

單元名稱	野地燧人氏	教學設計者	鍾昀真
學習對象	八年級下學期	學習節次	5 節課(225 分鐘)
學習內容	童 Cb-IV-1 露營知識與技能的學習，以提升野外生存能力。 童 Cc-IV-2 戶外休閒活動知能的整合與運用。		
學習表現	3a-IV-2 具備野外生活技能，提升野外生存能力，並與環境做合宜的互動。		
學習目標	1. 分享個人生活中與用火有關的經驗，學習安全用火知識。 2. 熟練火柴用法及使用技巧、學會分柴、架柴、滅跡的正確方法。 3. 運用用火知識與技巧搭架柴火實際生火。 4. 藉由烤棉花糖與爆米花評估生火成效並完成環境友善整理。		
教學方法	講述法、小組討論、實作		
教學資源	電腦、投影機、投影片、實物教具(火柴、三級柴)		
學科英語 詞彙	第一節 fire 火 flame 火焰 generate heat 產生熱 fire triangle 生火三要素 fuel 燃料 Oxygen 氧氣 heat 熱度 第二節 catch fire 著火 stop 停 drop 落下 roll 打滾 tinder 火種、發火柴 kindling 引火柴 firewood 燃燒柴 feather stick 火煤棒 make a fire 生火 第三節 match 火柴 roast 烤 marshmallow 棉花糖 bamboo sticks 竹籤		

	<p>第四節</p> <p>gather 收集(柴)</p> <p>build the fire 架柴升火</p> <p>light the fire 點火</p> <p>put out the fire 滅火</p>		<p>學科英語 句型 (視 教材內容)</p> <p>Stop, Drop, and Roll. We are going to roast marshmallows with a match. Now, you can start to roast your marshmallows. Be careful!! Don't Forget: Safety First. What impressed you most? Please feel free to share your ideas with us. Why? Because it was _____.(challenging/ interesting/ delicious/ horrible/others-自由發揮) What are you good at? What do you need to improve?</p>
野地燧人氏	教學 資源	評量	<p style="text-align: center;">(第一節課-生火 Give me Five)</p> <p>一、準備活動：(3')</p> <p>1.Roll call</p> <p>T: Good morning. It's time for class.</p> <p>2.Greeting.</p> <p>T: How are you doing today? Ss: I feel great/ so-so/ bad. T: Please share your feelings with the classmates next to you. Let's ask some of you. (學生已熟悉 Roll call, greeting 流程，此部分大部分以英文進行)</p> <p>二、引起動機：(12')</p> <p>Warm-up</p> <p>1.以小隊為單位，每次一位同學至黑板作答(可利用手邊資源如課本等找答案)</p> <p>(1)Write Chinese words with 火 in them. 請寫出火部(或有火字)的國字</p> <p>(2) Please write words related to "fire". For example: Firefighter, smoke.</p> <p>2. 檢視答案並加分 Let's count how many points do you get?</p>

(觀察學生是否可以理解老師的英語指令)

三、發展活動-Something about fire : (28')

1.The origin of fire (10')

Video: The Origin of Fire (5'20'')

<https://www.youtube.com/watch?v=U79T6eFSMI8>

Answer the questions:

T:

(0'00''-1'45'')

- (1) What animals did you see in the video? SS: Goose and fox.
- (2) What was the season in the video, spring, summer, fall, or winter? SS: Winter.
- (3) Why did the fox fall from the sky? SS: Because he opened his eyes.

(1'46''-4'00'')

- (1) What animals did you see in the video? SS: Fox and firefly.
- (2) What did the fox do to get the fire? SS: He made everyone dance and sing. He put some wood on his tail to get the fire and run away.

(4'01''-4'00'')

- (1) Who was happy with the fox? SS: The people.
- (2) Who was unhappy with the fox? SS: The firefly.
- (3) What did the firefly say to the fox in the end? SS: The fox could never use fire himself.
- (4) Do you know any other stories about the origin of fire?

(教師分段播放簡單全英動畫故事，每一段落播放完畢後皆請學生回答問題，提高學生專注力並確認學生理解狀況)

2.Function of fire (5')

Example: generate heat, generate light....

Raise your hands if you have any ideas.

3. The temperature and color of fire (3')

Have You Ever Wondered...

What is the color of fire?

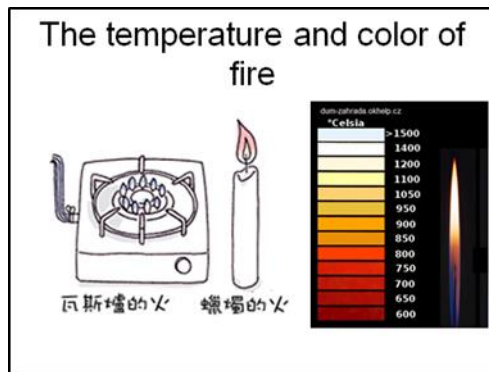
Why are gas stove flames blue?

How does temperature affect the color of flames?



口語
評量

口語
評量



4. How to build a signal fire? (5')

Use wet branches and leaves or grasses on the fire.

It will cause a lot of smoke.

影片：如何升起狼煙 1(3'00"-5'00")

<https://www.youtube.com/watch?v=Vsm5e7qkJKg>



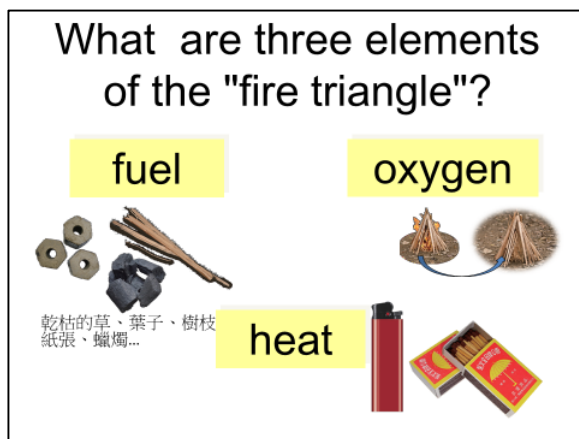
5. What is the fire triangle? (5')

Fuel, Oxygen, heat.

You can put out a fire as long as any one of these three elements is removed.

(以上部分以投影片搭配圖片，主要以英文為主，若學生有疑問再以中文補充說明)

Please take a note in your notebook. (請同學於筆記本上記錄生火三要素)



四、綜合活動：(2')

(一) 回饋與統整：教師總結本日上課重點：火的功能、火的溫度與顏色的關聯、如何升起狼煙、何謂生火三要素。

(第一節課結束)

(第二節課-生火 Give me Five 2)

一、準備活動：(3')

1.Roll call

T: Good morning. It's time for class.

2.Greeting.

T: How are you doing today?

Ss: I feel great/ so-so/ bad.

T: Please share your feelings with the classmates next to you. Let's ask some of you.

(學生已熟悉 Roll call, greeting 流程，此部分大部分以英文進行)

二、引起動機：(12')

(一) 用火安全 1-油鍋起火怎麼辦(6')

T: How to put out a grease(油) fire in the kitchen? Do you have any ideas? Please share with us.

油鍋起火不潑水，用鍋蓋蓋上

Cover the flames with a metal lid.(鍋蓋) Don't try to put out the flames with water.

用水滅火火更旺！油鍋起火免驚 消防署教你正確的滅火步驟(3'8")

https://www.youtube.com/watch?v=b03O1_rPtLs



(二) 用火安全 2-身上著火怎麼辦(6')

T: What do you do if your clothes catch fire? Will you run?

身上著火勿奔跑、勿慌張，切記「停、躺、滾」(Stop, Drop, and Roll.)

身上著火怎撲滅？搗臉.停躺滾(1'47")

https://www.youtube.com/watch?v=QF5o_LJZmag



※Please take a note on your notebook.(請學生在筆記本上記錄上課筆記)

三、發展活動-生火注意事項：(25')

T: Don't forget to take a note. (教師提醒同學紀錄上課重點)

1. 生火地點

T: There are four pictures, which one is the best place to start a fire? Why?

Ss: Number 1. Water, 有架高...

口語
評量



高層
次紙
筆評
量(筆
記)

- (1) 沒有草、雜物、易燃物的空地、四周保持清潔
- (2) 使用鐵皮、鐵片或架高方式隔絕地表，避免直接衝擊土壤
- (3) 確認場地是否允許生火
- (4) 生火區域旁預備水、沙土，供意外火災或滅跡使用

2. 收集柴火及分柴

- (1) 生火必須有可燃物，教師引導學生思考細柴與粗柴何者比較容易點燃？何者燃燒比較持久？
- (2) 認識三級柴：

T: Gather tinder, kindling and firewood.

發火柴(tinder)：使用一根火柴或打火機能點燃的柴，如乾樹葉、乾樹皮、火煤棒 feather sticks、火蟲。

引火柴(kindling)：很快被發火柴點燃的柴。如像原子筆般粗細的柴。

C.燃燒柴(firewood)：比引火柴更粗，是主要的燃料，可持久燃燒。

Please take a note in your notebook. (請同學於筆記本上寫出或畫出三級柴的判斷方式，並記錄重點單字：tinder, kindling, firewood)

口語
評量

3. 架柴

- (1) 架柴原則
- (2) 架柴方法與種類：塔型、井字型、井塔型、三角型

Please take a note in your notebook. (請同學於筆記本上畫出架柴示意圖並以文字說明)

高層
次紙
筆評
量(筆
記)

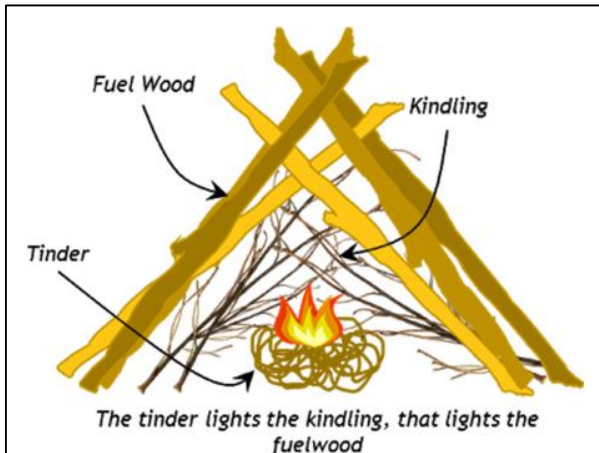
4. 點火(以火柴點火為例)

- (1) 發火柴外加引火柴堆成塔型，在向風面留點火口
- (2) 火柴朝下劃燃，以手圍遮，送入點口

高層
次紙

(3) 火柴點燃後，不必急著送入點火口，待火源穩定再送入點火口，並注意安全

筆評
量(筆
記)



5. 控火

- (1)當火勢穩定後，即可陸續添加柴薪
- (2)全程都須有人顧火，以增減燃料，控制火勢大小
- (3)注意風向和強度是否把火種吹到別處而產生火警





6. 滅跡-打、水、冷、清(Put out the fire.)

- (1)打：把未燒完的木柴移到旁邊，打碎弄散大塊餘燼，直到火完全熄滅
- (2)水：使用灑水的方式，將水灑於火堆，以免被熱蒸氣燙傷
- (3)冷：以手由遠至近進行冷卻測試，直至完全冷卻
- (4)清：清理環境

四、綜合活動：(5')

五、回饋與統整：教師總結生火注意事項及技巧

六、廣播站：下節課將進行火柴升火烤棉花糖練習，請各小隊準備棉花糖、竹籤、水桶、垃圾袋

<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">Next time 火柴烤棉花糖 Roast Marshmallows with a match</p> <ul style="list-style-type: none"> • Each class should prepare • 1 garbage bag  • 2 rags  • 2 brooms and 2 dustpans  • 1 box of tissues  </div> <p style="text-align: center;">(第二節課結束)</p>		
<p style="text-align: center;">第三節課-火烤棉花糖</p> <p>一、準備活動：(3')</p> <p>1.Roll call</p> <p>T: Good morning. It's time for class.</p> <p>2.Greeting.</p> <p>T: How are you doing today?</p> <p>Ss: I feel excellent/ alright/ tired.</p> <p>T: Please share your feelings with the classmates next to you. Let's ask some of you.</p> <p>(學生已熟悉 Roll call, greeting 流程，此部分大部分以英文進行。更換 greeting 形容詞，幫助學生練習如何用英語表達自身情緒。)</p> <p>二、發展活動：(32')</p> <p>(一) 火柴烤棉花糖-規則講解(5')</p> <p>T: What is it?</p> <p>Ss: It's a marshmallow.</p> <p>T: We are going to roast marshmallows with a match.</p> <p>Step 1: Team members bring their chairs and make a circle.</p> <p>Step 2: Fill your bucket 80% full of water.</p> <p>Step 3: Patrol leader comes and gets 6 bamboo sticks, 6 marshmallows, 6 matches.</p> <p>Step 4: Now, you can start to roast your marshmallows. Be careful!!</p> <p>Tips:注意護火、控火角度</p>	<p style="text-align: center;">火柴、水桶、棉花糖、</p>	<p style="text-align: center;">口語 評量</p> <p style="text-align: center;">口語 評量</p> <p style="text-align: center;">實作 評量</p>

	<div style="background-color: #92d050; padding: 5px; text-align: center;"> <p>火柴烤棉花糖 Roast Marshmallows with a match</p> </div> <ul style="list-style-type: none"> • Step 1 • Team members bring their chairs and make a circle. <div style="text-align: center;">  </div> <p>(一) 以自評檢核表說明實作重點 (二) 火烤棉花糖-實作：學生實作火柴烤棉花糖，教師巡視給予指導(20') (三) 火柴烤棉花糖-環境整理：學生小隊分工整理並收拾環境(7') T: Clean up the place now.</p> <p>三、 綜合活動：(10')</p> <p>(一) 回饋統整：教師總結火柴使用技巧。 (二) 學生填寫自評檢核表。 (三) 防水防風火柴介紹-【背包狂人】防水防風火柴(5'13'') https://www.youtube.com/watch?v=L5W63S_Pxmg (四) 廣播站：下節課將進行架柴升火烤爆米花練習，請各小隊蒐集三級柴、準備竹筷、爆米花、水桶、垃圾袋</p> <p style="text-align: center;">(第三節課結束)</p>	<p>掃地 用具</p> <div style="text-align: center;">  </div>	
	<p style="text-align: center;">第四節課-架柴升火</p> <p>一、準備活動：(3')</p> <p>1.Roll call T: Good morning. It's time for class.</p> <p>2.Greeting. T: How are you doing today? Ss: I feel excellent/ alright/ tired. T: Please share your feelings with the classmates next to you. Let's ask some of you. (學生已熟悉 Roll call, greeting 流程，此部分大部分以英文進行)</p>		<p>口語 評量</p>

<p>二、 發展活動：(38')</p> <p>(一) 架柴升火 (28')</p> <ol style="list-style-type: none"> 1. 以自評檢核表說明實作重點 2. 將蒐集到的三級柴(tinder, kindling, firewood)分類及架柴，完成後請教師檢查。Don't Forget: Safety First. 教師檢查時請學生說明: This is tinder. This is kindling. This is firewood. 並視情況請學生說明判斷依據 3. 生火及烤爆米花實作 4. 享用爆米花 <p>(二) 環境整理 (10')(Put out the fire.) T: Now, it's time for us to put out the fire. 確實依照打水冷清步驟滅跡</p> <p>三、 綜合活動：(4')</p> <p>(一) 心得回饋：How do you feel? Do you like it?</p> <p>(二) 學生填寫自評檢核表。</p> <p>(三) 教師分別就準備工作、生火速度、火勢控制、成品呈現、滅跡善後進行評分。</p> <p style="text-align: center;">(第四節課結束)</p>	<p>自評檢核表</p> <p>柴火</p> <p>掃地用具</p> <p>自評檢核表</p>	<p>實作評量</p> <p>口語評量</p>
<p>第五節課-反思與回饋</p>		
<p>一、準備活動：(3')</p> <p>1.Roll call</p> <p>T: Good morning. It's time for class.</p> <p>2.Greeting.</p> <p>T: How are you doing today?</p> <p>Ss: I feel surprised/ sad/ confused/ angry/ happy.</p> <p>T: Please share your feelings with the classmates next to you. Let's ask some of you.</p>		<p>口語評量</p>

How are you doing today?

I feel _____.

surprised sad

confused angry happy

Please share your feeling with the classmates next to you.

Let's share with our classmates.

(學生已熟悉 Roll call, greeting 流程，此部分大部分以英文進行。每堂課更換 greeting 形容詞，幫助學生練習如何用英語表達自身情緒。)

二、 引起動機：(5')

(一)生火單元回顧-用火知識、用火安全、生火步驟與注意事項

(二)火柴烤棉花糖、架柴生火烤爆米花照片回顧。請學生自由發言哪些時刻讓你印象深刻呢？

T: What impressed you most? Please feel free to share your ideas with us.

Why? Because it was _____.(challenging/ interesting/ delicious/ horrible/others-自由發揮)

Put out a fire Take a note.

stir → water → feel → clean

What impressed you most?

<p>roast popcorn</p>	<p>build a fire</p>	<p>make feather sticks</p>	<p>roast marshmallows with a match</p>
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Why?

Because it was _____.

challenging interesting delicious horrible

有挑戰性的 有趣的 美味的 可怕的

others 其他想法

三、 發展活動：(33')

(一)檢核表 (15')

1.發回架柴升火自評檢核表

2.小隊根據檢核表討論上一節實作生火的優缺點並針對缺點提出改善措施

(1)事前-是否攜帶生火所需用具(火種、木柴、水桶、掃具)

(2)事中-是否能將柴火分成三級柴，並由細到粗依序架柴

是否將柴架成塔形並留風口

口語
評量

自評
檢核
表

小隊
討論
發表

是否成功使用火柴點火
 是否適時添加柴薪掌握控火技巧
 是否團隊分工合作
 其他發現的問題

(3)事後-是否依照打水冷清滅跡四原則確實滅跡並回復場地

T: What are you good at?

(小隊發表擬答)Ss: I brought what I needed to build a fire.

I can tell the differences between tinder, kindling, and firewood.

I know how to adjust the fire by feeding wood.



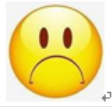
I cooperate well with my team members.

T: What do you need to improve?

Ss: Use wood to make a teepee. 我們的柴架不太起來，所以當時直接把火種放在柴的上面燒。應該想辦法架成塔型，讓火種上方也有柴可以燒。

Ss: light the fire with a match. 我們用火柴點火一直點不起來，因為火柴很快就熄滅了。應該要注意火柴護火，以及等火柴的火穩定之後再去點燃發火柴。

2. Build a fire.

Category	Task	I can do this!	I'm getting there.	I need help!
				
Preparation	I brought what I needed to build a fire.			
Build a fire	I can tell the differences between tinder, kindling, and firewood.			
	I can use wood to make a teepee.			
	I leave space for the air to pass through the teepee.			
	I can light the fire with a match.			
	I know how to adjust the fire by feeding wood.			
	I cooperate well with my team members.			
Clean up	I put out the fire and clean up the environment.			

3.教師根據學生回答進行補充

口語
 評量

mini
 white
 board

高層
 次紙
 筆評
 量、口

(二)用火情境競挑戰賽 (15')

1. Take out and review your note. (請學生拿出筆記並複習，學生可以邊看筆記邊進行用火情境競賽)

2. T: Patrol leader please come to the front and get mini whiteboard.

3. 教師說明規則

4. 題目：

Andy is a student from Neimen Junior high school. Let's help him solve the problems.

(1)7:00 in the morning, Andy is cooking breakfast in the kitchen. Suddenly, the fryer is on fire. What should Andy do to put out a grease fire in the kitchen?

Ss: Cover the flames with a metal lid.



(2)At 8:00, Andy is watching the news report on TV. A man in the news report is teaching the audience what to do if their clothes catch fire. What are the steps?

Ss: Stop, Drop, and Roll.



語評
量

小隊
發
表、高
層次
紙筆
評
量、口
語評
量

(3) 16:00 in the evening, Andy is having a BBQ party with his family.

They choose a place to start a fire. What are the problems?

Ss:環境雜亂、火源周遭有易燃物、未架高、未準備滅跡水源



(4) After cleaning the place, it's time to start a fire. What can Andy use as a tinder?

Ss: 撿地上的枯樹葉、樹皮、小樹枝，用木柴削火媒棒，自製沙拉油火種

(5) Andy can't build the fire successfully. What could be the problems?



Ss: 沒有分柴，沒有由粗到細架柴。柴火搭得太緊密，沒有留空間讓空氣通過。柴不夠、柴太少了。

(6) 未來在戶外時，應注意那些事項順利生火，但不造成環境負擔？

Why?-用火對環境可能產生的影響是？

How?-如何降低對環境的危害？

When?-生火前、過程中、滅跡時

Who?-人員部份可以注意什麼？

What?-相關的物品設備?

Where?-生火地點有何限制?

戶外生火時應注意哪些事項?

WHY?-森林大火、空氣汙染、餘燼沒清乾淨
破壞生態

How?-如何降低對環境的危害?
When?-生火前-生火地點架高、過程中-撿柴
不砍柴、滅跡時-確實整理乾淨

Who?-注意用火安全、熟悉用火規範

What?-水、架高、用夾子不用手?

Where?-不可雜亂、不可有易燃物、可生火的
地方、準備水源滅跡?

四、 綜合活動：(7')

回饋與統整：

1.無痕山林-將營火的使用及對環境的衝擊減至最低-原則複習



2. 教師總結如何將本主題所學之生火知能運用於生活中，並能評估實施成效，與環境作合宜的互動，以提升生活的安全品質。

(第五節課結束)

評量標準						
主題	次主題	A	B	C	D	E
生活經營與創新	生活美感與創新	能整合運用戶外或休閒活動知能，評估實施成效，並與環境作合宜的互動，以提升生活的安全品質。	能應用戶外或休閒活動基本知能，分析可能的問題，提升生存能力與降低環境干擾的策略。	能具備戶外或休閒活動基本知能，並表達活動時保護環境的理由。	能分享參與戶外或休閒活動的生活經驗。	未達D級
本評量評分指引		能整合生火知能，評	能應用生火基本知	能分享安全用火	能分享生活用火	未

	估實施成效，並與環境作合宜的互動，以提升生活的安全品質。	能，分析可能的問題，提升生存能力與降低環境干擾的策略。	基本知能，並表達戶外用火時保護環境的理由。	經驗。	達D級
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學習目標與評量工具對照表

學習目標	評量工具
分享個人生活中與用火有關的經驗，學習安全用火知識。	kahoot 線上測驗、上課筆記
熟練火柴用法及使用技巧、學會分柴、架柴、滅跡的正確方法。	實作評量、上課筆記
運用用火知識與技巧搭架柴火實際生火。	實作評量、檢核表
藉由烤棉花糖與爆米花評估生火成效並完成環境友善整理。	實作評量、檢核表

Self-evaluation Worksheet




Class:

Name:

Number:




1. Roast Marshmallows with a match.

How are you finding your learning today?

Category	Task	I can do this! 	I'm getting there. 	I need help! 
A. Preparation	1.I brought what I needed to roast marshmallows.			
B. Roast marshmallows with a match	2.I follow the rule "safety first".			
	3.I know how to light a match .			
	4.I shield the flame by cupping my hands around the match. (使用火柴時護火)			
	5.I can hold the match at a slight downwards angle(角度) to keep the flame burning .			
	6.I can hold the match at a very low angle to get a big flame .			
	7.I can hold the match straight up for a small flame .			
	8.I can roast marshmallows with a match .			
	9.I cooperate(合作) well with my team members.			
C. Clean up	10.I put out the fire and clean up the environment.			

What impressed me most today?

2. Build a fire.

Category	Task	I can do this! 	I'm getting there. 	I need help! 
A. Preparation	1.I brought what I needed to build a fire .			
B. Build a fire	2.I can tell the differences (分辨) between tinder, kindling, and firewood.			
	3.I can use wood to make a teepee .(塔型)			
	4.I leave space (留空間) for the air to pass through the teepee.			
	5.I can light the fire with a match .			
	6.I know how to adjust(調整) the fire by feeding wood.			
	7.I cooperate well with my team members.			
C. Clean up	8.I put out the fire and clean up the environment.			