**The Four Spheres**

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| **Big Idea** | **Access Point** | **Emerging** | **Developing** | **Proficient** | **Extending** |

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| The biosphere, geosphere, hydrosphere, and atmosphere are interconnected as matter cycles and energy flows through then | Define thedifference betweenbiotic and abioticcomponents | Identifies that the earth and space are separated by specific layers | Describes how bioticand abiotic matter and energy cycles within and among each sphere, considers multiple knowledges, represents in a variety of ways | Critically analyzes how humans impact the matter and energy cycles within biotic and abiotic components of ecosystems. | Formulates a physical or mental theoretical model of the natural formation of planetary spheresFormulates a plan for how humans can reduce their impact on an ecosystem. |
| Conducts experiment collaboratively with others, and records findings in a variety of ways | Defines qualitative and quantitative dataInterprets graphs and diagrams to observe data patterns and relationships | Explains the importance of both types of data for scientific discovery and understanding of our natural worldCritically analyzes data, and the methods used to gather it, for reliability and validity | Defends a stance related to scientific validity of an environmental issue, suggests a course of action, and communicates it effectively using scientific language, conventions, and representations | Proposes an innovative solution to an environmental issue, communicates in creative and powerful ways |
| Describe different perspectives related to sustainability | Identifies that other perspectives exist outside of the western platonic knowledge idea | Describes Indigenous and other perspectives related to sustainability | Makes connections between western and Indigenous perspectives, analyzes reasons for differences | Proposes ways of synthesizing beliefs and practices to address an environmental issue |