

New Taipei City English Wonderland – Kuolai Campus

新北市英速魔法學院 107 學年度活動設計

Course Activity Planning Guide

單元主題 Unit Theme	Ecology	領域 Subject	Acid Rain : What is acid rain and how is it measured.
教學對象 Target Audience	5 th Grade EFL Learners	設計者 Course Planner	Deirdre Weary
任教班級 Class	Day One : Acid Rain Part 1	教材來源 Source of Class Materials	Environmental Protection Agency –USA,
教學時間 Course Duration and Time	50 minutes		
教材分析 Resources Analysis	1. Lesson plan meets the standard for 21 st century skills: problem solving, creativity , analytic thinking, collaboration, communication and environmental awareness.		
單元目標 Course Objective	Students shall be given opportunity to 1) acquire data through the senses 2) observe properties and patterns of objects, organisms and events in the environment. 3) Communicate in L2 data and information in appropriate oral and written form and 4) describe changes that occur to objects and organisms in the environment.		
教學目標 Class Objective	<ul style="list-style-type: none"> ● Students will be able to identify major contributing factors for acid rain. ● Ss will be able to identify the difference between and acidic and basic pH 		
教學資源 Class Resources	Classroom technology, materials: acid rain pathway diagram, pH strips and pH color scale, medicine droppers, storage container, various substances to test: vinegar, soap water, black tea, green tea, tap water, rain water, coffee. note Minimum of 4 substances.		
Key Vocabulary	Verbs: blows, makes, adds to, pollute Nouns: pollution , Acid rain ,		

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Key Sentence Frame	It's _____ because the pH is _____. Cars and factories make the pollution The wind blows the pollution The pollution adds to the rain. The acid rain pollutes the trees and rivers			
具體目標 Objective	教學過程及活動 Class Activities	教學資源 Class Resources	時間 Duration	備註 Notes

<p>T. creates a safe and warm classroom climate where students feel comfortable in learning and exploring new material.</p>	<p>T. establishes classroom rules, motivations, atmosphere and order. T. determines student teams.</p>	<p>Team points, whiteboard</p>	<p>5 minutes</p>	
<p>Activate relevance and background in L1</p>	<p>Activate Background Knowledge: What is the Acid Rain Pathway.</p>		<p>5 minutes</p>	
<p>Background knowledge in L2s with scaffolding ppt</p>	<p>Cars and factories make the pollution The wind blows the pollution The pollution adds to the rain. The acid rain pollutes the trees and rivers</p>		<p>10 minutes</p>	
<p>T models target language and activity</p>	<p>Hands on activity Ss will test the pH of various substances to determine whether or not they are acid/ base or neutral.</p>		<p>5 minutes (intro)</p>	
	<p>L2 target:</p>			
	<p>Basic level:</p>			
	<p>What color is it? It's _____. The pH is _____.</p>			
<p>I</p>				

<p>Group share and assessment</p> <p>Feedback</p>	<p>Ss will use a ph scale and record their data for the various tests.</p> <p>Teacher will elicit responses for group science report.</p> <p>Teacher will check work and award stamps based on completion and accuracy.</p> <p>Sunny day – nature walk . Ss will explore grounds to determine if there is any evidence of acid rain effects.</p>		<p>7- 10 min</p> <p>5-7 min</p> <p>3 min</p> <p>3 min</p>	
<p>具體目標 Objective</p>	<p>教學過程及活動 Class Activities</p>	<p>教學資源 Class Resources</p>	<p>時間 Duration</p>	<p>備註 Notes</p>

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單元主題 Unit Theme	Ecology	領域 Subject	Acid Rain Part 2: Data
教學對象 Target Audience	5 th Grade EFL Learners	設計者 Course Planner	Deirdre Weary
任教班級 Class	Day Two : Acid Rain Part 2	教材來源 Source of Class Materials	Central Weather Bureau Taiwan Government, Environmental Protection Agency- USA
教學時間 Course Duration and Time	50 minutes		
教材分析 Resources Analysis	Lesson plan meets the standard for 21 st century skills: problem solving, creativity, analytic thinking, collaboration, communication and environmental awareness.		
單元目標 Course Objective	Students will be able to interpret data by assigning meaning to the information analyzed and determine the environmental significance and implications.		
教學目標 Class Objective	Ss will be able to interpret scientific data concerning acid rainfall for Keelung, Taiwan. Ss will be able to develop an hypothesis based on scientific understanding of the environmental effects of acid rain.		
教學資源 Class Resources	Classroom technology, materials: acid rain pathway diagram, acid rain data chart, lap white boards, markers, eggs in rice vinegar, paperclips in rice vinegar, plants in rice vinegar,		
Key Vocabulary	Same as Lesson 1		

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Key Sentence Frame	The pH is _____. It's 10x /100x more acidic than rain.			
具體目標 Objective	教學過程及活動 Class Activities	教學資源 Class Resources	時間 Duration	備註 Notes

<p>T. establishes classroom rules, motivations, atmosphere and order.</p>		<p>Team points, whiteboard</p>	<p>2 min</p>	
<p>Activate background knowledge</p>	<p>Review Lesson one with demonstration of pH test of rice vinegar</p>		<p>5 min</p>	
<p>Scaffolding: T provides support for language and skill for interpreting data</p>	<p>Ss will interpret data for a Keelung, Taiwan. T will show ss map of Taiwan and ask students to identify location on a local and world map. T checks for understanding of key elements of data chart. What is this data? When did they take this data? Where did they take this data? What is the pH for (date)?</p>		<p>5 min</p>	
	<p>Teacher assigns small groups and models the instruction for 1) science exploration corner and 2) writing and drawing pictures for the acid rain pathway .</p>		<p>5 min</p>	
<p>Exploration</p>	<p>Science Exploration :</p>			
<p>T. reviews the acid rain data and the pH for rice vinegar.</p>	<p>Students will come to Science Exploration Corner in small groups of 4 -6 and participate in Q & A session concerning the environmental effects of acid rain. During this time, remaining students are writing four sentences and drawing pictures for the acid rain pathway.</p>	<p>Write in journals</p>	<p>15 min</p>	
	<p>I</p>			

Feedback	<p>What will happen to the environment if the acid rain had a pH of 3? Students may finish early and near the end of the 4 group, Teacher should display ppt slide to hook students interest. Students can write out their answers or draw pictures.</p> <p>Teacher leads group discussion concerning the environmental effects of acid rain.</p> <p>Target vocabulary : fish, bear, tree, die, recycle, get sick, water pollution.</p> <p>Check journal and award stamps</p> <p>Outdoor activity: Ss can examine the acid rain effects on various plant species on the campus grounds.</p>		<p>10 min</p> <p>5 min</p>	<p>Connections:</p> <p>Large animals also depend of fish such as bears and seals.</p> <p>Loss of marine life and acidified lakes can result in a loss of aquatic plants producing photosynthesis .</p> <p>Acid rain also contributes to <i>the health risk for elderly and young population.</i></p> <p><i>Loss of fruits and vegetables production due to trees dying easily,</i></p>
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