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| Course/Subject/Grade(s): Science 9  | Planning Team |
| Unit Big Idea: The electron arrangement of atoms impacts their chemical nature  | Unit Guiding Question(s): How and why do atoms combine to form compounds? |
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| Goals | Access – This is what I NEED to know and do | All – This is what I MUST know and do | Most – This is what I CAN know and do | Few – This is what I COULD know and do | Extension – This is what I can TRY to know and do |
| Content Goal:Structure of the periodic table Types of compounds  | I know what an element itI know the 3 subatomic particles I can draw Bohr models for elements I can determine the number of each subatomic particle in an element or ion I know the 10 number prefixes  | I know the periodic table is arranged by atomic numberI can identify metals and non-metals I can identify a compound as ionic or covalent I can name covalent compoundsI can name binary univalent ionic compounds  | I know 4 chemical families I know the 7 diatomic atoms I know how elements are grouped on the periodic tableI can explain why covalent formulae are not reduced I can explain why ionic formulae are reduced I can name ionic compounds with polyatomic ions  | I know the semi-metals I can explain why only 7 elements are diatomic I can explain the size changes for atoms across a period, down a row I can explain why some metals are multivalent I can name multivalent ionic compounds  | I can explain how and why metallic character changes across periods and down rows I can explain why some compounds do not fit in the ionic/covalent trends I can predict the charge for a metal  |
| Curricular Competencies: Processing and analyzing dataEvaluating  | Seek and analyze patterns, trends and connections in data  | I can arrange into an order  | I can find at least one pattern in a data set and use it to arrange the data  | I can explain the pattern in a data set  | I can predict where there is a missing data point in the data set I can predict where an new data point will do given partial information  | I can find additional examples of the pattern in the natural world I can express the trend in multiple ways  |
| Construct analyze and interpret graphs, models and/or diagrams  | I can fill in a pre-set-up model or diagram  | I can construct a model or diagram and explain it  | I can use my constructed model or diagram to explain science concepts  | I can identify and explain errors or missing points in my model or diagram.  | I can use my diagram or model to explain phenomena from society or a different science concept  |
| Use knowledge of scientific concepts to draw conclusions that are consistent with evidence  | I can summarize the evidence of an experiment  | I can write simple one point conclusions using scientific vocabulary from the unit  | I can write conclusions which draw on 2 or more point using scientific vocabulary from the unit  | I can compare conclusions to theory and explain differences and the reasons for the errors in the experiment or data  | I can explain how the conclusion has relevance for our lives in society  |
| Evaluate the validity and limitations of a model or analogy in relation to the phenomenon modelled  | I can recognize the difference between a model and the real thingI can explain why models are used  | I can recognize the validity or limitations of the model I am studying  | I can explain the historical significance of the model  | I can compare and contrast different models based on validity and limitations  | I can suggest changes to a model to address limitation  |