**Pressure & Fluids**

***Pressure*** is the relationship between force and area.

**Pressure = force / surface area**

1. Describe situations in real life where we see fluids using pressure.
2. Choose one situation from above and explain how that pressure can be increased or decreased by altering surface area.

*Apply what you know:*

1. **The Race**

Imagine our class has a race across a deep snowy field, with some students wearing snowshoes, some wearing skis, and some wearing boots. At the end of the race, explain what happened.

1. **Penny Boats**

Individually or in groups of 2, plan and conduct an experiment to determine whether the surface area of an aluminum foil boat affects the number of pennies it can hold before sinking.

**Real-Life Examples** of the **relationship between pressure and surface area:**

• ***Inventions:***The width of snowshoes allows users to spread out their weight and reduce pressure on one spot, which helps prevent them from breaking through the surface of snow.

• ***Nature:***Snowshoe hares and polar bears have wide furry feet, allowing them to walk across snow without breaking through the surface.

• ***Life-saving techniques:***When rescuers attempt to cross thin ice to rescue someone, they lie down and spread out their bodies. By increasing the surface area, they reduce pressure on ice.