

## DESIGN GUIDELINES

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

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

