

The student will use maps and globes to demonstrate specific and increasingly complex geographic knowledge

1. Students will use political and thematic maps to locate major physical and cultural regions of the world and ancient civilizations studied

#### V. Geography

##### C. Physical Features and Processes

The student will use basic terminology describing basic physical and cultural features of continents studied

1. Students will locate and describe major physical features and analyze how they influenced cultures/civilizations studied

#### III. World History

##### B. Classical Civilizations and World Religions 1000 BC-600 AD

The student will describe classical civilizations in Africa, Asia, and Mesoamerica

3. Students will analyze the relationship between agriculture and the development of complex societies in Mesoamerica

### **Minnesota Language Arts Standards:**

#### C. Comprehension

The student will understand the meaning of texts using a variety of strategies and will demonstrate literal, interpretive, inferential and evaluative comprehension

3. Summarize and paraphrase key ideas from text.

5. Infer main ideas and determine relevant details in non-fiction texts.

6. Generate graphic organizers to enhance comprehension of texts and to describe text structure and organization.

7. Generate and answer literal, inferential, interpretive and evaluative questions to demonstrate understanding about what is read.

9. Determine cause and effect and draw conclusions.

10. Compare and contrast information on the same topic from multiple sources.

13. Follow multiple-step written directions.

#### D. Literature

The student will actively engage in the reading process and read, understand, respond to, analyze, interpret, evaluate and appreciate a wide variety of fiction, poetic and nonfiction texts.

3. Evaluate nonfiction texts by analyzing structure, concept development, design and style

4. Interpret literature by answering questions that ask for analysis and evaluation.

9. Read from and respond to a variety of fiction, poetic and nonfiction texts of increasing complexity for personal enjoyment.

**Objectives:** The students will:

- Analyze and interpret maps that represent the physical environment and the roadway system of the Inca Empire region.
- Predict how the physical environment of the Inca Empire affected their transportation system.
- Through the use of graphic organizers, relay comprehension information gathered from a non-fiction text.
- Work in collaboration with other students to create a written project.

**Grade Level:** 4-8 (6<sup>th</sup> grade Ancient Civilization)

**Time:** 5 days/60 minute periods

**Subjects/Topics:** Geography, Language Arts, Reading, Art

#### **Required Materials:**

Overhead Projector and White Board

Chart paper

Transparency of a physical map of South America, a map of the Inca Empire, the roadway system of the Ancient Inca Empire

Handout: "Inca Transportation Department Proposal"

Resource books about the Inca Empire

PowerPoint Presentation: "Driving on Roads in Bolivia"

Venn diagram which compares/contrasts the roadway system of the Inca to that of the U.S.

#### **Suggested Procedure:**

##### **Day One**

##### Pre-Assessment:

- Do a carousel activity by breaking the students into five different groups and have them move around the room answering the following questions: (These questions should be posted on chart paper and located around the room.)
  - What are the purposes of roads?
  - What do you think classifies a road as a road?
  - How do you think it is decided where a road should go?
  - What are obstacles that make it difficult to put a road in a certain spot?
  - How do people get around obstacles in order to build a road?

- Once each group has written a response, the students will go back to their original questions. Together the students will create a summary of the responses. Each group will orally share their summaries with the class.

Activity:

- Take the students up the path to the cemetery. (This is a wooded, up-hill path that was crudely created and is located behind our school.)
- Prior to walking up the hill, provide the students with focus questions to be thinking about while on the path.
  - What obstacles are we faced with while walking up the hill?
  - Why do you think the path was created to take the route that it does?
- At the top of the hill discuss the focus questions and the students' observations while walking up the hill.

Ending:

- Explain to the students that over the next couple of days, we will be focusing on the construction and purpose of roads within the Inca Empire.

**Day Two**

Beginning:

- Start out the lesson by taking a couple of minutes to have students discuss the pros and cons of having a roadway system.
- Together, create a class list of the pros and cons.
- Show students three transparencies. 1. A map of the area of the Inca Empire. 2. A physical map of South America. 3. A map of the Inca roadway system. (See resource list for maps.)
- Have a whole group discussion concerning what the maps reveal to us.
- Show the PowerPoint Presentation, "Driving on Roads in Bolivia." This will be shown to illustrate to the students the dangers of actual roads that have been created through the Andes Mountains.
- Discuss reactions to PowerPoint.

Activity:

- Explain to the students that for the next few days, they will be working as a team to create a proposal for a new road that will be built in a region of the Inca Empire.
- Divide the students into predetermined groups. (Create heterogeneous groups that have incorporated students with different learning/reading abilities.)
- Hand out proposal requirements and go over directions with students. (see attachment)
- Explain to the students that not only will they need to turn in the written proposal, but each group will orally explaining their proposal to the Inca Transportation Department (the rest of the class).
- Answer any questions the students may have.
- Hand out the resource packet and explain to the students that this packet may be used to aid them in their completion of the project. (Packet was created incorporating the

articles which were found from the websites located in the resource portion of this lesson.)

- Explain to students that they may also use the Inca resource books which are included in our classroom social studies library.
- Assign each person within the group a different reading from the packet to read as homework. Assign readings based on reading ability.
- Explain to the students that while they read the article or passage, they must also utilize the HUG technique. Have the students highlight the main ideas in the reading, underline any important facts or dates, and write brief responses to the reading.
- Inform the students that for tomorrow they must come to class with the passages read and analyzed. They will then be informing their team member on the content of the article. (jigsaw technique)

#### Ending:

- Explain to the students that they will have two days to create their proposals and on the third day each team will be presenting their proposals to the class.
- If time permits, have the students start to read and analyze their articles.

### **Day Three**

#### Beginning:

- Divide the class into groups that include all the students who read the same article/passage.
- Have the students discuss the passage within the groups.
- Next have students work with their team members. Each student within the team will then be given an opportunity to discuss his or her reading(s). (jigsaw technique)

#### Activity:

- Provide students with time to work on their project.
- Monitor progress.

### **Day Four**

#### Activity:

- Students continue to work on proposal.

### **Day Five**

#### Beginning:

- Start out the class period by giving students a brief assessment. Hand out a Venn diagram comparing and contrasting the United States roadway system to the Inca Empire.
- Give students a short period of time to fill in the Venn diagram.

#### Activity:

- Provide each group an opportunity to present their proposals.

**Resources:**

- <http://www.hieldmuseum.org/machupicchu/inca.html>
- <http://www.thomson.clara.net/cotacoca.html#Connecting>
- <http://original.britannica.com/eb/article-9042237/Inca>
- [http://www.internet-at-work.com/hos\\_mcgrane/inca/eg\\_inca\\_8.html](http://www.internet-at-work.com/hos_mcgrane/inca/eg_inca_8.html)
- <http://incas.mrdonn.org/roads.html>
- <http://www.PBS.org> - Nova Online Adventure, Lost Empire
- <http://www-tech.mit.edu/V127/N24/bridges.html>
- [www.commonswikimedia.org](http://www.commonswikimedia.org) – Map of Inca Empire Road System
- [www.thingsforlearning.com](http://www.thingsforlearning.com) –Physical Map of South America
- [www.commonswikimedia.org](http://www.commonswikimedia.org) – Inca Roadway System
- [www.commonswikimedia.org](http://www.commonswikimedia.org) – Inca Expansion
- [http://www.guy-sports.com/humor/videos/video\\_ppt\\_car\\_bolivia.htm](http://www.guy-sports.com/humor/videos/video_ppt_car_bolivia.htm) - “Driving on Roads in Bolivia”

**Assessment:** Students’ proposals

**Credits:** Therese Wagner, St. John the Baptist School, Jordan; 5<sup>th</sup> and 6<sup>th</sup> grade Social Studies

## **Inca Transportation Department Proposal**

You and your fellow colleagues have been asked to create a proposal which will be presented to the Inca Transportation Department. Your job, as an Inca engineer, has required you to add on a section of roadway to an already existing Inca road. Before the road can be constructed, your plan must first be approved by the Transportation Department.

The plan will include the following information:

- A map which includes plotting the proposed road as well as any other additions which may need to be included. (Ex.: road signs, rest stops, etc.)
- A list of the materials and resources that will be needed to complete the road structure and its surrounding amenities (road signs, bridges, etc.)
- If road signs need to be added for the proposed road extension, draw a sketch of the possible design of the sign.
- A written proposal that will be constructed in paragraph form and will answer the following questions.
  - Why and how would it benefit the Inca people if this road were to be developed?
  - Why did you and your team members decide to place the new road extension in the chosen area? Why did your team feel that this area needed an additional road?
  - How will this road extension effect the environment? Will the development of this road displace anything or anyone?
  - Why was the selected amenities placed in their chosen destinations?
  - Who is allowed to use the road?
  - What is the road's purpose? (military use, trade, etc.)

You and your team members will be given a section of the Inca Empire. From this section you are to choose an area in which you will construct your road. A resource packet will be provided to the team. This packet will aid you in your completion of the proposal.

**Due Date:** \_\_\_\_\_