

### **Requirements Draft:**

1. The game will require a computer which meets certain requirements to be played.
  - 1.1. The computer will be able to receive input from a keyboard
  - 1.2. The computer will be able to receive input from a mouse or trackpad
  - 1.3. The computer will have a screen capable of displaying graphics
2. The game will feature a game screen that will be active when the game is in progress
  - 2.1. The screen will feature creatures that pop up from the ground with associated math equations which the player will answer to gain points.
  - 2.2. A timer counting down from two minutes will be displayed on the screen
  - 2.3. When the timer ends, the game will end and the play will be taken back to the main menu screen
3. There will be a text box on the game screen
  - 3.1. The player will enter answers with their keyboard into the text box
    - 3.1.1. Entering an answer that matches any equation on screen will award points
      - 3.1.1.1. Entering successive correct answers will build a “streak” that will increase the amount of points earned per correct answer
      - 3.1.1.2. If the entered answer matches more than one equation on screen, it will apply to all matching equations
    - 3.1.2. Entering an answer that does not match any equation on screen will not award points
    - 3.1.3. Entering an answer that does not match any equation on screen will break the player’s “streak”
4. The game will feature a main menu screen that will be active before the user begins the game
  - 4.1. The main menu screen will contain multiple buttons that the player can interact with using their mouse or trackpad
    - 4.1.1. The “start game” button will switch the active screen to the game screen and the game will begin
    - 4.1.2. The “exit game” button will close the game window
    - 4.1.3. The “settings” button will switch the active screen to the settings menu screen
5. The game will feature a settings menu screen
  - 5.1. The screen will contain interactable elements such as buttons and sliders to adjust various aspects of the game
  - 5.2. The screen will contain a “back to main menu” button that will switch the active screen to the main menu screen
6. The game will feature a pause screen

- 6.1. The screen will be accessible in two different ways
  - 6.1.1. The screen will be accessible in the middle of a game session by clicking a pause button on the game screen
  - 6.1.2. The screen will also be accessible by pressing the escape key while on the game screen
- 6.2. There will be two ways to leave the screen and return to the game screen
  - 6.2.1. The screen will contain an “exit” button that will take the player back to the game screen
  - 6.2.2. Pressing the escape key while in the pause screen will take the player back to the game screen
  - 6.2.3. Upon exit, the user will be returned to the game screen in the same state as when they entered the pause screen
- 6.3. The screen will feature a “main menu” button that takes the player to the main menu screen and resets the game screen
- 6.4. The screen will feature a slider to adjust the volume
7. The game will keep track of a list of the highest amount of points earned in a game session
  - 7.1. The game will display a leaderboard of the top ten highest scores from highest to lowest on the main menu screen
  - 7.2. Upon beginning a game, the game will give the player the option to provide a username if they have not previously provided one
    - 7.2.1. If any game session surpasses a top ten score on the leaderboard, a new entry will be added to the leaderboard with the username that was provided, next to the score
    - 7.2.2. The player will have the option to refuse providing a username by clicking a “skip” button
    - 7.2.3. High scores from players that did not provide a username will be registered under the name “Player”
8. The game will feature different difficulty levels
  - 8.1. The difficulty level will be selected in the settings menu screen
    - 8.1.1. Higher difficulty levels will have more difficult math equations (working with larger numbers, higher chances of multiplication or division problems)
    - 8.1.2. Higher difficulty levels will allow less time to answer questions
9. The game will feature various sounds upon certain actions that take place
  - 9.1. Correct answers will play a “success” noise
  - 9.2. Incorrect answers will play a “failure” noise
  - 9.3. There will be sounds when buttons are interacted within the main menu and the settings menu
10. The game will contain a tutorial that teaches the player how to play

- 10.1. The tutorial will be accessible from the main menu screen by clicking the “tutorial” button
- 10.2. The tutorial will explain how to input answers, gain points, and use the pause menu
- 10.3. The tutorial will use simple text and visuals appropriate for middle school comprehension
- 11. All content in the game will be age appropriate for middle school aged children