

2019 SAMPLE Three-Day Seminar Schedule



Apprenticeships, STEM, and Colonial Daily Life

This seminar explores the interdisciplinary links between colonial history and STEM in trades, specifically applied sciences and engineering. Through a hands-on, Project Based Learning (PBL) approach, participants engage with trade experts, investigate applied science principles such as the use of simple machines, chemical reactions, engineering, and combine these experiences into dynamic classroom lesson plans that incorporate primary sources and PBL.

As a result of this seminar, teachers will be able to:

- Identify scientific processes and theories that were necessary for tradespeople to create tools and equipment for daily life.
- Investigate the importance of the scientific method in the workplace for tradespeople.
- Create interdisciplinary lesson plans that use trades as a lens to demonstrate STEM principles and consult tradespeople to gather primary source information to share with their students.

Compelling Question:

- How can you apply scientific principles and 18th-century technology to provide the necessities of daily life past, present, and future?

Arrival/Travel Day

4–8:00 p.m. Teachers arrive and Check-in

Meet your Colonial Williamsburg Master Teacher for the week, and settle in to your room.

7:00 p.m. Orientation

Dinner on Own

Day 1

Supporting Questions:

- What were tradespeople's role and contributions in the eighteenth-century community?
- How did tradespeople play a role in the eighteenth-century Virginian and British economy?
- What do primary sources tell us about the lives of eighteenth-century tradespeople?
- What are the scientific principles behind eighteenth-century technology?
- How can we use an eighteenth-century structure to investigate the past?

7–8:00 a.m. Breakfast

8:00 a.m. Travel by Bus to Historic Area

8:15 a.m. Overview of the Historic Area

On this short walk through town, learn about the role and context of historic trades in the eighteenth century.

8:45 a.m. Daily Life of Tradesman

In the eighteenth century many middling-sort tradespeople lived in Williamsburg. Experience the daily life of Undertaker Benjamin Powell and his family.

10:00 a.m. Break & Travel to Session Location

10:15 a.m. Visit Special Collections

Analyze a selection of primary documents pertaining to eighteenth-century trades and use them to investigate the duties, work, and processes of eighteenth-century tradespeople.

11:15 a.m. Break & Travel

11:30 a.m. Lunch

1:30 p.m. A Scientific Toolbox

Teachers will have an opportunity to identify the scientific principles behind eighteenth-century technology and describe how these scientific principles work. Topics to be explored are chemical and physical changes, states and properties of matter, and simple machines, i.e. levers, pulleys, incline plane, and wheel and axle.

2:30 p.m. End of Seminar Project: Creating a Project Based Lesson

3:00 p.m. Break & Travel to Session Location

SAMPLE SCHEDULE
Subject to Change

3:30 p.m. Investigating the Past

4:30 p.m. Debrief and Conclude

Dinner on Own

Day 2

Supporting Questions:

- Where would you live, work, and govern in the eighteenth century?
- What were eighteenth century building methods like?
- How can we apply scientific principles through the building trades?

7–8:15 a.m. Breakfast

8:15 a.m. Travel by bus to Historic Area

8:30 a.m. Surveying

Owning land was an important goal for many who settled in the new British colonies. But once land was purchased, whether in town or on the western frontier, how did you know where your land ended and your neighbors' began? Explore how land in the eighteenth century was divided and how surveying techniques can teach math and science concepts in the classroom.

9:00 a.m. Brickmaking

9:45 a.m. Break and Walk

10:00 a.m. Carpenter's Yard

10:45 a.m. Break & Travel

11:00 a.m. Joiner's

11:45 a.m. Debrief & Afternoon Assignment

Teachers will have time to investigate various trade shops of their choice to develop project-based lessons on travel, clothing, foodways, agriculture, etc. focused on the use of chemical reactions, forces and motion, matter, growth of plant materials, or engineering design.

12:15 a.m. Lunch Voucher & Exploration in Historic Area

**4:00 p.m. Debrief
Checkout & Departure Procedures**

4:45 p.m. Donor Recognition

5:30-7 p.m. Tavern Dinner

Day 3

Supporting Questions:

- How will you implement project based learning using scientific principles and 18th – century technology in your classroom?

7–8:15 a.m. Breakfast

8:15 a.m. Travel by Bus to Session Location

8:30 a.m. Colonial Williamsburg Education Resource Library

Explore the rich resources on historic trades and daily life that are available through the Colonial Williamsburg Education Resource Library and learn how they can be used to supplement your curriculum.

Tab Broyles or Ron Adkisson

9:15 a.m. Break

9:30 a.m. Panel Discussion with Tradespeople

Tradespeople will discuss their work in backwards engineering in their trade.

10:15 a.m. Debrief Project Based Learning Lessons

Teacher Institute staff and tradespeople will review participant’s project based lesson plans and share ideas for the classroom.

11:00 a.m. Break

11:15 a.m. Reflections and Sharing

How will scientific principles and eighteenth-century technology help to build collaboration, innovation and creativity?

11:45 a.m. Graduation & Wrap-Up

12:00 p.m. Group Photo

12:15 p.m. Departure (Lunch on Own)