GIPS 7th Grade Science Design Map

Units (in sequence)	**Estimated Time Frame** (days)	**K-12 Program Strands With Corresponding Course/Grade Level Standards**	**K-12 Program Enduring Understandings (for content only)**	**K-12 Program Essential Questions (for content only)**	**Unit Assessments** (note if optional)	**C/GL Key Vocabulary Concepts**
Unit 1 **Earth's Water**	Barr & Walnut 20 Periods Westridge 40 Periods		**See strand one for full text.**			water molecule evaporation condensation run off water cycle pressure radiation conduction convection plate tectonics earthquake volcano weather climate atmosphere electromagnetic waves greenhouse effect gravity inertia revolution rotation thrust planet galaxies spectrum stars

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Unit 2 **Earth's Water**	Barr & Walnut 20 Periods Westridge 40 Periods		**See strand one for full text.**			water molecule evaporation condensation run off water cycle pressure radiation conduction convection plate tectonics earthquake volcano weather climate atmosphere electromagnetic waves greenhouse effect gravity inertia revolution rotation thrust planet galaxies spectrum stars

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Unit 3 **Inside Earth**	Barr & Walnut 20 Periods Westridge 40 Periods	**Physical Science:** **2.2 Motion and Forces** **2.3 Matter and Energy** Classify heat transfer in/on Earth and stars Summarize the role of gravity as a force in the universe **Life Science:** **3.3 Ecosystems** Predict how natural catastrophes on Earth could affect life **Earth & Space Science:** **4.2 Energy** **4.3 Origin and Evolution** Analyze and illustrate the role of energy in Earth's atmosphere and in Earth's interior Identify theories of the origin of the universe Model and explain earth's structure, history, and geochemical cycles (air, water, land and life	The interaction between energy and matter creates forces (pushes/pulls) that produce predictable patterns of change to the Earth/Universe system. Different wavelengths interact with matter in different ways. The total amount of matter and energy remains constant, even though their form and location undergo continual change Although the various forms of energy seem very different, each can be measured in a way that makes it possible to keep track of how much of one form is converted into another. Organisms can survive only in environments in which their needs are met. ?????????? Evidence gathered from the past is used to explain origination of an event, phenomenon, species, system and help predict the future. **See strand one for full text.**		Structured Response Assessment Learning Log Seismic Waves [varies by building] Pangea Map [varies by building]	water molecule evaporation condensation run off water cycle pressure radiation conduction convection plate tectonics earthquake volcano weather climate atmosphere electromagnetic waves greenhouse effect gravity inertia revolution rotation thrust planet galaxies spectrum stars

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Unit 4 **Astronomy**	Barr & Walnut 20 Periods Westridge 40 Periods	**Physical Science:** **2.3 Matter & Energy** Classify energy and its effects in our universe **Earth & Space Science:** **4.1 Structure, History, & Cycles** **4.3 Origin and Evolution** Describe the evolution of the universe Identify organization of objects in our universe (star cycles, positions, galaxies) Analyze space exploration and development of technology	The interaction between energy and matter creates forces (pushes/pulls) that produce predictable patterns of change to the Earth/Universe system. Different wavelengths interact with matter in different ways. Although the various forms of energy seem very different, each can be measured in a way that makes it possible to keep track of how much of one form is converted to another. Evidence gathered from the past is used to explain origination of an event, phenomenon, species, system and help predict the future. Systems are not mutually exclusive: they may be so closely related that there is no way to separate all parts of one from all parts of the other. Organisms can survive only in environments in which their needs can be met. Space explorations and technological advances have a direct impact on our understanding of the universe. **See strand one for full text.**	How do energy and forces cause change? Where does energy come from? Where does it go? How does energy flow and how is it transfered? How do living organisms change, survive, and interact with each other? What are the parts of this system? How do they work together? How do scientists work to figure out how the world began? How do systems of the universe relate to each other?	Structured Response Assessments Learning Log Planet & Galaxy Labs {varies by school)	water molecule evaporation condensation run off water cycle pressure radiation conduction convection plate tectonics earthquake volcano weather climate atmosphere electromagnetic waves greenhouse effect gravity inertia revolution rotation thrust planet galaxies spectrum stars