

## Blocku Puzzle Game: Grade 4

### I. Standards Addresses

4.N.11, 4.N.12,

### II. Preparation Material

1. Blocku Game
2. Pen
3. Paper

### III. Goals

1. To practice accurately multiplying numbers from 1 to 12
2. To observe patterns
3. To work effectively in a team setting

### IV. Objectives

1. To evaluate students comprehension of multiplication concepts in a constructivist format

### V. Vocabulary

- Puzzle
- Constructivist teaching: A teaching format in which the learners are actively involved, the environment is democratic, the activities are interactive and student-centered, and the teacher facilitates a process of learning in which students are encouraged to be responsible and autonomous.  
([Wikipedia](#))

### VI. Instruction

Students are placed into teams of either two or three. Once students are placed within their teams, the teacher presents the class with a question on the Blocku game. Groups of students race against each other to see who can complete the Blocku puzzle the fastest. Points or prizes are awarded accordingly. As a class, the teacher reviews the entire puzzle to make sure everyone understands the math concept and patterns found in the game.

### VII. Rationale (explain why methods are used)

This incentive based, constructivist teaching style enables students to collaborate and review amongst themselves lessons taught prior to playing the game. By making the game competitive students are motivated to grasp the concept and further understand intermediate multiplication concepts.



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### VIII. Supporting Material

- Blocku Wiki: <http://wiki.sugarlabs.org/go/Blocku>
- 4<sup>th</sup> Grade Mathematics Curriculum Chart:

### IX. Activities and Procedure

- Instruction of Game: 10 minutes
- Duration of Game: 45 minutes (three rounds)
- Review of Game: 5 minutes after each competition

### X. Lesson Closure

At the conclusion of each competition, students should review with their teacher the solution to the puzzle. At the completion of the three competitions teams should be awarded prized.

### XI. Standard Descriptions

<b>4.N.11-</b>	Know multiplication facts through 12 x 12 and related division facts. Use these facts to solve related multiplication problems and compute related problems, e.g., 3 x 5 is related to 30 x 50, 300 x 5, and 30 x 500.
<b>4.N.12-</b>	Add and subtract (up to five-digit numbers) and multiply (up to three digits by two digits) accurately and efficiently.

