**Unit 2 – Learning Goals for Formation of the Universe**

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| **Big Picture**: Students should understand the role of energy in the formation of the universe, stars, and the solar system, and explain the evidence supporting these events. |
| **Content Goals** | **Skills Goals** |
| Students will be able to:* Differentiate between a scientific law and a scientific theory
* Summarize the Big Bang theory and describe the scientific evidence
* Explain how elements in universe are formed
* Describe the formation of galaxies and solar systems and describe the scientific evidence
* Explain how fusion produces heat and electromagnetic radiation in stars
* Explain how rates of contraction and expansion determine the behavior of a star
* Describe similarities and differences between stages in the life cycle of a star
 | Students will be able to:* Make a time-scale for significatnt events in the history of the universe
* Use factor-label method to convert from one unit of measure to another
* Use information provided in charts and graphs to analyze patterns in data
* Identify the topic, summarize the main idea, and identify the key supporting statements in a scientific article
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| **Assessment**: How will mastery of content and skills be assessed?* History of Universe Booklet will provide evidence of:
* Ability to make a time scale
* Basic knowledge of formation of universe, galaxies, solar systems, and earth
* Article evaluation will show whether students can identify topic and summarize main idea
* Quizzes and tests will show if students have mastered the content goals.
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| **Content Vocabulary:**Universe / cosmosBig Bang TheoryGalaxy InterstellarLight yearFusionGravityElementPlanet | NebulaProtostar Main sequence starRed giant / super giantWhite dwarfBlack dwarfNeutron starSuper novaBlack holeFission | **Core Vocabulary:**TheoryLawHypothesisRateEstimateMassMatterEvidenceExpansionContraction |

