

六年級英語融入自然領域課程理念與架構

本計畫以六年級 2 個班, 規劃六年級的自然課程, 由自然領域老師與英文老師協同教學, 結合自然領域發展特色英語課程及活動, 每月內容安排如下:

單元主題	活動名稱	教學週次
單元1 天氣的變化	活動1 大氣中的水	第 01~02 週
	活動2 天氣圖與天氣變化	第 03~04 週
	活動3 認識颱風	第 05~06 週
單元2 熱和我們的生活	活動1 物質受熱的變化	第 07~08 週
	活動2 熱的傳播方式	第 09~10 週
	活動3 炎熱地區的房屋建築	第 11~12 週
單元3 變動的大地	活動1 岩石與礦物	第 13~14 週
	活動2 地表的變化	第 15 週
	活動3 地震來了	第 16 週
單元4 電與磁的奇妙世界	活動1 指北針與地磁	第 17週
	活動2 神奇的電磁鐵	第 18 週
	活動3 電磁鐵的應用	第 19-20 週

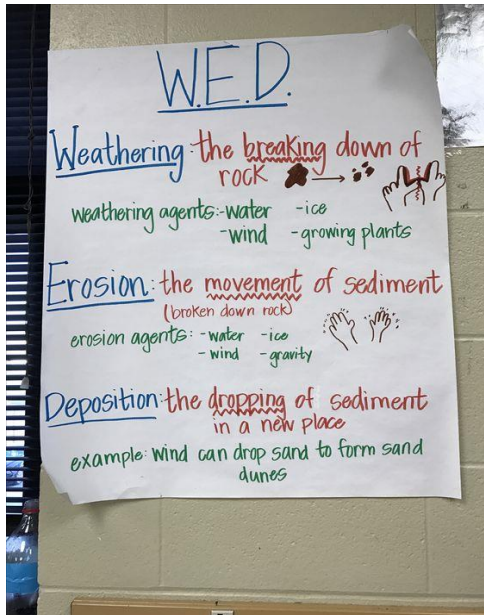
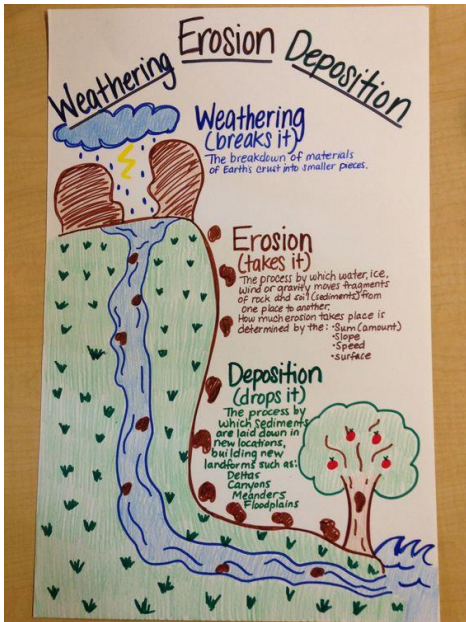
109學年度臺北市中山區大佳國民小學沉浸式英語教學特色學校試辦計畫

六年級自然與生活科技領域-自然科教學計劃

領域科目		自然領域/自然科	設計者	蘇玫如
實施年級		六年級	總節數	6
單元名稱	變動的大地-地表的變化			
設計依據				
學習重點	學習表現	1b. 能和別人討論不同的想法和方法，相互瞭解，選擇最合適的。 3a. 能欣賞生命成長、物質變化等自然現象的奧妙。 3b. 能欣賞科學與科技探索的歷程與樂趣。 4a. 對環境現象探討有興趣並有積極參與的意願。	核心素養	總綱 A2系統思考與解決問題 B2 科技資訊與媒體素養
	學習內容	1b. 喜愛探討與詢問究竟。 3c. 察覺科學與科技研究，可解決很多問題。 4c. 能由網路、圖書各資訊媒體獲得資料，由生活及做事中獲取智慧，養成自學的能力。 3a. 能傾聽別人的報告，並作適宜的回應 4c. 能以適當的方式表達並與同儕共享探究的成果。		具備問題理解、思辨分析、推理批判的系統思考與後設思考素養，並能行動與反思，以有效處理及解決生活、生命問題。
設計理念				
藉由認識不同種地表變化，再經由分類，引導孩子理解流水作用造成的侵蝕、搬移、沉積等差異性。				
議題融入	學習主題	環境教育/環境素養		
	實質內涵	△認識與理解人類生存與發展所面對的環境危機與挑戰：氣候變遷、資源耗竭、生物多樣性消失及社會不正義和環境不正義。 △思考個人發展、國家發展、與人類發展的意義。 △執行綠色、簡樸與永續的生活行動。		
與其他領域/科目的連結		社會領域、圖資領域		
教材來源		南一版 自然與生活科技課本		
教學設備/資源		電腦、單槍投影機、電子白板、海報、彩色麥克筆		
學習目標				
1. 認識地表的變化。 2. 學會「侵蝕」、「搬移」、「沉積」、「風化」的成因。 3. 在學習完地表流水作用以後，能夠透過分組合作，完成統整分析的海報。				

教學活動設計

教學活動內容及實施方式	時間	英語相關知識
<p>Warm-up & Review : Greeting, and show the video clip on Youtube</p> <ol style="list-style-type: none"> 1. https://www.youtube.com/watch?v=R-Iak3Wvh9c 2. https://www.youtube.com/watch?v=krJLnXpemtQ <p>Development :</p> <ol style="list-style-type: none"> 1. Erosion: the wearing away and removal of rocks by the action of water, wind or ice. 2. Transportation: the movement of sediment along the river' s course. 3. Deposition: the putting down of material by the river. 4. Weathering is a natural process that breaks apart or changes rock. Some of the natural forces that cause weathering include heat, water, wind, and living things. There are three main types of weathering: physical, biological, and chemical. Weathering, unlike erosion, breaks things up into smaller pieces but does not move them away. 5. Weathering and erosion work together to change the environment. In nature, large things get broken down into smaller things. This can take a really long time, but sometimes it happens fast! 6. Erosion is what moves the soil and tiny rocks that weathering leaves behind. The wind and water carry the sediment (small pieces of rock or sand) to a new location. Erosion can happen because gravity pulls soil downhill. It can also happen because of strong weather, like rain or wind. Erosion is a very slow process. It happens over many, many years. <p>Practice: <Instructions></p> <ol style="list-style-type: none"> 1. Every group has a B4 paper 2. students need to cooperate with their teammates, write and draw all their ideas about the weathering, erosion, transportation, and deposition. 3. They have 10 minutes to discuss with their teammates, later, they all come up to the stage and share their ideas. 	<p>5 min</p> <p>15 min</p> <p>15 min</p>	<p>Vocabulary:</p> <p>Erosion Transportation Deposition Weathering</p> <p>Classroom Language:</p> <ol style="list-style-type: none"> 1.Look at the picture! 2.Turn to page ____. 3.Raise your hand! 4.Repeat after me. 5.That' s a good question! 6.Have you Finished?



5 min

Wrap-up

1. Show geological processes poster and review the idea about W.E.D (Weathering, Erosion, Deposition)
2. Show power point and answer three questions:

Q1: Erosion is:

- A) The process of moving materials from their source to another location through weathering.
- B) The breaking down of rock soil and minerals.

Magma coming up from the Earth's mantle through openings in the crust.

Q2: True or False? Weathering is the breaking down of soil, rock, and minerals over time.

GEOLOGICAL PROCESSES

AND HOW THEY SHAPE OUR EARTH

There are many different types of geological processes; some slow, and some fast. They are constantly at work changing the face of our Earth, both destroying land, and creating new land.

<h3>EROSION</h3>	<h3>EXAMPLES</h3>		
<p>Erosion is the process of materials moving from their source to another location through weathering. There are several types of erosion, but the most common are erosion by wind, water, and ice.</p>	 <p>River Deltas: Water Erosion Rivers carry sediment from farther upstream, and it is deposited at the ocean.</p>	 <p>Glacial Valleys: Ice Erosion Glaciers move materials from the mountains downslope as they move.</p>	 <p>Sand Dunes: Wind Erosion Wind moves the sand to new locations, building new dunes.</p>
<h3>WEATHERING</h3>	<h3>EXAMPLES</h3>		
<p>Weathering is the breaking down of rock, soil, and minerals. The main types are physical (including freezing, abrasion, and thermal stress) and chemical (including dissolution, oxidation, and carbonation)</p>	 <p>Example of Physical Weathering: Abrasion Abrasion weathering can be caused by wind or water carrying particulate matter, and as it passes rocks or other materials, the material is worn down.</p>	 <p>Example of Chemical Weathering: Oxidation Oxidation is caused by the reaction of materials with oxygen. The most popular example of this is rust, which is oxidized iron. This can be seen in iron-rich rocks.</p>	
<h3>PLATE TECTONICS</h3>	<h3>EXAMPLES</h3>		
<p>Plate tectonics states that the Earth's crust is broken up into different "plates" that slowly move and interact with each other. Where these plates meet are often very geologically active. There are three types of plate boundaries.</p>	<p>Transform</p>  <p>Transform boundaries occur where two plates slide along each other. Powerful earthquakes are common along transform boundaries.</p>	<p>Convergent</p>  <p>Convergent boundaries can result in either subduction (shown above, volcanos are commonly found here) or collision (resulting in uplift).</p>	<p>Divergent</p>  <p>Divergent boundaries are the only constructive boundaries (resulting in newly created land). They occur where plates pull apart.</p>
<h3>VOLCANISM</h3>	<h3>EXAMPLES</h3>		
<p>Volcanism refers to the phenomenon of magma from the Earth's mantle coming to the surface through openings. Volcanos are most common along Divergent and Subductive plate boundaries, and hotspots.</p>	<p>Hotspots</p>  <p>Hotspot are places where magma comes up through the crust, and as the crust moves from continental drift, a string of volcanos or islands are formed.</p>	<p>Subductive</p>  <p>Subduction increases volcanism due to the crust being pushed into the mantle. Often the material will rise to the surface as a volcano.</p>	<p>Divergent</p>  <p>Divergent zones will often have magma coming to the surface due to the gap created by the plates pulling apart from each other.</p>