Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_\_\_\_

# **Unit 6 Learning Objectives – Particles with Internal Structure**

| **Learning Objectives** | **Your understandings and resources** |
| --- | --- |
| 1. Describe a model of the atom that accounts for the fact that neutral particles can become either positively or negatively charged.Cite experimental evidence from J.J. Thomson’s experiments that supported his atomic model. |  |
| 2. Apply the above atomic model to explain the observed interactions between the tapes, foil and paper in the Sticky Tape Lab.   Identify the key property that distinguishes metals from nonmetals. Apply the atomic model to account for the difference in this property. Explain the term polarization.Apply the same atomic model to explain observations such as a balloon being attracted to the wall after rubbing against hair. |  |
| 1. Cite evidence that distinguishes ionic from molecular compounds. Give specific examples.
 |  |
| 4. Cite evidence for (+) charged metal ions and (-) charged nonmetal ions. Give atomic level explanations. |  |
| 5. Differentiate atomic, molecular and ionic solids by their atomic structures. Relate the structures to their properties such as melting and boiling points.Classify a given unit cell of an elemental, molecular or or ionic substanceDescribe similarities and differences between an ionic solid and a molecular solid both at the micro scale and the macro scale.Determine whether a compound is ionic or molecular from the elements that make up the compound.Draw particle diagrams for ionic, molecular and atomic substances that demonstrate distinguishable characteristics of each type of substance.  |  |