Miniature Golf Project

- Using the real-world example of a miniature golf course, students will design and build mini-golf holes that require them to apply specific concepts from our Geometry and Physics disciplines and consider elements of design, both functional and aesthetic.

- The nature of the schedule will necessitate students collaborating with different cohorts in each class, mirroring how design teams function in real life.

- The project will culminate in the creation of an actual mini-golf course that will be open to the public at the end of the school year for a period of play and feedback.
Partner - Waterworks
Partners - NuVu Studio
- Curriculum Connections -

**Physics Connections**
- Surface Normal
- Angle of incidence/reflection
- Law of Reflection
- Forces: Normal, Gravity, Centripetal, Friction
- Vectors
- Acceleration
- Newton’s Laws
- Momentum & Impulse
- Inelastic/Elastic Collisions
- Energy: Kinetic, Potential

**Math Connections**
- Tangent lines
- Law of Reflection
- Polygon Geometry
- Geometric Areas/Volumes
- Isometries
- Congruency
- Symmetry
- Angles
- Bisectors
- Trig
- Right angle/special right angle
- Pythagorean Theorem

**Art Connections**
- Conceptual Development
- Communication and Collaboration
- Design Based Thinking
- Formal Elements
- Principles of Composition
- Problem Solving
- Refine
- Iteration
- Aesthetics
- Analyze and Critique