

AP Calculus Board Game Project

During the next 10 days, you and your partners will be designing your own board game. Remember all those great games you have played? Well, now you can make your own; your own rules, your own design, your own questions! The only thing is, you must relate it to Calculus. First, before you start thinking about your “new” design, brainstorm a list of board games that you like to play, or ones that you have played before. (See some examples below)

Board Game List

- Risk
- Apples to Apples
- Settlers of Catan
- Backgammon
- Battleship
- Boggle
- Candy Land
- Checkers
- Chess
- Chutes and Ladders
- Clue
- Connect Four
- Uno
- Cranium
- Ticket to Ride
- Texas Hold'em
- Guess Who?
- Spades
- Hungry Hungry Hippos
- Life
- Life on the Farm
- Mall Madness
- Monopoly
- Mouse Trap
- Obsession
- Operation
- Payday
- Pictionary
- Rummikub
- Scene It
- Scrabble
- Sorry!
- Taboo
- Trouble
- Yahtzee

Now, it's your turn to create a board game based off of our units in Calculus. Create your own, unique idea for a board game! Something you need to keep in mind is that board games are fun, interactive, structured and NOT TRIVIA GAMES. Don't make this Jeopardy or Trivial Pursuit! Use your creative minds to think of ways to relate this material to creating a board game.

Units of AP Calculus:

- Unit 1: Limits & Continuity
- Unit 2: Conceptualizing the Derivative
- Unit 3: Rules of Differentiation
- Unit 4: Applications of the Derivative (Part 1)
- Unit 5: Applications of the Derivative (Part 2)
- Unit 6: Basic Integration & Applications
- Unit 7: Advanced Integration & Applications
- Unit 8: Integration Techniques
- Unit 9: Sequences & Series (Part 1)
- Unit 10: Sequences & Series (Part 2)
- Unit 11: Parametric Equations & Polar Coordinates

Requirements:

Each board game made must have the following items included in the project:

- Actual playing board: including game pieces and any necessary devices to complete your designed game
- Game theme, questions, statements, layout, design must be related to Calculus
- Rules: The rules must be written out, understandable, and applicable to the game you created
- Directions: how to play the game
- Neat and organized
- Creative, colorful, and appealing! Who wants to play a game with no character!
- Your board game must be playable – you will play each other's games at the end of the semester!

Grading:

Your games will be graded on the following criteria

- Related to our units of Calculus, using key terms, themes and concepts (You must include 50 questions in your game that are evenly spread out through all of the units.)
- Creativity, uniqueness of the game
- Neatness, and organization of the game
- Directions of the game are either **typed up or written clearly** and explained thoroughly
- Rules of the game are described very well, so people know what they can and cannot do!
- Grammar, spelling, and punctuation of directions, rules, and of game board—your game needs to be understandable!
- Playability—if you make it, you are going to want to play it!

What you need to remember as you are thinking about this is to have fun with it and how can you incorporate the information about Calculus into your game while making the game fun and educational.

Grading Rubric:

Below is a guideline on how you will be graded for your game board. You should be able to go through this and know exactly what is expected of you to earn the grade you want.

CATEGORY	Excellent	Good	Average	Poor
Application of knowledge	10 points max All information made for the game is correct, relates to Calculus, applied in an excellent playable way and demonstrates vast grasp of subject.	9 points max All information made for the game is correct, relates to Calculus, applied in a good way and demonstrates students grasp of the subject.	7 points max Most information made for the game is correct, relates to Calculus, applied in a playable way and demonstrates basic understanding of knowledge.	6 points max Some information made for the game is correct, somewhat relates to Calculus, applied in an unplayable way and demonstrates little grasp of subject matter.
Attractiveness	10 points max The game board, all game pieces, and any other game related object is colorful, unique, neat, and has wonderful visual appeal.	9 points max The game board, all game pieces, and any other game related object is colorful, neat, and has visual appeal.	7 points max The game board, and most of the game related pieces are colorful, neat and a mediocre appeal.	6 points max The game board and the game pieces are somewhat colorful, scattered design, and little to no appeal.
Creativity	10 points max The group put a lot of thought and great strides into making the game interesting and fun to play as shown by creative design, game pieces and/or game objective.	9 points max The group put some thought and some effort into making the game interesting and fun to play as shown by creative design, game pieces and/or game objective.	7 points max The group tried to make the game interesting and fun, but some of the things made it harder to understand/enjoy the game.	6 points max Little thought was put into making the game interesting or fun.

Calculus Questions	10 points max The game includes at least 50 questions from our units in Calculus and they are evenly spread out between the units.	9 points max The game includes at least 40 questions from our units in Calculus and they are evenly spread out between the units.	7 points max The game includes at least 30 questions from our units in Calculus and they are evenly spread out between the units.	6 points max The game includes at least 20 questions from our units in Calculus and they are evenly spread out between the units.
Grammar, Punctuation, and Spelling	10 points max No errors on board, rules, directions, cards, or any other part of game.	9 points max 1-3 errors on board, rules, directions, cards, OR any other part of game.	7 points max 4-8 errors on board, rules, directions, cards, OR any other part of game.	6 points max There were many mistakes grammatically throughout the game and all related material.
Rules	10 points max Rules and directions were typed up or written up and were understandable that all could easily participate.	9 points max Rules and directions were typed up or written up and were mostly understandable so that all could easily participate with little confusion.	7 points max Rules and directions were written up and were somewhat understandable so that players could participate with some confusion.	6 points max The rules and directions were poorly written or not written at all.

Project Due: Wednesday, May 30th

On Thursday, May 31st and Friday, June 1st you will play & score the game of another group!

Groups:

1st Period:

- Group #1: Andy, Dylan, Henry, Chase R.
- Group #2: Imani, Taylor, Reagan, Amanda
- Group #3: Hannah, Leah, Abigail, Mackenzie
- Group #4: Kelly, Maggie, Carter, Zhasmina
- Group #5: Anthony, Chase S., Cooper, Nicklaus
- Group #6: Julian, Leonard, Jack

2nd Period:

- Group #1: Alex, Dylan, Lydia, Kayla
- Group #2: Christina, Maddie, Sydney
- Group #3: Matthew, Nancy, Nathan, Sean
- Group #4: Ilene, Aaron, Juliza, Milana