

DESIGN GUIDELINES

Review the guidelines below and use them as a reference when creating an original, ancestral heritage inspired physical game or event.

Game Design + Ancestral-Heritage Inspired	<ul style="list-style-type: none">• Provide the name of your game or event.• Provide an explanation of your game or event and share the ancestral heritage or story behind it.
Force Diagram	<ul style="list-style-type: none">• Include a labeled force diagram showing the forces during a key part of the game (push-off, landing, or collision).• Include applied force, gravity, normal force, friction, and net force direction.
Motion Explanation	<ul style="list-style-type: none">• Provide a 4–6 sentence explanation including the following:<ul style="list-style-type: none">○ Description of forces involved○ Explanation of how Newton’s 3rd Law is shown○ Explanation of how Newton’s 2nd Law ($F = ma$) connects mass, force, and acceleration
Safety Engineering Challenge	<ul style="list-style-type: none">• Identify a collision or impact point in your game.• Design or suggest an engineering modification to reduce the force of impact (equipment, surface, or body mechanics).
Visual + Physical demo	<ul style="list-style-type: none">• Include a sketch or prototype of the game.• Give a live demonstration or record your team playing and explaining the game.
Final Showcase	<ul style="list-style-type: none">• Presentations should include the following:<ul style="list-style-type: none">○ A live demonstration or a recorded video of the game○ A verbal or visual scientific explanation ($F = ma$, action-reaction, force diagram)○ The ancestral heritage significance behind the game