

Fort Davis

National Historic Site

National Park Service
U.S. Department of the Interior



Curriculum Materials Grades 6-8

Teacher Notes: Supplying the Soldiers at Fort Davis

Topic: Students will gain a better understanding of transportation and supply issues in the 1880s as well as improving problem solving skills in mathematics.

Objectives and Standards: Texas Essential Knowledge and Skills (TEKS)

<http://www.tea.state.tx.us/teks/>

Grade 6

Social Studies

113.22: 1,2,7, 20, 21,22,23

Mathematics

111.22: 2, 11, 12, 13

Grade 7

Social Studies

111.23: 1,5,6,8,9,10,11,19,20,

21,22,23

Mathematics

111.23: 2, 11, 12, 13

Grade 8

Social Studies

111.24: 1, 6,10,1330,31,32

Mathematics

111.24: 2, 11, 12, 13

Materials Needed:

Student activity handout

Pencil and “scratch” paper

Calculators for checking answers (optional)

Lesson Activities:

Historic and Background Reading

1. This lesson may require prior completion of the “Tour of the Fort” activity (Section II, D) to enhance student understanding.
2. Have students read and discuss the information on army supply.
3. Divide students into small groups to work on the math problems and discuss the following questions. Depending of the level of the students, you may want to use this as an activity for gifted students or enrichment activity. It could also be completed as a whole class activity using calculators if desired. This is a good lesson to use to demonstrate problem solving techniques for multi-step problems and other types of advanced word problems.

Wrap-up and Assessment: Teachers can assess the lesson in any way that is appropriate. Answer keys below.

* * * * *

Answers for “SUPPLYING THE SOLDIERS AT FORT DAVIS”

1. Hay $14 \times 190 \times 7 = 18,620$ lbs. Grain $12 \times 190 \times 7 = 15,960$ lbs.

Cost of Hay: $18,620 \div 2,000 = x 18 = \167.58

Cost of Grain: $15,960 \div 50 = x 2.50 = \798.00

Total cost = \$965.58

.....

2. 1 lb. 4 ozs. = $1 + 4 \div 16 = 1.25$ lbs.

$.55 \times 1,600 \div 1.25 = 704$ rations

.....

3. Mules took $480 \div 14 = 34.3$ days Oxen took $480 \div 8 = 60$ days

It took the oxen $60 - 34.3 = 25.7$ days longer

.....

4. Beef: 1 lb. 4 ozs. = $1 + 4 \div 16 = 1.25$ lbs. $1.25 \times 70 \times 7 = 612.5$ lbs., or 612 lbs. 8 ozs.

Bread: 1 lb. 6 ozs. = $1 + 6 \div 16 = 1.375$ lb. $1.375 \times 10 \times 7 = 673.75$ lbs., or 673 lbs. 12 ozs.

$70 \times 7 = 490$ rations $490 \div 100 = 4.9$ or 5

Candles: $5 \times 1.25 = 6.25$ lbs., or 6 lbs. 4 ozs.

Coffee: $5 \times 15 = 75$ lbs.

.....

5. $50 \times .15 = \$ 7.50$

$300 \times .06 = \$18.00$

$800 \times .03 = \$24.00$

Total cost = $\$49.50$

.....

6. $78 \div 4 = 19 \frac{1}{2}$ men per laundress $19.5 \times 1.25 = \$ 24.38$

a private's pay = $\$13$ per month

a laundress made $\$ 11.38$ more than a private

.....

7. San Antonio cost: $164 + 28 = \$192$ per 1,000 board feet

El Paso cost: $68 + 32 = \$100$ per 1,000 board feet

Amount saved: $\$92$ per 1,000 board feet

$150,100 \div 1,000 = 150$

$92 \times 150 = \$13,800$ total saved

.....

8. Officers $28 \times 160 = 4,480$ gal.

Enlisted men $414 \times 10 = 4,140$ gal.

Kitchens $6 \times 160 = 960$ gal.

Horses $178 \times 15 = 2,670$ gal.

Mules $58 \times 10,580 = 613,640$ gal.

Total used a day = $13,690$ gal.

$13,690 \times 8.3 = 113,627$ lbs.

$113,627 \div 2500 = 45.45$ or $45 \frac{1}{2}$ wagon loads

.....

9. Distance from Chicago to Fort Davis: $930 + 310 = 1,240$ miles

$$1,240 \div 100 = 12.4$$

$$12.4 \times .017 \times 450 = \$ 94.86$$

Cost of furniture: \$125.00

Total cost: \$219.86

.....
10. From September 1st through April 30th is 8 months.

$$8 \times (4 \times .5 + 2) = 32 \text{ cords}$$

$$32 \times \$ 3.59 = \$114.88 \text{ cost of wood}$$

.....
11. Two Gatling Guns: $2 \times 350 \times 15 \times .06 = \$ 630$

$$26 \times 24 = 624 \text{ hrs.}$$

$$2,700 \div 624 = 4.3269 \text{ or } 4.3 \text{ miles per hour}$$

$$2,700 \div 30 = 90 \text{ stage stops} \quad 90 \times 12 \times 150 = \$162,000 \text{ cost for all the mules}$$

.....

Answers and Background Information for Discussion Questions

- A. When Fort Davis was established, the grass in the area was from 2-to-4 feet high. In a short time the fort was buying hay and grain from civilians as far away as Presidio and Fort Stockton and El Paso.
- B. With supplies coming by train (instead of by wagon), the time for supplies to reach Fort Davis decreased from 4-to-8 weeks down to 3 or 4 days. Fresh foods such as seafood, vegetables, and fruit became available at remote frontier forts and towns.
- C. The army's diet was bland and did not include vegetables. The army death records show that in 1868, three soldiers at Fort Davis died from scurvy. The post surgeon recommended vegetables be added to the soldiers' diet. Individual troops began growing vegetable gardens, or used their own money to buy fresh vegetables from area farmers.
- D. In the 1860s, the high mountains around Fort Davis were covered in places with ponderosa pine trees. By the 1870s, trees for lumber could only be found in remote areas that were almost impossible to get to. Lumber was then brought in from San Antonio, El Paso, and even from Tularosa, New Mexico.
- E. In the winter of 1883-1884, a steam pump and well house were built on nearby Limpia Creek. Water was then pumped to a holding tank on the side of the mountain north of the fort. (A second holding tank was later added.) From there, water lines ran to the back of the buildings and stables. The only two buildings with running water inside were the hospital and commanding officer's quarters.
- F. Accept appropriate answers.