

U2 Module 3 Video Notes: Phases of Matter

BIG IDEAS

DETAILS

States of matter	On earth, materials exist in one of three states of matter: <u>solid</u> , <u>liquid</u> , or <u>gas</u> . When heated or <u>cooled</u> , matter transitions between states because adding or removing energy affects the <u>attractive</u> forces between atoms and/or molecules.
Phase change vocabulary	Sketch and label a diagram showing transitions from solid to liquid to gas and back
Evaporation vs boiling	Both evaporation and boiling refer to a <u>liquid</u> that is changing into a gas, however in a substance that is <u>boiling</u> - all the particles have enough energy to turn into a gas, while in a substance that is <u>evaporating</u> , only a few have enough energy to turn into a gas, making it a <u>slower</u> process. Both are types of <u>vaporization</u> .
Solid - gas transitions	Sometimes, when a solid is heated it will turn directly into a gas, in a process called <u>sublimation</u> . One material that exhibits this change is <u>CO₂</u> . If cooled, these substances can turn directly back into a solid without being a liquid first in a process called <u>deposition</u> .
Transition Diagram	Sketch a diagram showing all three states of matter and all direct changes in state that can occur
Density & Mass in phase changes	When a substance changes phase - the <u>mass</u> remains the same. However the volume will change, resulting in a change in <u>density</u> .