

Name _____ Block _____ Date _____

Quiz – Water Properties (BIO.2a)

Use the terms below to identify each of the following **descriptions**. Each term will be used only once. (1pt each)

Adhesion	Capillary Action	Cohesion	Heat Capacity	Hydrogen Bonding	Density of Ice	Polarity	Surface Tension	Universal Solvent
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- _____ - Due to both cohesion and adhesion of water molecules, water can “climb” up thin tubes
- _____ - Due mainly to cohesion, water can allow objects and organisms to “rest” on water’s surface as if it had a “skin” on top.
- _____ - Ice (solid water) floats in liquid water
- _____ - Individual water molecules have unequal distribution of electrons, leading to positively-charged and negatively-charged ends
- _____ - Weak chemical bonds form between the negatively-charged and positively charged ends of neighboring water molecules
- _____ - Water can absorb or lose large amounts of heat energy without changing temperature very much
- _____ - Water molecules are attracted to other water molecules
- _____ - Water “sticks” or is attracted to many other substances
- _____ - Water will dissolve many substances into a solution

Explain why all living things need water to survive. What about water makes it essential for life? (3 pts)

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- In the left box, draw one water molecule. Include labels for the atoms, the correct shape, and label the charges on each end. (3pts)
- In the right box, draw at least 2 small water molecules with the charges labeled, then draw a hydrogen bond between them. (3 pts)

Single Water Molecule (with atoms and charges labeled)	2 small water molecules (with charges labeled) and 1 hydrogen bond

Use the terms below to identify each of the following **examples**. Each term will be used only once. (1pt each)

Adhesion	Capillary Action	Cohesion	High Heat Capacity	Low Density of Ice	Surface Tension	Universal Solvent
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- _____ - Chemical reactions occur easily inside cells because reactants are in solution.
- _____ - On hot summer days, ponds will not heat up too much for aquatic animals and plants; on cold nights, ponds will not become too cold for animals and plants to survive.
- _____ - Plants can transport water from their roots to their leaves through the tiny tube-like cells in their stems.
- _____ - Water bugs are able to “walk” on water without sinking below the surface.
- _____ - Water “sticks” to soil, the surfaces of plants, and other substances when it rains.
- _____ - Ponds and lakes freeze on their surface, preventing them from freezing solid and killing aquatic life.
- _____ - Water forms tight droplets.