

Sudoku

1. Basic game info

- Number of players

1

- Time to play

20 - 30 minutes

- Suggested ages

8 and up (possible for players as young as 6)

- Description (goal and core mechanic in first line)

Number Placement Puzzle game in which players have to fill in a 9×9 grid, that already contains some numbers, so that each column, each row, and each of the nine 3×3 boxes will contain the numbers one to nine, only once. The game can be played in its analog version, many free online versions (even one for your google account) as well as a new release of Buku Sudoku for the Xbox 360. There are different variations of the size and the puzzle's layout, as well as levels of difficulty. Those are based on the relevance and the positioning of the given numbers rather than their quantity.

- Genre/ Platform

Number Placement Puzzle / BrainTeaser

- Links to forums, reviews, pictures

<http://screenshots.teamxbox.com/gallery/1931/Buku-Sudoku/p1/>

[http://www.sciencenews.org/articles/20080126/mathtrek.as
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2. What is the core learning activity of the game?

The strategy of the game encourages children to recognize numerical patterns and understand the notion of deductive

progress in order to solve a problem.

3. What integrated domains does this game align with? What pedagogy does it suggest?

Integrated domain - 'Design and Systems'/CodeWorlds?
Pedagogy - 'Systems Thinking'

4. Does this game have a level editor?

No.

5. What kinds of social interaction does this game create? What are the qualities of that interaction?

There is no social interaction created by the game itself. However when played in a classroom setting, there are opportunities for players to help other players build their puzzles according to specific strategies.

6. What are the 6th grade math curriculum standards that this game aligns with? (include full path)

Problem Solving: students emphasize on the trial and error method as well as the process of elimination strategy that they used in order to solve a Sudoku puzzle.

(e.g. students may analyze through graphs and other visualizations how they used different strategies such as scanning, marking up, observing and correcting, to solve the puzzle)

Reasoning and proof: students have to explain a rationale for the strategy they followed, make conjectures, verify claims and recognize patterns.

(e.g. Students may explain why chose to solve the puzzle following the steps they analyzed in problem solving)

Numbers: place value of whole numbers and understand the notion of combinations and permutations within the game
(e.g. Students may analyze different positions of the starting numbers within the grid and discuss how the puzzle changes when those are modified)

7. Is the game simulating or modeling something? (real scenario, imagined scenario, predictive scenario, system)

The game simulates Benjamin's Franklin magic squares theory and practice and the idea of numerical patterns.

8. What are the data sets that can be gathered through play of this game?

- *Students may collect data that reflects the strategy followed in order for them to solve the puzzle.*

(e.g. Students make schematics with the strategies they followed to solve the puzzle, did they solve each square first, did they solve it by scanning through rows first then columns etc)

9. How can these data sets be analyzed and manipulated?

- **Puzzle quest:** goal is to solve a problem [could be called a Code Cracker Quest]

(e.g. collect data regarding the progress you made by successively eliminating candidate numerals from cells to leave one choice.

Represent that data with schematics or graphs. Recognize doubles and triples in the puzzles. Manipulate the data by using 'what if' statements)

10. Tags

math, numbers, sequence, patterns, puzzle