Name _____ Date _____ Period _____

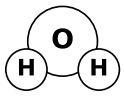
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Properties of Water

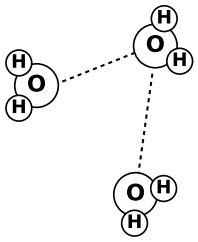
Biology

Answer in complete sentences. Use the graphs and tables as evidence.

1. The drawing shows water molecules.



One water molecule



Molecules attract each other

(a) On the single molecule, label the partly negative end δ− and the partly positive ends δ+.

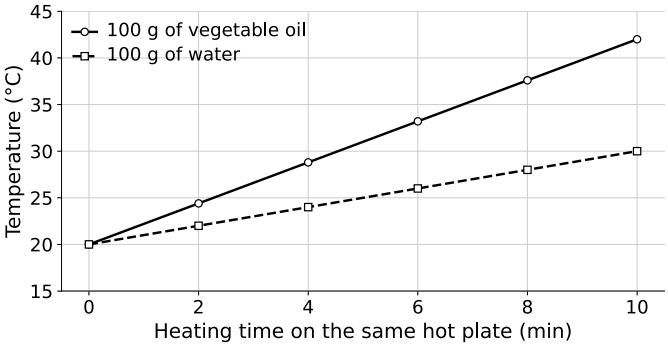
(b) On the group of three molecules, what do the dashed lines stand for?

2. Name the property of water that explains each observation. Choose from: cohesion, adhesion, high specific heat.

Observation	Property of water
(a) A water strider walks on the surface of a pond.	
(b) A paper towel soaks up a spill, pulling water up into the towel.	
(c) A city on the ocean has milder winters than a city 300 km inland.	

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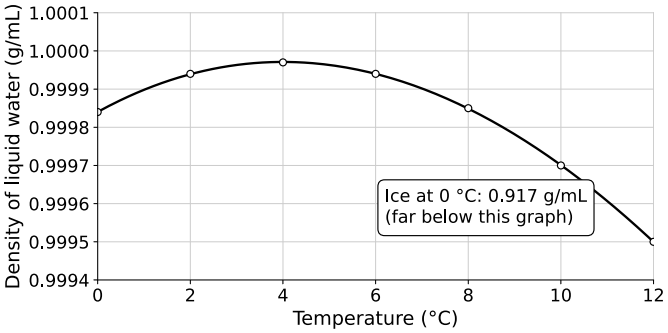
3. Equal masses of water and vegetable oil are heated on the same hot plate.



(a) How much did each liquid's temperature rise in 10 min?

(b) Which liquid has the higher specific heat? Use your answer to (a) as evidence.

4. The graph shows the density of liquid water at different temperatures.



(a) At what temperature is liquid water most dense? Where in a lake would you find this water in winter?

(b) Ice has a density of 0.917 g/mL. Explain how this protects fish in winter.

5. Salt dissolves in water, but vegetable oil does not. Explain the difference using the word *polar*.

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