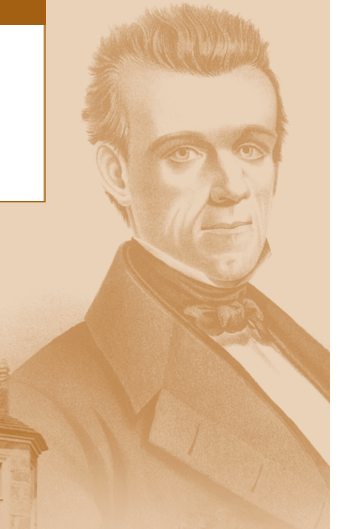# 3

Artifact Activities

Student Activity: *Stop! Pay Toll!* Tollhouse Rate Sign Poster

Materials
- Tollhouse Rate Sign poster.
- One copy of reproducible page **Traveler Information Cards**.
- The reproduction coins — pennies, half-dimes, dimes and quarters.
- Quill pen and paper for the tollkeeper.
- Table with two chairs for tollhouse gate.
- Copies of the reproducible page **Rates of Toll** (optional).

Objectives
After completing the student activity, students will be able to:
- Explain why tolls were needed on the National Road.
- List two situations where people passed through without paying a toll.

Standards
Pennsylvania Standards for History
- 8.1.3 B
- 8.2.3 C

Pennsylvania Standards for Economics
- 6.2.3 H
- 6.4.3 G

Background
Students will need some background on tolls, tollhouses, and tollkeepers. Unit 2 provides the students with information, as do the biography card on Hiram Seaton, the occupation card on tollkeeper, and the historic site card on the tollhouses at Addison and Searights.

Procedures
Activity set up.
1. Prepare the Traveler Information Cards. Give a copy of the reproducible page Traveler Information Cards to a team of students who will cut out each card and paste it on an index card, creating 26 cards. If need be, make additional copies of the reproducible sheet and duplicate some of the cards.
2. Arrange the classroom. Set up a tollhouse inside the classroom by moving desks to create an aisle where travelers can walk up to the tollkeeper's table/desk. In another spot, set up a bank where travelers can withdraw money to pay their tolls.
3. Arrange the "tollhouse" so the tollkeeper can sit with a helper, the "mathematician," who will help compute the tolls. Supply the tollkeeper with a "quill" pen and paper to record the amount of each toll.

Stop! Pay Toll!

4. Put out the reproduction coins at the bank.
5. To move the activity along faster, set up two tollhouse gates to collect tolls.
6. Hang the Tollhouse Rate Sign poster prominently near the tollkeeper's table.

Tollhouse Activity
1. Assign two students to be the tollkeeper and the mathematician. Assign a banker. Invite students to take turns at these three jobs as the game progresses.
2. Tell the rest of the students they will be travelers.
3. Have each traveler randomly draw one of the Traveler Information Cards.
4. Tell the travelers to use the tollhouse rate sign to determine how much their toll will be—based on the information on their card. (Some of the travelers do not have to pay.)
5. Have the travelers go to the bank and withdraw the correct amount of money.
6. Have the travelers approach the tollkeeper and pay the toll required of the person, people, and/or animals described on the card.
7. Instruct the tollkeeper and the mathematician to use the tollhouse rate sign to calculate the toll each traveler needs to pay.
8. Have the tollkeeper collect the money and give the traveler change if necessary.
9. Have the tollkeeper or mathematician record each toll paid.
10. Alert the students that one card indicates a traveler who refuses to pay the toll (the fine for refusing is $3). Suggest that the students think of reasons for refusing and be prepared to present those objections politely to the tollkeeper.
11. After the travelers have paid their tolls, ask them to compute the total they would have paid in tolls to pass through Pennsylvania. (There were six tollhouses in Pennsylvania along the National Road.)
12. At the end of the activity, have the tollkeeper and mathematician add up the total tolls recorded and count the money they collected to see if it is the same.
13. Discuss the experience of being a traveler. Have the students who were travelers with animals describe the problems they would have had moving along the National Road. Have the students who were travelers with vehicles describe some problems their vehicles might have encountered. Have the other students describe some of the problems they might have had riding a horse. Have the students hypothesize why the toll rates were set the way they were. (The more damage the vehicle or animals did to the road the higher the toll).
14. Have each student give his or her total in tolls paid in Pennsylvania.
15. Ask if the tolls seem fair and why the students thought they were or were not.

Modified Activity

Have the students randomly draw cards and compute the tolls, without setting up the tollhouse or using the reproduction coins.

Stop! Pay Toll!

Activity Answers

1 person on a horse 20 sheep 4¢+ 6¢ = 10¢	1 person on a horse 20 pigs 4¢+ 6¢ = 10¢
1 person on a horse 40 pigs 4¢ + (6¢ + 6¢) = 16¢	1 person on a horse 20 cattle 4¢ + 12¢ = 16¢
1 person on a horse 4¢	2 people on horses 4¢ + 4¢ = 8¢
3 people on horses 4¢ + 4¢+ 4¢ = 12¢	1 sleigh — 1 horse 3¢
1 sleigh — 2 horses 3¢ + 3¢ = 6¢	Carriage with 2 wheels —1 horse 6¢
Carriage with 2 wheels — 2 horses 6¢ + 3¢ = 9¢	Carriage with 4 wheels — 2 horses 12¢
Stagecoach (with 4 wheels) — 4 horses 12¢ + 3¢ + 3¢ = 18¢	Carriage with 4 wheels — 4 horses 12¢ + 3¢ + 3¢ = 18¢
Wagon with 2-inch-wide wheels — 1 horse 4¢	Wagon with 2-inch-wide wheels — 2 horses 4¢ + 3¢= 7¢
Wagon with 3-inch-wide wheels — 2 horses 4¢ + 3¢= 7¢	Wagon with 3-inch-wide wheels — 4 horses 4¢ + 3¢+ 3¢ + 3¢ = 13¢
Wagon with 3-inch-wide wheels — 6 horses 4¢ + 3¢ + 3¢ +3¢ + 3¢ +3¢ = 19¢	Wagon with 5-inch-wide wheels — 6 horses 3¢ + 3¢ + 3¢ +3¢ + 3¢ + 3¢ = 18¢
Wagon with 7-inch-wide wheels — 6 horses 2¢ + 3¢ + 3¢ + 3¢ + 3¢ + 3¢ = 17¢	Child on a horse going to school Free
6 people on horses going to a funeral Free	Carriage with 4 wheels — 2 horses —bringing a family to church Free
Stagecoach (with 4 wheels) — 4 horses — carrying U.S. mail Free	Person who refuses to pay toll $3.00 if they do not have a good reason for not paying

Traveler Information Cards

1 person on a horse 20 sheep	1 person on a horse 20 pigs
1 person on a horse 40 pigs	1 person on a horse 20 cattle
1 person on a horse	2 people on horses
3 people on horses	1 sleigh — 1 horse
1 sleigh — 2 horses	Carriage with 2 wheels — 1 horse
Carriage with 2 wheels — 2 horses	Carriage with 4 wheels — 2 horses
Stagecoach (with 4 wheels) — 4 horses	Carriage with 4 wheels — 4 horses
Wagon with 2-inch-wide wheels — 1 horse	Wagon with 2-inch-wide wheels — 2 horses
Wagon with 3-inch-wide wheels — 2 horses	Wagon with 3-inch-wide wheels — 4 horses
Wagon with 3-inch-wide wheels — 6 horses	Wagon with 5-inch-wide wheels — 6 horses
Wagon with 7-inch-wide wheels — 6 horses	Child on a horse going to school
6 people on horses going to a funeral	Carriage with 4 wheels — 2 horses —bringing a family to church
Stagecoach (with 4 wheels) — 4 horses — carrying U.S. mail	Person who refuses to pay toll

Rates of Toll
on the National Road in Pennsylvania

For every 20 sheep . . . . 6¢

For every 20 pigs . . . . 6¢

For every 20 cattle . . . . 12¢

For every horse and rider . . . . 4¢

For every sleigh with one horse . . . . 3¢
        For every additional horse . . . . 3¢

For every carriage with 2 wheels and 1 horse . . . . 6¢
        For every additional horse . . . . 3¢

For every carriage with 4 wheels and 2 horses . . . . 12¢
        For every additional horse . . . . 3¢

Wagon with wheels up to 4 inches wide and 1 horse . . . . 4¢
        For every additional horse . . . . 3¢

Wagon with wheels between 4 and 6 inches wide
        with 1 horse . . . . 3¢
        For every additional horse . . . . 3¢

Wagon with wheels between 6 and 8 inches wide
        with 1 horse . . . . 2¢
        For every additional horse . . . . 3¢

Wagons or carts with wheels over 8 inches wide. . . . . Free

Persons going to or from:
        one part of their farm to another, the mill, a worship service,
        a funeral, an election, school or court . . . . Free

Carriages or wagons carrying property of the U.S. government . . . . Free

ANY PERSON REFUSING TO PAY THE TOLL,
A FINE . . . . 3 dollars

Student Activity:
Mile Markers *Are We There Yet?*

Materials
- 4 cardboard mile markers.
- Copies of the reproducible page **Mile Marker Math**.
- Copies of the reproducible page **Mile Marker Map**.

Objectives
After completing the student activity, students will be able to:
- List the two cities which always appeared on the historic National Road mile markers.
- List one reason the mile markers were important.

Standards
Pennsylvania Standards for History
- 8.1.3 B
- 8.2.3 C

Background
Explain to the students that there was one mile marker every mile. Each marker had four distances on it. For the travelers going west there was the distance to Wheeling, Virginia, and the distance to the next large town to the west. This information was placed so the travelers going west could see it. On the other side, for the travelers heading east, there was the distance to Cumberland, Maryland, and to the next big town to the east.

The mile markers used in this activity have the following information on them:

Mile Marker A   16 to Wheeling; to Triadelphia 10
115 to Cumberland; to Washington 16

Mile Marker B   40 to Wheeling; to Washington 8
91 to Cumberland; to Hillsboro 4

Mile Marker C   68 to Wheeling; to Brownsville 12
63 to Cumberland; to Smithfield 22

Mile Marker D   97 to Wheeling; to Petersburg 2
34 to Cumberland; to Frostburg 23

Procedures
### Pre Activity Warm-Up: Calculating Distance
1. Start by having a group of six students, numbered 1–6, stand in a row facing the class. They do not have to be evenly spaced.
2. Walk from student 1 to student 2 and count the steps out loud for the students. Then walk to each remaining student counting the steps.
3. Ask the class a variety of questions about the distances between the students. For example, how many steps would it take to get from student 3 to student 6? How many from student 3 to student 1? How many total steps is it from student 1 to student 6? Continue with various examples until the student get the idea.

Are We There Yet?

Pre Activity Warm-Up: Calculating Distance, continued

4. Discuss how these examples relate to the information on the mile markers. Student 1 can represent Wheeling and student 6 Cumberland. All the students in between can represent mile marker locations. Each of the mile marker students have distances to both student 1 (Wheeling) and student 6 (Cumberland), just as the mile markers have the distances to both those locations. They also have distances to the students in between, just as mile markers list some of the in-between distances.
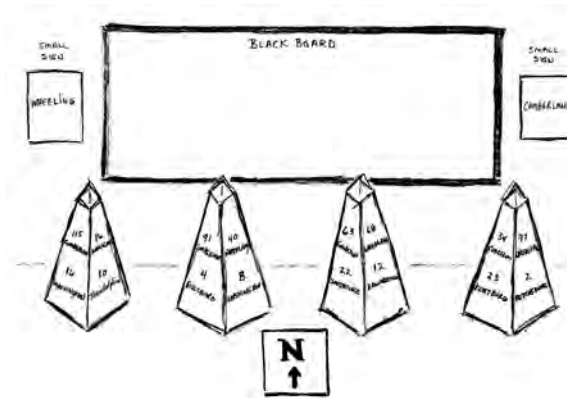
Mile Marker Activity

1. Place the mile markers along one wall in the room. For the purpose of this activity, when standing in the middle of the room looking at this wall, assume that you are facing north. (You may want to place a north arrow or compass rose on the floor with north pointing to the wall where the mile markers are located.) When facing the "north" wall, "west" and the city of Wheeling, Virginia, are to your left. Likewise "east" and the city of Cumberland, Maryland, are to your right. (You may want to put up a "Wheeling" sign and a "Cumberland" sign.) Place mile marker A at the left end of the wall. Then place mile marker B and mile marker C. Mile marker D should be the right-most mile marker.
2. Give each student a copy of the reproducible page Mile Marker Math and Mile Marker Map.
3. Have students visit each mile marker and complete the two sheets at each station.

Activity Answers

- Mile Marker Math
  Mile marker A
  1. 16
  2. 16 + 115 = 131
- Mile marker B
  1. 40
  2. 40 – 8 = 32
- Mile marker C
  1. 63
  2. 12 + 22 = 34
- Mile marker D
  1. 97
  2. 97 – 2 = 95

- Mile Marker Map
  Top left box
  16 to Wheeling 10 to Triadelphia
  115 to Cumberland 16 to Washington
  Bottom left box
  40 to Wheeling 8 to Washington
  91 to Cumberland 4 to Hillsboro
  Middle box
  68 to Wheeling 12 to Brownsville
  63 to Cumberland 22 to Smithfield
  Right box
  97 to Wheeling 2 to Petersburg
  34 to Cumberland 23 to Frostburg

Mile Marker Math

Name: _____   Date: _____

Directions: Use the mile markers to answer the questions.

Mile Marker A   16 to Wheeling; to Triadelphia 10
                      115 to Cumberland; to Washington 16

1. How many miles to Wheeling? _____

2. How many miles between Wheeling and Cumberland? _____

Mile Marker B   40 to Wheeling; to Washington 8
                      91 to Cumberland; to Hillsboro 4

1. How many miles to Wheeling? _____

2. Once you get to Washington, how many miles to Wheeling? _____

Mile Marker C   68 to Wheeling; to Brownsville 12
                      63 to Cumberland; to Smithfield 22

1. How many miles to Cumberland? _____

2. How many miles between Brownsville and Smithfield? _____

Mile Marker D   97 to Wheeling; to Petersburg 2
                      34 to Cumberland; to Frostburg 23
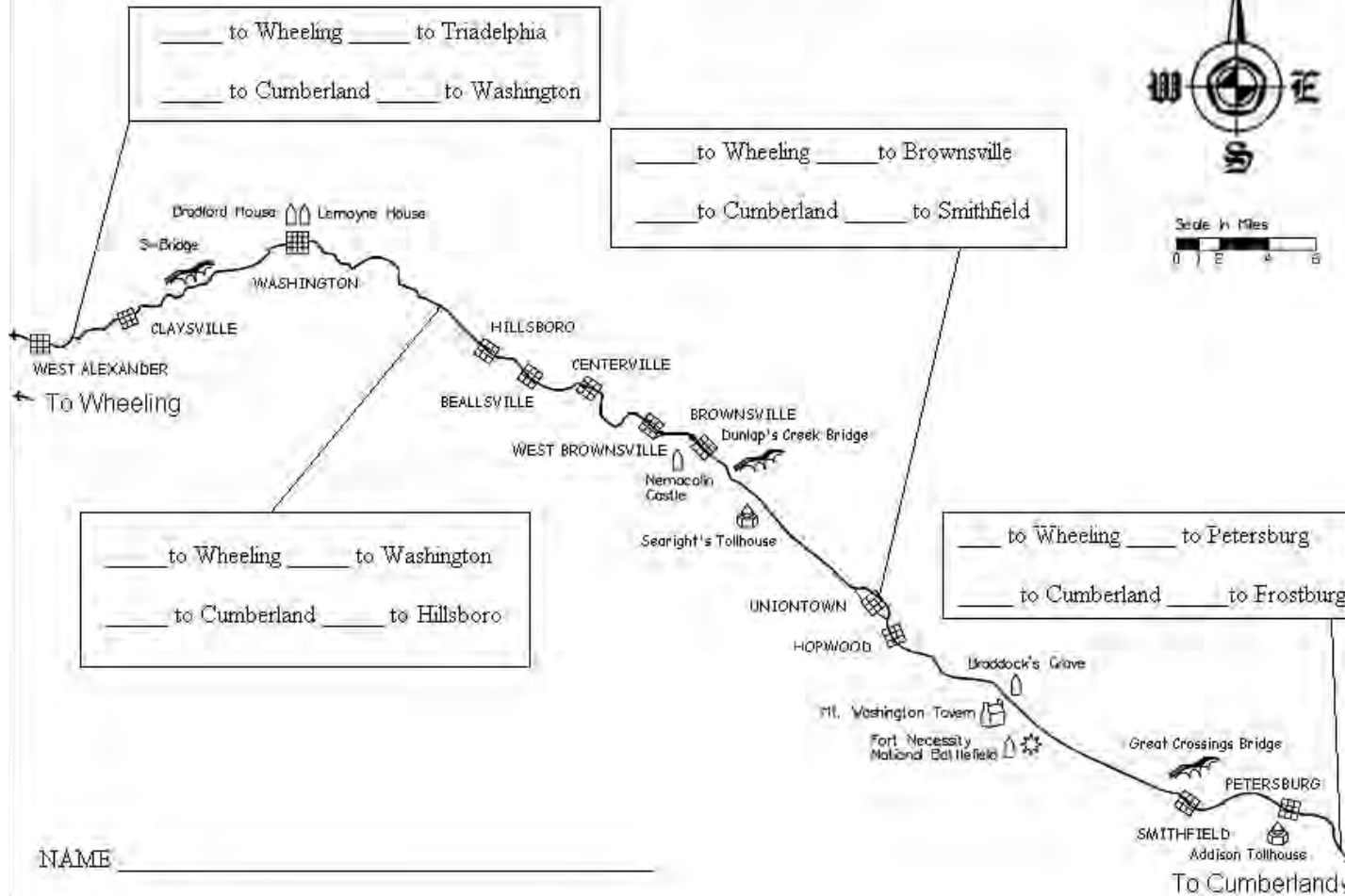
1. How many miles to Wheeling? _____

2. Once you get to Petersburg, how many miles to Wheeling? _____

Mile Marker Map

THE NATIONAL ROAD IN PENNSYLVANIA

Directions: Use the mile markers to fill in the blanks.

_____ to Wheeling _____ to Triadelphia

_____ to Cumberland _____ to Washington

_____ to Wheeling _____ to Brownsville

_____ to Cumberland _____ to Smithfield

Bradford House Lemoyne House

S-Bridge

WASHINGTON

CLAYSVILLE

WEST ALEXANDER

To Wheeling

HILLSBORO

CENTERVILLE

BEALLSVILLE

BROWNSVILLE
Dunlap's Creek Bridge

WEST BROWNSVILLE

Nemacolin
Castle

Searight's Tollhouse

_____ to Wheeling _____ to Washington

_____ to Cumberland _____ to Hillsboro

_____ to Wheeling _____ to Petersburg

_____ to Cumberland _____ to Frostburg

UNIONTOWN

HOPWOOD

Braddock's Grave

Mt. Washington Tavern

Fort Necessity
National Battlefield

Great Crossings Bridge

PETERSBURG

SMITHFIELD
Addison Tollhouse

To Cumberland

Scale In Miles
0   2   4   6

NAME _____

Student Activity:
Outdoor or Gym — *How Far Is It?*

Materials
• 4 cardboard mile markers.
• Long retractable tape measure.

Objectives
After completing the student activity, students will be able to:
• Explain how the mile markers were placed on the National Road.

Standards
Pennsylvania Standards for History
• 8.2.3 B
• 8.2.3 C
• 8.3.3 B

Procedures
Activity One
1. Measure the length of one side of the gym or a section of the playground.
2. For this activity, assume 1 foot equals 1 mile.
3. Ask students to calculate how many mile markers they would need for the distance measured. If the distance measured was 30 feet, then they would need 30 mile markers. If it was 92 feet, they would need 92 mile markers.

Activity Two
1. Mark a 131-foot section of the gym or playground. This represents the distance between Cumberland, Maryland, and Wheeling, Virginia, on the National Road.
2. Make one end Wheeling and the other end Cumberland.
3. Mark off every 5 to 10 feet.
4. Assign a team of students to each of the four mile markers. Ask teams to place their marker correctly on the marked National Road.