

## MathMetrics Game Rules

The objective of the game is to correctly answer questions according to three categories:-



E = Einstein (ORANGE)



N = Newton (GREEN)



G = Gauss (BLUE)

and thereby collect a prescribed number of game tokens in the three categories.

### Number of players:

2-6 players can play simultaneously

### How to win:

- **TOKEN MODE** - A number of TOKENS is defined by the players before the game begins. Players must then collect at least that number of TOKENS in each category (“E”, “N” and “G”) to win. The first player to collect the defined number of TOKENS in each category is the winner! (A Pass&Play game, played by 4 Players, to collect 4 tokens in each category to win, should take about 1 hour to complete)
- **TIME MODE** - A time limit is defined at the beginning of the game. At the end of the time limit, the player with the most TOKENS wins! In the event of a tie, all players with the most tokens win!

### Order of play:

- Each player will roll a die, and the Player with the highest roll will go first and the lowest roll will go last. In the event of a tie, the tied players will re-roll until their order is determined.

### Setup:

- The **amount of TIME** to be allowed for answering each question must be decided by the players prior to commencing the game. (When first playing allow about 20 seconds to answer the questions, then shorten the time allowed to answer questions as you get used to playing the game.)

### Player Questions

- Players will answer questions from their selected grade level (syllabus) – i.e. the Grade that they selected in their game settings.
- Should a Player’s maths skillset not be up to their grade syllabus level, the Player can be allowed to play with questions from a lower grade level. This is also allowed should the game be played at the beginning of a grade year before that grades required skillsets have been taught.

### Moving Around the Board







- Each player will roll the die, to establish the play order.
- In play order, each player selects their starting space on the outer circle.
- Player moves along the outer and inner circle in a clockwise direction.

- Players on the **outer circle** who land on a junction (i.e. a connection between the outer and inner circles) will be forced to proceed to the inner circle along that radian, on their next roll.
- If a player lands on a junction on the **inner circle**, they will not be forced to proceed to the outer circle on their next roll.
- If a player moves along the radian from the inner circle to the outer circle and lands on a junction on the outer circle, they will be forced to proceed along the outer circle on their next roll.
- Exit from the inner circle to the outer circle may be undertaken along any radian at any time.
- No change of direction is permitted whilst moving on a radian.
- Voluntary entrance to a radian from the outer circle in order to access the inner circle may be undertaken at any time. Exiting the inner circle can be undertaken at any time.







### PLAYING THE GAME

- **Note:** The inner circle is higher risk = higher reward.
- Pen and paper may be used to assist with answering questions.
- Upon landing on a space on the board the players shall be required to take action according to the symbol depicted in that space as follows:

### Key

Space	Space Rule	Action
	Answer a question in the Einstein category.	If answer is correct - roll the die again. If answer is incorrect - wait until next turn to roll the die again.
	Answer a question in the Newton category.	If answer is correct - roll the die again. If answer is incorrect - wait until next turn to roll the die again.
	Answer a question in the Gauss category	If answer is correct - roll the die again. If answer is incorrect - wait until next turn to roll the die again.
	Roll the die again.	Move to the value of the die.
	Roll the die again	Move only if value is an uneven number - i.e. 1, 3, or 5
	Roll the die again.	Move only if value is an even number – i.e. 2, 4, or 6

	Roll the die again.	Move only if value is a prime number - i.e. 2, 3, or 5
	Answer a question in the Einstein category.	If answer is correct, collect one Einstein token – roll the die again. If answer is incorrect - wait until next turn.
	Answer a question in the Newton category.	If answer is correct - roll the die again. If answer is incorrect - wait until next turn.
	Answer a question in the Gauss category.	If answer is correct - roll the die again. If answer is incorrect, wait until next turn.
	Answer a question in the Gauss category.	If answer is correct collect two Gauss tokens - wait until next turn. If answer is incorrect, lose one Gauss token - wait until next turn.
	Answer a question in the Newton category.	If answer is correct, collect two Newton tokens - wait until next turn. If answer is incorrect, lose one Newton token - wait until next turn.
	Answer a question in the Einstein category.	If answer is correct collect two Einstein tokens - wait until next turn. If answer is incorrect, lose one Einstein token - wait until next.
	Answer a question in the Einstein category.	If answer is correct - wait until next turn. If answer is incorrect, lose one Einstein token - wait until next turn.
	Answer a question in the Newton category.	If answer is correct - wait until next turn. If answer is incorrect, lose one Newton token - wait until next turn.
	Answer a question in the Gauss category.	If answer is correct - wait until next turn. If answer is incorrect, lose one Gauss token - wait until next turn.

	<p>Answer a question in any one of the three categories.</p> <p>The category must be chosen prior to the question being asked.</p>	<p>If answer is correct, collect one token in the question category - wait until next.</p> <p>If incorrect - wait until next turn to roll die again.</p>
	<p>Answer a question in each of the categories, Einstein, Newton &amp; Gauss.</p>	<p>If two or all three questions are answered correctly, double the number of tokens you have in each of the categories - wait until next turn.</p> <p>If only one of the questions is answer correctly - wait until next turn.</p>
	<p>Roll the die twice.</p>	<p>Move to the value of either roll.</p>
	<p>Wait until your next turn.</p>	<p>You may only move off of this space on rolling a 2 or a 5.</p>
	<p><b>"The black hole".</b> Players have two options:-</p>	<p>a. Roll the die twice on the next turn for a total of 7 (i.e. 1 &amp; 6, 2 &amp; 5, 3 &amp; 4) in order to be released. If successful, roll the die again and move on that roll. If unsuccessful, wait for next turn and exercise either option again.</p> <p>b. Nominate a "blast or bust". Roll die once to endeavour a 1 or 6. If successful double all tokens in their respective categories, roll die again and move. If unsuccessful, return all tokens and roll die again and move on that roll.</p>
	<p>Miss your next turn.</p>	<p>Miss your next turn.</p>