

Topics: Number Systems, Ancient Cultures (Rome), Place Value, Equivalents, Probability

Materials List

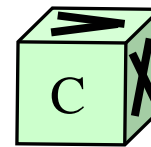
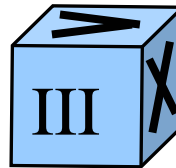
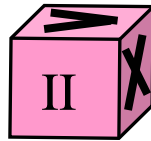
- ✓ Blank cubes
- ✓ Markers (permanent markers are required if using plastic cubes)

This activity can be used to teach:

- Place Value & Equivalents (CA Math Standards: Grade 2 and above, Number Sense)
- Roman History (CA Social Science Standards, Grade 6, 6.7.3)

Roman Numeral Dice

Taking a Chance on Ancient Rome



Students can learn alternate number systems by making and using these dice that use Roman Numerals instead of spots or pips.

To Do and Notice

1. Make the dice by writing a number on each side of each cube.
2. Use the dice to play a game as you would normal dice (such as Yahtzee™). After brief play, students will learn numbers through repeated exposure.

The Math Behind the Activity

While our alphabet is the Roman alphabet, our number system (base 10 digits, with a “0” place holder) is Western Arabic, a place value numeral system. Digits in our place value system can be placed in any order, but changing the order changes the value (i.e.- 35 and 53 contain the same digits, but have different values). Roman numerals, on the other hand, are quite different: Letters represent specific values, and they are strung together to represent larger figures (i.e. - XX equals 20, 10 + 10). Roman numeral conventions dictate that letters representing larger numbers are written first. If a smaller number is written first its value is subtracted from the larger number that follows. For example, to write 4, the letter for 5 (V) is preceded by the smaller value letter I (1). To create 90, the letter X (10) precedes the letter C (100) (90 = XC). Thus XXI equals 21, XIX equals 19 and IXX is not a valid Roman numeral.

Number	Roman
1	I
5	V
10	X
50	L
100	C
500	D
1000	M

Roman Numeral Equivalents	
3	III
4	IV
8	VIII
9	IX
40	XL
142	CXLII
593	DXCIII
1002	MII
2225	MMCCXXV

Taking it Further

See the RAFT Idea Sheet *E Pluribus Unum* for game directions using Roman number dice that reinforces number systems, place value, and equivalents

Web Resources (Visit www.raft.net/more for how-to videos and more ideas!)

For more information on the Roman numeral system, visit the website:
<http://www.guernsey.net/~sgibbs/roman.html>