

# GENOME FORGE

## Description:

Genome Forge is a time-based molecular genetics event where teams compete to correct, interpret, and assemble a biologically accurate gene sequence. Teams must balance accuracy and speed, as the fastest team to complete the correct genome sequence wins.

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## Rules:

### 1. Starting the Game:

- Each team consists of three participants.
  - One volunteer/judge will be assigned to each team.
  - All teams start simultaneously from their designated stations.
  - The timer starts at the beginning of Round 1.
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### 2. Round Details:

#### Round 1 – Orientation Challenge

- Convert nucleotide sequences from 3' → 5' orientation to 5' → 3' orientation.
  - Reward: Promoter Card + Start Codon Card (ATG / AUG)
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#### Round 2 – Mutation Repair Round

- Identify and correct sequence errors such as:
  - Invalid nucleotide bases
  - DNA bases present in RNA
  - Corrupted symbols (e.g., \$, @)

- Reward: Three Codon Cards
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### Round 3 – Complementary Base Pairing

- Write the correct complementary RNA sequence using base-pairing rules.
  - Reward: Stop Codon Card + Terminator Card
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### 3. Final Genome Construction:

- Using the collected cards, teams must assemble the gene sequence in the correct biological order:

PROMOTER → START CODON → CODON SEQUENCE → STOP CODON  
→ TERMINATOR

- The volunteer validates the final assembly.
  - The timer stops only after correct validation.
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### 4. Additional Rules:

- Teams must stay together at all times.
  - No external help (internet, notes, or outside assistance) is permitted.
  - Volunteers will track attempts, penalties, and time.
  - Any unfair practices lead to immediate disqualification.
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### 5. Answer Validation & Penalty System:

- For every question in each round:
  - First attempt: No penalty
  - Second attempt: No penalty
  - If still incorrect after two attempts:
    - A 30-second time penalty is added per wrong answer
    - The correct answer is revealed
    - The corresponding card is issued after penalty

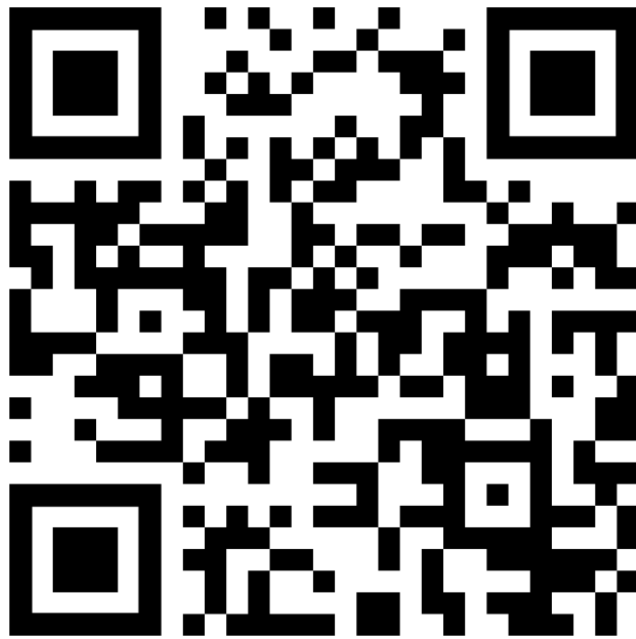
- Teams must proceed in order; skipping rounds is not allowed.

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## 6. Winning Criteria:

- The team that completes the correct genome sequence in the least total time (including penalties, if any) is declared the winner.
- In case of a tie, the team with fewer penalties will be ranked higher.

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<https://forms.gle/Nv5SZtoYuMfwuWHA8>