

Numbo jumbo

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Wooden cubes are inexpensive, readily available¹ and versatile teaching aids. They can be used in developing concepts of number, operations, geometry, measurement, and other topics.

OBJECTIVES

This article outlines 8 games using wooden cubes, designed to develop concepts of number and operations on numbers. Specifically, the objectives of these games are to:

1. reinforce number combinations,
2. consolidate the interrelation of operations,
3. reinforce the identity elements of 1 and 0, that is, multiplication by 1 and hence division by 1; addition of 0 and hence subtraction of 0; and multiplication by 0,
4. give practice in the use of grouping symbols such as parentheses, and
5. provide enjoyment.

MATERIALS

The following materials will be needed:

1. six wooden cubes (dice) - two red with numerals 0 to 5, two yellow with numerals 4 to 9, two blue with numerals 7 to 12.
2. packs of instruction cards (for Game 8),
3. counters (any small objects which can be grouped).

The dice are best made from 5/8" cubes, but one inch cubes are satisfactory.

These materials are age-fair and non-insulting to older pupils who may be having trouble with simple number combinations. The simplicity of their design allows for flexibility of use at any age level.

GAMES

Game 1

Use one die (specified by teacher according to child's ability). Throw it. Name numeral. Make a group that has that many counters in it.

Game 2

Use two dice. Throw one. Look at the numeral. Put the correct number of counters beside it. Throw the second die. Put the correct number of counters beside it. Has one group more? If so, which one? Or, are they equal in number?

¹Wooden cubes of any desired dimension can be easily made in a school shop. They are also available commercially from Moyer-Vico Ltd. for \$5.10 per box of 100 plain or \$5.95 per box of 100 colored.

Game 3

Take 2 dice. Throw them. Which number is larger? smaller?

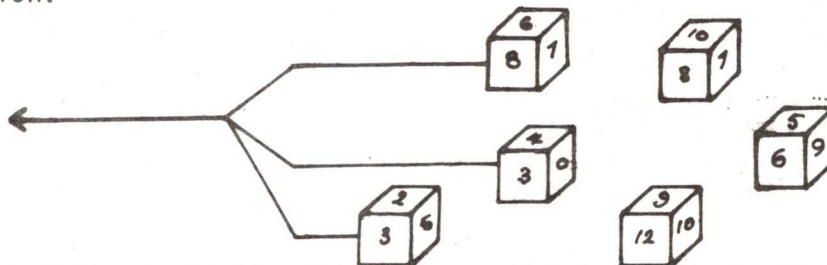
Take 3 or more dice. Throw them. Now put them in order, with the smallest on the left and the largest on the right.

Game 4

Take all the dice. Shake and throw them. Use as many as you wish to make an equation.

For example:

$$6 - 4 = 2$$



Game 5

Shake and throw all the dice. Use as many as you can to make an equation. You may use any signs such as +, -, x, ÷, or symbols such as = and (). The player who uses the most wins.

Game 6

Shake and throw all the dice. Use all of them to make an equation. Choice of symbols as in Game 5.

Note: Children become familiar with the identity properties 1 and 0 as they manipulate their dice.

Game 7

Shake and throw all the dice. Use all of them to make an equation.

A bonus is given for each different operation used, for example, 6 points for the equation; 1 point for each operation; 2 points for using a fraction.

Game 8

Use the pack of instruction cards. Shuffle it and put the pack face down. Each player in turn shakes and throws all the dice, picks the top card from the pile and follows the instructions for making his equation.

Examples of instructions:

- Include addition
- Include two different operations
- Include a fraction
- No addition.

Each pupil could make up his own set of instruction cards.