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| Desired Results for:8th grade chemistry unitDRAFT |
| Essential Understanding: Apply an understanding of atomic and molecular structure to explain the properties of matter, and predict outcomes of chemical and nuclear reactionsEstablished Goals:**State Standards:****Inquiry Questions:**1. What evidence can indicate whether a change is physical or chemical?
2. Is it easier to observe the conservation of mass in physical or chemical changes? Why?
3. What would happen if mass were not conserved?
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| Understandings:Students will understand . . .1. Identify the distinguishing characteristics between a chemical and a physical change (DOK 1)
2. Gather, analyze, and interpret data on physical and chemical changes (DOK 1-2)
3. Gather, analyze, and interpret data that show mass is conserved in a given chemical or physical change (DOK 1-2)
4. Identify evidence that suggests that matter is always conserved in physical and chemical changes (DOK 1)

Examine, evaluate, question, and ethically use information from a variety of sources and media to investigate physical and chemical changes (DOK 1-2) | Essential Questions:Essential Questions:1. What is the basic structure of anatom?2. What does an element’s location onthe periodic table tell us about itsatomic structure, characteristics andtrends?3. What does atomic structure tell usabout an atom’s tendency tocombine with other atoms?4. What are the signs that indicate achemical reaction might be takingplace? |
| Essential Vocabulary:Period• group• periodic• element• atomic number• proton• neutron• electron• atomic mass• mass number• valence electron• chemical bonding |
| Resultant Knowledge:Students will know…Resultant Knowledge:Students will know…• the parts of an atom.• the relationship between parts of anatom.• The reason for the organization of theperiodic table• that the arrangement of electronsdetermines how atoms combine1. • signs of a chemical reaction
 | Resultant Skills:Students will be able to . . .1. explain how elements are arranged in theperiodic table.2. predict and explain why elements in agroup often have similar properties.3. describe how atoms combine with anunderstanding of their atomic structure.4. recognize chemical reactions, and thatthey produce new substances that havedifferent chemical and physical properties |
| Stage 2 – Assessment Evidence |
| Performance tasks.Calculate and illustrate the number ofprotons, neutrons, and electrons in anatom.• Predict placement of an elementbased on periodic trends or similarities.• Create models showing electronarrangement• Perform a chemical reaction, and* provide evidence that it occurred.
* End Project- Students will construct in the lab their own heat pack and cold pack using a supply list, they will need to research the endo and exothermic reactions needed to do so.
 | Other Evidence.Assessment on key terms and concepts2. Completion of atomic mathcomputations3. Completion of periodic table project* 4. Carry out chemical reactions
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| Stage 3 Learning Plan |
| Activities |
| Demos1. Alkali Metals
2. Whoosh Bottle
3. Spontaneous Combustion
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| Specifics |
| LabsDensity of a LiquidClassification of MatterBoiling point of liquidsCreating alloy- Golden PennyChemical Change, element to compoundElectrolysis of copperEndo/ExothermicBoyles LawProperties of Salts(spectrum)Micro Chemical Reactions vs Physical ChangeDensity of a gas |
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| Lessons/homework Section review chapters 1,2,3 of P Hall text, guided reading and selected wksheets on mryoast.weebly.com |
| NotesOnline at mryoast.weebly.com |
| Pre Assessments Vocab quiz Lab Safety QuizPre Test1. What evidence can indicate whether a change is physical or chemical?
2. Is it easier to observe the conservation of mass in physical or chemical changes? Why?

 3. What would happen if mass were not conserved? |