Project Title: Build a Better Puck

Grade: 3

Project Idea: Students will be researching the history of the hockey puck. They will then be redesigning the puck to see if they can build a more efficient puck. The process will include learning about surface area, friction, mass, angles, measurement, and volume. Students will present their plans. The best plan will be submitted to the Anaheim Ducks for further evaluations. All groups will have their pucks 3D printed at school. Students will submit a rationale for the decision process utilizing Flipgrid.

Driving Question: How can I use my knowledge of force and motion to create a better hockey puck for the Anaheim Ducks?

Content:

NGSS:

- **3-PS2-1.** Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
- **3-PS2-2.** Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
- **3–5-ETS1-1.** Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

Math:

- 3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l)
- T.3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories

Major Products: Students will create and print a 3-D model of their hockey puck.

Making it Public: Students will present to hockey players that have played at the collegiate level.