



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！

Handset or headset: which is safest?

手持行動電話或免持聽筒耳機： 何者最安全？

Here's a scene that you see almost every day: a car being driven erratically by a driver talking distractedly into his mobile phone. The problem is so serious that most countries have enacted laws **prohibiting** using a **handset** when driving. Now if you want to use the phone **legally** when driving you have to use a **headset**.

But how solid is the science behind the law? Is it true that using a headset makes you a safer driver? In today's experiment you will compare the effect of handsets and headsets on **reaction times**.

What you will need: two mobile phones, one headset, a meter stick, pencil and paper to record your results and several friends.

METHODOLOGY

Step 1: Hold the meter stick in front of your friend. The 0cm mark should be closer to the floor than the ceiling. Give your friend the handset and ask another friend to call him. Let them chat for about 30 seconds then release the meter stick. Record the point where the subject catches the meter stick.

Step 2: Repeat the experiment as outlined in step one except this time the subject should use the headset. Once again, record your results. Make sure you drop the meter stick after 30 seconds. Dropping too early or too late could affect the results.

Step 3: Repeat the experiment on at least five different people, recording the results each time.

HOW IT WORKS

You probably found that your friends reacted quickest when they used the headset, which has important implications for real-life drivers. Can you think of any other factors that might affect reaction times? Think of some **variables**, then test them with your friends. (JOHN PHILLIPS, STAFF WRITER)

實驗原理

你或許會發現，朋友們使用免持聽筒耳機時反應最快，現實生活中的駕駛也是如出一轍。你能想出其他可能影響反應時間的因素嗎？想幾個可能的變因，然後找朋友測試看看。(翻譯：袁星塵)



Jenny Barchas, product marketing manager for Joby, models the Zivio boom Bluetooth headset during the opening of the annual Consumer Electronics Show in Las Vegas, Nevada on Jan. 6, 2009.

元月六日，Joby公司產品行銷經理珍妮·巴契斯在內華達州拉斯維加斯的年度消費電器開幕典禮上，展示該公司的Zivio藍芽耳機。

PHOTO: REUTERS

照片：路透社

這是你幾乎每天都會碰到的情景：分心講著手機的駕駛歪斜斜地開著車。這個問題非常嚴重，因此大部分國家都已制訂法律禁止開車時使用手機。現在，若你想在開車時合法講手機，就必須使用免持聽筒耳機。



但這條法令背後的科學根據有多穩固？使用免持聽筒耳機就真的比較安全嗎？今天的實驗中，你將比較直接使用手機和使用免持聽筒耳機對反應時間的影響。

實驗所需：兩支手機、一個免持聽筒耳機、一把長一公尺的尺、記錄實驗結果的鉛筆和紙，以及幾個朋友。

方法

步驟一：在你朋友面前握住長尺，讓標示零公分那端朝向地面。讓朋友拿著手機，再請另一位朋友打電話給他。讓他們聊三十秒後，放開你手中的長尺。記下受試者接住長尺時手握的位置。

步驟二：重複步驟一的實驗，但這次讓受試者使用免持聽筒耳機。同樣記下實驗結果。一定要在三十秒後再鬆手放開長尺。太早或太晚放手都可能影響實驗結果。

步驟三：至少對五人進行這項實驗，每次都要記錄結果。

VOCABULARY 今日單字

- 1. prohibit** /pr h b t/ v.i./v.t.
禁止 (jin4 zhi3)
- 2. handset** / hænd,s t/ n.
手機 (shou3 ji1)
- 3. headset** / h d,s t/ n.
免持聽筒耳機 (mian3 chi2 ting1 tong3 er3 ji1)
- 4. legally** / li:gl / adv.
合法地 (he2 fa3 de5)
- 5. reaction time** /,r æk n,ta m/ n.
反應時間 (fan3 ying4 shi2 jian1)
- 6. variable** / v r bl/ n.
變因 (bian4 yin1)



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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