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Rolling with Ruherford Simulation AALIYAH HARRIS, Lewis University — QuarkNet is a collaboration led by Fermilab and the University of Notre Dame that provides opportunities for high school teachers and students to develop valuable skills by engaging in high energy physics. The project discussed in this poster enhances the Rolling with Rutherford simulation, originally developed by a QuarkNet high school physics teacher, using the GlowScript IDE and VPython. GlowScript is a web-based environment that is efficient for creating 3D animations and simulations, especially in the field of physics. The simulation, which originally demonstrated scattering through hard sphere scattering of a probe particles off a target containing a fixed number of particles of fixed size, is being expanded to change the size of the probe particle and the number of probe and target particles and to look at the scattering distribution. Users will also be able to change the interaction to an electric force interaction between charged particles to actually simulate Rutherford scattering. The simulation will include various buttons and sliders that will give students the ability to control and change different aspects of the simulation, which will make it efficient for students to learn how charged particles interact.

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