

Class Summary Table

Negotiating ideas and evidence through task

Evidence -----> Reasoning

(must be reworded in your own words for your evidence-based explanation)

Task Number and Name	What we learned from this task.	How it helps us explain the anchoring phenomenon?
Task 1 Temperature, heat, and energy	Temperature is just how fast particles are moving, while heat is how fast AND how many particles there are. All things have heat unless they are at absolute zero.	Even cold things have heat, so even though everything is cold in brinicle formation, heat is involved.
Task 2 Icy Hot and Liquid Cold	<ul style="list-style-type: none">-Adding energy can make particles break their intermolecular forces OR speed up-Removing energy can make particles form intermolecular forces OR slow down-Phase changes occur when going between solid, liquid, gas	<ul style="list-style-type: none">-Brinicles involve phase change from liquid to solid (seawater is changing to ice so intermolecular forces are forming)-Energy is being transferred from the seawater to the brine-The thermal energy of the brine increases

	<ul style="list-style-type: none"> -Phase change indicates a change in intermolecular forces -Phase energy is the energy stored in the arrangement of the particles (phase) -Thermal energy is the energy stored in the motion of the particles (temperature) 	
<p>Task 3: Water's Wacky Ways</p>	<ul style="list-style-type: none"> -Ice floats because it is less dense than water -Ice is less dense because its particles form hexagonal shapes due to the fact that water is polar -Water is made of one oxygen and two hydrogens and they are connected with a polar covalent bond -Water is cohesive-which means water particles are attracted to each other by intermolecular forces (hydrogen bonds) -Adhesion is when water sticks to other substances, this happens because of hydrogen bonds -Surface tension is caused by cohesion of water particles 	<ul style="list-style-type: none"> -The shape of ice at the particle level can be used when drawing the final models -The oxygens have a slightly negative charge, while the hydrogens have a slightly positive charge -How might water be affected when there is salt particles?
<p>Task 4: Saltwater Ice vs Freshwater Ice</p>	<ul style="list-style-type: none"> -Saltwater ice has more channels, freshwater ice does not -When saltwater freezes brine is formed 	<ul style="list-style-type: none"> -Brine can move through the channels easily -When the ice cracks pockets of brine can get down to the saltwater

Task 5: Freezing Point Depression	<ul style="list-style-type: none"> -The freezing point of water is lower when you add salt -More salt makes the freezing point lower -Salt is sodium chloride (Na⁺ and Cl⁻) -When salt is dissolved the oxygen part of the water molecule is attracted to the sodium and the hydrogen is attracted to the chlorine 	<ul style="list-style-type: none"> -Key concept 18 shows what brine looks like at the particle level -Salt changes the structure of ice which is why brine doesn't freeze -Brine has a lower freezing point than seawater because it has more salt dissolved in it
Task 6: Heating and Cooling Curve Connections	<ul style="list-style-type: none"> -Heating curves and cooling curves show when phase change occurs as energy is added or removed from the system. 	<ul style="list-style-type: none"> -Brine solution is still liquid at temperature when seawater freezes
Task 7: Energy Bar Charts	<ul style="list-style-type: none"> -Energy bar charts (LOLs) show how energy is being stored or transferred in a system -The Law of Conservation of Energy states that energy cannot be created or destroyed 	<p>The energy gained by the brine solution came from the surrounding seawater. The brine solution gained thermal energy which caused it to increase in temperature, however, this energy was transferred out of the surrounding seawater which caused it to decrease in thermal energy and phase energy.</p>