**SHM-UNO: Sample Gameplay Steps**

This document provides 10 example steps to demonstrate how SHM-UNO can be played while integrating physics learning.

**Step 1:** Player 1 plays **Displacement = +A (Red)**. - States: “At +A, displacement is maximum, velocity = 0, KE = 0, PE = max.” - Player 2 must play a matching card or color.

**Step 2:** Player 2 plays **KE = 0 (Yellow)**. - States: “KE = 0 at max displacement, velocity = 0, PE = max.” - Continues the chain by matching color (Energy) or value (KE = 0).

**Step 3:** Player 3 plays **Velocity = 0 (Blue)**. - States: “Velocity = 0 at maximum displacement, displacement = ±A, KE = 0.”

**Step 4:** Player 4 plays **Displacement = –A (Red)**. - States: “At –A, displacement maximum negative, velocity = 0, KE = 0, PE = max.”

**Step 5:** Player 1 plays **PE max (Yellow)**. - States: “At maximum displacement, potential energy is maximum, KE = 0.”

**Step 6:** Player 2 plays **Acceleration = –a\_max (Green)**. - States: “Acceleration maximum negative at +A, velocity = 0, displacement = +A.”

**Step 7:** Player 3 plays **Graph Challenge (Action Card)**. - Player 4 must identify the graph type (e.g., displacement-time).

**Step 8:** Player 4 plays **Amplitude Boost (+2) (Action Card)**. - Player 1 must explain amplitude-energy relation (E ∝ A²) or draw 2 cards.

**Step 9:** Player 1 plays **Energy Exchange (Wild)**. - Chooses next color to play: Green (Acceleration).

**Step 10:** Player 2 plays **Acceleration = 0 (Green)**. - States: “Acceleration zero at equilibrium, displacement = 0, velocity = max, KE = max.”

These 10 steps illustrate how students must think in terms of SHM conditions for each card, integrating knowledge of displacement, velocity, acceleration, and energy into gameplay.