Race to Zoombiniville!

Players Guide

Video Walkthrough: https://youtu.be/BbN-Ug5okYk

Race to Zoombiniville

Requirements

- Number of Players: 2-4 Players
- Playing Time: Approximately 30 minutes
- Age: 5+ (adult aid required for younger players)

Subject Area & Learning Domain

Mathematics, Cognitive/ Application

Introduction

Oh no! The Zoombini's home has been taken over by a scary group of creatures called the Bloats. The Zoombinis are a peace loving and happy group, but the Bloats have made their lives miserable. The Zoombinis have decided to flee their homeland in search of a new place to call home- a place called Zoombiniville. The journey will be treacherous, but the rewards are sure to be great! A prize has even been set to motivate the group to reach their new home. The first Zoombini to reach the new land gets to be the ruler of Zoombiniville and live in a beautiful castle!

Game Goal

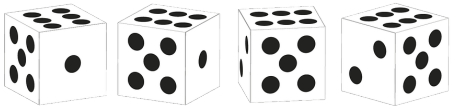
Your goal is to make it to Zoombiniville first so you can stake your claim as ruler of the land!

Learning Objective

Given scratch paper to write on, players will demonstrate knowledge of addition and subtraction by calculating the sum and difference of randomly given numbers and successfully moving their character from start to finish on a game board.

Components

- 4 Character Pieces
- 1 Game Board
- 4 Number Dice



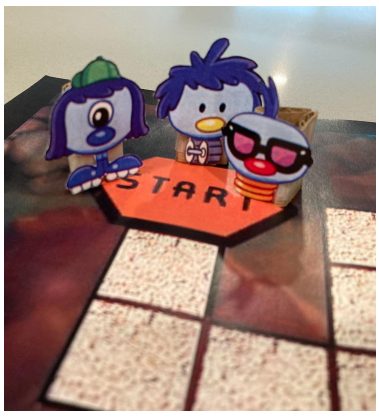
- 2 Add/Subtract Operation Die

- 4 Mini Notepads for Answer Calculation
- 4 Mini Pencils
- 1 Calculator for Checking Answers
- Scenario Cards (20 Green, 20 Red, 20 Blue)

Setup

To Set Up a Game

1. Unfold the game board and place it on a flat surface.
2. Shuffle each deck of scenario cards separately.
3. Place the scenario cards beside the game board where all players can reach them.
4. Allow each player to choose a character piece, the remaining character pieces may be set aside and will not be used in gameplay.
5. Place each player's character piece on the START space as shown to the right.



How to Play

Determining Player Order

1. To begin gameplay each player should roll one die.
2. Whichever player rolls the highest number will go first. If there is a tie, players should re-roll until a single player rolls the highest number.
3. Gameplay will move in a clockwise direction starting with the first player.

What to Do on Your Turn

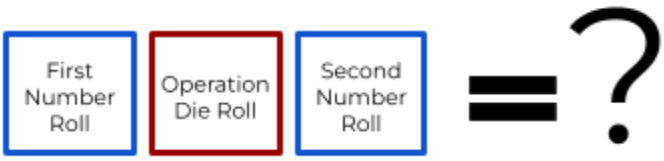
1. At the start of your turn, roll one **number** die. The number you roll will be the first number in your math problem.
2. Next, roll one **operation** die. This will be the type of operation you will perform (add or subtract).
3. Next, roll one more **number** die. The number you roll will be the second number in your math problem.
4. Solve the resulting math problem. There is no time limit.
5. Check to see if your answer is correct. You may use a calculator or other players to verify your answer.

   * *If you answer correctly, continue to step 6. If you answer incorrectly your turn is over, play should continue with the person to your right*

6. If your answer is negative. Do not move your game piece at all. Your turn is over.
7. Otherwise, move the same number of spaces forward on the board as the answer to your problem.

Example One:

Player rolls a number 3
Player rolls the operation + (add)
Player rolls a number 4



The math problem the player should solve would be 3+4= ?
Because the answer is 7, the player should move forward 7 spaces on the game board.

Example Two:

Player rolls a number 6
Player rolls the operation - (subtract)
Player rolls a number 2

The math problem the player should solve would be 6-2= ?
Because the answer is 4, the player should move forward 4 spaces on the game board.

Example Three:

Player rolls a number 4
Player rolls the operation - (subtract)
Player rolls a number 6

The math problem the player should solve would be 4-6= -2

Because the answer is -2, a negative number, the player's turn is over. They should not move their game piece. Play continues with the person to their right.

8. If you land on a tan board space your turn is over and the player to your right should begin their turn.
9. If you land on a colored board space you must draw a card from the top of the stack of scenario cards that are the same color.
10. You may only draw one card per turn.
11. Read the card and follow the instructions on the card. Below are the four types of card you might see and more detailed instructions.
    - Move Backwards ___ Spaces: Move backwards the number of board spaces indicated
    - Move Forwards ___ Spaces: Move forward the number of board spaces indicated
    - Skip a Turn: If you draw this card your turn is over and the next player begins their turn. When it is your turn to play again, you cannot play. Gameplay continues with the player to your right. You may play the next time it is your turn.
    - Roll Again: Your turn starts over. You should roll again and repeat steps 1-11.

12. After you have followed the instructions on your card your turn is over. Place used scenario cards at the bottom of the deck.

    * *You may only draw one card per turn. If you land on a colored board space after following card instructions your turn is still over. Stay in that space until your next turn*.

13. Play continues with the player on your right.

Winning the Game

- The first person to make it to the FINISH square on the game board (or past it) wins the game and claims the title of Zoombini ruler!

- You can choose to end the game when one player finishes the game, or choose to continue gameplay until all players have reached the FINISH to determine second, third, and fourth place.

Alternative Gameplay

For more advanced gameplay try these alternative rules!

Alternative #1:

To practice adding/subtracting more than two numbers do the following...

On Your Turn

A. At the start of your turn, roll one **number** die. The number you roll will be the first number in your math problem.
B. Roll 1 operation die. This will be the first operation in your math problem.
C. Next, roll a second **number** die. The number you roll will be the second number in your math problem.
D. Roll 1 additional **operation** die. This will be the second operation in your math problem.
E. Finally, roll a third **number** die. This number will be the last number in your math problem.
F. Solve the math problem. There is no time limit.
G. Check to see if your answer is correct. You may use a calculator or other players to verify your answer.

**If you answer correctly continue to "H," if you answer incorrectly your turn is over, play should continue with the person to your right*

H. If your answer is negative. Do not move your game piece at all. Your turn is over.
I. Otherwise, move forward the resulting number of spaces on the game board and continue to Step 6 of the original game rules to finish your turn (see page 3)

Example One:

Player rolls a number 1
Player rolls a - (subtraction) sign
Player rolls a number 3
Player rolls an + (addition) sign
Player rolls a number 4

The math problem the player should solve would be 1-3+4= ?

Because the answer is 3, the player should move forward 3 spaces on the game board.

Example Two:

Player rolls a number 4
Player rolls a - (subtraction) sign
Player rolls a number 3
Player rolls an - (addition) sign
Player rolls a number 5

The math problem the player should solve would be 4-3-5= ?

Because the answer is -12, a negative number, the player's turn is over. They should not move their game piece. Play continues with the person to their right.

Alternative #2:

To practice multiplication and division do the following...

On Your Turn

A. At the start of your turn, roll one **number** die. The number you roll will be the first number in your math problem.
B. Next, roll a second **number** die. The number you roll will be the second number in your math problem.

**You do not need to roll the operation die in this version as every problem will be multiplied in this round*

C. Multiply the two numbers to solve the resulting math problem. There is no time limit.
D. Check to see if your answer is correct. You may use a calculator or other players to verify your answer.

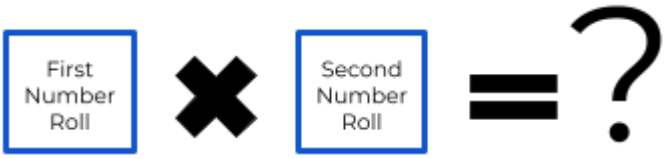
**If you answer correctly continue to "E." If you answer incorrectly your turn is over, play should continue with the person to your right*

E. If your answer is less than or equal to 10, move forward that number of spaces and continue to Step 6 of the original game rules to finish your turn (see page 3).
F. If your answer is greater than 10, roll a third die.
G. Divide your answer to step C by the number on the third die
H. If your numbers divide evenly move forward that number of spaces and continue to Step 6 of the original game rules to finish your turn (see page 3)
I. If your numbers **do not** divide evenly round down to the nearest whole number

J. Move forward the resulting number of spaces on the game board and continue to Step 6 of the original game rules to finish your turn (see page 3)

Example One:

Player rolls a number 1
Player rolls a number 3



The math problem the player should solve would be 1x3= ?

Because the answer is 3, the player should move forward 3 spaces on the game board.

Example Two:

Player rolls a number 6
Player rolls a number 6

The math problem the player should solve would be 6x6= ?

Because the resulting answer is 36 which is greater than 10, the player should roll an additional die.

Player rolls a number 5

The math problem the player should solve would be 36/5= ?

36 does not divide evenly by 5. It 5 goes into 36. 7 times with a remainder of 1. Round down to the nearest whole number.

The player would move 7 spaces.

Learning Statement

"Race to Zoombiniville" uses Karl Kapp's game elements to support learning throughout. The game uses goals under the "race to the finish" core dynamic to fuel learner motivation and encourage play. It also uses the element of competition between players to enhance the desire for players to successfully complete mathematical tasks and make game progress. Rules are defined in the game instructions and feedback is provided by peers and through checking answers with a calculator each time a player reaches a solution. The addition of alternative gameplay options adds in the element of "playing levels" and enables the game to reach a larger audience and to be replayed over and over again as players learn and progress. Finally, "Race to Zoombiniville" uses the elements of storytelling and aesthetics by incorporating the narrative and art created by the original Zoombini game.

About Zoombinis

The inspiration for this game was taken from the story, plot, and characters of the 1990's game "Zoombinis." Zoombinis is a game created by TERC in partnership with FableVision Studios and the Learning Games Network . It invites players to help displaced creatures called Zoombinis on a journey to their new homeland. Players must solve a series of math based logic puzzles that tests users logical and computational thinking skills.

Credits

TERC (creator of Zoombinis)

"Yahtzee" Rules by Hasbro https://www.fgbradleys.com/rules/Yahtzee.pdf

"Math Dice" Rules by ThinkFun
https://www.thinkfun.com/wp-content/uploads/2015/09/MathD-1510-IN.pdf

Math Games Using Dice. The Teacher Next Door, 29 Jan. 2021,
https://the-teacher-next-door.com/math-games-using-dice/

Erin Weaver (analog game design)

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