

# **GRREC's Teaching American History Grant History as Mystery Lesson Plan**

**Lesson Topic: Tools and Technology of Colonial Trades**

**Team Name: Wildland**

**Teachers' Names: Sarah Wilder and Barbara Rowland**

## **Introduction to the Lesson:**

This lesson should last approximately 4-8 class sessions depending upon the length of each class. The lesson includes a hook to engage and pique students' interest in the lesson, three rounds of station rotations (clues, artifacts, and pictures attached in this document), a Power Point Presentation, a Movie Maker Project, an "Artifacts Analysis Document" used by each student to make notes of their analysis of each clue for individual accountability, an Open Response Question, student answer sheet, and a rubric/ feedback sheet.

## **Background information for the teacher:**

### **Trades and Craftsmen**

In the late 1600s and early 1700s of the Middle and New England Colonies, people were self-supporting (everything they needed they made, grew, or hunted). They built their own homes, made their own furniture, clothing, and tools, plowed and planted the land, and hunted and fished for food. As towns and cities grew, so did the need for skilled craftsmen. If one could master a trade, one could always make a living in the colonies. Many of these master tradesmen later became wealthy merchants, business owners, and in some cases, the political leaders of the young country.

The colonists came from many countries in Europe and brought particular skills and crafts with them. The Dutch were expert brick and tile makers, the Swedish were expert lumbermen, the French Huguenots and Germans were known for their weaving, barrel making, gun smithing and leather working.

In the Southern Colonies, towns and cities were slower to develop because of the vastness of the land and the lack of roads. Plantations (large farms) became little cities within themselves. The plantation had its own labor force, grew its own food, educated its own children, cared for its own sick, and did its own trading with England.

Tradespeople in Colonial Williamsburg made their wares by hand, hands that hold tools, eighteenth-century style tools. Gauges, tongs, punches, needles, ladles, hammers, ink balls, knives, stamps, saws, awls, bits, rules, hooks, compasses, chisels, spoke shaves, lasts, blockheads, gouges, shuttles, planes, clamps, and squares are examples of tools taken up each day by the cabinetmakers, blacksmiths, gunsmiths, silversmiths, cordwainers, wigmakers, printers, apothecaries, binders, coopers, weavers, cooks, carpenters, and others who pursued trades and crafts in Williamsburg. (*J. Hunter Barbour, www.history.org*)

### **The Craftspeople**

There were no factories in the early 1700s. If someone needed a barrel or a chair, that object had to be made by hand. Craftspeople made furniture, utensils for the home, and tools for farmers. Each of these essential artisans was skilled in one particular craft. The wheelwright, for example, made wheels.

Craftspeople helped colonial towns grow. When several craftspeople opened shop, they attracted new settlers into the area. Visitors from other places also came to buy items sold at the shops of the artisans.

Craftspeople sold their goods at their shops and charged customers the amount it cost to make a product, plus a small profit. Some customers were able to pay cash, but most left a note promising to pay later. Sometimes shopkeepers accepted farm produce for goods or services. This exchange was known as “country pay” or the barter system.

## **Learning From Others**

The colonial craftspeople did not learn skills by going to school. There were very few schools in those days, and only the sons of the rich could afford to attend them. Craftspeople learned a trade by working as apprentices to other craftspeople. Young boys and girls between the ages of ten and fifteen became apprentices. Boys were apprenticed to craftsmen such as coopers, wheelwrights, and printers. If a father was a craftsman, his son usually learned his trade. Girls learned the domestic industries of spinning, weaving, sewing, and candle making. In those days, girls seldom worked outside the home.

Apprentices served terms of four to seven years. In the first year or two they performed simple tasks such as sweeping, running errands, and collecting payments. In the years that followed, apprentices learned to use the tools of his/ her future trades.

At the end of his or her term, each young apprentice was required to produce a finished object. This piece of work was called a masterpiece because it was judged by the master craftsman. If the piece was well made, the apprentice passed his apprenticeship and became a journeyman. A journeyman traveled the countryside making and repairing goods until he saved enough money to open his own shop.

### **1. History Mystery Question**

What types of tools and technology did colonists use to produce goods and services for various trades?

### **2. Targeted Standards: (KY Core Content, Program of Studies, Academic Expectations)**

#### **KY Core Content for Assessment:**

**SS-05-3.4.2**

**Students will describe how new knowledge, technology/tools and specialization increase/increased productivity in the U.S. (Colonization, Industrialization, Twentieth Century to Present).**

**DOK 3**

**Program of Studies:**

**SS-5-E-S-4**

Students will use a variety of sources:

- a) **investigate and trace (e.g., write, draw, chart, timeline) change over time in the production, distribution and consumption of goods and services in the United States**
- b) **research specialization in the United States; explain how specialization promotes trade between individuals, groups and businesses in the United States and world; describe the impact of specialization on the production of goods in the United States.**

**Academic Expectations:**

**2.18 Students understand economic principles and are able to make economic decisions that have consequences in daily living.**

**3. Critical Vocabulary (What vocabulary will they need to know? How will you teach it?)**

**production  
distribution  
consumption  
goods  
services  
specialization  
trades  
master  
journeyman  
apprentice  
trade  
tradesman  
economy  
tool  
technology**

All vocabulary will be discussed and reviewed throughout the lesson. Students should already have a basic understanding of each word.

**4. The Lesson Hook (Encountering the Problem)**

1. Tell students to completely clear his/ her desk. Next, have them imagine that they are students during Colonial America in the early 1700s. Tell them that their job (trade) is to be a good student by working hard to complete all their assignments. Tell them you have a few items (tools) they can use to help them complete their work. Distribute feather quills (you can make home made quills with a feather attached to a toothpick, coffee stirrer, straw, or other straight object to resemble an authentic feather quill), black paint in a small

glass jar (perhaps a baby food jar), and a piece of paper. Next, distribute a copy of George Washington's Rules of Civility and Decent Behavior in Company and Conversation: A Book of Etiquette (attached) to each pair of students. Ask students to speculate as to what type of document they have in front of them: primary or secondary. Discuss and ensure students understand the difference and significance of each.

2. ***(Prior to class, highlight some of the more interesting rules in the document that may pique students' interest.)*** Point out and briefly discuss the rules you wish to highlight to students. Instruct them that their assignment will be to copy the complete book of etiquette since great importance was placed on children knowledge of and possessing good manners and being very polite. The document is several pages long, so expect the students to feel overwhelmed. Tell students that they must copy it in their neatest handwriting possible since neat penmanship was highly valued during that time period. Give them 5-10 minutes to begin working. Students may not be overwhelmed at first, but will quickly become so once they realize how difficult it is to neatly write even a small amount with the feather quill and having to constantly get more ink (paint).
3. Ask them the following questions to help them make connections with the importance of colonists having tools and technology to help them complete their work for various trades:
  - What was your job or assignment? (To copy a document using a feather quill as colonists did.)
  - Why was this task so difficult? (It took a long time to write even a few letters because we had to constantly re-dip the tip of our quill, it took a long time to try to write neatly using the quill, etc.)
  - What items did you have to help you complete your task? (quill, ink, paper, document)
  - What is the term used to describe items that someone uses help him complete a task/ job? (tools)
  - Explain that technology is any tool that is used to make a job easier.
  - What technology and tools do we have today that make your job as a student much easier than a student's job during colonial times? (pencils, pens, computers and copies to make copies of documents, etc.)
  - What are the benefits of having good technology and tools? (It makes doing the work quicker, it makes the work easier, it usually makes the work neater, it makes it less expensive since it's less time consuming, etc.)

**5. Examining and Interpreting the Clues (Include all clues or sources that students will use to answer the mystery. Include directions for students, amount of time required, resources needed, specific instructions for implementing the lesson, etc.)**

**Directions for lesson:**

**(\*Note: Part I of this lesson may require multiple class periods depending of the length of the class period.)**

**PART I:**

1. Place various Mystery Clues (Mystery Clues #1-8, pgs. 21- 28 attached below) around the room at various stations. Divide students into groups of three to four. Tell students that they will now rotate around the stations to examine picture clues of numerous tools colonists used to help them in various trades. Tell them to pay careful attention during the Mystery Clue analysis and station rotations since their knowledge will be assessed afterwards (they will complete an open response question). Explain that they will use the “Artifacts Analysis Document” (pgs. 51- 52 attached below) to take notes while examining the Mystery Clues which will help them form their hypothesis to the following questions:

**HYPOTHESIS QUESTIONS:**

- What is this tool?
  - What tradesperson might have used this tool?
  - How did this technology/ tool help a colonist complete work for his/ her trade?
2. Rotate groups so that each student has an opportunity to examine the picture Mystery Clues (#1- 8, pgs. 21- 28 attached below) and complete all the columns of his/ her “Artifacts Analysis Document” (pgs. 51- 52 attached below) except the last one. **Make sure to cover the names of the tools before making copies of the Mystery Clues to distribute to student groups.**
  3. Explain to students that they will now see a Power Point Presentation and then complete two more rounds of rotations in their group at various stations to help them analyze if their hypothesis was correct for each clue.
  4. Show Power Point Presentation: Colonial Trades and Crafts (electronic copy inside lesson plan folder). Allow students time to continue filling in the “Artifacts Analysis Document” (pgs. 51- 52 attached below).
  5. Next, collect the Mystery Clues from the stations and quickly arrange the **Descriptions of Various Colonial Tools** for station rotation #2 (pgs. 29- 43 attached below) around various stations so groups may do a second rotation. After all groups have had an opportunity to rotate around each station, remove the **Descriptions of Various Colonial Tools** and replace them with the **Trade Descriptions** for station rotation #3 (pgs. 44- 50 attached below). Have students complete the third and final rotation around the stations. **As students are completing both rounds of station rotations, encourage them to finish completing the final column of the “Artifacts Analysis Document” (pgs. 51- 52 attached below).**

**Trade Stations examining Descriptions of Various Colonial Tools during group rotation (2<sup>nd</sup> rotation, pgs.29- 43 attached below):**

- 1) Augers, Gimlets, and Braces
- 2) Chisels and Gouges
- 3) Compasses and Calipers
- 4) Drawknives and Spokeshaves
- 5) Hammers and Planes

6) Saws, Squares, and Bevels

**Trade Stations examining Trade Descriptions during group rotation (3<sup>rd</sup> rotation, pgs. 44-50 attached below):**

- 1) Movie Maker Project featuring various tools and colonial tradespeople (electronic copy inside lesson plan folder)
- 2) “Founder” (pg.46 attached below in lesson plan) Historic Communities: Colonial Crafts
- 3) “The Papermaker, printer, and bookbinder” (pg. 48- 49 attached below in lesson plan) Historic Communities: Colonial Crafts
- 4) “Wigmaker” (pg. 50 attached below in lesson plan) Historic Communities: Colonial Crafts
- 5) “Silversmith” (pg. 47 attached below in lesson plan) Historic Communities: Colonial Crafts
- 6) “Leatherworkers/shoemaker” (pg. 44- 45 attached below in lesson plan) Historic Communities: Colonial Crafts

**PART II:**

- 1) Once students have had adequate time at each station, bring the class together as a whole and create a list on the board of contemporary trades/ occupations of parents, grandparents, and other family members. A diverse collection of jobs should develop. Create a T-chart with the left heading: “Twenty-first Century Trades/ Occupations”. Now create a heading on right titled “Colonial Trades/ Occupations” and have them list various trades in the column. Have students recall and expand on information acquired from clues at stations and ask, “What types of technology and tools did colonists use in various trades?”. Ask, “What types of technology and tools do we use for similar trades today?” Broaden the discussion by asking, “How would you compare the technology and tools for a job (trade) today with a job (trade) in the early and mid 1700s?”
- 2) Allow for two computer lab sessions for students to research more about several specific trades and the tools used for it. Each student could focus on 4-5 trades to research. Students could continue taking notes on the “Artifacts Analysis Document” (pgs. 51- 52 attached below) or an additional “Analysis Document” could be created to finish completing notes. The Colonial Williamsburg Foundation’s website has a wealth of information including links with detailed information on numerous trades. Have students do additional research from this site to broaden their knowledge of tools each tradesperson used. The following list is of the most popular trades of the 1700s (list and additional kid-friendly research information available at [www.history.org](http://www.history.org)):



[Apothecary](#)



[Milliner](#)



[Basketmaker](#)



[Printer & Binder](#)



[Blacksmith](#)

[Rural Trades](#)



[Brickmaker](#)

[Saddler](#)



[Cabinetmaker](#)

[Shoemaker](#)



[Carpenter](#)

[Silversmith](#)



[Cooper](#)

[Tailor](#)



[Foodways](#)

[Weaver](#)



[Founder](#)

[Wheelwright](#)



[Gunsmith](#)

[Wigmaker](#)



6. Establishing the Hypothesis (Include the instructions for students as well as a graphic organizer for them to use for collecting data.)

Students will discuss each station's clues within their groups. Students should complete the first four columns by examining the clues. After watching the Power Point Presentation and completing Trade Station rotations (including visiting the computer station with the Movie Maker Project), students should discuss and as a group and decide if their hypothesis was correct and complete the final column on the "Artifacts Analysis Document".

### **7. Explaining the Hypothesis (What product will students use to explain their hypothesis? Include the rubrics for assessment of products and student self-reflection.)**

The teacher will facilitate a class discussion at the end of the Mystery Clue and Trade Station rotations and once each student has had an opportunity to complete his/ her "Artifacts Analysis Document". Teacher should collect the "Artifacts Analysis Document" to use as one method of assessment (according to how the teacher deems appropriate).

An open response question assessing the students' knowledge after these experiences is also included along with the student response sheet and scoring rubric/ comment sheet for both the teacher and student (attached).

#### **Student Self-Reflection:**

(After students have completed presentations, have them answer these questions individually:

1. Describe three trades and two tools used by tradespersons for each trade that you learned about either during the station rotation or while analyzing artifacts/ clues.
2. Describe in detail three new things you have learned about colonial trade.
3. Compare two of the colonial trades you learned about with two modern day trades/ occupations.
4. How well did each group member participate and contribute to the project?
5. How do you feel you could have improved on this project?

### **8. Resources Used in the Lesson (Include a thorough bibliography of books, articles, websites, etc.)**

#### **Materials:**

- Feather and toothpick, coffee stirrer, etc., to resemble an authentic type feather quill
- Black paint for ink and small jar to put paint in (baby food jar)
- Blank sheets of paper
- George Washington's Rules of Civility and Decent Behavior in Company and Conversation: A Book of Etiquette (pgs. 10- 20 attached below) [www.history.org](http://www.history.org)
- Tool Mystery Clues #1- 8 (attached, pgs. 21- 28 below in lesson plan) [www.history.org](http://www.history.org)
- Artifacts for Trade Stations (attached: **Descriptions of Various Colonial Tools** for station rotation #2 (pgs. 29- 43 below in lesson plan) found at [www.history.org](http://www.history.org) AND **Trade Descriptions** for station rotation #3 (pgs. 44- 50 below in lesson plan) with resources for images and text found under "Books" heading of "Resource" section of lesson plan
- "Artifacts Analysis Document" graphic organizer (pgs. 51- 52 attached below)
- Tools and Technology of Colonial Trade Open Response Question (pg. 53 attached below. Images from [www.history.org](http://www.history.org) website.)

- Tools and Technology of Colonial Trade Open Response Question Student Response Sheet (pg. 54 attached below)
- Tools and Technology of Colonial Trade Open Response Question Rubric and Feedback Sheet (pg. 55 attached below)
- Colonial Trades and Crafts Power Point Presentation (electronic copy inside lesson plan folder)
- Tools and Technology of Colonial Trades Movie Maker project (electronic copy inside lesson plan folder to be used on a computer for **Trade Descriptions** station rotation #3)

**Websites:**

Barbour, J. Hunter. Tools of the Trade. <http://www.history.org>

Tools used in Colonial Williamsburg. <http://www.history.org/Almanack/life/tools/tlhdr.cfm>

Colonial Occupations. [https://legendsprings.dvusd.org/colonial\\_occupations.htm](https://legendsprings.dvusd.org/colonial_occupations.htm)

Colonial Occupations. <http://homepages.rootsweb.ancestry.com/~sam/occupation.html>

Colonial Occupations. <http://www.pppst.com/themes.html>

**Books:**

Copeland, Peter. Early American Trades Coloring Book. Dover Publications, 1980.

Kalman, Bobbie. Colonial Times from A to Z. Crabtree Publishing Company, 1998.

Kalman, Bobbie. Historic Communities: A Colonial Town in Williamsburg. Crabtree Publishing Company, 1992.

Kalman, Bobbie. Historic Communities: Colonial Crafts. Crabtree Publishing Company, 1992.

The Intermediate Mailbox magazine. The Education Center, Inc., Dec./ Jan., 1993-94.

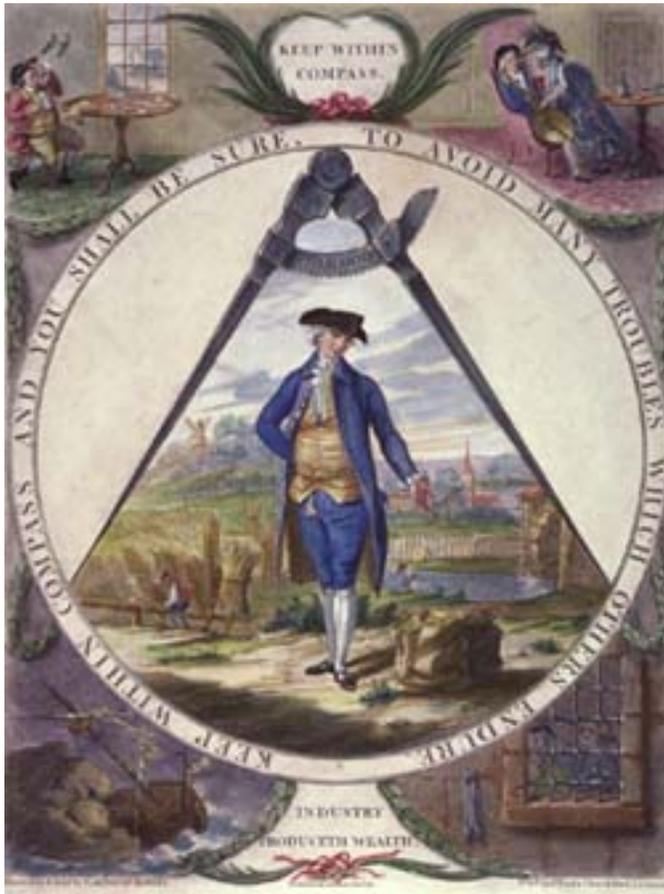
## **George Washington's Rules of Civility and Decent Behavior in Company and Conversation: A Book of Etiquette**

([www.history.org](http://www.history.org))

### Colonial Manners

Based on the Exercise of a Schoolboy\*

*George Washington, sometime before the age of 16, transcribed Rules of Civility & Decent Behaviour In Company and Conversation. (Original errors in numbering have been corrected; original spelling is unchanged.)*



1st Every Action done in Company, ought to be with Some Sign

of Respect, to those that are Present.

2d When in Company, put not your Hands to any Part of the Body, not usually Discovered.

3d Shew Nothing to your Freind that may affright him.

4th In the Presence of Others Sing not to yourself with a humming Noise, nor Drum with your Fingers or Feet.

5th If You Cough, Sneeze, Sigh, or Yawn, do it not Loud but Privately; and Speak not in your Yawning, but put Your handkercheif or Hand before your face and turn aside.

6th Sleep not when others Speak, Sit not when others stand, Speak not when you Should hold your Peace, walk not on when others Stop.

7th Put not off your Cloths in the presence of Others, nor go out your Chamber half Drest.

8th At Play and at Fire its Good manners to Give Place to the last Commer, and affect not to Speak Louder than Ordinary.

9th Spit not in the Fire, nor Stoop low before it neither Put your Hands into the Flames to warm them, nor Set your Feet upon the Fire especially if there be meat before it.

10th When you Sit down, Keep your Feet firm and Even, without putting one on the other or Crossing them.

11th Shift not yourself in the Sight of others nor Gnaw your nails.

12th Shake not the head, Feet, or Legs rowl not the Eys lift not one eyebrow higher than the other wry not the mouth, and bedew no mans face with your Spittle, by approaching too near him when you Speak.



13th Kill no Vermin as Fleas, lice ticks &c in the Sight of Others, if you See any filth or thick Spittle put your foot Dexteriously upon it if it be upon the Cloths of your Companions, Put it off privately, and if it be upon your own Cloths return Thanks to him who puts it off.

14th Turn not your Back to others especially in Speaking, Jog not the Table or Desk on which Another reads or writes, lean not upon any one.

15th Keep your Nails clean and Short, also your Hands and Teeth Clean yet without Shewing any great Concern for them.

16th Do not Puff up the Cheeks, Loll not out the tongue rub the Hands, or beard, thrust out the lips, or bite them or keep the Lips too open or too Close.

17th Be no Flatterer, neither Play with any that delights not to be Play'd Withal.

18th Read no Letters, Books, or Papers in Company but when there is a Necessity for the doing of it you must ask leave: come not near the Books or Writings of Another so as to read them unless desired or give your opinion of them unask'd also look not nigh when another is writing a Letter.



19th let your Countenance be pleasant but in Serious Matters Somewhat

grave.

20th The Gestures of the Body must be Suited to the discourse you are upon.

21st: Reproach none for the Infirmities of Nature, nor Delight to Put them that have in mind thereof.

22d Shew not yourself glad at the Misfortune of another though he were your enemy.

23d When you see a Crime punished, you may be inwardly Pleased; but always shew Pity to the Suffering Offender.

24th Do not laugh too loud or too much at any Publick Spectacle.

25th Superfluous Complements and all Affectation of Ceremonie are to be avoided, yet where due they are not to be Neglected.

26th In Pulling off your Hat to Persons of Distinction, as Noblemen, Justices, Churchmen &c make a Reverence, bowing more or less according to the Custom of the Better Bred, and Quality of the Person. Amongst your equals expect not always that they Should begin with you first, but to Pull off the Hat when there is no need is Affectation, in the Manner of Saluting and resaluting in words keep to the most usual Custom.

27th Tis ill manners to bid one more eminent than yourself be covered as well as not to do it to whom it's due Likewise he that makes too much haste to Put on his hat does not well, yet he ought to Put it on at the first, or at most the Second time of being ask'd; now what is herein Spoken, of Qualification in behaviour in Saluting, ought also to be observed in taking of Place, and Sitting down for ceremonies without Bounds is troublesome.

28th If any one come to Speak to you while you are are Sitting Stand up tho he be your Inferiour, and when you Present Seats let it be to every one according to his Degree.

29th When you meet with one of Greater Quality than yourself, Stop, and retire especially if it be at a Door or any Straight place to give way for him to Pass.

30th In walking the highest Place in most Countrys Seems to be on the right hand therefore Place yourself on the left of him whom you desire to Honour: but if three walk together the middest Place is the most Honourable the wall is usually given to the most worthy if two walk together.

31st If any one far Surpassess others, either in age, Estate, or Merit yet would give Place to a meaner than himself in his own lodging or elsewhere the one ought not to except it, So he on the other part should not use much earnestness nor offer it above once or twice.

32d: To one that is your equal, or not much inferior you are to give the cheif Place in your Lodging and he to who 'tis offered ought at the first to refuse it but at the Second to accept though not without acknowledging his own unworthiness.

33d They that are in Dignity or in office have in all places Preceedency but whilst they are Young they ought to respect those that are their equals in Birth or other Qualitys, though they have no Publick charge.

34th It is good Manners to prefer them to whom we Speak before ourselves especially if they be above us with whom in no Sort we ought to begin.

35th Let your Discourse with Men of Business be Short and Comprehensive.

36th Artificers & Persons of low Degree ought not to use many ceremonies to Lords, or Others of high Degree but Respect and highly Honour them, and those of high Degree ought to treat them with affibility & Courtesie, without Arrogancy.

37th In Speaking to men of Quality do not lean nor Look them full in the Face, nor approach too near them at lest Keep a full Pace from them.

38th In visiting the Sick, do not Presently play the Physicion if you be not Knowing therein.

39th In writing or Speaking, give to every Person his due Title According to his Degree & the Custom of the Place.

40th Strive not with your Superiers in argument, but always Submit your Judgment to others with Modesty.

41st Undertake not to Teach your equal in the art himself Proffesses; it Savours of arrogancy.



42d Let thy ceremonies in Courtesie be proper to the Dignity of his place with whom thou conversest for it is absurd to act the same with a Clown and a Prince.

43d Do not express Joy before one sick or in pain for that contrary Passion will aggravate his Misery.

44th When a man does all he can though it Succeeds not well blame not him that did it.

45th Being to advise or reprehend any one, consider whether it ought to be in publick or in Private; presently, or at Some other time in what terms to do it & in reprovng Shew no Sign of Cholar but do it with all Sweetness and Mildness.

46th Take all Admonitions thankfully in what Time or Place Soever given but afterwards not being culpable take a Time & Place convenient to let him know it that gave them.

47th Mock not nor Jest at any thing of Importance break no Jest that are Sharp Biting and if you Deliver any thing witty and Pleasent abstain from Laughing there at yourself.

48th Wherein wherein you reprove Another be unblameable yourself; for example is more prevalent than Precepts.



49th Use no Reproachfull Language against any one neither

Curse nor Revile.

50th Be not hasty to beleive flying Reports to the Disparagement of any.

51st Wear not your Cloths, foul, unript or Dusty but See they be Brush'd once every day at least and take heed that you approach not to any Uncleaness.

52d In your Apparel be Modest and endeavour to accomodate Nature, rather than to procure Admiration keep to the Fashion of your equals Such as are Civil and orderly with respect to Times and Places.

53d Run not in the Streets, neither go too slowly nor with Mouth open go not Shaking yr Arms kick not the earth with yr feet, go not upon the Toes, nor in a Dancing fashion.

54th Play not the Peacock, looking every where about you, to See if you be well Deck't, if your Shoes fit well if your Stokings sit neatly, and Cloths handsomely.

55th Eat not in the Streets, nor in the House, out of Season.

56th Associate yourself with Men of good Quality if you Esteem your own Reputation; for 'tis better to be alone than in bad Company.

57th In walking up and Down in a House, only with One in Company if he be Greater than yourself, at the first give him the Right hand and Stop not till he does and be not the first that turns, and when you do turn let it be with your face towards him, if he be a Man of Great Quality, walk not with him Cheek by Joul but Somewhat behind him; but yet in Such a Manner that he may easily Speak to you.



58th Let your Conversation be without Malice or Envy, for 'tis a Sign of a Tractable and Commendable Nature: And in all Causes of Passion admit Reason to Govern.

59th Never express anything unbecoming, nor Act agst the Rules Moral before your inferiours.

60th Be not immodest in urging your Freinds to Discover a Secret.

61st Utter not base and frivolous things amongst grave and Learn'd Men nor very Difficult Questions or Subjects, among the Ignorant or things hard to be believed, Stuff not your Discourse with Sentences amongst your Betters nor Equals.

62d Speak not of doleful Things in a Time of Mirth or at the Table; Speak not of Melancholy Things as Death and Wounds, and if others Mention them Change if you can the Discourse tell not your Dreams, but to your intimate Friend.

63d A Man ought not to value himself of his Atchievements, or rare Qualities of wit; much less of his riches Virtue or Kindred.

64th Break not a Jest where none take pleasure in mirth Laugh not aloud, nor at all without Occasion, deride no mans Misfortune, tho' there Seem to be Some cause.

65th Speak not injurious Words neither in Jest nor Earnest Scoff at none although they give Occasion.

66th Be not forward but friendly and Courteous; the first to Salute hear and answer & be not Pensive when it's a time to Converse.

67th Detract not from others neither be excessive in Commanding.

68th Go not thither, where you know not, whether you Shall be Welcome or not. Give not Advice without being Ask'd & when desired do it briefly.

69th If two contend together take not the part of either unconstrained; and be not obstinate in your own Opinion, in Things indiferent be of the Major Side.

70th Reprehend not the imperfections of others for that belongs to Parents Masters and Superiours.

71st Gaze not on the marks or blemishes of Others and ask not how they came. What you may Speak in Secret to your Friend deliver not before others.

72d Speak not in an unknown Tongue in Company but in your own Language and that as those of Quality do and not as the Vulgar; Sublime matters treat Seriously.

73d Think before you Speak pronounce not imperfectly nor bring out your Words too hastily but orderly & distinctly.

74th When Another Speaks be attentive your Self and disturb not the Audience if any hesitate in his Words help him not nor Prompt him without desired, Interrupt him not, nor Answer him till his Speech be ended.

75th In the midst of Discourse ask not of what one treateth but if you Perceive any Stop because of your coming you may well intreat him gently to Proceed: If a Person of Quality comes in while your Conversing it's handsome to Repeat what was said before.

76th While you are talking, Point not with your Finger at him of Whom you Discourse nor Approach too near him to whom you talk especially to his face.

77th Treat with men at fit Times about Business & Whisper not in the Company of Others.

78th Make no Comparisons and if any of the Company be Commended for any brave act of Vertue, commend not another for the Same.

79th Be not apt to relate News if you know not the truth thereof. In Discoursing of things you Have heard Name not your Author always A Secret Discover not.

80th Be not Tedious in Discourse or in reading unless you find the Company pleased therewith.

81st Be not Curious to Know the Affairs of Others neither approach those that Speak in Private.

82d undertake not what you cannot perform but be carefull to keep your promise.

83d when you deliver a matter do it without passion & with discretion, however mean the person be you do it too.

84th When your Superiours talk to any Body hearken not neither Speak nor Laugh.

85th In Company of these of Higher Quality than yourself Speak not til you are ask'd a Question then Stand upright put of your Hat & Answer in few words.

86th In Disputes, be not So Desireous to Overcome as not to give Liberty to each one to deliver his Opinion and Submit to the Judgment of the Major Part especially if they are Judges of the Dispute.



87th Let thy carriage be such as becomes a Man

Grave Settled and attentive to that which is spoken. Contradict not at every turn what others Say.

88th Be not tedious in Discourse, make not many Digressions, nor repeat often the Same manner of Discourse.

89th Speak not Evil of the absent for it is unjust.

90th Being Set at meat Scratch not neither Spit Cough or blow your Nose except there's a Necessity for it.

91st Make no Shew of taking great Delight in your Victuals, Feed not with Greediness; cut your Bread with a Knife, lean not on the Table neither find fault with what you Eat.

92d Take no Salt or cut Bread with your Knife Greasy.

93d Entertaining any one at table it is decent to present him wt. meat, Undertake not to help others undesired by the Master.

94th If you Soak bread in the Sauce let it be no more than what you put in your Mouth at a time and blow not your broth at Table but Stay till Cools of it Self.

95th Put not your meat to your Mouth with your Knife in your hand neither Spit forth the Stones of any fruit Pye upon a Dish nor Cast anything under the table.

96th It's unbecoming to Stoop much to ones Meat Keep your Fingers clean & when foul wipe them on a Corner of your Table Napkin.

97th Put not another bit into your Mouth til the former be Swallowed let not your Morsels be too big for the Gowls.



98th Drink not nor talk with your mouth full neither Gaze about you while you are a Drinking.

99th Drink not too leisurely nor yet too hastily. Before and after Drinking wipe your Lips breath not then or Ever with too Great a Noise, for its uncivil.

100th Cleanse not your teeth with the Table Cloth Napkin Fork or Knife but if Others do it let it be done wt. a Pick Tooth.

101st Rince not your Mouth in the Presence of Others.

102d It is out of use to call upon the Company often to Eat nor need you Drink to others every Time you Drink.

103d In Company of your Betters be not longer in eating than they are lay not your Arm but only your hand upon the table.

104th It belongs to the Chiefest in Company to unfold his Napkin and fall to Meat first, But he ought then to Begin in time & to Dispatch with Dexterity that the Slowest may have time allowed him.

105th Be not Angry at Table whatever happens & if you have reason to be so, Shew it not but on a Chearfull Countenance especially if there be Strangers for Good Humour makes one Dish of Meat a Feast.

106th Set not yourself at the upper of the Table but if it Be your Due or that the Master of the house will have it So, Contend not, least you Should Trouble the Company.

107th If others talk at Table be attentive but talk not with Meat in your Mouth.

108th When you Speak of God or his Atributes, let it be Seriously & wt. Reverence. Honour & Obey your Natural Parents altho they be Poor.

109th Let your Recreations be Manfull not Sinfull.

110th Labour to keep alive in your Breast that Little Spark of Celestial fire Called Conscience.

Finis

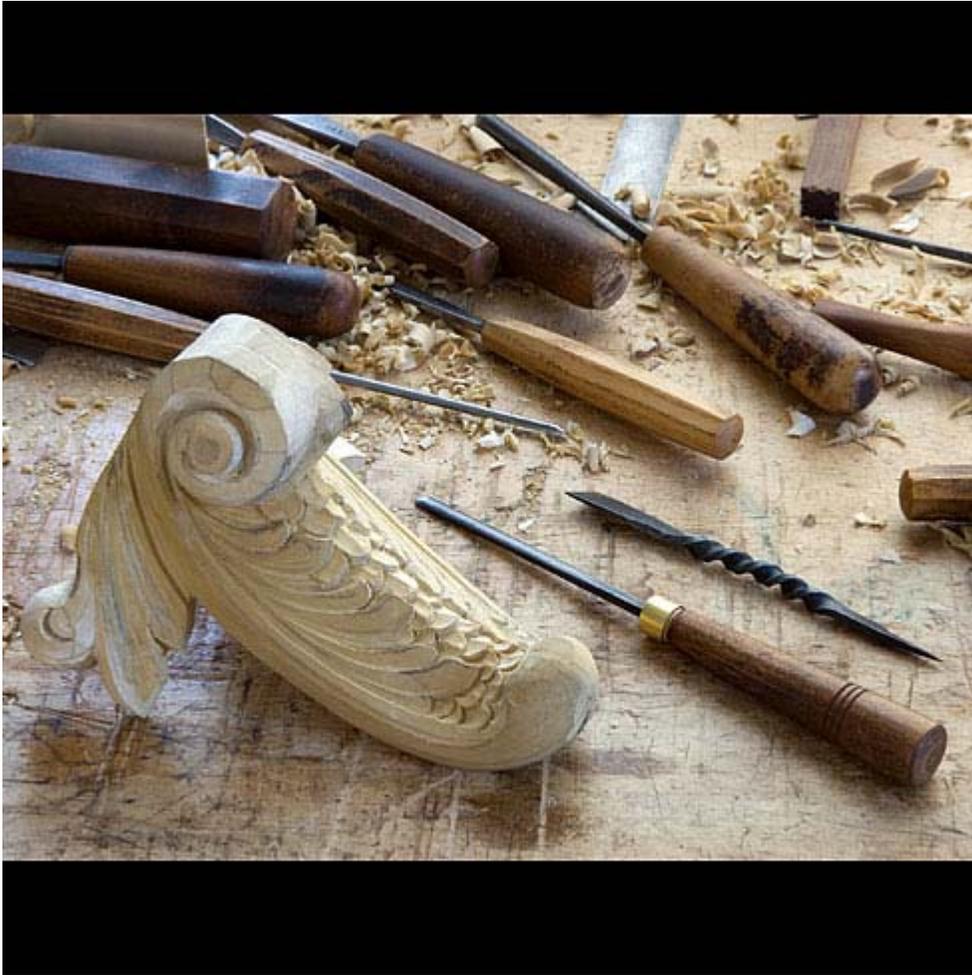
\*Washington, George. *Rules of Civility & Decent Behaviour in Company and Conversation: a Book of Etiquette.* Williamsburg, VA: Beaver Press, 1971.

**MYSTERY CLUES FOR STATION ROTATION #1 (pgs. 21- 28 below):**

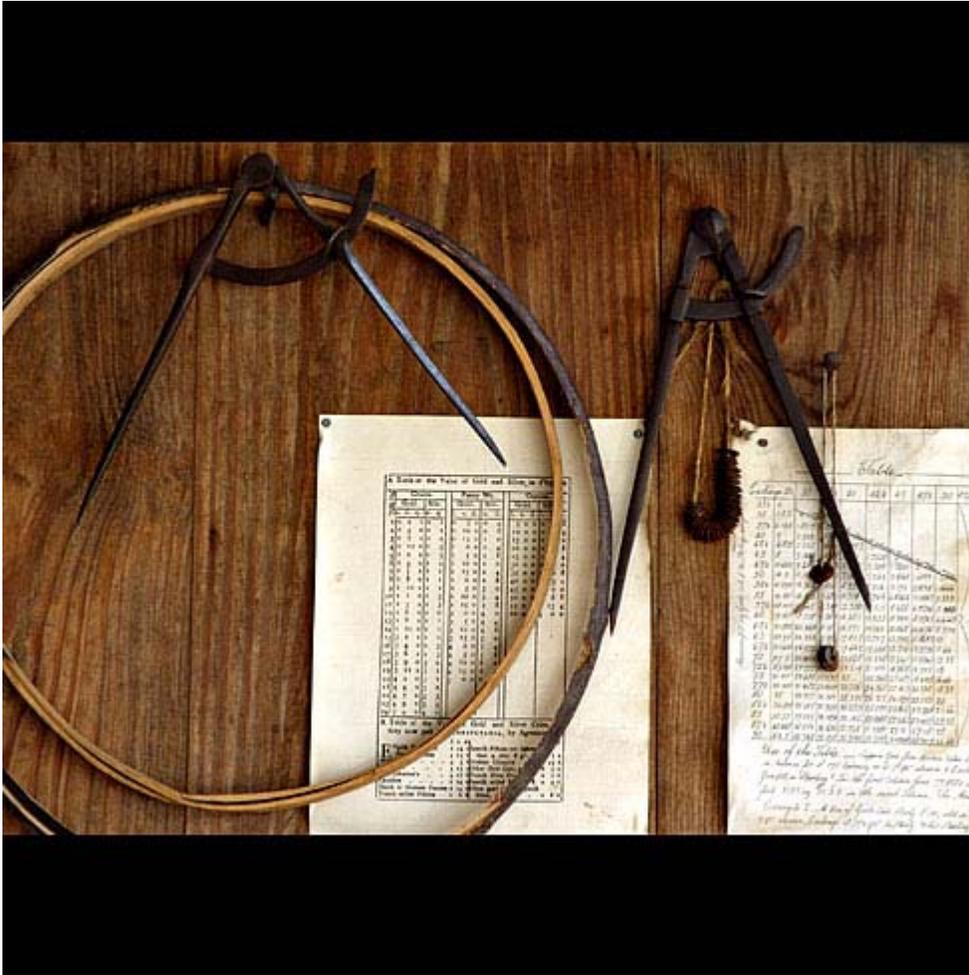
**MYSTERY CLUE #1 (BLACKSMITH):**



**MYSTERY CLUE #2 (CABINETMAKER):**



**MYSTERY CLUE #3 (COOPER):**



**MYSTERY CLUE #4 (PRINTMAKER):**



**MYSTERY CLUE #5 (SHOEMAKER):**



**MYSTERY CLUE #6 (SILVERSMITH):**



**MYSTERY CLUE #7 (WEAVER):**



**MYSTERY CLUE #8 (WIGMAKER):**



**MYSTERY CLUES FOR STATION ROTATION #2 (pgs. 29- 43 below. Resource: [www.history.org](http://www.history.org) website):**

## Augers, Gimlets, and Braces



Augers were the largest tools used to drill holes.



Nose augers were the most common form in the 18th century.



Unlike nose augers, screw or twist augers did not require a starting hole and automatically cleared the bored hole of shavings. They did not come into common use until after 1800.



Gimlets are small augers. They were commonly used to drill pilot holes for nails and screws, since many 18th-century nails split the wood unless it was pre-drilled.



Bitstocks (braces) and bits, designed for heavy use, were made of iron. Braces with bits, unlike augers and gimlets, bored with a continuous motion.

## Tools for drilling holes in wood

Augers, gimlets, and braces were the tools used by woodworkers to drill holes in wood products. The holes ranged from the tiny mounts for harpsichord jack springs – made of hog bristles – to four- or five-inch holes bored through logs to make pumps and water pipes.

## Specialized tools for unique hole requirements

Musical instrument makers and cabinetmakers drilled holes through instrument sound boards, chair splats, and galleries to begin the cuts for sound holes and pierced frets and strap work. Carpenters, shipwrights, and millwrights bored holes to clear much of the waste from large mortises for mortise-and-tenon joints and to create holes for the pins, pegs, and bolts that held their products together.

Many of these holes were not simply straight. Spinning wheel parts, wagon wheels and their axles, and barrel bungs, or stoppers, and spigots were fitted using tapered holes. The heads of wooden screws often were seated into tapered holes so that they were flush with the surface around them.

## Some tools designed for one specific job

Woodworkers used many different styles and sizes of tools to bore these holes. Many, such as the huge tapered reamers used to shape holes in wheel hubs or smaller tapered bits with built-in stoppers for drillings holes to receive barrel spigots, were highly specialized and designed for only one job. Others were more general-purpose tools – augers for drilling large or deep holes, bits that fit into braces, and gimlets, which resembled miniature augers.

Many boring tools in a range of shapes and sizes survive, but unlike chisels, saws, and planes, most of the earliest appearing do not bear makers' marks or survive with documented histories. It is therefore very difficult to determine which were made in the 18th century and which were made later.

---

# Chisels and Gouges



Corner chisels and wheelers' bruze had blades made in the shape of a "V" to cut the corners of larger mortises.



Mortise chisels cut the deep, narrow slots for small mortise-and-tenon joints.



Socket chisels and gouges were designed for heavier work. Their handles fit into hollow sockets, making them stronger than tanged chisels and gouges.



Carving chisels and gouges were made in many different shapes and sizes for decorative carving.

## Chisels used for thousands of years

Chisels and gouges are among the most ancient tools used to shape wood, and their basic forms have remained the same for thousands of years. Chisels and gouges shape parts and cut joints more precisely than axes or adzes, and they made cuts that were impractical or impossible to make with saws, planes, spoke shaves, or drawknives during colonial times.

Bench chisels were used for relatively light, general-purpose work, such as paring away small amounts of wood or cutting out dovetails. Their handles were mounted on a pin, or tang, that projected from the rear of the blade.

## Gouges used for hollow cuts

Gouges had blades shaped to make hollow cuts. Those sharpened on the outside of the blade were used to make scooped cuts. Gouges sharpened on the inside of the blade were used to cut shapes that matched the curvature of their blades.

Despite their apparent simplicity, woodworkers needed chisels and gouges in a variety of sizes and shapes, each suited to particular job. Toolmakers in the 18th century accommodated these needs by producing a wide range of types for paring wood to size, shaping joints, cutting decorative designs, and shaping wood as it turned on a lathe.

# Compasses and Calipers

## Tools for making precise measurements

During the 18th century, compasses and calipers were frequently used to measure and fit work. Many products' designs were based on the proportional relationships between their parts stepped off with a compass rather than on measurements expressed in feet or inches.

Compasses also were used to draw circles and to make geometric calculations. More importantly, compasses and calipers were the standard tools for transferring a dimension from a pattern or work piece to another location.



Coopers' compasses were large compasses with a wing that could be locked at the desired position. Many types of woodworkers used compasses of this design.



Smaller compasses were made in different styles. The most common had hinged joints.



Trammel points, another form of compass, had two or more heads that could be positioned along a bar. They were used to lay out large arcs and circles.



Calipers were used to measure and transfer outside dimensions of workpieces, especially if they were curved or round. Calipers were available in many of the same styles as compasses.

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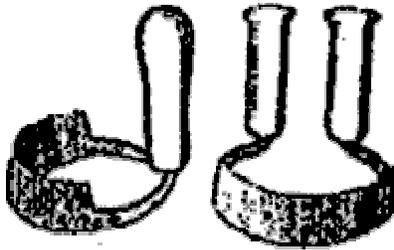
## Drawknives and Spokeshaves



Drawknife.



Special-purpose drawknives, such as coopers' jiggers and hollowing knives, often had curved blades to form hollow shapes like the inside of barrel staves or the surface to receive the barrel head.



Shaves or scorps were used for jobs such as shaping wooden chair seats and smoothing the inside of bowls.

Drawknives were used for quick shaping and trimming of flat products like shingles. They also were used to form rounded shapes such as tool handles or the surfaces of barrel staves.

---

# Hammers

Hammers have been used for thousand of years to drive nails and wooden pins, to pound together wooden parts, and to position fittings like barrel hoops. Eighteenth-century toolmakers produced many types of hammers.

Specialized hammers of many types were made for particular jobs. Different sizes and designs suited them for tasks ranging from delicately driving in brads to secure small moldings to pounding home the large wooden pegs used to hold together building and ship frames.



Claw hammers were common. Like many hammers, they were dual-purpose tools. The face was used to drive nails, while the claw was used to pull them.



The peens of riveting hammers were used to spread the ends of rivets or to drive brads in tight spaces.



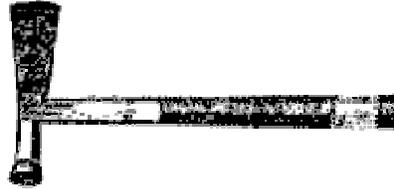
Coopers' adzes had an adze blade on one side and a hammer head for driving hoops on the other.



Shipbuilders' pin mauls were used to drive and countersink spikes and wooden pins.



Upholsters' hammers had long heads and claws for driving and pulling tacks in hard-to-reach places.



Lathing hammers had a blade for splitting and cutting lath (wooden strips over which plaster was laid) and a hammer for nailing it into place.



Mallets and Clubs: Wooden hammers were used to strike tools such as froes, wedges, or chisels that would be damaged if hit with a metal hammer. They also were used to drive wooden joints together. Small wooden hammers were called mallets. Larger ones were called clubs, mauls, or beetles.

---

# Planes

Planes are chisel-like blades mounted in stocks or bodies. They assist the worker by holding the blade at the correct angle, by regulating the cutting depth, and sometimes by positioning the cut on the wood.



Bench planes were used to plane wood to the desired thickness and to make it straight and smooth. They could be used on either the wood's broad surfaces or its edges.

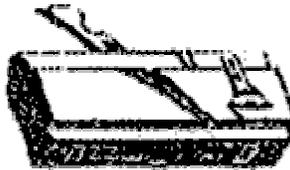


Molding planes were made in a great variety of shapes. Hollows and rounds were versatile planes used to cut simple round and hollow shapes, which could be combined to make more complicated moldings. Other moldings planes cut only one design. Since a different plane was required for each shape and size molding, woodworkers often owned other planes or large numbers of these planes.

## Joining Planes



Rabbet planes cut simple steps for lapped joints or wide grooves to receive another piece of wood.



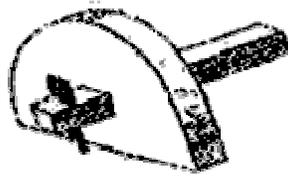
Fillister planes were rabbet planes with built-in guides that determined the width and depth of the step.



Pairs of tongue-and-groove planes cut matching grooves and tongues on the edges of boards so that they could be joined.



Plow planes cut grooves, frequently to receive panels. They could be adjusted to cut grooves of different widths, depths, and distances from the board edge.



Coopers' crozes cut the groove in barrel staves for the barrel head fit.

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# Saws

## Complex tools

Of all hand tools used by 18th-century woodworkers, saws were among the most technically complex to manufacture. To work well, saw blades had to maintain a delicate balance of hardness so that they would stay sharp, stiffness so that they could be pushed through the work, flexibility so that they would bend and not break under stress, and smoothness of surface so that they would not bind in the cut.

## Saws date back 5,000 years

Saws have been used to cut wood for more than 5,000 years. In the 18th century, they were made in a variety of shapes and sizes designed for different jobs. Woodworkers used large saws to cut wood into planks, boards, and veneers. Smaller saws were used to cut boards into parts, to cut joints, and to make decorative piercings.



Ripsaws and handsaws were used for general-purpose cutting of boards. Ripsaws were designed to cut with the grain, along the length of boards. Handsaws were slightly smaller and were used to cut both along and across the grain.



Cross-cut and pit saws were large, two-man versions of handsaws and ripsaws. Logs were cut to length with cross-cut saws and into boards with pit saws.



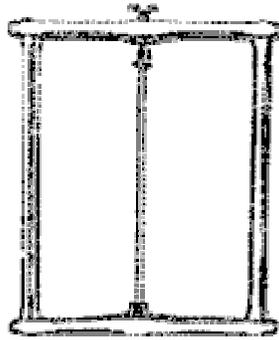
Compass saws had narrow, pointed blades that allowed them to be started through small drilled holes. They were used to saw holes in the middle of boards and pierced work such as chair splats.



Backsaws had thin metal blades designed for making fine cuts. A thick iron or brass strip fitted over the back of the blade stiffened the saw and gave these tools their name.



Framed saws had their blades mounted inside wooden frames. The frames stretched the blade tight and allowed the use of longer, thinner blades. The bow saw was used by cabinetmakers and joiners to make curved cuts.



The felloe saw was used by wheelwrights for cutting the curved wooden segments of wheels and by chairmakers for sawing curved chair arms and legs.

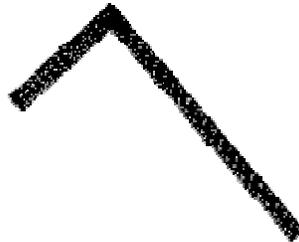
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## Squares and Bevels

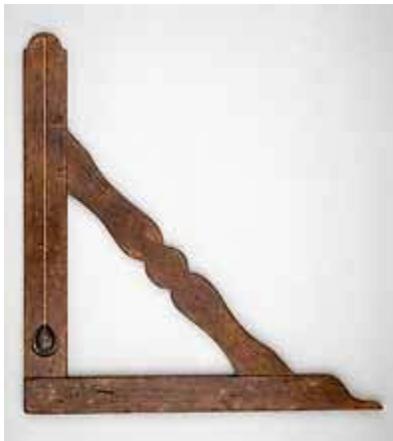
Squares and bevels were tools used by artisans to lay out and check the accuracy of angles. Bevels were used to lay out angles other than 90 degrees. Wooden squares, gauges, and bevels typically were made by artisans for their own use.

Common forms of squares and bevels included:

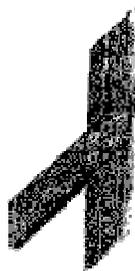
In addition, woodworkers made special-purpose squares and bevels, designed to work in awkward locations or to speed up often-repeated lay-out operations.



Carpenter's squares made of iron were durable tools used to mark and test right angles. Their one- and two-foot arms typically were marked off in inches for measuring.



Try squares, made of wood or wood and metal, were used to draw lines at right angles to the edge of a workpiece. They also were used to "try" surfaces--to make sure that they were square.



Bevels were used to lay out angles other than 90 degrees. Some were fixed at commonly used angles like the 45 degree Miter Square.



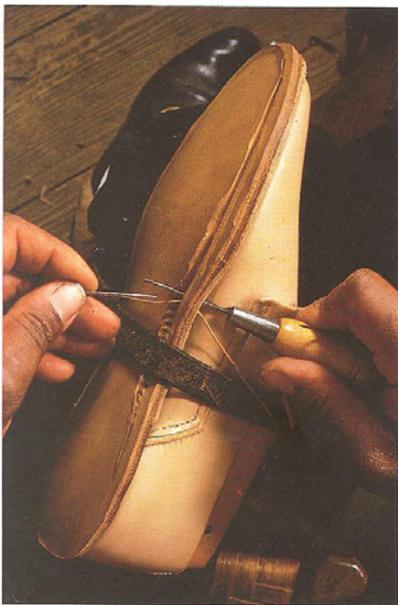
Others, like the Angle Bevel, were adjustable and could be set to any desired angle. They were useful for transferring an already established angle to a workpiece that had to be cut to the same shape.

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**TRADE DESCRIPTIONS FOR STATION ROTATION #3 (pgs. 44- 50 below. Resources for each image and text below can be found in Resource section of lesson plan):**



*The harnessmaker is making a portmanteau. It is a small bag in which clothes are rolled before they are packed.*



*Tiny stitches were required to sew the soles of the shoes to the uppers.*

## The leatherworkers

Leather was used to make many different items such as shoes, saddles, and harnesses. The two most common leatherworkers in the colonies were the harnessmaker and shoemaker.

### The harnessmaker

The harnessmaker was a busy craftsperson. People depended on horses for work and travel, so they needed saddles and harnesses. Both were made from many pieces of leather, which were stitched together carefully. The leather used by the harnessmaker was thick and heavy and came from large animals such as cows and buffalo.



## The shoemaker

Shoemakers made shoes and boots. They could complete two pairs in one twelve-hour day. Before making shoes, the shoemaker had to carve a number of **lasts**. Lasts were foot-shaped blocks of wood whittled by hand in sizes small, medium, and large.

A leather **upper** was stretched over the last and fastened with glue until it was ready to be sewn to a sole. The sole was cut and pounded into shape with a hammer. Using an **awl**, the shoemaker made holes in the thick leather to allow waxed thread to pass through it. After the upper and sole were sewn together, the heel was attached with tiny nails. The finished shoes were polished with wax or oil.



*Both shoes of a pair looked identical because making identical shoes was cheaper and simpler. People also liked the tracks that identical shoes left behind.*

9

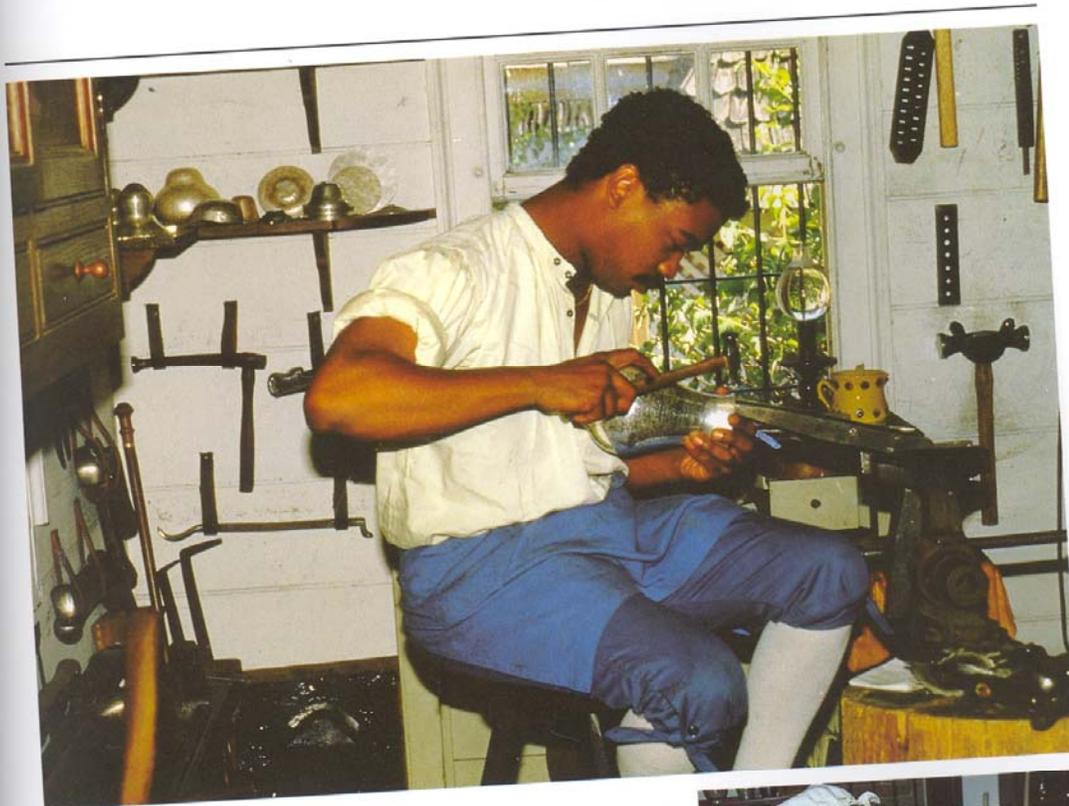


## The founder

The founder melted different metals together to create new metals. This process was called **smelting**. Founders smelted: 1. copper and zinc to make brass; 2. copper and tin to make bronze; 3. tin, lead, and copper to make pewter.

*(left) The founder's most challenging task was shaping the molds for casting metals. Molds were made inside iron frames called flasks. The founder packed fine sand into a flask and imprinted a pattern to make an impression in the sand. When the pattern was removed, its hollow image was left behind. Each side of an object was imprinted in a separate flask.  
(right) Much polishing and filing was needed to finish a candlestick.*

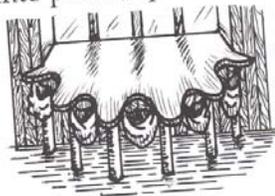
The founder heated the metals in a heat-resistant graphite container called a **crucible**. Using tongs, he placed the crucible into the hot coals of the forge. It remained there until the metal it contained became **molten**. The liquid metal was poured into a mold through a small opening. This was a very dangerous job. Molten metals are scorching hot! When the metal hardened inside the mold, the finished piece was removed and joined with its other side.



## The silversmith

Silversmiths worked with precious metals such as gold, silver, brass, and copper. They hammered these metals into objects and engraved delicate patterns on them. Silversmiths also melted and cast metals in molds, as the founder did.

In colonial times there were no banks in which people could put their silver coins. Instead of hiding the coins, people took them to a silversmith to be melted down into plates, spoons, and candlesticks, which were engraved so that people could identify them if they were stolen.



*The silversmith's workbench could seat up to five people, allowing them all to work by the light of the window.*



## The papermaker, printer, and bookbinder

*The papermaker dipped a rectangular sieve into the pulp. The sieve was a piece of wire mesh stretched across a wooden frame. Another frame, called a deckle, was placed on top. The sieve and deckle were dipped into the pulp, raised up, and shaken gently back and forth. Water drained through the sieve. The deckle was removed, and the sieve was handed to the coucher, who dumped the newly formed sheet of paper onto a stack of felt. This step was called couching off.*

In the early days paper was made from linen rags. The rags were washed, cut up, and boiled in fresh water. Once the cloth broke into tiny pieces, the pulp that resulted was beaten into a thick batter. The pulp was strained through a sieve, formed into sheets of paper on a frame, and dried in presses.

### The printer

Much of the paper made by the papermaker was used by the town printer who printed books, advertisements, and newspapers. The skilled printer composed type letter by letter and positioned it line by line on a page-sized tray, called a **galley**. The type in the galley was locked in place inside a frame called a **chase**.

### The beater and puller

Two workers completed the printing process. They were called the **beater** and **puller**. Using a rocking motion, the beater spread ink across the type with leather ink balls. These balls soaked up the ink from a tray and released it onto the type.

A clean page was placed on a wooden frame, which folded down over the inked typeface. The puller then pulled an iron bar to lower the press plate down against the type, thereby pressing, or printing, the inked letters on the sheet of paper.

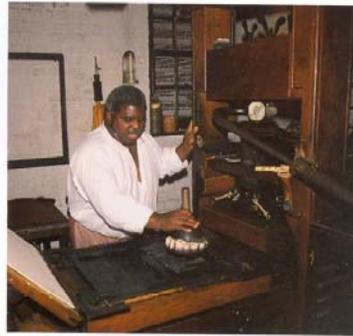
### The bookbinder

To **bind** a book is to sew and fasten it to a cover. Most books consist of a number of **signatures**. Each signature is a folded booklet that contains from four to sixteen pages.

The colonial bookbinder lined up all the signatures that made up one book one on top of the other with each of their folds, or **spines**, facing the same way. The signatures were then placed on a platform with their spines along the strings of a sewing frame. To join all the pages together, threads were sewn through the folds of the signatures and around each string.

### Trimmed and bound

When completed, the book was released from the frame and the vertical strings were left to be sewn to cover boards. Next, the book was trimmed on a **trimming press**. After the pages were trimmed, the cover boards were fastened to the outer signatures and tied with the loose strings. A beautiful leather cover completed the binding.



*The beater spread ink across the typeface with leather ink balls.*



*A waxed linen thread was used to sew the signatures together. The thread fastened each string of the frame to the signatures.*





## The wigmaker

Wigs were worn by those who could afford their expensive prices. Wealthy children as young as seven years old were fitted for wigs. In the early days of the colonies, large wigs were considered fashionable. The most expensive wigs were made from human hair. It was not uncommon for people to have their hair cut off to be woven into wigs. Cheaper wigs were made from horsehair or silk.

To keep them clean and neat, wigs needed to be powdered with fine sand or flour dust and then shaken and combed. The powder absorbed the oils that built up from the person's own hair underneath. People did not wash their hair very often in those days!



*The wigmaker measured the circumference of a person's head to make a caul, or net cap. Individual hairs were knotted to a strong silk thread. The threads that contained the attached hair were sewn to the caul beginning at the nape of the neck and ending at the crown.*

## "ARTIFACT ANALYSIS DOCUMENT"

Use this "Artifacts Analysis Document" to take notes in the first four columns while examining the Mystery Clues to help you form a hypothesis to the following questions:

- What is this tool?
- What tradesperson might have used this tool?
- How did this technology/ tool help a colonist complete work for his/ her trade?

After your group finishes examining the clues and making notes in the first four columns, you will watch a Power Point Presentation and rotate in two more rounds of stations to learn if your hypothesis for each clue was correct. You will then complete the final column of the organizer.

<u>MYSTERY CLUE #:</u>	<u>What tool is this?</u>	<u>What tradesperson might have used this tool?</u>	<u>How did this technology/ tool help colonists complete work for his/ her trade?</u>	<u>Was my hypothesis correct? IF NOT, WHAT DID I LEARN?</u>
#1				
#2				
#3				
#4				

<u>CLUE #:</u>	<u>What tool is this?</u>	<u>What tradesperson might have used this tool?</u>	<u>How did this technology/ tool help colonists complete work for his/ her trade?</u>	<u>Was my hypothesis correct? IF NOT, WHAT DID I LEARN?</u>
#5				
#6				
#7				
#8				

Additional Notes: \_\_\_\_\_

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## Tools and Technology of Colonial Trade

### Open Response Question (Images found at [www.history.org](http://www.history.org) website)

**Prompt:**

In the early 1700s, colonists used numerous types of tools in various trades to help them with their work. Examine the following tools. Choose one of the pictures of tools below to answer the questions below:

1.)



2.)



3.)



4.)



- A. Identify the picture of tools you chose. Explain what this tool is and what a tradesperson might have used it for during colonial times.
- B. Analyze two ways this tool would have helped make a tradesperson's job easier. Give support for your reasoning.

**“ReCAP” Graphic Organizer:**

<b><u>“Re”</u></b>	<b><u>“CA”</u></b>	<b><u>“P”</u></b>
<i>(What information is this prompt asking me to <b>recall</b>?)</i>	<i>(What is the <b>correct answer</b>?)</i>	<i>(How can I <b>prove</b> this?)</i>

**RESPONSE SHEET FOR OPEN RESPONSE QUESTION**



**Tools and Technology of Colonial Trade**  
**Open Response Question Rubric and Feedback Sheet**

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Student's Name: \_\_\_\_\_

Teacher's Name: \_\_\_\_\_

Score: \_\_\_\_\_

**4-** Student chose one of the three tools from the visual. Student gave a detailed explanation of what the tool was and what it might have been used for by a tradesperson. Student gave two valid ways this tool would have helped to make a tradesperson's job easier and supported his/ her reasoning.

**3-** Student chose one of the three tools from the visual. Student gave a brief explanation of what the tool was and what it might have been used for by a tradesperson. Student gave two ways this tool would have helped to make a tradesperson's job easier, but did not offer support for his/ her reasoning.

**2-** Student chose one of the three tools from the visual. The student's explanation of what the tool was and what it might have been used for by a tradesperson was vague. Student gave at least one valid way this tool would have helped to make a tradesperson's job easier and supported his/ her reasoning.

**1-** Student chose one of the three tools from the visual. The student's explanation of what the tool was and what it might have been used for by a tradesperson contained misconceptions. Student gave one or two ways this tool would have helped to make a tradesperson's job easier, but the student's reasoning did not have a logical connection to the work of the tradesperson indicated.

**0-** Student's response was irrelevant and had nothing connection to the open response question.

**B-** Student's response sheet was blank and contained no answer.

Teacher

Comments: \_\_\_\_\_

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