Yu-Gi-Oh

1. Basic game info
    - Number of players
      2
    - Time to play
      5 - 30 minutes
    - Suggested ages
      8 and up (possible for players as young as 6)
    - Description (goal and core mechanic in first line)
      Card game in which players build and assemble decks, then battle each other in head-to-head fashion.  The game has been ported to several consoles, but the core game mechanic remains the same.

      The basic game features monster cards, spell cards, and trap cards.  The goal of the game is to reduce one's opponent's life points from 8,0000 to 0 through a dynamic system of attacking and defending.  Cards have different effects and can deal defend a certain amount of life points.
    - Genre/ Platform
      Card w/ dueling decks
    - Links to forums, reviews, pictures
      http://entertainment.upperdeck.com/yugioh/en/
      http://entertainment.upperdeck.com/yugioh/en/gameplay/demo/default.aspx (interactive tutorial)

2. What is the core learning activity of the game?
   Players learn addition and subtraction through the tallying of life points.  The strategy of the game encourages thinking of

numbers in terms of associative costs as well as rewards.

3. What integrated domains does this game align with? What pedagogy does it suggest?
Integrated domain - 'Design and Systems'
Pedagogy - 'Manipulating Systems', 'Reflective Systems', '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?
The typical interaction in a head-to-head game is competitive. The goal of the game is to defeat one's opponent. However, if one player is teaching another player how to play, then the interaction becomes more of a mentor/mentee relationship. Outside of head-to-head play is the aspect of deck building. There are opportunities for players to help other players build decks according to specific strategies. Players may also trade cards when building decks.

6. What are the 6<sup>th</sup> grade math curriculum standards that this game aligns with? (include full path)
   ➢ Problem Solving
      o Students will solve problems that arise in mathematics and in other contexts
         ▪ Students formulate problems and solutions from everyday solutions.
            *(e.g. Students may describe various strategies they employ in the game based on the points/damage that particular spells and creatures have)*

- Students represent problem situations verbally, numerically, algebraically, and/or graphically.
  *(e.g. Students may retell the story of game play in terms of numbers or graph out the damage sustained with each turn)*
  - Students will monitor and reflect on the process of mathematical problem solving.
    - Students explain the methods and reasoning behind the problem solving strategies used.
- ➢ Communications
  - Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others
    *(e.g. As part of reflection on game choices and strategies, students may present different strategies based on numbers in the game. They may use graphs or other visuals to demonstrate the strategies)*
- ➢ Connections
  - Students will recognize and apply mathematics in contexts outside of mathematics in their daily lives.
    *(e.g. Students may describe how math is used in the game. How do numbers play a role in balancing the game through giving specific cards unique properties)*
- ➢ Statistics and Probability
  - Students will understand and apply concepts of probability.
    - Students list possible outcomes for compound events.
    - Students determine the probability of dependent events.
    - Students determine the number of possible outcomes for a compound event by using the fundamental counting principle; and using this to determine the probabilities of events when the outcomes have equal probability.
  *(e.g. Students may discuss strategy in terms of how often a card may occur in a deck as well as the probably of the card appearing at certain points in the game.)*

7. Is the game simulating or modeling something? (real scenario, imagined scenario, predictive scenario, system)
   The game simulates an imagined scenario of fighting through

spells through the use of number balancing, calculated risk, and probability.

8. What are the data sets that can be gathered through play of this game?
   - The data set could become complex if students track actual game play and success of a given deck over time. Students could graph or visualize hands in this way.

9. How can these data sets be analyzed and manipulated?
   - **Design quest:** goal is to make [x] to be used in the quest. *(e.g. create a deck to be used in a game of Yu-gi-oh. The deck could be designed for the student to play or for another student or team to play)*
   - **Experiment quest:** goal is to find the results of a scientific experiment. *(e.g. create a deck that suits a particular strategy. Determine through tracking and data analysis if the deck is successful or not in implementing that strategy)*

10. Tags
    math, addition, chance, probability, cards, deck-building, meaningful play