

自然科學部分雙語課程設計			
單元名稱	第三單元 - 物質的溶解量相同嗎?		
領域類別	自然科學	教案設計	郭婉容
教學對象	三年級	教學節次	1 節/每節 40 分鐘
教學目標	1. 知道不同物質在等量的水中有不同的溶解量。		
學習內容	INc-II-1 使用工具或自訂參考標準可量度與比較。 INc-II-2 生活中常見的測量單位與量。		
學習表現	pe-II-2 能正確安全操作適合學習階段的物品、器材儀器、科技設備及資源，並能觀察和記錄。 tc-II-1 體會科學的探索都是由問題開始。 an-II-1 能簡單分辨或分類所觀察到的自然科學現象。		
核心素養	自-E-A2 能運用好奇心及想像能力，從觀察、閱讀、思考所得的資訊或數據中，提出適合科學探究的問題或解釋資料，並能依據已知的科學知識、科學概念及探索科學的方法去想像可能發生的事情，以及理解科學事實會有不同的論點、證據或解釋方式。 自-E-A3 具備透過實地操作探究活動探索科學問題的能力，並能初步根據問題特性、資源的有無等因素，規劃簡單步驟，操作適合學習階段的器材儀器、科技設備及資源，進行自然科學實驗。 自-E-C2 透過探索科學的合作學習，培養與同儕溝通表達、團隊合作及和諧相處的		

	能力。		
學科英語	溶解 dissolve 鹽 salt、糖 sugar、量筒 graduate cylinder、燒杯 beaker、玻棒 stir rod、量匙 measuring spoon		
	教學活動	教學資源	評量方式
	<p>第一節課開始</p> <p>引起動機: (5')</p> <p>我們知道鹽和糖在水中都能溶解，但鹽和糖誰可以溶解的比較多?</p> <p>T: We did the experiment last time to prove salt and sugar can dissolve in water. Which means they' re evenly mixed.</p> <p>Further question, which one can dissolve more in water, salt or sugar?</p> <p>Ss: 他們都可以溶解，所以可以溶解的量也是一樣的/ 雖然都可以溶解，但溶解的量會不一樣，我覺得鹽(糖)比較多/ 不知道/</p> <p>Free response.</p> <p>發展活動: (35')</p> <p>1. 不同物質的溶解量相同嗎?</p> <p>T: Which one can dissolve more in water, salt or sugar?</p> <p>Let' s do the experiment to find out the answer. When we do this experiment, what things should be controlled?</p>	<p>PPT</p> <p>燒杯</p> <p>量筒</p> <p>量匙</p> <p>玻棒</p>	<p>口頭評量</p> <p>實作評量</p>

<p>Ss:水量需要一樣/ 使用的器材需要一樣/ 水溫需要一樣/ Free response.</p> <p>T: Great! When we do the experiment, only one thing will be changed. In the experiment, which one has been changed?</p> <p>Ss: The amount of matter (salt and sugar).</p> <p>T: Make a guess, which one will dissolve more? Is salt or sugar?</p> <p>Ss: Salt/ sugar/ same.</p> <p>T: Let' s choose the most of your thoughts as the hypothesis. This experiment' s hypothesis is that sugar can dissolve more than salt in water.</p> <p>T: What science tools do we need and why we need it?</p> <p>Ss: 燒杯 , 用來裝水/ 量筒 , 量一樣的水量/ 玻棒 , 攪拌/ 量匙 , 裝鹽和糖/ Free response</p> <p>T: We need a graduate cylinder to measure same amount of water for each beaker. Using same measuring spoon and stir rod to have same amount of salt and sugar. Only put one spoon of salt and sugar in each beaker. Use stir rod to stir until all salt and sugar dissolve. Then you can put</p>	<p>水</p> <p>鹽</p> <p>白砂糖</p> <p>習作</p>	
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another spoon of salt and sugar in each beaker. Once salt or sugar cannot dissolve in water, you can see them under the bottom of beaker, then you have to stop. Record how many spoons of salt and sugar and dissolve in water on workbook.

(Experiment)

T: How many spoons of sugar dissolve in water?

Ss: (根據實驗結果回答)

T: How many spoons of salt dissolve in water?

Ss:(根據實驗結果回答)

T: Can same amount of salt and sugar dissolve in water?

Ss: No, 糖的溶解量比鹽多。

綜合活動: (5')

歸納:不同物質的溶解量不同, 糖的溶解量比鹽多。

T: According to the experiments, what do we learn?

Ss:糖和鹽的溶解量不同/ 糖溶解的比較多/ 鹽溶解的比較少/

Free response.

T: Wonderful observation. We can find out that different matters have different dissolved amount. In this case, sugar

口頭評量

can dissolve more than salt in water.		
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