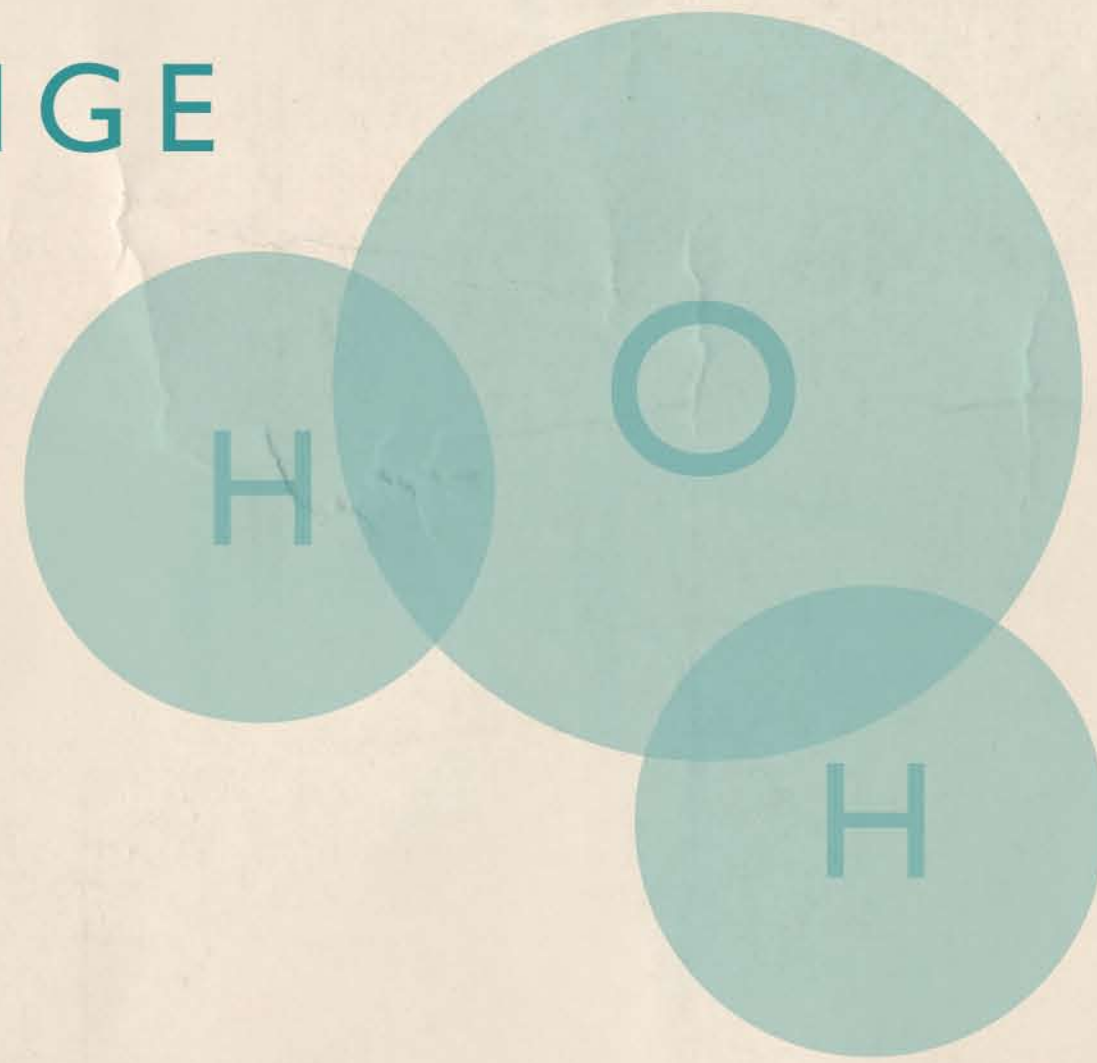


understanding
PHASE CHANGE
 through states of matter

begin with the WATER MOLECULE



SOLID ice



LIQUID water



GAS steam

water molecules can exist in three different STATES OF MATTER

as water molecules change from one state of matter to another, it changes MOLECULAR ARRANGEMENT

the point when the molecular arrangement changes is called **PHASE CHANGE**

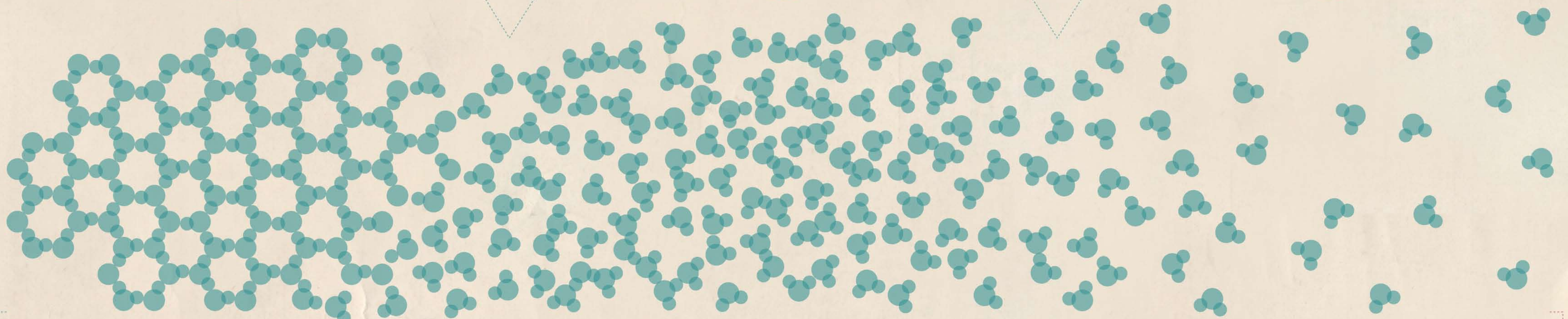
ICE



WATER



STEAM



COLD

adding or subtracting energy causes the above phase changes through TEMPERATURE

HOT

as heat energy is taken away, molecule movement slows, causing an attraction between H's and O's, bringing together the molecules, and a crystalline structure is formed, we say this matter is in a solid state.

as heat energy is added, the molecules begin to move about with more speed. when the energy is too great, they break out of their structure, moving with speed in an undefined order. we say this matter is in liquid state.

as even more heat energy is added, the molecules move even faster, moving past each other in space at random, completely without any structure or defined volume. we say that this matter is in a gas state.



PRESSURE INCREASE OR DECREASE molecules are pushed closer together or pulled further apart into higher or lower density, moving them around rapidly or slowly as energy is added or subtracted, which produces a phase change amongst different states of matter.



MELTING

FREEZING



EVAPORATING

CONDENSING



DEFINING PHASE CHANGE these key terms above identify and define phase changes between different states of matter as energy, in the form of heat, is added or subtracted.