



Physics Earth and Space Science Learning Matrix

Curriculum Level 6

Learning Area Whakataukī:

Mā te whakaaro nui e hanga te whare; mā te mātauranga e whakaū. *Big ideas create the house; knowledge maintains it*

Big Ideas				
The concepts of the physical world can be explored and explained through inquiry approaches	The motion of objects can be described and predicted by using physics concepts	Energy can be transferred from one energy store to another during an event, but the total amount of energy always remains the same	Interacting processes within and between the Earth System dynamically shape and affect the surface, climate, and life on Earth	The Earth and space systems within the universe interact with each other, and are constantly changing with time
Significant Learning				
At Curriculum Level 6, students will...				
<ul style="list-style-type: none"> use systematic and scientific processes, models, and other representations, to explain Physics Earth and Space Science principles and explore how these processes are applied in a taiao context. Explore how different ways of applying models can strengthen the work of kaitiakitanga to restore mana and mauri to a system. understand that forces have an effect on the motion of objects in the taiao. In a variety of contexts, including te ao Māori, understand how the application of forces and its effect on motion has been used effectively in the past and is also being used effectively in the present. explore how energy transfers are involved in everyday interactions. Understand how the knowledge and significance of energy transfer has been passed down through pūrākau and tikanga practices. Learn how these same science concepts are still being applied to a variety of te ao Māori activities today. understand that the total amount of energy is maintained when it is transferred during an event. Te ao Māori acknowledges the interconnectedness and interrelationship of all living and non-living things. Understand the cultural significance for Māori of seeking to understand the total system, and the role energy conservation plays in it. understand that the taiao is centred on mauri, and encompassed and maintained by kaitiakitanga, and described in science as consisting of interacting spheres - the hydrosphere, biosphere, atmosphere, and geosphere. examine interactions between the hydrosphere, biosphere, atmosphere, and geosphere. Through aspects of whakapapa, consider how these interactions are woven into te ao Māori. explore the effects of natural, and human-induced changes to the taiao. Explore how mauri is an essential part of the natural and human-constructed world and how it is essential to maintain or restore mauri. explain how maramataka is used to gain mōhioanga of tātai arorangi as we describe interactions between the Sun and Earth-Moon systems and their effect on planet Earth. describe interactions between the Sun and Earth-Moon system. Explore how people can use tātai arorangi and kaitiakitanga to inform their actions. 				