

ESSAYS

Building the Great Wall

by Pat Burtleson with Kurt Jacobs

The Great Wall of China has often been compared to a dragon, with its head in the East and tail to the West, winding over thousands of miles of hills and mountains. In fact, one legend tells us that it was a dragon who determined the course the wall would take. In China the dragon is an auspicious, protective creature, representing the life-giving force of water, and which embodies wisdom, strength, and goodness. So, too, does the Great Wall. It represents the Chinese Empire, protecting itself against attack by the nomads of the North, while remaining strong and good within. It symbolizes the orderliness of China, first brought to the land by the first emperor, Qin Shihuangdi. Water had been a lucky element of the Qin, and the emperor chose this as his symbol. Thereafter the Dragon was symbolic of the emperor.

BACKGROUND

WHEN THE GREAT WALL WAS BUILT — The Great Wall was added to, repaired, rerouted, and reconstructed over many dynasties, particularly during the Ming Dynasty of 1368 to 1644 A.D. This essay will concentrate on the work done during the Qin Dynasty only, because it reflects the establishment of the Imperial System by the First Emperor.

The idea of wall building started quite early in China. In 400–300 B.C., the various states in China had been separate, warring factions, each trying to gain control over the others. It was common practice for these states to build walls to protect themselves from other states. One of the early walls built in China dates to about 450 B.C., by the kingdom of Qi in northeast China, preventing its neighboring state, Lu, from attacking Qi. Other walls were not built for another 100 years.

The idea of building walls for protection seemed to catch on, and soon the kingdoms in the north of China were building walls to keep out the northern nomads. The nomads were the Xiongnu, or Huns. They made their living by raising animals, contrary to the agricultural lifestyle of the Chinese. The Huns were a slave society and made regular raids on neighboring Chinese states, taking the

QIN DYNASTY EARLY FOUNDATIONS OF "THE GREAT WALL"



people for slaves and causing other damage.

By the year 221 B.C., the state of Qin had conquered the neighboring states and formed the first united empire in China. The ruler of the Qin state called himself the First Emperor, and modeled himself after the legendary Yellow Emperor, Huangdi, who was known for bringing order into the world, and having the secret of immortality. The Emperor's full title was Qin Shihuangdi: First Emperor of Qin.

There were some minor problems with unifying such a large collection of territories. Each state had its own system of weights, measures, money, and writing. This caused considerable problems when the Empire was supposed to function as one nation, so Qin unified these systems so that all regions of the empire would use the same standards.

WHY THE GREAT WALL WAS BUILT

— The protection of this newly founded empire was of paramount importance. The raids of the nomads from the north were causing economic damage to the developing economy. The emperor, Qin Shihuangdi, took on the task of having the many walls already built connected together to form a single, strong wall of defense. This we know as the first Great Wall of China.

WHO BUILT THE GREAT WALL — The first crew sent to the northern regions by Emperor Qin to build the Great Wall was soldiers. General Meng Tian was given three hundred thousand soldiers and sent to begin the construction. Military garrisons were assigned particular tasks, and in other cases, large forces were concentrated to tackle certain sections.

Another way people were sent to work on the wall was through a kind of corvee system, where each citizen owed the Emperor one year of his life for building or defending the wall. Approximately 500,000 peasants spent their time in this way. However, the regime could always find excuses to add more time to one's service.

Emperor Qin was notably a harsh ruler. He believed that the only way to establish peace within the Empire was through strict rule and adherence to the demands of the Emperor. The criminal justice system dictated harsh punishments for criminals. Under the law of Qin, many crimes were punishable by a period of time serving hard labor working on the wall. The law said that a person had to be at least 1.38 meters tall to be given a servitude penalty, so shorter convicts were put in jail until they grew tall enough to be put to work on the wall. This leads to the question of child labor. Supposedly, no one

under the age of fifteen could be sent to work on the wall. However, there are records indicating that children as young as seven and eight were actually working.

As is frequently the case in this kind of situation, money could buy one out of this time of serving on the wall construction. One could buy off a corvee, or even pay for a crime with money, or buy a servant to serve the required time on the wall. Therefore, it was the poor people who, in fact, worked and died along the great wall.

WHAT WAS USED TO BUILD THE GREAT WALL — The basic materials used in the construction of the wall in Qin times included earth, stone, timber, and tiles. Materials were always gathered locally, so various sections of the wall reflect what was available in the surrounding area.

In the high mountains, stones were quarried from the land. In areas of flat, loess soil (a special kind of soil blown in from the Gobi desert and carried by the Yellow River) the soil was used to create tamped earth layers. In the Gobi Desert area alternating layers of sand, pebbles, tamarisk twigs (a small shrub), and reeds were used. In the Northeast, near Liaodong, boards of oak, pine, and china fir trees were used. It is said that if all the stones used to build the Great Wall were used to build a wall one meter wide and five meters high, that wall could circle the globe at the equator ten times around!

HOW THE GREAT WALL WAS BUILT — There are three major areas of discussion about how the Great Wall was built: Transportation, Technique, and Design.

Transportation of materials was a great project in itself. The tightly structured regime of the First Emperor guaranteed that hundreds of thousands of people were available to carry on the necessary tasks. People were the main source of transportation. They carried supplies on their backs or with carrying poles over their shoulders. They also passed materials hand to hand in a long line up steep slopes or along the top of a completed section. Simple tools were used when possible. These included handcarts, wooden rods, levers, and windlasses. Ropes were slung over deep ravines and valleys to send baskets full of materials to the other side.

It seems that not many animals were used for transportation during the Qin Dynasty,



The Great Wall, Mutianyu Section. Photo from the web site: www.chinavista.com/travel/greatwall/greatwall.html. This site offers a beautiful photo tour of the Great Wall.

but evidence of the use of goats and donkeys surfaces in the Han Dynasty (206 B.C. to 220 A.D.) records.

The technique used in the actual construction of the wall in some areas is similar to that used in the building of mud house walls. There were two stone walls built, and the space between these walls was filled with earth and pebbles. The traditional technique of tamped earth with the loess soil was used in the areas where this soil was abundant. Posts or boards, sometimes bamboo poles, were used to create two walls with a space between. The loess soil was deposited in this space, then pounded by hand. Each layer of pounded, or rammed, earth was seven to ten centimeters thick, and as hard as stone.

WHERE THE GREAT WALL WAS BUILT —

The wall winds and twists over the land. This is because the builders took advantage of the natural landscape of steep mountain sides and difficult areas to traverse, putting natural barriers to their best use. The wall was designed so that soldiers could march along its top. Emperor Qin mandated that the wall be six horses wide at the top, eight horses wide at the bottom, and five men high. At strategic points, like a pass between mountains, riverbends, and road junctions, were built forts, beacon towers, and other defense works. These became the components of an important communication system. Military forces could alert other

areas of enemy sightings, send information on troop activities, and leaders could send orders. Beacon fires, flags, and drum beats were used on top of the beacon towers, to send coded messages. These towers were built into the wall so they could be seen by the towers on each side.

It follows that the thousands of people involved in this project would need to feed themselves. In some cases, whole villages were transferred to an area of the wall, and would work to grow crops and make clothing and utensils to support the workers. In other places the soldiers would plant crops and meet their own needs. The crops required water, so irrigation canals were dug. To meet the constantly moving construction site needs, roads were built. These developments actually aided the economic and cultural growth of the areas, and many of these settlements left behind artifacts of everyday life as well as journals and information written on bamboo slips.

THE WALL REMAINS AS A REMINDER

— Today the Great Wall stands as a memorial to the hundreds of thousands of workers who gave their lives in its construction. Emperor Qin wanted his dynasty to last 10,000 generations, and he himself was continuously seeking the elixir of immortality. Qin died, and his dynasty lasted less than two generations. However, his establishment of the Imperial system lasted. The Great Wall stands as evidence that he organized a bureaucracy so well structured that its evidence remains more than 2,000 years later.

In the concluding part of this essay, we provide readers with detailed lessons on the Great Wall.

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LESSON PLANS

Lesson Plan for The Great Wall

OBJECTIVES

From the National Geography Standards, students will understand:

- *The processes, patterns, and functions of human settlement*
- *How human actions modify the physical environment*
- *How physical systems affect human systems*
- *The changes that occur in the meaning, use, distribution, and importance of resources*
- *How to apply geography to interpret the past*

The following strands from the National Council for the Social Studies Standards are addressed:

- #3: *People, Places and Environment*
- #6: *Power, Authority and Governance*

PART ONE

Have students read or listen to the background information about the Great Wall. Teachers may want to follow this reading/listening with a chart, such as a mind map or outline, to organize the information. It is written to be easily organized into categories of when, why, who, what, how, and where.

PART TWO

1. Discuss the visual image students have formed about the Great Wall and the surrounding landscapes. If possible, have books available with photos of the landscapes in China that will enhance the students' visual image.
2. Have students create a wall mural to represent some of this landscape. Do research to find out what the region should look like, what kinds of plants might be found, what the soil would be like. Refer to the background information for suggestions. Decide what kinds of material would be used for wall construction. Add sections of the wall to the mural. Create a village near the construction site to serve the needs of the workers. What materials would be used to build shelters? How would food be provided? Would there be facilities for making pottery? What methods of transportation would be found

SUGGESTED ROLES
FOR THE
GREAT WALL SIMULATION

(PART THREE)

Give each student a role to play.
Possible suggestions:

You are a MOTHER from north of the Great Wall. When the soldiers raided your tribe, you were separated from your children. They might be here, but you do not know.

You are a CRIMINAL from the central Yellow River valley. You were sentenced to three years of labor on the wall because you stole a bowl of rice to feed your hungry family.

You are a CRIMINAL from near what is the present day city of JINAN. Your crime was murder—to protect yourself. You are sentenced to working on the wall until you die.

You are a MAN from near what is the present day city of CHIFENG. Your mother just wrote to you saying that your father is dying. You do not have enough money to bribe the guard to let you go home.

You are a SOLDIER from near what is the present day city of BEIJING. You have been working on the wall for eight months. Your group has not had enough food for three weeks, but you are expected to work.

You were a PRINCESS of the ROYAL FAMILY until the Emperor got mad and sent you away to work on the wall.

You are a VOLUNTEER from near the old capital. You are young and strong and can work hard.

You are a CRIMINAL from the Wei River valley. You stole money from a rich merchant and have been given five years of hard labor on the wall. This is your fourth year.

You are a SOLDIER from near what is the present day city of TAIYUAN who has been sent here to supervise the workers.

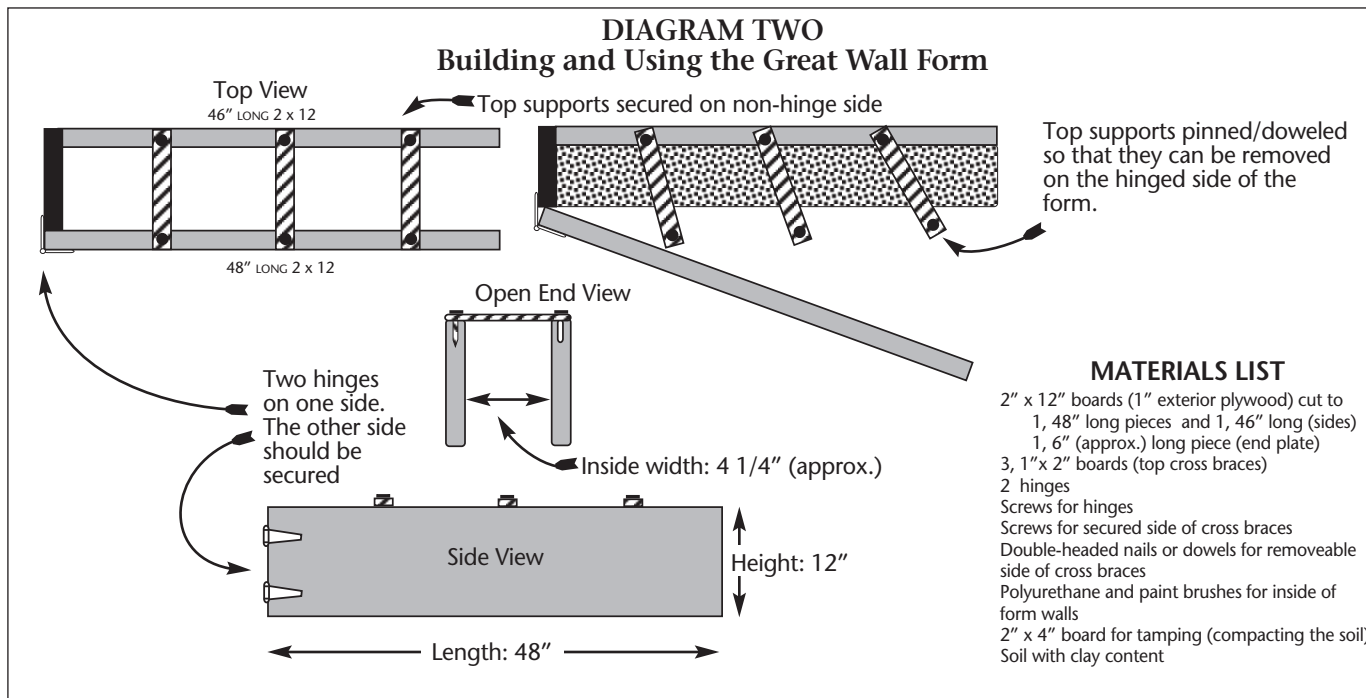
here? Would there be artists, musicians, medical service here?

PART THREE

1. Give each student a role to play. See "Suggested Roles for the Great Wall Simulation" (to left).
2. In small groups, have students locate their character's approximate locale on the map, and talk about their role. Through questions, help them develop their characters. Where are you from? What kind of life have you left? What did you do before working on the Great Wall? How long have you been here on the wall? How long do you need to stay? Do you have many friends here? Do you know where your family members are now? How is your health? What jobs do you do at the wall construction site?
3. At this point, students could write a character description, or begin a journal of their experiences as this character.

PART FOUR

1. To demonstrate an understanding of the interdependence of geography and construction materials of the wall, students work in groups to build a section of the wall related to a particular area. Use materials such as twigs, sand, earth, popsicle sticks, pebbles, or as a last resort, Legos. In our simulation, students carried dirt across the school field in plastic bags on poles across their backs. We built a wooden frame as a mold and put dirt and stones in it. Then we used bricks attached to poles and "tamped" the earth until it was very hard. We removed the molds and had small sections of wall built. Students should stay in character in this activity, and always have a supervisor to order them around and keep them working hard!
2. Have students follow instructions on diagram 2 (Building and Using the Great Wall Form). I used 2 X 12s for the form, but inch thick or reinforced plywood would work just as well. The idea is that it is strong enough to take a beating. The inside surfaces need to be smooth. A couple of coats of polyurethane would help to make the form move along easier. The top supports are used to keep the sides a specific distance apart. When it is time to move the form and make the wall longer,



it helps to be able to spread the sides apart. Therefore, only one side of the top supports should be nailed or screwed, the other side should be pinned. I have used double-headed nails or dowels for this. The hinges help to separate the form so it can easily be moved. The other side of the end plate should be securely fastened. The earth around our neighborhood has a heavy clay content, so our soil packs really well, thus the rammed-earth method works just dandy for us. If there was a heavy sand content, I'd probably mix in a little cement to the process and hope no one kicked the finished product. The idea is that the form is just wider than a standard 2 X 4 so one can be used as a rammer. Fill the bottom of the form with two inches of dirt. Then, using a 2 X 4, compact that to one inch. Continue laying down more dirt and packing it down (firmly) until you reach the top, or close to it. I feather, or slant, the front edge near the end plate so I can blend in the next length.

When one length is complete, tap on the edge of the form with the 2 X 4 rammer at the open end to help separate the dirt wall from the form. Take out the pins from the top supports and open the form slightly. Slide the form ahead three-fourths of the length of the dirt wall and

re-secure the top support pins. Repeat the whole process until you, the students, or both, run out of energy.

3. Following the role playing, students write in their journals or share orally in groups about their experiences.
4. Discuss how the experience would be different in areas near a river, in a desert region, or in the mountains.

EXTENSION ACTIVITIES

1. Study work songs that we are familiar with in our own culture, such as "I've Been Working on the Railroad," and slave songs from the cotton fields like, "Pick a Bale of Cotton." Listen to traditional Chinese music. Research what kind of instruments might have been used during this time period. Compose and perform work songs that might have been sung by people working, or in the evening during common gathering times.
2. Simple machines were used in the construction process of the Great Wall. In a science book, study about the various forms of simple machines. What forms were most likely used to build the Great Wall? How? Show some in use on the mural.
3. The towers placed along the wall were used for communication, for example to warn others that an invading army was in



Filling baskets of local materials to be carried to the construction site.



This was done as a cross-age project. Here, an older student is helping balance a load of dirt and rock on a carrying pole for a younger one.

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These loads are heavy.



Students tamping dirt in the forms to make a section of the wall.



The "emperor" Jacobs examines a section of the wall.

Photos by Kurt Jacobs



"Wall" forms at left, partly constructed sections in center, collapsed sections.

sight. Have students post themselves at strategic locations around the school and send signals, using signal flags, drum beats, or any way they can create. Discuss how efficient this technique might have been. How would it accommodate for mountainous regions? Desert area? Over rivers?

4. Have students research other walls to discover if there were other lands that used large walls for protection. (Roman walls would be interesting to compare.)
5. Calculate: From your home territory, how long would it take you to walk to your assigned construction site at the wall?
6. Research and story-tell some of the Chinese legends that are about the Great Wall and The First Emperor. Some can be found in *Tales From a Chinese Grandmother*, by Frances Carpenter, or *Dragons, Gods, and Spirits from Chinese Mythology*, by Tao Tao Liu Sanders.

ASSESSMENT

1. PORTFOLIO

The mural indicates an understanding of the geographical characteristics of the region. Photos of the mural could be put in the portfolio with student writing to explain their own contributions to the mural. Journal entries indicate an understanding of the interdependence of geography and construction materials used on the wall. Work songs indicate an understanding of the hardships of this kind of forced labor.

2. PERFORMANCE ASSESSMENT

Students will make a twelve by eighteen inch size miniature "mural" reflecting what they have learned. Consider using torn paper for the features on a background piece of construction paper. The

mural will indicate appropriate geographic features for a region. Discuss the possibilities of making it in a different type of region, such as a desert scene, forest area, mountainous region. It will include a human-made structure such as a wall or fortress. The construction of this structure will reflect the use of available materials in the region. The structure will be placed in a geographically appropriate location on the miniature mural. Students will then write a description of the region, including an explanation of why the structure exists in this location, using appropriate geographical terms, and explain how it was built.

3. SHORT ANSWER QUESTIONS

- Why was the Great Wall built?
- How does the construction of the Great Wall reflect the geography of various regions of China? ■

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