TAIPEI 台北時報 TIMES

BILINGUAL TIMES

SATURDAY, FEBRUARY 28, 2009

WEEKEND SCIENCE

WELCOME to Weekend Science! Every Saturday we're going to guide you through some cool experiments that you can do at home. It's a good idea for you to keep a record of what you do in a Science Journal. That way you can record what you learn, compare results and maybe use them to design new experiments! Remember to always ask a grown-up's permission before trying out an experiment.

歡迎閱讀《週末科學版》！我們每週六都要為你介紹可以在家中進行的有趣科學實驗。你可以在《科學日誌》中記錄自己做了哪些活動，這樣就可以將所學的記錄下來，比較這些結果，也許還可以利用它們來設計新的實驗！先看一下《科學日誌》的點子再開始吧。展開實驗之前，記得要獲得大人許可喔！

Tourists visit the landmark India Gate in dense fog in New Delhi, on Dec. 29, 2008. PHOTO: AFP

二００八年十二月二十九日，遊客在濃霧中造訪新德里地標「印度門」。 照片：法新社

Foggy fun

造霧樂

Fog and mist are essentially the same thing — cloud banks made of suspended water droplets — so why do we have different words for them? The only difference is the density, but the distinction is highly subjective. In aeronautical terms, if a pilot cannot see further than 1km, it is defined as fog. For motorists, visibility must fall below 200m to be classed as fog, otherwise it is known as mist.

霧和靄實質上是一樣的東西——懸浮的微小水滴所形成的雲層，那為什麼會有不同的名稱呢？它們唯一的差別在於密度，但其區分法則非常主觀。在航空用詞中，若飛行員看不見一公里以外的景象，就稱作霧。對開車族來說，能見度一定要低於兩百公尺才會被歸類為霧，除此之外的都稱為靄。

Whatever you choose to call it, fog forms when air rapidly cools, causing the water vapor to condense. Fog often forms in coastal areas when warm air moves in from the sea. The temperature of the land is colder than the sea, which causes the air to cool.

無論怎麼稱呼，霧是由於空氣急速冷卻，造成水汽凝結而形成。霧通常出現在沿海地區，海上的暖空氣吹向陸地，陸地的氣溫比海面氣溫低，空氣因此冷卻。

In today's experiment you will recreate this scenario to make your very own fog.

今天的實驗中，你將重建上述情景，做出屬於你自己的霧氣。

What you will need: some hot water, two bottles and two packs of ice cubes.

實驗所需：一些熱水、兩個瓶子和兩包冰塊。

METHODOLOGY 方法

Step 1: Fill one bottle with hot water. Tap water will suffice — it does not need to be boiling. Let the bottle stand for ten minutes to heat it up.

步驟一：將一個瓶子裝滿熱水，自來水的熱水即可——不需要用到煮沸的開水。把這個瓶子靜置十分鐘，讓瓶身升溫。

Step 2: Fill the other bottle with cold water and allow it to stand.

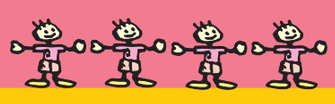
步驟二：將另一個瓶子裝滿冷水後靜置。

Step 3: Empty 80 percent of the water out of both of the bottles, so that just a little bit remains at the bottom.

步驟三：將兩個瓶子內的水倒出八成，只留下一點水在瓶底。

Step 4: Turn both bottles on their side, then take the packs of ice cubes and press them on the bottles. You should notice fog appearing inside the bottle that contained hot water. Hold the ice cubes in place until the bottle is full of fog. No fog will appear in the cold water bottle no matter how long you hold the ice.

步驟四：將兩個瓶子平放，然後把兩包冰塊分別壓在兩個瓶子上。你會發現裝熱水的瓶子中產生了霧氣。保持冰塊的位置，直到瓶中充滿霧氣。無論你用冰塊壓多久，裝冷水的瓶子裡都不會產生霧氣。



WHAT HAPPENED? 實驗結果

This simple experiment recreated the conditions that occur naturally to form fog. The air inside the hot water bottle cools quickly causing condensation. The air in the other bottle is already cold, so condensation doesn't form.

(JOHN PHILLIPS, STAFF WRITER)

這個簡單的實驗重新建構了大自然形成霧氣的環境。熱水瓶中的空氣急速冷卻而凝結；另一個瓶子中的空氣本來就是冷的，所以不會有水汽凝結。

（翻譯：袁星慶）

VOCABULARY 今日單字

1. **fog** /fag/ n.
霧 (wu4)
2. **mist** /mast/ n.
靄 (ai3)
3. **droplet** /adraplat/ n.
小滴 (xiao3 di1)
4. **subjective** /sabaaaktav/ adj.
主觀的 (zhu3 guan1 de5)
5. **coastal** /akostl/ adj.
沿海的 (yan2 hai3 de5)
6. **appear** /aapar/ v.i./v.t.
顯露 (xian3 lu4)

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Did you have fun with today's experiment? Why don't you e-mail us and let us know. We're always happy to hear from our readers!

喜歡今天的實驗嗎？歡迎來函指教！電子信箱：bilingual@taipeitimes.com

P13 Bilingual 紅藍黃黑