Unit 7 – States of Matter

C2.2A Describe conduction in terms of molecules bumping into each other to transfer energy. Explain why there is better conduction in solids and liquids than gases.

C2.2B Describe the various states of matter in terms of the motion and arrangement of the molecules (atoms) making up the substance.
C2.2B.a I can describe the arrangement of molecules in a gas.
C2.2B.b I can describe the arrangement of molecules in a liquid.
C2.2B.c I can describe the arrangement of molecules in a solid.

C2.2c Explain changes in pressure, volume, and temperature for gases using the kinetic molecular model.
C2.2c.a I can explain changes in pressure for gases using the kinetic molecular model.
C2.2c.b I can explain changes in volume for gases using the kinetic molecular model.

C2.2f Compare the average kinetic energy of the molecules in a metal object and a wood object at room temperature.

C3.3A Describe how heat is conducted in a solid.

C3.3B Describe melting on a molecular level.

C4.3A Recognize that substances that are solid at room temperature have stronger attractive forces than liquids at room temperature, which have stronger attractive forces than gases at room temperature.

C4.3B Recognize that solids have a more ordered, regular arrangement of their particles than liquids and that liquids are more ordered than gases.

C4.5a Provide macroscopic examples, atomic and molecular explanations, and mathematical representations (graphs and equations) for the pressure-volume relationship in gases.

C4.5b Provide macroscopic examples, atomic and molecular explanations, and mathematical representations (graphs and equations) for the pressure-temperature relationship in gases.

C4.5c Provide macroscopic examples, atomic and molecular explanations, and mathematical representations (graphs and equations) for the temperature-volume relationship in gases.