





WATER REFERENCE SHEET

	PHENONMENON	PROPERTY	BIOSHPERE CONSEQUENCES
	1. Water dissolves many chemicals, but not all (e.g. sugars, salts, several different chemical compounds).	Water is a versatile SOLVENT; but just as important is what does and what do not dissolve in water.	Thousands of chemical reactions necessary for life to occur in the watery environment of a cell, but water-insoluble membranes are also critical to cells integrity and function.
	2. Water is liquid over a large range of temperatures (0°C – 100°C).	Water has a high: <ul style="list-style-type: none"> • heat capacity • heat of vaporation 	Water stabilizes air and sea temperatures; evaporation cools the surfaces of plants and animals.
	3. Water can move up tubes like straws and the inner channels in plants.	Water exhibits: <ul style="list-style-type: none"> • cohesion • adhesion • surface tension 	Leaves “pull” water upward from roots thereby transporting it against gravity.
	4. Water expands when it freezes and floats	Water has different phases: <ul style="list-style-type: none"> • solid (ice) • liquid • vapor. Ice has a lower DENSITY than liquid water.	Floating ice insulates the water below and prevents seas and lakes from freezing solid