FOR TEACHERS
COUNTER BOARD ACTIVITY

PHYSICAL ADDRESS

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17th Century Accounting

Objective:
Students will gain a better appreciation of trade and commerce in colonial Maryland by learning to operate a counter-board, a 17th-century accounting device.

Background:
Colonists in 17th-century Maryland received virtually all of their manufactured goods from England. Though many plantation owners traded directly with ships' masters, there were some merchants in St. Mary's City who carried on a very profitable business. Merchants would have kept good business records to ensure that they could collect everything owed to them. While the use of Arabic numbers and written ledgers was becoming more widespread, it was still common to use other methods of accounting as well. One such method was the use of a counter-board, a device that can be traced back to the time of the Romans.

A counter is a board with five horizontal lines and two vertical lines (see included example). The pattern could be carved into a box top or could be stitched into cloth. The vertical lines form three columns. The first two columns are for the two numbers that are being added and the third column is for their sum. The five horizontal lines and four spaces between them are each assigned a value. Markers, called counters or jetons ("je" as in age and "ton" as in john), are placed on the board and used to indicate the values being manipulated. Counters could be made of wood, glass, or metal. Archaeologists working in Virginia have found counters on several sites, and counters appear in the inventories of people living in St. Mary's City.

How the Counter Works:

- Each line represents a power of ten (take a look at page 4 for the counter board image and example).
- The first horizontal line has a value of one, the second a value of ten, the third a value of one hundred, and so on. Each horizontal space represents half the value of the line above it. The first space has a value of five, the second a value of fifty, the third a value of five hundred, and so on.
- The "X" marks on the fourth line help determine which side is up and which is down.
- Values are indicated by placing the appropriate number of counters on each line and/or in each space to represent the number in question. For instance, to represent the number 240, two counters would be placed on the hundreds line and four counters on the tens line. Likewise, 360 would be represented by three counters on the hundreds line, one in the fifty space, and one on the tens line.
- To begin an equation, set up one number in the first column and one number in the second, as described above.
- Then, begin adding counters together on each line and space beginning with the bottom line. It is easiest to slide the counters on each line over to the far right column. For example:
  - adding 22 and 11 would begin with sliding a total of three counters on the ones line to the far right column.
  - Then, a total of three counters on the tens line would likewise be slid to the far right. Reading the sum would give you three tens and three ones or a total of 33.

- On occasion, adding on the counter will also necessitate simplifying sums. The general rule is: there can never be more than four counters on a line or more than one counter in a space. When there are more counters than are allowed, they must be consolidated on to the next higher line or space.
  - For instance: adding 23 and 27. After setting up each number, slide all counters on the ones line to the far right column. There will be a total of five counters on the line. Since there cannot be more than four counters on any line, these five counters must be consolidated into one counter in the fivesspace. Continue by sliding one counter in the fives space to the far right column. That counter, combined with the one that is already there can be represented by one counter on the tens line. Next, slide all the counters on the tens line to the right. Finally, combine all five counters on the tens line to form just one counter in the fifties space. The final total is 50.
- A Google search of the word "jetons" will yield many results that can explain how to add, subtract, multiply, and the divide. The Chicago Numismatics Club is one such site.
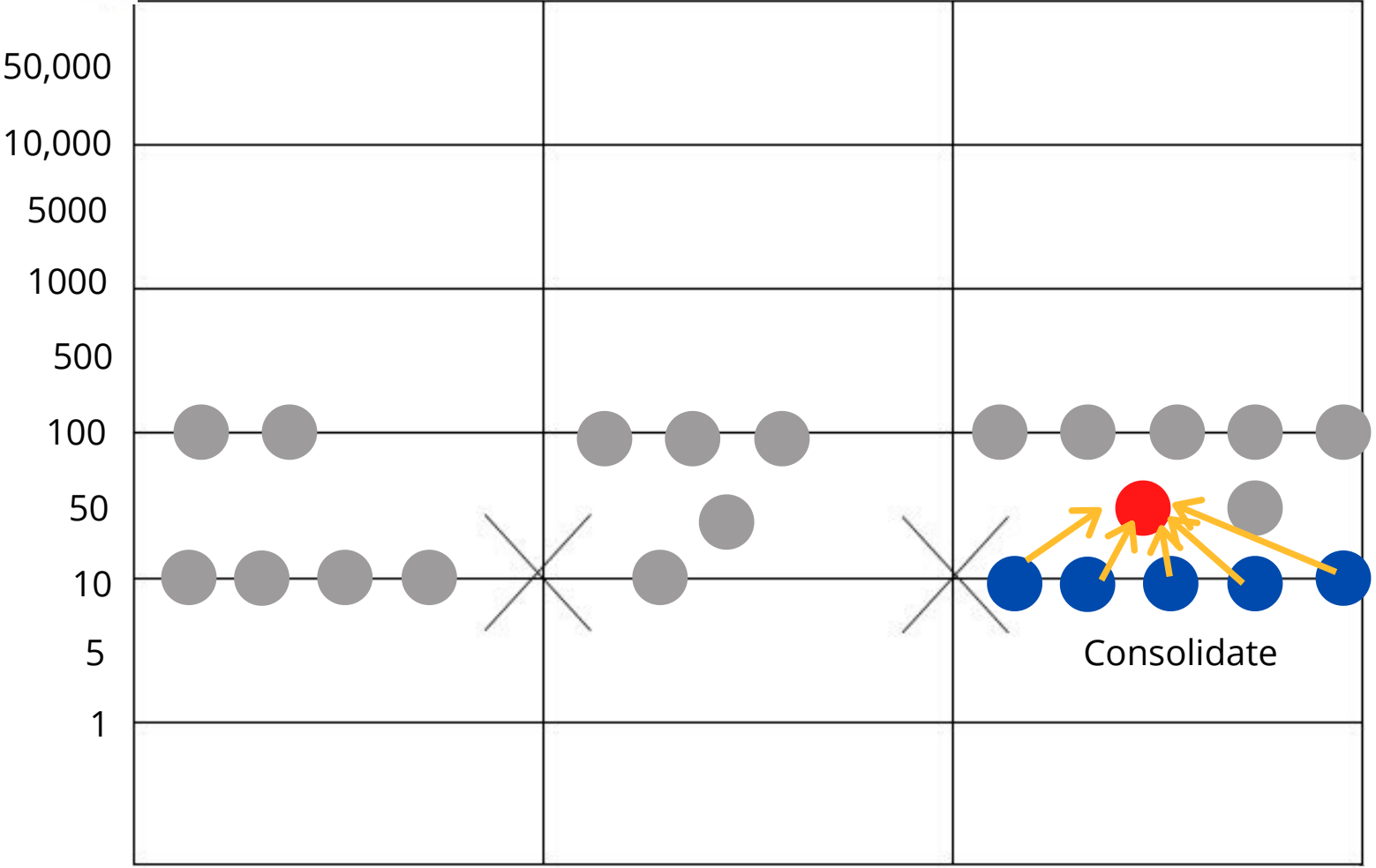
240   +   360   =   600

Materials & Activity:

Materials:
- Counter-board pattern (on next page)
- counters (i.e. beans, raw popcorn kernels, or other small markers)

Activity:

Give each child a counter-board and counters. Practice adding numbers of students' choosing. Start with small numbers, then work up to larger sums. Students may work in groups to solve more difficult problems.

Suggestion: When first introducing the workings of the counter, it may be helpful to project the counter-board image in front of the class before students try it on their own.

Questions and Discussion:
1. What other machines have been used for accounting in the past? What is used now? (*Counter-boards can be compared to everything from an abacus to a computer*)
2. What do you think might have happened to people who did not pay the money they owed merchants or traders? Do you think that these punishments were fair? How are people who owe money punished today?
3. In the 1600s, a person's reputation was of paramount importance. If a person did not pay his/her debts, he/she would be taken to court. The punishment would likely be public and designed to hurt one's reputation in the community.

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