

Transitioning from the BLOSSOMS Video Lesson to the Project-based Learning Unit

The Blossoms Lesson: “Will an Ice Cube Melt Faster in Saltwater or Freshwater?” looked at the role salinity plays in altering the density of water and its affect on ocean circulation. From a simple experiment, students are able to discover the factors that cause and influence thermohaline circulation in our ocean. There are additional follow up investigations that help students appreciate and understand the importance of the ocean’s influence on Earth’s climate.

Central to this phenomena are water’s unique properties. Water is a fairly dense yet fluid material, and maintains this fluidity over a wide range of temperatures. Being the “universal solvent,” water can dissolve many substances and keep them in solution without changing it’s ability to flow. Another unusual yet important property of water is the fact that water’s solid form is less dense than its liquid form; ice floats. Water’s unusually high heat capacity allows oceans to absorb, carry, and transfer large amounts of heat both regionally and across its basins. Water’s heat capacity is the underlying principle behind our ocean’s tremendous influence on Earth’s climate.