Archimedes Principle

**And the Center of Buoyancy**

Archimedes Principle: The mass of a floating object is equal to the mass of the water that the object displaces (or moves).

Example: Over flow cup and a cork.

**Cork**

**Water**

\*\*The mass of the water in the overflow cup is equal to the mass of the cork.

**Center of buoyancy: is the center of gravity of displaced water that a floating object moves.**

**Example: a canoe with two people of equal masses.**

**Submerged part of canoe.**

Center of gravity and the center of buoyancy are low and in the center of the canoe. The canoe is “stable”.

**Center of gravity and buoyancy**

**When one of the partners falls out of the canoe the center of gravity and the center of buoyancy change locations and create on “unstable” situation.**

If you were in a canoe by yourself, where should you sit? Why?

**Middle, less likely to flip.**