2011 年 明道中學芝加哥
伊利諾理工大學科學營暨美東教育旅行
目　錄

◎ 班機與集合時間 ◎

- **集合時間：100 年 7 月 9 日(星期六) 凌晨 4:00 集合； 4:30 前出發**
- **☆ 請各位務必準時抵達 ☆**

- **活動網頁：www.mingdao.edu.tw/international/2011chicagoiit/**

- **集合地點：明道中學大門口**

領隊老師 1：賴奕廷 (Cathy) 老師　　聯絡電話：0937-428565
領隊老師 2：賴尚宏 (Bryan) 老師　　聯絡電話：0935-480777

芝加哥負責人： Dr. Lederman　　聯絡電話：002-1-708790-3027

- **班機時刻** **芝加哥比台灣慢 13 小時**

航班	起飛地	起飛日	起飛時	抵達地	抵達日	抵達時間
DL 276	台北	2011/07/09	09:35	底特律	2011/07/09	13:50
DL1493	底特律	2011/07/09	15:15	芝加哥	2011/07/09	15:34
航班	起飛地	起飛日	起飛時	抵達地	抵達日	抵達時間
DL5934	芝加哥	2011/07/22	07:05	紐約	2011/07/22	10:16
DL1380	紐約	2011/07/22	11:30	波士頓	2011/07/22	12:38
航班	起飛地	起飛日	起飛時	抵達地	抵達日	抵達時間
DL 173	紐約	2011/07/27	13:55	東京	2011/07/28	16:50
DL 275	東京	2011/07/28	18:50	台北	2011/07/28	21:15

◎ 緊 急 聯 絡 電 話 ◎

地點 & 單位	聯 絡 人	當地電話
明道中學領隊老師	賴奕廷（Cathy）老師	Tel：886-937-428565
明道中學領隊老師	賴尚宏（Bryan）老師	Tel：886-935-480777
明道中學緊急聯絡電話	林雯琪副校長	0935-703507
	黃鈺婷 組 長	0935-236268
	許佩茹 小 姐	0983-115418
美國伊利諾理工學院	Dr. Lederman	Tel：002-1-708790-3027

★ 特 別 叮 嚀 ★

1.由台灣打電話到芝加哥，002+1(國碼)+區域碼+電話號碼

由芝加哥打電話回台灣，011+886+區域碼(去 0)+電話號碼/手機號碼

美國全國報警台電話為 911，查號台為 411

2.以上電話提供緊急使用，家長若要連絡同學請注意時差問題，以免打擾學生作息。

(芝加哥比台灣慢 13 小時)

3.美國電壓是 120 伏特，大部分為二孔扁形的插座，與台灣相同。

4.需自行攜帶個人衛生及生理用品，如牙刷、牙膏、沐浴乳、洗髮精、吹風機、拖鞋、雨具、輕便雨衣、面紙、及常用藥品，有特殊交代事項請務必告知帶隊老師。

5.七月屬美國夏季，平均溫度為 23.7 度，請穿著舒適及輕便的夏季服裝搭配防風及保暖薄外套，鞋子要輕便好穿且方便行走，另請準備帽子、墨鏡防曬，伸縮型雨傘以備不時之需。

2011 明道中學 芝加哥伊利諾理工學院科學營學生名冊

項次	班級	中文姓名	性別	血型	電話	家長電話	禁忌食物
1	直升一	陳思樺	女	B	04-23371197	0911-099818	
2	直升三	蕭致維	男	O	04-22512037	0953-198058	
3	直升三	陳韋樵	男	A	0931-624907	0931-624907	
4	國一 04	劉廷佑	男	B	0922-131958	0922-131958	
5	國一 07	葉昀	男	O	04-23260550	0936-606577	
6	國一 08	賴珮瑮	女	B	04-22623865	0972-288115	蛋奶素
7	國一 08	楊峻嘉	男	A	04-23931191	0910-586853	
8	國一 09	陳彥宇	男	O	04-23607495	04-22258802	牛肉
9	國一 09	周育揚	男	B	04-23276331	0931-611622	
10	國一 10	許銘烜	男	B	04-7279521	0925-456123	
11	國一 15	葉庭玟	女	B	04-26936146	0919-090385	
12	國一 15	洪岱群	男	O	04-23808005	0932-505106	
13	國一 21	張予昂	男	A	04-7295558	0921-753193	
14	國一 21	傅培恆	男	A	0917-683800	0917-683800	
15	國一 21	張凱鈞	男	B	0921-639771	0921-639771	
16	國二 06	張文翰	男	B	04-22615999	04-22615999	
17	國二 20	林育德	男	B	04-23351535	0937-720884	
18	國二 21	吳建佳	男	B	0958-184376	0921-761739	
19	國二 21	吳宣慧	女	A	0937-202388	0937-202388	
20	國二 21	吳宣薇	女	A	0937-202388	0937-202388	
21	國二 21	許智棠	男	O	04-8237599	0932-679361	
22	國二 21	吳沛蓁	女	O+	04-22530407	04-8852302	木耳

◎住宿旅館◎

✣ 住宿旅館			
日期		住宿旅館及聯絡電話	地址
7/9 (六) 至 7/21(四)		IIT 伊利諾理工大學 自然數學科辦公室 Tel ：002-1-312 568 3661 Fax：002-1-312 567 3659	3424 S. State Street Room 4007, South Bldg. Chicago, Illinois 60616-3793 (School address)
7/22(五)~7/27(三)		長春藤名校&美東四大名城教育旅行 7/22 (Fri) 芝加哥 / 波士頓(長春藤名校～哈佛大學～MIT 麻省理工學院參觀)～自由之路、昆西市場 住宿：Holiday Inn 7/23 (Sat) 波士頓～紐約市區深度之旅(自由女神像、金牛銅雕、華爾街、證券交易中心、三一教堂、聯邦國家紀念堂)-古根漢博物館美學之旅 Holiday Inn 7/24 (Sun) 紐約 (大都會博物館深度學習探索)- 帝國大廈、洛克斐勒中心、時代廣場、中央公園、第五大道 住宿：Holiday Inn 7/25 (Mon)紐約 (博物館夜驚魂～自然歷史博物館)- 費城(獨立宮)～華盛頓 Holiday Inn 7/26 (Tue) 華盛頓紀念碑、航空與太空科學博物館～賀喜巧克力王國(巧克力大冒險)～紐約住宿：Holiday Inn 7/27 (Wed) 搭機離開紐約返回台灣 飛機上 7/28 (Thu) 班機於晚上抵達台灣後 專車接返明道中學	
7/28	四	搭機回溫暖的家 100/7/28(四) 家長接送時間─晚上 12:00 左右	7/28(四)抵達桃園國際機場

芝加哥伊利諾理工學院科學營 學生分房/分組表及注意事項

帶隊老師：賴弈廷老師(Cathy) 電話：886-937-428565

項次	班級	分組	分房	中文姓名	班級	英文姓名	英文別名	性別
1	國二 21	第一組	A	吳建佳	國二 21	WU, CHIEN-CHIA	Jason	男
2	國二 21		B	吳宣慧	國二 21	WU, HSUAN-HUI	Jenny	女
3	國二 21		B	吳宣薇	國二 21	WU, HSUAN-WEI	Angel	女
4	國二 21		A	許智棠	國二 21	HSU, CHIH-TANG	James	男
5	國二 21		C	吳沛蓁	國二 21	WU, PEI-CHEN	Peggy	女
6	國二 20		E	林育德	國二 20	LIN, YU-TE	Kevin	男
7	國二 06		E	張文翰	國二 06	CHANG, WEN-HAN	Vincent	男
8	國一 21		F	張予昂	國一 21	CHANG, YU-ANG	Fred	男
9	國一 21		F	傅培恆	國一 21	FU, PEI-HENG	Jason	男
10	國一 21		G	張凱鈞	國一 21	CHANG, KAI-CHUN	Ken	男

帶隊老師：賴尚宏老師 電話：886-935-480777

項次	班級	分組	分房	中文姓名	班級	英文姓名	英文別名	性別
11	國一 15	第二組	D	葉庭玟	國一 15	YEH, TING-WEN	Winnie	女
12	國一 15		G	洪岱群	國一 15	HUNG, TAI-CHUN	Jerry	男
13	國一 10		K	許銘烜	國一 10	HSU, MING-HSUAN	Peter	男
14	國一 09		H	陳彥宇	國一 09	CHEN, YEN-YU	Jason	男
15	國一 09		H	周育揚	國一 09	CHOU, YU-YANG	Patrick	男
16	國一 08		C	賴珮琛	國一 08	LAI, PEI-JOU	Jasmine	女
17	國一 08		K	楊峻嘉	國一 08	YANG, CHUN CHIA	James	男
18	國一 07		J	葉昀	國一 07	YEH, YUN	Kris	男
19	國一 04		J	劉廷佑	國一 04	LIU, TING-YU	Dennis	男
20	直升三		I	蕭致維	直升三	HSIAO, CHIH-WEI	Ennio	男
21	直升三		I	陳韋樵	直升三	CHEN, WEI-CHIAO	Wood	男
22	直升一		D	陳思樺	直升一	CHEN, SSU-HUA	Amy	女

明道中學 芝加哥伊利諾科學營行程表

◎ 伊利諾科學營課程表 ◎

Mon	Tue	Wed	Thu	Fri	Sat	Sun
Class meets in the lab 3424 S. State Math Science Ed. Dept 4th floor					**9** Mingdao Arrives O'Hare Airport Mid-Afternoon Campus Tour Dinner	**10** Brunch Chicago White Sox Baseball Game Dinner Class Begins Monday
11 8:30am – Noon Science Inquiry Forces & Motion Lunch Noon –1:30pm 1:30pm – 5:00pm Graphing Calculators Vectors & Energy	**12** 8:30am – Noon Properties of Matter Phase Changes Lunch Noon –1:30pm 1:30pm – 5:00pm Chemical & Physical Changes	**13** 8:30am – 11:30am Gas Laws Acids & Bases Lunch Noon – 1:30pm 1:30pm – 5:00pm Cardio Vascular Systems/Pressure Dissections	**14** Museum of Science & Industry 9:00 am All About You Tour Heart surgery 11:45am class Lunch at MSI Omni Max Theatre Depart 5:00pm	**15** Debrief MSI Cell Biology Build a Cell Lunch Noon – 1:30pm Membrane Transport Diffusion Lab	**16** Leave campus after brunch 11:30am Chicago Tours Planetarium Millenium Park Dinner Free Time	**17** Leave campus after brunch 11:30am Willis Tower Skydeck Downtown Michigan Avenue Dinner Free TIme
Volleyball Basketball Instruction 6pm -9pm	Soccer Instruction 6pm-9pm	Navy Pier Fireworks 6pm -11pm Charter Bus Departs 6pm Returns 11pm	Indoor/Outdoor Games 6pm -9pm	Indoor/Outdoor Games 6pm -9pm	Leave campus after brunch 11:30am Planetarium Millenium Park Dinner	Leave campus after brunch 11:30am Willis Tower Skydeck Downtown Dinner
18 8:30am – Noon Cells, Tissue, Organs Lunch Noon –1:30pm 1:30pm – 5:00pm Dissections Organisms Habitat's	**19** 8:30am – Noon Earth and Space Science Lunch Noon –12:40pm Field Museum 1pm-5pm	**20** 8:30am – Noon Respiratory Physiology Lunch Noon –1:30pm Ecology 1:30pm – 5:00pm	**21** Leave 9:00 am Shedd Aquarium Oceanarium Lunch at the Shedd Lake Michigan Testing 1:30pm – 5:00pm Ecosystems	**22** Mingdao Departs Morning Breakfast Checkout Bus to O'Hare Airport	**23**	**24**
Outdoor Games 6pm -9pm	Volleyball Soccer Softball 6pm -9pm	Recreation Center Herman Hall Video Games Bowling, Pool, Table Tennis 6pm -9pm	Banquet Phoenix Restaurant Chinatown 6:15 Red Line Train 5:30pm	Mingdao Departs O'Hare Airport		

2011 美國伊利諾理工大學科學營+長春藤名校&美東四大名城教育旅行

行程內容

天數	日期	行程內容	住宿
1	7/09 (Sat)	今日搭機飛往芝加哥，當天抵達後前往伊利諾理工大學報到。	Holiday Inn
2~13	7/10 ~ 7/21	伊利諾理工大學科學探索營	IIT
14	7/22 (Fri)	芝加哥 / 波士頓(長春藤名校～哈佛大學～MIT 麻省理工學院參觀)～自由之路、昆西市場	Holiday Inn
15	7/23 (Sat)	波士頓～紐約市區深度之旅(自由女神像、金牛銅雕、華爾街、證券交易中心、三一教堂、聯邦國家紀念堂)-古根漢博物館美學之旅	Holiday Inn
16	7/24 (Sun)	紐約 (大都會博物館深度學習探索)- 帝國大廈、洛克斐勒中心、時代廣場、中央公園、第五大道	Holiday Inn
17	7/25 (Mon)	紐約 (博物館夜驚魂～自然歷史博物館)- 費城(獨立宮)～華盛頓	Holiday Inn
18	7/26 (Tue)	華盛頓紀念碑、航空與太空科學博物館～賀喜巧克力王國(巧克力大冒險)～紐約	Holiday Inn
19	7/27 (Wed)	今日搭機離開紐約返回台灣	飛機上
20	7/28 (Thu)	班機於晚上抵達台灣後，專車接返明道中學	

美東四大名城深度文化+長春藤名校參訪之旅

旅遊行程內容

7/09 (Sat)　今日搭機飛往芝加哥，當天抵達後前往伊利諾理工大學報到。

7/10 ~ 7/21　伊利諾理工大學科學探索營

7/22 (Fri)　芝加哥 / 波士頓(長春藤名校 ~ 哈佛大學 ~ MIT 麻省理工學院參觀) ~ 自由之路、昆西市場

◎哈佛大學

哈佛大學坐落在與波士頓隔查理斯河相望的衛星城劍橋(cambridge，又譯坎布裡奇)。地鐵和多座橋樑把兩地聯成一體。早期先民嚮往著在新大陸也建一座像英國劍橋那樣的大學城，因此把波士頓對面的小鎮命名為劍橋。今天這裡的劍橋倒比那邊的劍橋遠勝一籌，因為英國劍橋只是孤星閃耀，單峰獨矗，而新大陸的劍橋則是繁星輝映，群峰起伏，方圓百里之內高等院校不下六七十座，其中僅在劍橋就有兩座世界馳名的學府；哈佛大學和馬薩諸塞理工學院(俗稱麻省理工學院)。

哈佛大學，這片樹林中的草地叫新哈佛園，在 1936 年新園被稱為三世紀戲院，以紀念哈佛三百周年校慶，不管天晴下雨，歷來開學及畢業典禮都在這裡舉行。

哈佛大學原稱劍橋學院。後來一位名叫約翰· 哈佛的清教徒牧師(英國劍橋畢業)，死後以其一半遺產和 400 冊圖書捐獻興學。1639 年該校改稱哈佛，以示紀念。

哈佛先後為美國培養出 6 位總統(其中有羅斯福和甘迺迪)和 30 多位諾貝爾獎得主，不少畢業生成為傑出的政治家、文學家、哲學家、科學家和企業家。大學部包括兩個本科生院；即只招收男生的哈佛學院和只收女生的瑞德克利夫學院，另有 10 個研究生院專門培養碩士、博上，還附設許多研究機構。全校共有 100 多個圖書館、2 個天文館和幾十個實驗室。 其藏書量多達 I200 余

萬冊，全世界的大學圖書館無出其有者。這裡的燕京圖書館專門收藏東亞國家的書籍， 中文藏書之豐令人驚歎。從古代善本、珍本至文化大革命中的小報・冊子應有盡有。燕京圖書館內還有一個演講廳，經常有形形色色的“名人”（主要是些所謂的自由人士或藏獨**獨運輪一類的，當然也有國內名人）來此演講。

在美國，除國會圖書館外，就數這裡的中文書最多廠哈佛校園占地 380 英畝(合 2280 畝)。正中有建於 30 年代的紀念教堂，周圍是學生宿舍、圖書館和教室等各種不同風格的建築，其中如霍爾登小教堂、馬薩諳塞堂(現存最早的哈佛建築・建于 1720 年)、哈佛堂和維德納圖書館都是著的古建築，具有舊大陸建築的莊嚴典雅之美。當然校園中也不乏嶄新的現代化校舍。

學校裡處處是育育的草坪，蔽日的榆樹，那一幢幢紅磚砌成並爬滿長青藤的樓房，使人感到親切和寧靜。哈佛擁有 9 座博物館。它們既為教學服務，又向公眾開放。最值得參觀的要數植物學博物館。在這裡，瑞士的龍膽草伴隨著墨西哥的仙人掌，埃及的藍睡蓮映襯著朝鮮的金達萊，還有中國的梅花和牡丹。名花奇卉約有 800 種之多，色彩鮮豔而日，永不凋謝。

◎麻省理工學院參觀

（Massachusetts Institute of Technology，縮寫：MIT）是美國一所綜合性私立大學，有「世界理工大學之最」的美名。位於麻薩諸塞州的劍橋市，查爾斯河（Charles River）將其與波士頓的後灣區（Back Bay）隔開。今天 MIT 無論是在美國還是全世界都有非常重要的影響力，

培養了眾多對世界產生重大影響的人士，是全球高科技和高等研究的先驅領導大學，也是世界理工科菁英的所在地。麻省理工是當今世界上最富盛名的理工科大學，《紐約時報》筆下「全美最有聲望的學校」。

至 2009 年，先後有 76 位諾貝爾獎得主和 45 位羅德獎學金得主曾在麻省理工學院學習或工作。經過麻省理工學院幾代人堅持不懈地努力奮鬥，時至今日，但凡有人提起「世界理工大學之最」，人人皆推麻省理工學院。麻省之名蜚聲海外，成為世界各地莘莘學子心嚮神往，趨之若鶩的科學聖殿。麻省理工學院的自然及工程科學在世界上享有極佳的盛譽，其管理學、經濟學、哲學、政治學、語言學也同樣優秀。另外，麻省理工研發高科技武器和美國最高機密的林肯實驗室、領先世界一流的電腦科學及人工智慧實驗室 CSAIL、世界尖端的媒體實驗室 MIT Media Lab、和培養了許多全球頂尖首席執行官斯隆管理學院也都是麻省理工赫赫有名寶貴資產。

在 2011 年全球資訊網的世界大學排名裡，科技龍兒搖籃的麻省理工以壓倒性的勝利排名世界第一。泰晤士報專上教育增刊的世界大學排名，麻省理工學院在總平均排名世界第二（僅次於哈佛大學），在科學技術方面排名世界第一，在工程科學方面排名世界第一，在自然科學方面排名世界第二，在社會科學方面排名世界第七。美國國家研究協會把 MIT 在美國大學的知名度排第一。美國 Princeton Review 在 2006 把 MIT 命名為全美最難進的大學。至 2009 年，MIT 已連續十七年在美國大學理工學院排名奪冠。麻省理工學院在 2006 年 Washington Monthly 期刊裡對美國最有服務及貢獻的大學排第一。請看麻省理工學院排名。

以統計資料來分析，要申請上 MIT 的大學部比研究所難兩三倍。2010 年共有 16,632 世界頂尖的高中生申請（包括約 3,500 名美國以外的學生）麻省理工學院大學部的 1000 名額（錄取率創 MIT 歷年來最新低）。麻省理工學院 2008-2009 學年的學雜費是 $49,100 美元。2008-2009 麻省理工學院學生平均領到的獎學金為$33,950 美元。MIT 在 2008 年底有 101 億美元的總資產。因為 MIT 很有錢，家庭年收入低於$75,000 美元的學生一律免學費，所以 MIT 經常被喻為世界上最有錢也最慷慨的大學。

7/23 (Sat)　波士頓～紐約市區深度之旅(自由女神像、金牛銅雕、華爾街、證券交易中心、三一教堂、聯邦國家紀念堂)-古根漢博物館美學之旅

◎自由女神像

美國的自由女神像（Statue of Liberty，Statue de la liberté），又稱「自由照耀世界」（英語：Liberty Enlightening the World，法語：Liberté éclairant le monde），是法國在 1876 年贈送給美國的獨立 100 週年禮物。美國的自由女神像坐落於美國紐約州紐約市附近的自由島，是美國重要的觀光景點及地標。

美國的自由女神像以法國塞納河的自由女神像作藍本，法國著名雕塑家巴托爾迪歷時 10 年艱辛完成了雕像的雕塑工作，女神的外貌設計來源於雕塑家的母親，而女神高舉火炬的右手則是以雕塑家妻子的手臂為藍本。

自由女神穿著古希臘風格的服裝，所戴頭冠有象徵世界七大洲及五大洋的七道尖芒。女神右手高舉象徵自由的火炬，左手捧著一本封面刻有「1776 年 7 月 4 日」字樣的法律典籍，腳下是打碎的手銬、腳鐐和鎖鏈。她象徵著自由、掙脫暴政的約束，在 1886 年 10 月 28 日落成並揭幕。雕像鍛鐵的內部結構是由後來建造了巴黎艾菲爾鐵塔的居斯塔夫· 艾菲爾設計的。

自由女神像高 46 米，加基座為 93 米，重 200 多噸，是金屬鑄造，置於一座混凝土制的台基上。自由女神的底座是著名的約瑟夫· 普利茲籌集 10 萬美金建成的。
1984 年，自由女神像被列為世界文化遺產。
由於美國九一一事件，自由女神像頂部一直對公眾關閉。2009 年 7 月 4 日美國獨立日，美國政府將其重新開放。

◎金牛銅雕

華爾街銅牛位於美國紐約市華爾街邊上的一個碩大的銅牛雕塑，身長 5 米、體重 6,300 公斤，是華爾街的象徵，也是美國金融業的象徵。

1987 年 10 月 19 日，紐約股市遭受重創，道瓊工業指數在一天內下跌 22.6%，這給美國金融界帶來幾乎毀滅性的打擊，這一天因此被稱為華爾街“黑色星期一”。

正是在這樣的背景下，迪莫迪卡構思並著手創作“華爾街銅牛”，他將自己對紐約的希望，對美國的希望熔鑄到了這尊身長 5 米、體重近 6300 公斤的雕塑作品中。他說：“當我看到有人失去了一切，我感到非常難過，於是我開始為年輕的美國人創作一件美麗的藝術品。”為了籌資，他賣掉了家鄉西西里祖傳農場的一部分，總共籌得資金 36 萬美元。

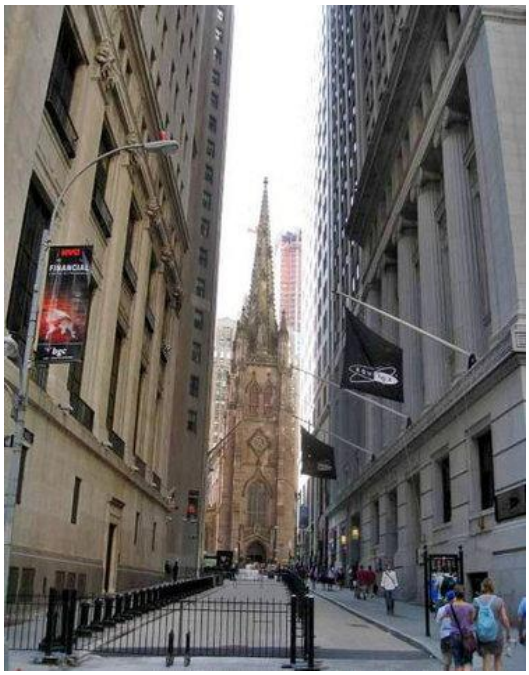
迪莫迪卡用了兩年時間，耗資 35 萬多美元，在自己的紐約工作室中完成了讓紐約人驕傲和振奮的“華爾街銅牛”。1989 年的一個午夜，他在紐約證券交易所外將這座後來舉世聞名的銅牛塑像豎立起來，宣稱它是“美國人力量與勇氣”的象徵。

對於許多紐約人來說，這個象徵運氣和吉祥的銅牛幾乎是從天而降的。1989 年 12 月 15 日凌晨 1 時，在 30 名朋友的幫助下，迪莫迪卡租用起重機，將這個龐然大物裝載到重型卡車上；徐徐運往華爾街紐約證券交易所門前的人行道上。"我們用 5 分鐘搞定一切，然後離開。"迪莫迪卡回憶說。早上人們都被這個牛角巨大、鼻孔發光的巨型雕塑驚呆了。為了保證銅牛的安全，迪莫迪卡與該區警察局達成協議，每晚 8 時對銅牛進行巡邏查看。

如今，“華爾街銅牛”已經成為紐約人不可缺少的精神支柱，似乎只要銅牛在，股市就能永保“牛”市。不僅如此，幾乎每一位慕名而來的遊客和拜訪者也都要觸摸它，希望從銅牛身上沾點好運氣，牛鼻和牛角已經被磨出光澤了。

◎華爾街、證券交易中心、三一教堂、聯邦國家紀念堂

華爾街（Wall Street）是一條位於美國紐約市下曼哈頓的狹窄街道。東起百老匯，向西一路延伸至東河旁的南街，橫跨紐約曼哈頓的金融中心。今日，「華爾街」一詞已超越這條街道本身，成為附近區域的代稱，同時也可以借指對整個美國經濟具有影響力的金融市場和金融機構。



華爾街是紐約證券交易所的第一個常駐地，至今仍是幾個主要交易所的總部，包括：紐約證交所、納斯達克、美國證券交易所、紐約商業交易所和紐約期貨交易所。許多金融公司的總部都已遷離華爾街，取而代之的是曼哈頓的中城，以及紐約市的外圍地帶，諸如：長島、威斯特徹斯特、費爾菲爾德、紐澤西州等地。

華爾街是英文"牆街"的音譯。荷蘭統治時，在這裡築過一道防衛牆。英國人趕走荷蘭人後，拆牆建街，因而得名。華爾街差不多已成了紐約金融區的同義語，而實際上金融區的範圍還要延伸到華爾街以外的地方。雖然如此，人們談到世界金融中心的時候，還是常拿華爾街作答。

紐約證券交易所(New York Stock Exchange ~NYSE)是個莊嚴宏偉、金碧輝煌的建築，廊柱上掛有美國國旗；裡面就是在電視上常看到一群人吵吵鬧鬧地圍繞著電腦，不斷的打手勢買進賣出各種股票的場景；據說是可以進去參觀的，不過要事先申請。

華爾街(Wall Street) 是以紐約股票交易中心(New York Stock Exchange)而聞名，位於美國紐約市下曼哈頓的狹窄街道。這條街其實又窄又短，只能容一輛車通行，不特別注意路牌的話，根本不會發現這就是大名頂頂的金融聖地。

紐約三一教堂（Trinity Church）位於紐約市曼哈頓下城的百老匯大道 79 號（百老匯大道與華爾街的交匯處），是聖公會紐約教區的一座古老的堂區教堂。

1696 年，英國聖公會購買這塊土地興建新教堂。目前的教堂祝聖於 1846 年 5 月 1 日基督升天節，當時是曼哈頓下城最高的建築，是進入紐約港船隻的歡迎燈塔。它被認為是哥德復興式建築的經典實例，1976 年被列入國家史跡名錄。

2001 年 9 月 11 日，世界貿易中心的坍塌撞倒了教堂院內生長了一個世紀的無花果樹。

三一教堂是紐約市最大的土地擁有者之一。

位於紐約證券交易所斜對角的聯邦國家紀念堂，歷經了多種輝煌的身份：1789 年，紐約為美國的首都時，美國國父華盛頓就是在此宣誓就職，(門口那座銅像就是華盛頓)；1790 年美國首都遷至費城

後，這裡即變成紐約市政府，而 1812 年，市政府新居啟用後，這座建築變成了美國海關大樓，現在，這座希臘式建築則為展示美國憲法的紀念堂，偶爾內部會舉行免費的音樂會，是品質極佳的藝術饗宴。

◎古根漢博物館


索羅門· 古根漢美術館（The Solomon R. Guggenheim Museum）是一座位於紐約市曼哈頓上東城的現代美術館，成立於 1937 年。它是古根漢基金會（Solomon R. Guggenheim Foundation）名下所持有的幾間美術館之中最著名的一間，而且通常簡稱古根漢，它是紐約市最著名的美術館之一。原先稱作"The Museum of Non-Objective Painting"，古根漢成立以來展示了許多早期現代派藝術家如瓦西里· 康定斯基和彼埃· 蒙德里安的前衛藝術品。

1943 年著名建築師法蘭克· 洛伊· 萊特收到古根漢基金會創辦人古根漢先生的邀請設計這座美術館，至 1944 年，萊特已經提出美術館的建築具體方案，但礙於第二次世界大戰剛剛結束，以及古根漢先生的逝世，工程一直被拖延到 1956 年才動工，在 1959 年時，萊特已將目前建地的設計案完成，萊特卻於同年四月去世，至同年十月，古根漢才搬到了它位在第五大道和第 89 街路口的現址，對街即為中央公園。

7/24 (Sun) 紐約 (大都會博物館深度學習探索)- 帝國大廈、洛克斐勒中心、時代廣場、中央公園、第五大道

◎大都會博物館

大都會藝術博物館（英語：Metropolitan Museum of Art）位於美國紐約州紐約市中央公園旁，是世界上最大的藝術博物館之一。主建築物面積約有 8 公頃，展出面積有 20 多公頃。館藏超過二百萬件藝術品，整個博物館被劃分為十九個館部。主建築物通常被簡稱為「the Met」。除了主館外，還有位於曼哈頓上城區崔恩堡修道院（英語：Bonnefort Cloister）的第二分館。那裡主要展出中世紀的藝術品。

在眾多永久藝術收藏品中，包括許多出眾的古典藝術品、古埃及藝術品、幾乎所有歐洲大師的油畫及大量美國視覺藝術和現代藝術作品。博物館還收藏有大量的非洲、亞洲、大洋洲、拜占庭和伊斯蘭藝術品。博物館同時也是世界樂器、服裝、飾物、武器、盔甲的大總匯。博物館的室內設計模仿不同歷史時期的風格，從 1 世紀的羅馬風格延續至現代美國。

大都會藝術博物館由一群美國公民於 1870 年發起構建。當時的發起人包括了商人、理財家、卓越的藝術家與思想家。他們期望博物館能夠給予美國公民有關藝術與藝術教育的熏陶。[5] 最後大都會藝術博物館於 1872 年 2 月 20 日開幕，當時的博物館位於第五大道 681 號。
在 2007 年時，大都會藝術博物館已經有接近四分之一英里長及佔地二百萬平方英尺，是博物館最初大小的二十倍。

◎帝國大廈

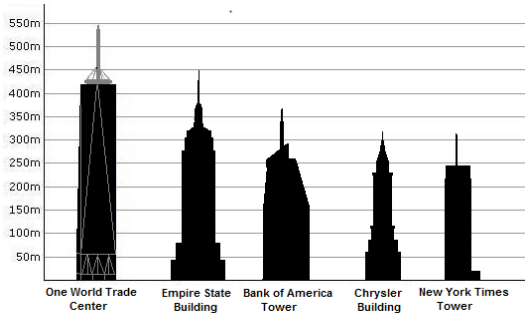
帝國大廈（英語：Empire State Building），是位於美國紐約曼哈頓一棟著名的摩天大樓，位於第五大道 350 號，西 33 街與西 34 街之間，樓名源於紐約州的暱稱「帝國州」（Empire State），英文原意實際上是「紐約州大廈」或「帝國州大廈」，但由於帝國大廈的譯法已廣泛流傳，故沿用至今。帝國大廈是美國及紐約市最著名的地標和旅遊景點之一，帝國大廈目前是美國、美洲第 3 高，世界第 15 高的摩天大樓，地上 102 層，樓高 381 米，於 1951 年增添的天線高 62 米，總高 443 米，由 Shreeve, Lamb, and Harmon 建築公司設計，為裝飾藝術風格建築，大樓於 1930 年動工，1931 年落成，建造過程僅用了 410 天（一年又 2 個月內），是世界上罕見的建造速度紀錄。

帝國大廈已被美國土木工程師學會（ASCE）評價為現代世界七大工程奇蹟之一，紐約地標委員會選其為紐約市地標[4]，1986 年該建築被認定為美國國家歷史地標，目前大廈在進行巨額費用的改建，正在努力轉變為一個更加節能的環保綠建築。

歷史帝國大廈的地址在 18 世紀後期本是一個農場。在那時此處還有一條小溪流過，併流入一個翻車魚池塘內。19 世紀後期，這裡曾建過社會名流經常光顧的華道夫-阿斯多里亞酒店。

建築設計與建設

一名施工中的建築工人，克萊斯勒大廈在後方可見來自 Shreeve, Lamb, and Harmon 建築公司的設計師威廉· F· 蘭博負責建築的主要設計。在前人的設計基礎上，他僅花了兩周的時間便構成了建築圖紙。



帝國大廈是富豪拉斯各布決意修建的。最初的計劃是建一幢看上去低矮結實的 34 層大廈，後來又作過 16 次修改，最後才採納了富豪拉斯各布的「鉛筆型」方

案。也有人說最後定下的 102 層建築方案是世界空中輪廓線的傑作。最終採取的方案使得建築十分牢固。根據估算，建造帝國大廈的材料約有 330000 噸。大廈總共擁有 6500 個窗戶、73 部電梯，從底層步行至頂層須經過 1860 級台階。它的總建築面積為 204,385 平方米。
第一次對外宣布建樓計劃聲稱這幢大廈的高度「接近 300 米」。這樣做其實是故意迷惑他人。拉斯各布生怕克萊斯勒搶了他的風頭，要在第 86 層的頂部加一個 61 米的飛艇碇泊塔，把整個建築物的高度增加到 381 米。在一次飛艇停泊時，海軍飛艇（Navy Blimp）上噴射出來的壓倉水把幾個街區以外的行人都弄得渾身透濕，最後不得不拆除了這個碇泊塔。

1930 年 1 月 22 日項目開始動工，大廈於同年 3 月 17 日開始建築。項目涉及了 3400 名工人的勞動，工人主要是歐洲移民，也包括數百名蒙特婁附近的北美原住民。根據官方統計，施工過程中共有五名工人身亡[9]。帝國大廈的建設速度是每星期建 4 層半。這在當時的技術水平下，已算是驚人的了。整座大廈最後提前了 5 個月落成啟用，比預計的 5000 萬美元減少了 10%，所用材料包括 5660 立方米的印第安那州（Indiana）石灰岩和花崗岩，1000 萬塊磚和 730 噸鋁和不鏽鋼。
1931 年 5 月 1 日，帝國大廈正式落成，美國總統赫伯特· 胡佛在首都華盛頓特區親自按下電鈕，點亮大廈燈光。

開放

2005 年春季觀景台俯瞰紐約市全景圖
由於大廈落成之時，恰好處於經濟大蕭條時期，而且大廈地址遠離公共運輸，使得許多辦公室在 1940 年代之前一直空置，它在早期也因此被戲稱為「空國大廈」（Empty State Building）。

事故

帝國大廈除有多達 30 人次在此跳樓自殺外，也有不少火災事故發生，其中最為嚴重的一次即是 B-25 撞機事件。

B-25 撞機事件

聖誕節從 GE 大樓望去，帝國大廈的紅綠色燈光 1945 年 7 月 28 日上午 9：45，由一位中校駕駛的 B-25 米切爾型轟炸機由於當天的濃霧在空中迷失，撞向了大廈北側 79 層與 80 層，美國全國天主教福利會所在地。飛機的一個發動機飛到了另一座臨近建築的天台上，引發的大火燒毀了一間閣樓。其他的發動機和部分起落架掉入了電梯井。由此產生的大火將近 40 分鐘後被撲滅， 14 人在事故中遇難。儘管如此，在兩天後的周一，大廈的其他樓層繼續正常運作。

◎洛克斐勒中心

洛克斐勒中心號稱是 20 世紀最偉大的都市計劃之一，這塊區域佔地 22 英畝，由 19 棟建築圍塑出來的活動

區域，對於公共空間的運用也開啟了城市規劃的新風貌，完整的商場與辦公大樓讓中城繼華爾街之後，成為紐約第二個市中心「DOWNTOWN」。洛克斐勒中心幾乎是費理斯畫作的完美呈現，包括建築群的分布與高低的配置，第五大道旁較為低矮的國際大樓緩緩起伏到第六大道旁最高的奇異電器大樓（69 層樓），交錯橫貫之間的是供市民使用的廣場〈海峽花園”Channel Garden”、下層廣場”Lower Plaza”等〉，這座迷你的小都市每天可容納 25 萬人次上班、觀光、消費。

嚴格來說，洛克斐勒中心區域涵蓋第五大道至第七大道，介於 47 街至 52 街之間，區內涵括餐廳、辦公大樓、服飾店、銀行、郵局、書店…，甚至還有地下鐵通道貫穿連結，建築師聰明地利用大樓間的廣場、空地與樓梯間製造人行流動的方向，讓一天超過 25 萬的人潮在此穿梭無虞。

洛克斐勒中心在建築史上最大的衝擊是提供公共領域的使用，這種為普羅大眾設計的空間概念引發後來對於「市民空間」(Civic Space)的重視，巧妙地利用大樓的大廳、廣場、樓梯間、路衝設計成行人的休息區、消費區，徹底落實為廣大中產階級服務的 30 年代，建築物不再是取悅上帝及皇帝的工具。

◎時代廣場

時報廣場（Times Square）是美國紐約市曼哈頓的一塊街區，中心位於西 42 街與百老匯大道交會處，範圍東西向分別至第六大道與第九大道、南北向分別至西 39 街與西 52 街，構成曼哈頓中城商業區的西部。

時報廣場的名稱源自《紐約時報》早期在此設立的總部大樓。因為英文裡「時報」（Times）和「時代」（times）相同，所以時報廣場常誤譯作「時代廣場」

歷史《紐約時報》發行人阿道夫· 奧克斯將該報的總部遷到第四十二街，當時稱為 Longacre 廣場上的一座新建大樓裏。奧克斯成功游說時任市長的小喬治· 布林頓· 麥克萊倫（George B. McClellan, Jr.）在當地設立地鐵站，並在 1904 年 4 月 8 日將 Longacre 廣場正式更名為時報廣場。只在三星期後，第四十六街與百老匯交界的一間銀行的外牆，就出現了廣場上第一張廣告。

自 1913 年起，《紐約時報》不再於時報廣場上的大樓辦公，但其總部仍然在該區內。那座大樓一度被稱為聯合化工大樓，現在稱為時報廣場一座，更成為每年最後一天降球儀式的地點。降球儀式始於 1907 年 1 月 1 日，自此以後時報廣場更成為紐約市慶祝新年時的主要地點。當晚數以十萬計的人群都會聚集觀看由 Waterford Crystal 出品的水晶球從高處降到地面，象徵新一年的開始。這取代了之前（從 1904 年到 1906 年）市政府以安全為由而取締的大型煙火匯演。在第二次世界大戰期間，由於戰時燈光管制，儀式被暫時簡化為一分鐘靜默，隨即播放教堂鐘聲的錄音。

時報廣場快速發展成為聚集劇院、音樂廳、以及特色酒店的文化集中地。「時報廣場迅速成為了紐約的市集，一個人們聚集、等待、和慶祝大事的地方，無論是棒球世界大賽還是總統選舉的時候。」詹姆斯· 特勞布（James Traub）在《魔鬼遊樂場：時報廣場利樂一世紀》（The Devil's Playground: A Century of Pleasure and Profit in Times Square）中寫道。歐文· 柏林（Irving Berlin）、弗雷德· 阿斯泰爾、查理· 卓別林：這些都是 1910 年代和 1920 年代跟時報廣場有密切關係的名字。

隨著 1930 年代大蕭條到臨，廣場氣氛出現轉變。時報廣場充斥著色情表演場所、通宵放映性愛映畫的電影院、以及售賣廉價旅遊紀念品的商店。傳媒人戴蒙· 魯尼恩（Damon Runyon）所著的故事集《紅男綠女》（Guys and Dolls）反映了這時的轉變。以後的數十年內，時報廣場被很多人視為危險的地帶。時報廣場繼而從 1960 年代到 1990 年代成為紐約市危險與敗壞的象徵。有很多題材黑暗而具影響力的電影，如《午夜牛郎》和《計程車司機》等，其中不少情節都在時報廣場取景。而區內的不良電影院放映低級電影，更是等閒的事。

到了 1990 年代中期，市長朱利安尼（1994 年至 2002 年期間在任）開展淨化該區的工作，包括封閉色情場所、加強治安、以及開設更多適合遊客的觀光點。當地政府曾經發出行政命令，驅逐第四十二街附近林立的色情商店。很多場所因此被迫關閉，或者遷到布魯克林區或皇后區等工業地區，取而代之則是比較高級的商業活動。

今日的時報廣場百老匯上的劇院、大量耀眼的霓虹光管廣告、以及電視式的宣傳版，已經深入成為象徵紐約的標誌，反映曼哈頓強烈的都市特性。時報廣場是市內唯一在規劃法令內，要求業主「必須」懸掛亮眼宣傳版的地區。時報廣場宣傳版的密度，與拉斯維加斯可相比擬。

1992 年時報廣場聯盟（Times Square Alliance，前稱「時報廣場改善營商區」，Times Square Business Improvement District，簡稱 BID）成立，旨在透過團結當地企業的力量，改善該區的營商與衛生環境。時報廣場現在已經成為遊客熱點的集中地，包括美國廣播公司節目《美國，早安》的直播現場、玩具反斗城和好時巧克力（Hershey's）專賣店，中菜「傅」[1]、海鮮專賣店阿甘蝦餐廳（Bubba Gump Shrimp Company）、與義大利餐廳洋紅（Carmine's）等餐廳，以及數間多院電影院。時報廣場也吸引了一些大規模的財金、出版、和媒體企業在該區設立總部。駐守的大批警察改善了當地的治安。獲得新生的時報廣場無疑更安全更被人接受，然而也有人指該區已經失去原來的光芒，被淨化為一個被「迪士尼化」的廣場。

眾多宣傳版中，其中一個著名的是位於時報廣場四座納斯達克交易所外的納斯達克標誌與股市行情表螢幕。螢幕用了 3700 萬美元製作，螢幕高達 120 呎（36.6 米），於 2000 年 1 月揭幕啟用。光是租用這個位置，就花費納斯達克每年至少 200 萬美元。在廣告市場內這其實已經算是一個優惠的價格，因為廣告「出現」的次數遠超於其他類型的廣告所能達到的。

2002 年，即將離任的市長魯迪· 朱利安尼，在 1 月 1 日零時過後，監督接任市長麥可· 布隆伯格的就職宣誓儀式。這是 2001 至 2002 年度新年慶典的一部分。當時有 50 萬人見證了這個時刻。因為九一一襲擊事件的緣故，當時有多達 7000 名紐約市警察駐守廣場，是正常新年時警力的兩倍。

◎中央公園

中央公園（ Central Park ）位於紐約曼哈頓區，長 4 公里，寬 800 公尺，總面積 3.41 平方公里，大約是 487 個國際標準足球場的總和，曾經出現在超過 240 部的電影和無計其數的電視影集，使它成為世界上最有名的城市公園，有人說公園是城市之肺，而中央公園之於紐約，更可以說是不可或缺的心臟。

中央公園是美國第一座公共公園，自 1957 年開始建造，耗時 15 年完成，園內共有 7 座水池、 51 座雕像（ 50 座為受贈禮物）、 36 座橋樑與拱門、約 93 公里的人行步道、 9,000 張長椅（連接起來長度超過 11 公里）、超過 26,000 株的樹木、甚至還有 2 個動物園，即「中央公園動物園」（ Central Park Zoo ）及「兒童動物園」（ Children’s Zoo ）。
中央公園每年吸引 2,500 萬的訪客踏進公園，不是只靠它美麗的外貌，許多人都是為了參加在中央公園舉辦的文化、社交或表演活動，除了日常的遛狗遛小孩、騎馬划船、棒球網球、溜冰單車、馬拉松練習以外，每年固定舉辦的地球日活動、著名又搶手的舞台劇公演（ Shakespeare in the Park ）、紐約愛樂交響樂團與大都會歌劇院的露天表演等，都吸引了大批的觀眾，溫暖了都市叢林中受寒的心靈

◎第五大道

第五大道（Fifth Avenue），是美國紐約市曼哈頓一條重要的南北向幹道，南起華盛頓廣場公園，北抵第 138 街。由於第五大道位於曼哈頓島的中心地帶，因此曼哈頓島上東西走向的街道有時會以這條街道為界而加以東西的稱呼。（例如第五大道以西的十街就稱為西十街）。第五大道上景點眾多，由南至北有帝國大廈、紐約公共圖書館、洛克菲勒中心、聖派屈克教堂以及中央公園等。此外，由於中央公園附近有大都會藝術博物館、惠特尼美術館、索羅門· 古根漢美術館、庫珀· 休伊特設計博物館等著名的美術博物館等，因此被稱為「藝術館大道」（Museum Mile）。在 60 街到 34 街之間的第五大道，則被稱為「夢之街」，因為這裡聚集了許多著名的品牌商店，是高級購物場所。據英國一家諮詢公司對全球 45 個國家所做的年度調查顯示，第五大道仍是全球租金最貴的零售業場所。第五大道商鋪的年租金可超過每平方英尺 1000 美元（1 平方米=10.764 平方英尺）。

第五大道也是紐約市民舉行慶祝活動的傳統途徑路線，在夏季的星期日是禁止汽車通行的步行街。
第五大道在 19 世紀初不過是片空曠的農地，經過擴建後，逐漸變成紐約的高級住宅區及名媛仕紳聚集的場所，高級購物商店也開始出現。進入 20 世紀後，第五大道變成了摩天大樓「爭高」的場所，其中以 1934 年落成的帝國大廈為最高樓。

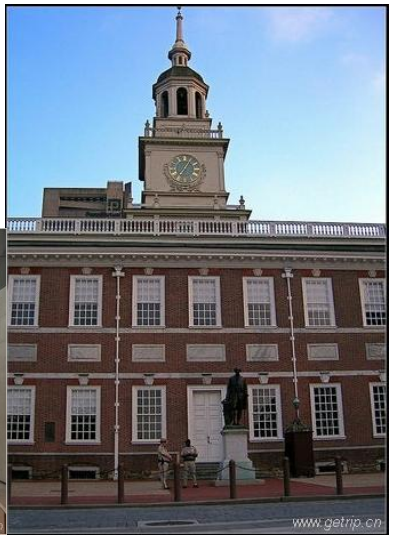
7/25 (Mon) 紐約 (博物館夜驚魂 ~ 自然歷史博物館)- 費城(獨立宮) ~ 華盛頓

◎自然歷史博物館

美國自然歷史博物館（American Museum of Natural History）位於美國紐約曼哈頓上西區（Upper West Side），是專註於人類學、古生物學、生物學等的博物館。建館於 1869 年，現有館員超過 1200 人，每年承辦超過 100 場特別展覽。該館的特色是其對於各大洲哺乳動物的收集，以及人類學的館藏。其人類起源館（Hall of Human Origin）是全美唯一此領域的專項展覽，展示了人類進化過程中的各個階段。

◎費城-獨立宮 自由鐘

獨立宮(Independence Hall)無論怎麼講都可以稱之為美國的誕生地。《獨立宣言》在這裡通過，聯合憲章（或聯邦憲法）也是在這裡討論、起草並通過。這個迄今最為古老的聯合憲章是由當時的 13 個殖民地中的 12 個的代表們共同商定的，當時只有羅德島殖民地沒有派出代表。喬治 o 華盛頓主持了這次 1787 年 5 月到同年 9 月的討論會。這個由前言和七個章節組成草案被提交給當時的 13 個州，經過 9 個州的批准後生效，1788 年六月 21 日新罕布希而州作為第九個州批准了這個草案，次年的 3 月聯合憲章正式實施。



在費城 300 多年的歷史中，這些在這篇土地上發生過的重大事件，默默無聲地在吸引著人們的目光，喚起著人們的記憶，提醒著現代人，費城，是美國革命的發祥地，是美利堅合眾國的搖籃，是人類追求自由與民主的見證人。

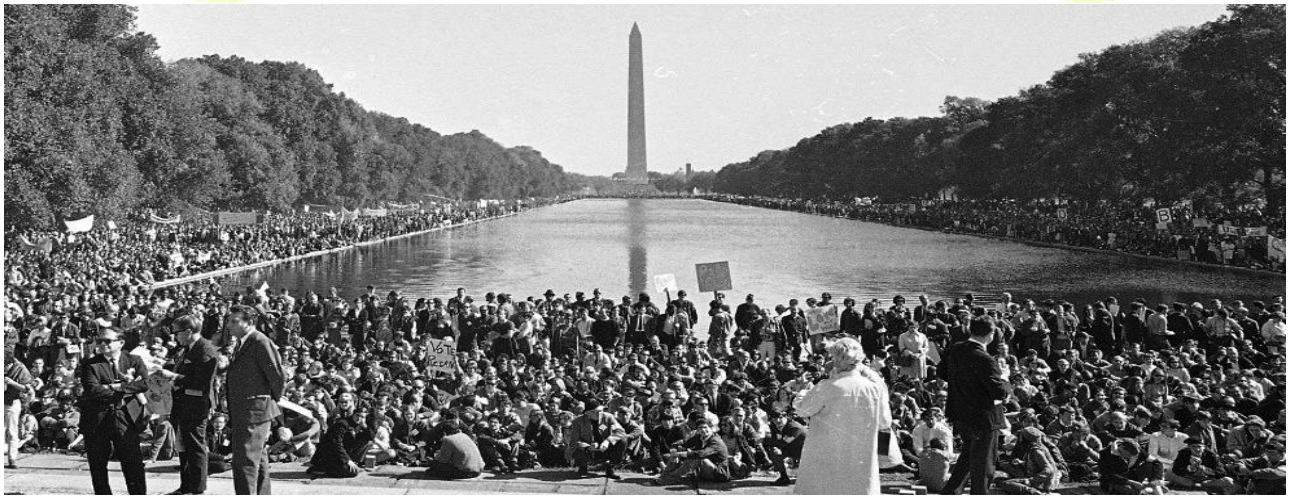
7/26 (Tue) 華盛頓紀念碑、航空與太空科學博物館～賀喜巧克力王國(巧克力大冒險)～紐約

◎華盛頓紀念碑

華盛頓紀念碑（Washington Monument），是美國首都華盛頓哥倫比亞特區的地標，為紀念美國總統喬治·華盛頓而建造，石碑建築物的內部中空，是世界最高的石製建築，原本米爾斯的最初設計是在底部有開國英雄柱廊圍繞著華盛頓紀念碑，但在美國工兵處陸軍上校凱西被託付重新設計地基與塔身之後，他放棄了柱廊的構想，專注於方尖碑的建造，並將地基挖深、以古埃及的比例重新設計主塔。

1833 年美國國會通過建案，建費用由全民樂捐，每人捐款上限為一美元，藍圖由米爾斯（Robert Mills）設計。其間因南北戰爭爆發，停擺了 22 年，1876 年又重新復工，由美國陸軍負責，經費由政府負擔。整個工程於 1884 年 12 月 6 日峻工，並四年後開放觀光。石碑是以白色大理石建成方尖型，高度是 169.3 公尺，東面是國會大廈，西部是林肯紀念堂，北面是白宮，南面是傑佛遜紀念館，內牆鑲嵌著 188 塊由全球各地捐贈的紀念石。登上 169 公尺高的華盛頓紀念碑，可俯瞰波托馬克盆地全貌。美國政府於 1899 年宣佈：「華盛頓特區任何建築物的高度都不可以超過華盛頓紀念碑」[來源請求]

1853 年美北長老會駐中國的傳教士丁韙良曾贈一碑文予美國華盛頓紀念館，由福建巡撫徐繼畬撰碑文文字：「華盛頓，異人也。起事勇於勝廣，割據雄於曹劉，既已提三尺劍，開疆萬里，乃不僭位號，不傳子孫，而創為推舉之法，幾於天下為公，乎三代之遺意。其治國崇讓善俗，不尚武功，亦迥與諸國異。余嘗見其畫像，氣貌雄毅絕倫，嗚呼，可不謂人傑矣哉！米利堅合眾國以為國，幅員萬里，不設王侯之號，不循世襲之規，公器付之公論，創古今未有之局，一何奇也！泰西古今人物，能不以華盛頓為稱首哉！」



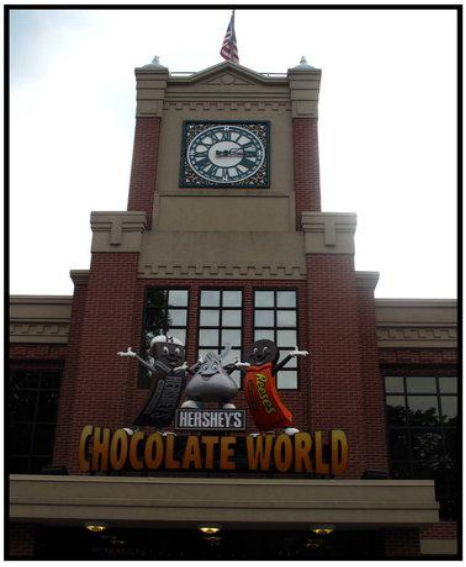
◎華盛頓 : 美國國家航空航太博物館(National Air and Space Museum)

國家航空航太博物館坐落在華盛頓國家大草坪東部南側，館區包括第四街到第七街間的 3 個街區。從 1976 年開放以來，每年參觀者都超過一千萬人次。

這座博物館是世界上航空和航太領域收藏展品最豐富的博物館。同時它也是重要的研究中心，研究項目包括航空、太空飛行的科學和技術，地球科學和行星學。這個館收集了代表尖端技術的飛機、宇航器、火箭、導彈、各種航空發動機、推進器大量模型。此外還有飛行服、獎品、儀器、飛行設備，以及著名發明家、飛行員、重要航空史實的遺留物。展品包括 1903 年第一次成功載人飛行的懷特兄弟飛機，首架不間斷跨越大西洋的飛機——聖路易斯精神號，世界上第一顆人造衛星——斯派特尼克 1 號，阿波羅 11 號第一次登月的登月艙——哥倫比亞，還有可以觸摸的月球岩石標本等。

用不同的主題，把相關的展品串聯起來。此外博物館內的洛克馬丁 IMAX 電影劇場和愛因斯坦天文館，以及各種飛機航行模擬器，將航空航太的體驗，直觀並完整地呈現在遊客面前。

◎賀喜巧克力王國



有一則廣告令人印象深刻～大象的巴掌
內容是一名男孩去看大象表演,手裡拿著賀喜巧克力,當大象正要用鼻子接過去吃時男孩就一口把巧克力吃掉,之後男孩長大後,在一次大象遊行表演中,有隻大象就過去賞了他一巴掌….

接著的廣告字幕是：「有些滋味，你永遠不會遺忘！賀喜巧克力。」

美國賓州賀喜鎮(Hershey, PA) 的賀喜是全世界最大的巧克力公司， 在 1876 年由 Milton Snavely Hershey 的一間糖果店開始。
賀喜鎮的名字就是來自有名的巧克力 Hershey, 因為這裡就是 Hershey 巧克力的母公司. 賀喜的老板賺了大錢後, 也把錢回饋給他的員工及附近的居民, 把這個鎮建得相當漂亮。
賀喜鎮可說是因巧克力而建，這是賀喜鎮市區的一條主要道路, 叫做巧克力大道 (chocolate avenue). 它的路燈都是做成像 Hershy Kisses 一樣.，採用 kiss 巧克力造型， 十分有趣。
巧克力的原料是可可豆，被稱為「眾神的飲料」，也被視為醫藥使用。以瑪雅文化聞名的古阿茲克特王國，甚至把可可豆當成貨幣通用，足見其珍貴。

歐洲人喜歡可可的氣味，在殖民地大加栽種，並持續改良可可的加工技術。
一般的巧克力，就是將可可粉加熱溶解，加入砂糖、奶粉、乳化劑、阿拉伯樹膠等，經過多重加工程序，最後冷卻、固化成型。因此它有可可的香，牛奶的醇，與砂糖的甜，如此巧妙的結合，其美味自然不是一般人所能招架的。

巧克力的主要原料其實是苦澀的可可豆。像咖啡一樣，可可豆成熟後，需經過一番發酵、烘培、篩殼、研磨的過程，才能展現它香醇的美味，尤其是研磨的過程，可以說是決定巧克力好不好吃的關鍵：可可豆研磨的越細緻，所製造出來的巧克力表面也就越光滑，那入口即化的細緻口感也就越佳，也更能保留住可可的香醇。

★ 行前注意事項 ★

團體活動中準時是最重要的一件事，有時候一天要約定好幾次的集合時間，所以每一位學生自我要求準時是必要的，不僅可以有效率的完成我們所有的活動計畫，更重要的是展現出一個單位有沒有紀律的一項非常重要的指標。而我們這次出國不僅僅是代表個人，更是代表了學校，甚至是代表台灣出訪，所以言行舉止就要比平常要更為小心謹慎了。

一、機場集合、行李

芝加哥 IIT 科學營集合時間與地點為 **7 月 9 凌晨 4 時整** 於明道中學，4:30 分準時出發。

01. 機票於機場集合時統一發給各位同學，當日請記得攜帶**護照、簽證及相關旅行證件**。

02. 依航空公司飛行規定，**經濟艙每人以 20 公斤托運行李二件**；**華夏客艙每人以 30 公斤托運行李二件**；適當的**隨身行李限一件**，**不得超過七公斤**，超重的行李可能會被收取額外費用。貴重、易粹和醫藥物品，請置隨身行李保管。
美國運輸安全署對旅客行李之檢查通告：美國聯邦政府運輸安全署自 2003 年 01 月 01 日起，在全美各機場對旅客託運行李進行檢查，尤其針對由美國離境之旅客行李提出下列注意事項：*a.*美國聯邦政府運輸安全署**因行李檢查需要，會破壞行李箱上之鎖具**，因此美國聯邦政府運輸安全署**建議旅客不要將行李箱鎖上**，以利安全檢查及避免行李遭致破壞；**7 月 9 日當天會統一發給同學專用行李牌與捆帶**。*b.*美國聯邦政府運輸安全署對行李之損壞或遭竊不負賠償之責任。故請勿將貴重物品放置於託運行李中。若旅客有申訴事宜可逕行聯繫美國聯邦政府運輸安全署顧客服務專線請其回覆，惟其係採個案方式辦理。免付費電話：(1-866)289-9673 意見申訴網址：TellTSA@tsa.dot.gov

03.如有水果刀、鉛筆刀，或尖銳的物品，請放入托運行李中，勿攜帶上機。有氣爆之慮的噴霧容器，為飛安之故，請勿攜帶。**打火機絕對禁止隨身攜帶**。

04.因應海關檢疫，請勿攜帶奶品、肉類、生鮮蔬果入出境，以免造成不必要的困擾。

05.飛安新要求：

- ●手提行李中不可攜帶乳狀及液態的物品，請放置大行李托運。
- ●隨身攜帶之乳狀及液態的物品，如化粧品、香水、牙膏等，需全部放置於同一可開合之透明塑膠袋內，每樣不可超過 100 毫升(ml)，且總容量不可超過 1 公升。
- ●嬰兒食品及旅客搭機時須服用之藥物，不在限制之列，但請在受檢時主動告知。
- ●於機場免稅店購買之乳狀或液態物品，需有証明或封簽，使可攜帶登機。

06.攜帶外幣現鈔出入國境限額為一萬美元等值，超過者應向海關申報，未申報或申報不實者，超額部分將被處分沒入。

07.**請勿攜帶仿冒品入境，以免遭海關盤檢，嚴重者將可能遭受高額罰款**。

二、搭機禮節

01. 搭機時團體的座位以航空公司的電腦自動安排。如無法與親友相鄰而坐，待登機就坐定位後再行更換，但請勿交換登機證！如機上有訂特別餐食者，請勿隨意更換座位，以期餐食能正確送達定位。

02. 用餐時，請豎直椅背，方便後座用餐。如前方的椅背未扶正，可請送餐的空服員代為轉達，請勿發生爭執。

03. 飛行途中請配合燈號繫好安全帶，為防止壞氣流或突發的危險，建議就座時請繫好安全帶。機上全面禁煙和禁止使用行動電話(請關畢電源), 亦請勿在洗手間內吸煙，以免觸犯律法。

04. 長途飛行可穿著較輕鬆的服裝和外套，並可攜帶一本好書閱讀，讓旅途更加充實。

三、氣候、衣著

01. 請於出發前再次參考媒體的氣象報告，或網址: http://www.weatherrisk.com/

芝加哥：

月份	一月	二月	三月	四月	五月	六月
溫度	-2。C (-28 ~16)	0。C (-27 ~22)	4。C (-18 ~25)	9。C (-6 ~30)	15。C (3 ~33)	21。C (8 ~35)

月份	七月	八月	九月	十月	十一月	十二月
溫度	25。C (13 ~39)	24。C (12 ~35)	20。C (4 ~34)	14。C (0 ~32)	7。C (-7 ~24)	1。C (-20 ~20)

02. 天氣變化無常，請以**夏季衣著為主搭配防風及保暖薄外套，**並請攜帶雨具，以防不時之需。

03. 旅遊行程中請以輕便舒適整齊為原則。外出時，請勿穿著拖鞋，以維護基本禮節。

04. 因氣候乾燥，可攜帶**潤膚乳液和護唇膏**備用。

四、餐食安排

01. 三餐皆安排在 IIT 學生餐廳,外食則以課程安排搭配之餐廳為主,請參考每日課程表。

02. 當地自來水是可生飲，但仍建議飲用礦泉水，以免產生水土不服之情況，而影響旅遊心情。**有些餐廳飲用水視為飲料，需另外付費。**

03. 餐廳內請勿喧嘩嬉戲，亦不宜自備飲品或泡麵在餐廳食用，以示尊重。

04. 用餐就坐時，請將椅子拉近靠背，方便鄰座進出。在外用餐時，切記勿將皮包掛在椅背上，以防失竊。

五、學生宿舍

01. 進入宿舍分配好房間後，請先熟悉環境、緊急逃生路線，並檢查房間各項設備，例如：床單、毛毯、大小毛巾等等是否有短缺或故障，如有任何問題請與領隊老師連絡。

02. 美洲地區氣候因夏短冬長，暖氣設施是必備的，但不一定會有冷氣空調設備，敬請見諒。

03. 沖浴時，請將浴簾拉起置於浴缸內側，以保持地面乾燥。

04. 如廁後，請將衛生紙丟入馬桶內沖水處理。其餘物品，請勿丟入馬桶內。

05. 美國電壓是 120 伏特，大部分為二孔扁形的插座，與台灣相同，其他插座類型包下列：

06. 住宿期間，請妥善保管自已貴重物品。

07. 建議可攜帶衣架。

六、巴士

01. 因團體行動，請注意集合時間、地點，敬請提早抵達集合地點。

02. 自由活動、上廁所，或晚間外出，請勿單獨一人，建議結伴而行，小心安全。

03. 到旅遊景點時，請勿急著照相，先聽取帶隊老師介紹和注意事項後，再自行活動。

04. 巴士內請勿飲食；亦請自行清理座前垃圾，維護車內清潔。

05. 旅遊途中，請特別注意自身與財物的安全。如有不明白或建議的地方，請與帶隊老師洽詢協商，共創一趟美好的旅遊。

七、旅遊需知

01.時差：芝加哥比台灣慢 13 小時。

02.國際電話：

台灣→芝加哥：002+1+區域號碼+電話號碼

美洲→台灣 011+886+區域號碼(去 0)+電話號碼/手機號碼

手機：建議使用簡訊

手提電腦：建議開立 Skype 帳號

※ 台灣行動電話須為三頻機方可在美洲地區使用，且因電信公司制度不同限制，請事先洽詢通話漫遊事宜。或是在台灣先購買國際電話卡，亦可在美洲當地購買電話卡使用。

03.國外藥品購買不易，請自備足夠的用量。**每日必服的藥品請放在隨身行李**，以便服用。可準備一些**感冒藥和腸胃藥**，以便水土不服之需。

04.學校已請旅行社按規定投保基本的旅遊保險，您亦可自行加購旅遊平安險。

八、貨幣、購物

01. 美國流通貨幣為美金。

根據　2011/06　中央銀行外幣匯兌表：
1 美元 = 29.09 台幣，**結匯前您亦可上網查詢更明確的匯率資訊；**
網址：http://rate.bot.com.tw/Pages/Static/UIP003.zh-TW.htm

02. 信用卡在當地普遍流通，但小商店和攤販仍以現金交易為宜。

九、旅遊保險

旅行平安險是針對出國旅行途中可能發生的各種意外**(除疾病、外科手術、自殺、戰事變亂、職業性運動競賽與故意行為外)**所導致的一切意外死傷事故所做的保障，一般皆可獲得保險公司的理賠。根據 84 年 7 月 1 日實施的新版旅行業管理規則，旅行業必須投保責任保險和履約保險才能出團；本團已包含同學每人 200 萬元旅行平安保險及 20 萬醫療險，教師每人 500 萬元旅行平安險及 25 萬醫療險。

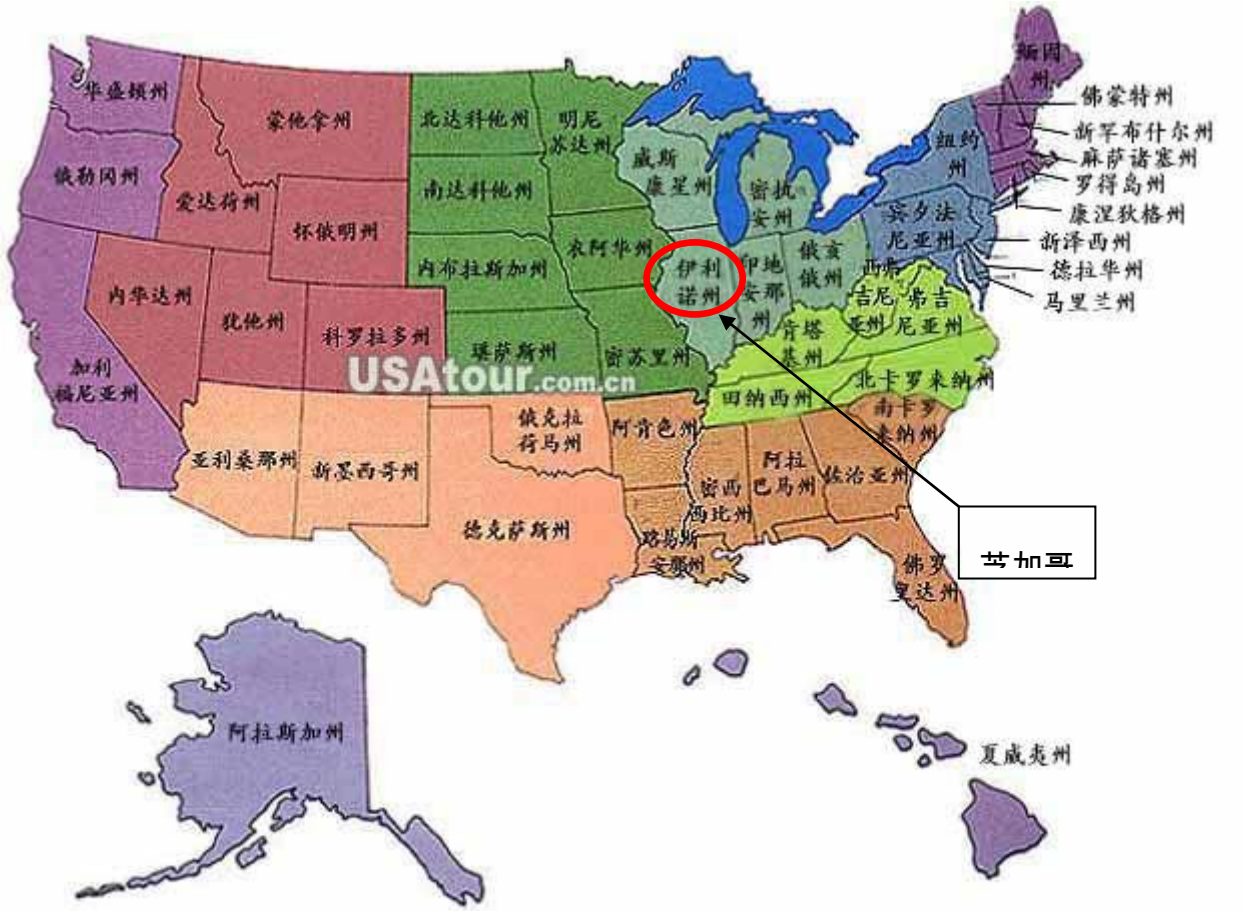
十、心情準備

出國旅遊是暫時離開自己熟悉的生活環境，來到一個全然新鮮陌生的地方，讓自己在輕鬆度假的心情下，學習新知、增長見聞。但團體的生活、天氣的變化、飲食的文化、突發的事故，常常會左右我們的旅遊心情。如能帶著寬闊的胸襟和幽默的眼光，來欣賞旅途中所發生的種種事情，必能讓您體驗到意想不到的旅遊情，做個快樂的旅行家。

攜帶物品參考表

內　容	備　註
□ 旅行支票	因人而異
□ 隨身背包	建議使用側背包
□ 文具用品	筆記本、筆、字典、計算機、橡皮擦
□ 個人名片	可以自行設計，以便留給新朋友
□ 二吋照片(3 張)	有備無患
□ 一星期衣物	上衣、棉質 T 恤、長短褲、裙子、睡衣褲、薄外套，因美國當地為夏天，易出汗者可多準備二、三件更換
□ 盥洗用品	牙刷、牙膏、小毛巾、洗髮精、沐浴乳皆需自己準備！
□ 保養用品	護唇膏、乳液、防曬乳
□ 自備藥品(感冒藥、特殊用藥、OK 繃、口罩、維它命、乾洗手液)	有習慣用藥者請事先告知老師，並備妥英文處方簽，常用藥請隨身攜帶，勿放大皮箱
□ 零食	餅乾、泡麵、杯湯、礦泉水等
□ 塑膠袋	可以裝髒衣服
□ 近視眼鏡、隱形眼鏡	近視眼鏡，最好有二副或者攜帶備用隱形眼鏡；隱形眼鏡，請攜帶藥水、清潔液
□ 3C 用品	翻譯機、照相機、2G 以上記憶卡、電池、充電器
□ 手機	北美三頻手機-因人而異
□ 國際預付卡(NT:300-500 元)	可至便利商店購買
□ 水壺	
□ 其他物品	拖鞋、涼鞋、運動鞋、皮鞋、襪子、面紙、手帕、洗臉小毛巾、雨傘、遮陽帽、太陽眼鏡
□ 親友聯絡地址電話	

美國參觀地區地圖



地 名	州
芝加哥 Chicago	伊利諾州 ILLINOIS

芝加哥簡介

☼ **市　　名**：

芝加哥市(City of Chicago)，又稱「風城」。

☼ **別名由來**：

一種說法認為：windy 暗示「芝加哥人的浮誇之氣」。1893 年，紐約和芝加哥同時競選申辦世界博覽會，申辦過程中，紐約人認為芝加哥過於誇大言辭，於是，《紐約太陽報》主編 Charles A. Dana(查理斯·A·達納)寫了一篇報導，抨擊紐約人的 windy(空話、吹牛)特性。但是，正統辭源學否認了這種說法。據辭源記載，早在 1886 年，Windy City(芝加哥)的說法就已被媒體接受，而且，當時所言的 windy 絕無貶抑之意，而是特指芝加哥的宜人氣候。每到夏季，湖區涼風陣陣，芝加哥成為美國人的避暑好去處，Windy City(風城)由此得名。

☼ **市　　旗**：

芝加哥市市旗由三條白色被兩條藍色分隔而組成，在中間那條白色上有四顆紅星。兩條藍色象徵芝加哥河及其兩條支流。中間那條白色表示該市的西部，而外邊、較窄的兩條白色表示北部和南部。中間那條白色上的四顆紅色六角星(自旗杆向外)分別意為：迪爾伯恩要塞(1939 年添加)、1871 年 10 月 8 - 10 日的芝加哥大火、1893 年的「世界美國展覽會」和 1933 年的「進步的世紀展覽會」(1933 年添加)。

☼ **市　　徽**：

芝加哥市市徽的正面直徑二又八分之三英寸，畫面上描繪的是一塊紅色的盾牌(美國)、銀白色和青色，在盾的中心點有一捆金色的麥子，在盾形徽章右側本色(作為右半部扶持盾牌的物形)是一艘張著滿帆的船，頂部是一個銀白色的殼狀物，內有一名本色的嬰兒，徽章盾形左側(作為左半部扶持盾牌的人形)，是一位手持本色弓箭的印第安人酋長站在綠色的懸崖上，盾牌的下部是紅色飄拂的飾帶，上有金色的銘文「Urbs in Horto」(花園城市)。環繞該市徽外沿的青色圈中有金色的刻印文字「芝加哥市：1837 年 3 月 4 日併入」。 描繪上述內容並被用成彩色或黑白的徽章被確定和宣佈為過去式，現在仍是該市的市徽。一般使用時，含有以上所給圖案的單色白色畫面即可。

☼ **市　　花：**
菊花

☼ **獨立時間：**
西元 1837 年 3 月 4 日

☼ **地理位置：**
北緯 41 度 53 分 0 秒，西經 87 度 39 分 0 秒；位於美國中西部，伊利諾州的東北角，瀕臨密西根湖的西南端，芝加哥位於密西西比河水系和五大湖水系的分界線上。

☼ **面　　積：**
606.1 平方公里，其中 588.3 km²為陸地，17.8 km²為水面。水面大約占總面積的 2.94%。

☼ **體　　育：**
(1)賽馬：梅伍德公園賽馬場(Maywood Park Race Track)、運動員公園賽馬場(Sportsmans Park Race Track)
(2)美式足球：芝加哥熊隊 - 戰士體育場(NFL)
(3)足球：芝加哥火隊 - 豐田足球場(MLS)
(4)籃球：芝加哥公牛隊 - 聯合中心(NBA)、WNBA
(5)棒球：芝加哥白襪隊 - 白襪棒球場(MLB)、芝加哥小熊隊 - 里格利棒球場(MLB)
(6)冰上曲棍球：芝加哥黑鷹隊 - 聯合中心(NHL)

☼ **民　　族：**
芝加哥是一個多種族的城市，早期移民有愛爾蘭人、瑞典人、波蘭人、義大利人、德國人和華人等。

☼ **人　　口：**
280 萬(2007 年)，其中：黑人占 38.6%，白人占 37.9%，說西班牙語的人占 19.6%，亞裔占 3.5%。大芝加哥地區華人總數約 6 萬人。

☼ **經　　濟：**
芝加哥是美國中西部一個重要的金融中心，也是世界金融中心之一。「芝加哥證券交易所」是美國境內僅次於紐約市的最大證券交易所。「芝加哥商業交易所」、「芝加哥期貨交易所」和「芝加哥交易局」舉世聞名。「芝加哥商業交易所」世界上最大的一個易損貨物交易市場，在全世界金融交易場所中首屈一指。「芝加哥期貨交易所」的成交額超過美國國內任何一個交易所。「芝加哥交易局」是世界上最大、最早的期貨、期權交易市場，它的股票成交額在美國國內名列前茅。芝加哥是美國一些大銀行和大金融機構的總部和分支機構所

在地。它擁有 300 多家美國銀行、40 家外國銀行分行和 16 家保險公司。這些銀行和金融機構在商業貸款數額上名列美國全國前 3 名，各種金融資產總額居美國聯邦儲備委員會管區的第三位。世界《財富》500 強企業中有 33 家、美國《福布斯》500 強企業中有 47 家在此落戶。

☼ **歷　　史**：

芝加哥是**印地安語**，意謂討厭的**野生洋蔥**。1907 年的芝加哥州街(State Street)是第一個定居者到此地開發探險。18 世紀時，芝加哥地區是伯塔瓦托米(Potawatomi)印第安部落的領地。1779 年，一個來自海地的黑人商人—杜薩布林(Jean Baptiste Point DuSable)定居芝加哥，他娶伯塔瓦托米人為妻，並在芝加哥北岸開設了這一地區第一家貨棧。1803 年，美國陸軍在此建立了迪爾伯恩要塞，後在 1812 年的迪爾伯恩要塞屠殺中被毀。1833 年 8 月 12 日，芝加哥鎮成立，當時擁有 350 名居民。隨著定居人口的增加，1837 年 3 月 4 日這裡成為芝加哥市，而此時的人口僅有 4170 人。

在它歷史的第一個百年中，芝加哥是當時世界上人口增長最快的城市之一，從 19 世紀初的空白起點增長到 1900 年已超過一百萬。在 19 世紀成為美國中西部地區的主要城市和農產品集散地。1848 年，溝通密西根湖和密西西比河的伊利諾伊-密西根運河建成，溝通了兩大水道之間的航運。同年，芝加哥的第一條鐵路開始修建。自此，芝加哥開始成為連接美國東西部的重要交通樞紐。1870 年到 1900 年間，芝加哥的人口從 29.9 萬猛增到 170 萬。當地的製造業和零售業成為中西部經濟的主宰力量，在很大程度上影響了美國的經濟。1886 年 5 月 1 日芝加哥幾十萬工人舉行罷工，爭取八小時工作日，取得了巨大勝利，五一國際勞動節即起源於此。1871 年 10 月 8 日至 10 日芝加哥市發生火災，約 6.5 平方公里土地上的市區(包括商業區)建築物幾乎全部被燒光，約 300 人死亡、9 萬人無家可歸，財物損失達 2 億美元。這就是美國歷史上著名的芝加哥大火。在大火之後，芝加哥得到快速的重建並很快恢復了增長。在重建期間，這裡產生了世界上第一棟採用鋼構架的摩天大樓，以此開始了芝加哥不斷創新的城市建築在世界範圍的聲譽。1893 年，芝加哥主辦了世界哥倫布博覽會，獲得極大的成功，共吸引到 2750 萬遊客前來參觀。1933 年世博會是第一屆有明確主題的世博會(即進步的世紀展覽會)，這樣的身份常使其成為世人眼中世博歷史的另一種開端。「一個世紀的進步」作為官方正式名稱，在 1929 年被確定下來，但早在構想階段，以芝加哥在百年世紀中的科學進步與工業發展為主題的說法就已風靡一時。

由於人口的快速增長和工商業的發展，作為城市主要水源的密西根湖的邊緣地帶在此期間被嚴重污染。為解決飲水污染問題，政府在密西根湖裡兩英里處建設了自來水廠的入水口，並通過水下管道將水引入城市的供水系統。1900 年，這一問題終於得到徹底的解決。

人們通過建設水位提升設施和閘門，將原本流入密西根湖的芝加哥河的流向倒轉，使其轉而向南流入伊利諾河。從此，城市的污水不再注入密西根湖。

1999 年 6 月，芝加哥政府為了吸引觀光客，在市區放置了 300 只彩繪牛，並且請來藝術家在上面作畫。這些牛都是玻璃纖維做的，體積和真的牛一般，每隻牛還有創作者的大名在上面。這群光鮮亮麗的「動物」不但受到當地人的喜愛，還為芝加哥帶來上億的觀光收入，也讓此地成了名符其實的牛城。這些牛還將進行拍賣，並把款項作為慈善之用。
有人稱芝加哥為「美國的超級市場(The Super Market of America)」。無論從那一個角度看來，它都是一個典型的美國式都市，既是商業中心，又是交通要塞，市內到處是在建築史上占一席地位的奇麗建築物。可眺望密西根湖的公園，蜿蜒的水際線，另有一番美妙景色。還有，無論是國際性會議，或美國國內較大規模的會議，大都在這一都市舉行，因這又獲得「議壇之城」的別稱。

1886 年 5 月 1 日，芝加哥的幾十萬工人為爭取八小時工作制舉行罷工示威遊行，「五·一」國際勞動節(1886)和「三·八」國際勞動婦女節(1909)，都源於這座具有工人運動光榮傳統的城市。

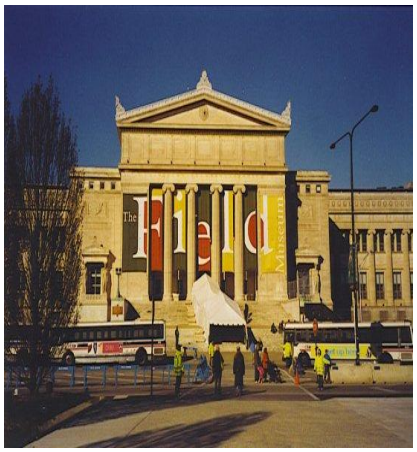
1955 年，後來擔任芝加哥市長 21 年的理查·J·戴利首次當選市長。現任市長理查·M·戴利，是原老市長理查·J·戴利的兒子，政策注重提升芝加哥的環境質量，實施了一些復興衰落街區，改善城市基礎設施和沿河城市景觀的項目。目前芝加哥正在準備申辦 2016 年的奧運會。

芝加哥景點介紹

★布魯克菲爾德動物園(Brookfield Zoo)

其正式名稱為芝加哥動物園(Chicago Zoological Park)。建於 1934 年，以其大規模的開放式場地出名。園址位於伊利諾州芝加哥西南郊的布魯克菲爾德，占地 83 公頃(204 畝)。園內有義大利式鄉間建築和整齊的林蔭道。這座內陸公園展出的海豚和其兒童動物園特別受人歡迎。1937-1953 年間展出的三隻大熊貓亦很有名。它是全美國第一個展出大熊貓的動物園，其中一隻名叫蘇林(音譯)的熊貓在死亡後被製成標本，如今被放在芝加哥菲爾德自然歷史博物館(Chicago's Field Museum of Natural History)中展示。動物園在飼養多爾羊(Dall sheep)和加猄(okapi)方面成果突出，還收有蹄類動物、袋鼠以及狒狒和其他非洲靈長類動物。1960 年，動物園建成了美國第一個全室內海豚展室；20 世紀 80 年代建設了熱帶世界(Tropic World)—第一個全室內雨林模擬場景展室；隨後又建設了世界最大的室內動物園展室。

★菲爾德自然歷史博物館 (Field Museum of Natural History)



菲爾德自然歷史博物館的收藏品有 2 千萬件，其中包括木乃伊、美國土著藝術品、經過填充的動物及恐龍標本等等。博物館的陳列把遊客從一座擁擠的城市帶到廣闊的撒哈拉大沙漠的沙丘。有一座類比實物的古埃及多層墓葬，其中有 23 具木乃伊；恐龍廳展出巨型的恐龍骨架，有的據測算已達千百萬年之久。1997 年，菲爾德博物館攫得最具影響的收藏品，獲得了一具暴龍的骨架 (Tyrannosaurus rex)，名字是蘇，是幾年前一位農場主發現的，這是迄今止發現而保存最完好的食肉猛獸的骨架。

★格蘭特公園(Grant Park)

位於市中心東南，密西根湖旁。芝加哥主要公園之一，園內有世界最大的照明噴泉-白金漢噴泉，中央泉池占地 600 平方英尺，夜晚有萬盞燈火照射，瑰麗壯觀，公園北為芝加哥美術館，南有自然歷史博物館，水族館，天文館和露天音樂堂。主要是由私人捐獻的白金漢先生的妹妹為主要出資人，為紀念哥哥白

金漢而命名，這對兄妹熱愛藝術，一心期望芝加哥能趕上歐洲的公共藝術水準於是促成這座巨大噴泉的誕生。

★阿德勒天文館(Adler Planetarium)

建於 1930 年的美國第一座天文館芝加哥阿德勒天文館和天文博物館，於 1998 年年初投資 4000 萬美元進行改建，新館已於 1999 年 10 月開幕。該館新建了一個 20 米直徑、傾斜 15 度的 StarRider 星空騎士劇場。劇場中安裝了電子天象儀和電腦作圖的三維全天域視頻投影

設備，設置了 193 個新座椅，在座椅的扶手上裝有控制按鈕，可以使觀眾互動式地參與即時的節目表演。電腦計算出觀眾的平均選擇，然後給 6 個投影器發出信號。運用高超的圖像生成和仿真技術，StarRider 劇場給阿德勒的觀眾帶來在生動的、全彩色的、電腦生成的三維圖像中，穿越時空、探索宇宙的感受。它是沒有火箭的空間旅行，使用了美國益世公司為訓練宇航員和飛行員開發的即時模擬技術。利用 StarRider，觀眾沉浸在虛擬的現實世界裡，無法用言語來描述在劇場裡進行太空旅行的感受。

★千禧公園 (Millennium Park)

坐落繁忙的密西根大道(Michigan Avenue)上，占地 24 英畝，長達一英里，耗資 4 億 7 千 5 百萬美元，歷時 6 年的芝加哥千禧公園(Chicago Millennium Park)於 2004 年 7 月 16 日落成。千禧公園又稱「芝加哥前院」，由美國建築師法蘭克．蓋瑞設計，容納 1500 人的露天音樂廳，其設計原則強調數位科技、自然地景與親民互動。西班牙藝術家 Jaume Plensa 所設計皇冠噴泉，紀錄了 1000 位芝加哥市民的臉上表情，透過電腦控制 LED 燈光色彩，以每小時 6 張速度漸變，配合噴泉吐水或瀑布，宛若一齣精彩幽默的互動劇。廣場中央銀色豆子鏡面巨大的不銹鋼弧面雕塑雲門，將周遭建築與環境完全鏡射於表面，下方內凹鏤空處將廣場內所有活動扭曲變形於鏡射之中，宛如都市尺度的水晶球，極具超寫實效果。

★希爾斯大廈（Sears Tower）

芝加哥市內摩天大樓林立，有小華爾街之稱。希爾斯大廈坐落在美國芝加哥市的密西根湖濱，是美國最高的摩天大樓。頂層上兩根巨型天線直刺青天，深褐色的鋁制外壁和青銅色的玻璃窗戶在陽光下璀璨閃爍。在第 103 層上設有瞭望台，乘坐特快電梯不到一分鐘就可到達。在瞭望臺上可俯視芝加

哥市全，觀賞浩瀚的密西根湖旖旎多姿的景色；碧波蕩漾，水光粼粼，遊艇如織，天水一色，真有「一柱擎天，俯視萬有」之感。

★雪德水族館 (Shedd Aquarium)

這是世界上最大的分類水族館，大理石池分別有鯖、有腮、兩棲和其他多種海洋生物游來游去。水族館建於 1929 年，位於密西根湖畔，於西元 1930 年開館，最初有 2 百個水池。當時主要任務是提昇社會大眾對水中世界的了解及認識，如今，主要的教育目標則是妥善保護稀有或瀕臨絕種的水生生物。後來增加的海洋水族館呈多層結構，有落地玻璃，巨型的水棲哺乳動物似乎與玻璃外的湖水融一體。中央水箱中有 5 百多種漂亮的熱帶海洋動物，有平靜的護士鯊，以及不太友善的海鰻等。此外還有白鯨、太平洋帶白色花紋的海豚、海豹、海生水獺以及企鵝等。

★海軍碼頭 (Navy Pier)

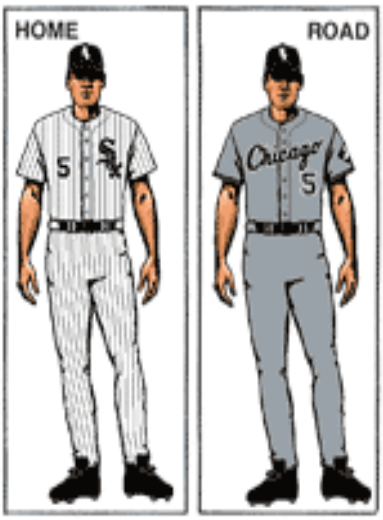
芝加哥的海軍碼頭(Navy Pier)是另一個商業，休閒，遊樂的「熱點」地區，比鄰市區，三千多英尺長的碼頭，直伸進浩瀚的密西根湖(Lake Michgan)。若有機會乘坐遊艇，在湖面上回望碼頭，可見芝加哥的現代森林在其背後摩天而立，壯觀之極。自 1916 年建造後，一直是芝加哥的地標。曾經是第二次世界大戰用來訓練海軍及集會廣場，也曾是伊利諾大學最初的臨時校地，如今則是芝加哥最流行的娛樂廣場。內有芝加哥著名的兒童博物館(Chicago Children's Museum)、餐廳及浪漫露天咖啡廳。晚上時可登上摩天輪，欣賞湖上風光。

★科學與工業博物館 (Museum of Science and Industry)

美國芝加哥科學工業博物館是一個綜合性的科普場所，展示內容非常豐富，從基礎科學知識到前沿科學知識，能滿足從兒童到成人的各種學習需要。博物館共有三層，每層有四個樓梯，以紅、黃、藍、綠四種顏色區分，非常醒目，

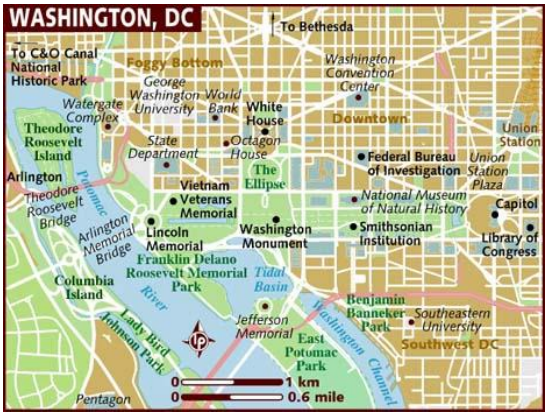
為觀眾提供了便利的參觀條件。展覽內容涉及很多領域，展區按知識點劃分。內容包括：腦、細胞、化學、廢品利用、基礎科學、愛滋病、飛行、心臟、煤礦、交通、基因、郵電、海軍、網路世界、石油、企業、虛擬現實、太空港、農業、能源實驗室、眼、管道、潛艇等。還有兒童展區—童話城堡。

★芝加哥職棒大聯盟白襪隊(US Cellular Park)球場



芝加哥白襪(Chicago White Sox)，是美國職棒大聯盟中，隸屬於美國聯盟的棒球隊伍之一，主場位於伊利諾州的芝加哥。在美國聯盟的分區中，屬於美國聯盟中區；1893 年在愛荷華州 Sioux 作為青年西部聯盟的一員創建；1895 年該隊搬到明尼蘇達州聖堡羅；1900 年又搬到芝加哥。該聯盟在 1901 年成為美國聯盟，主場位置在美國行動通訊球場(2003 年至今，1910～2002 年稱為考米斯基公園)，球衣顏色為黑和銀和白色。

有關華盛頓特區 Washington DC 簡介



是資本在美國成立於 7 月 16，1790。華盛頓的城市，原本是分開的自治市領土內，直到哥倫比亞國會採取行動 ， 在 1871 年合併，有效地市和領土成一個單一的實體稱為哥倫比亞特區。正是由於這個原因，城市，而在法律上命名為哥倫比亞特區，被稱為華盛頓

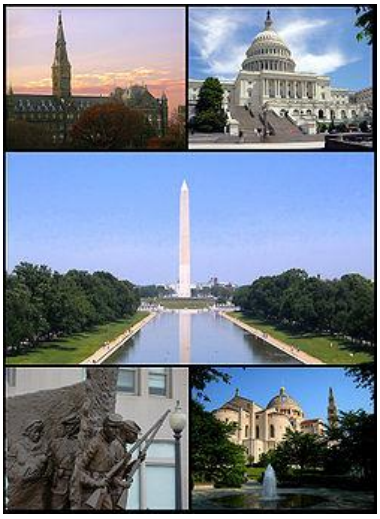
這個城市位於北岸的波托馬克河與接壤的州弗吉尼亞州的西南部和馬里蘭州的其他各方。常住人口有 599657，由於乘客周圍郊區，人口上升到超過 100 萬，在工作時間。在首都華盛頓地區 ，其中區是一部分，有人口 5.3 萬， 第九大 都會區在該國。

第一條美國憲法規定了聯邦地區 ，有別於國家，作為永久首都。該中心的所有三個部門的聯邦政府對美國設在區，因為有許多國家的古蹟和博物館。 華盛頓特區主機 174 外國駐華使館 ，以及總部的世界銀行 ，在國際貨幣基金組織 （貨幣基金組織）， 美洲國家組織 （美洲組織）， 美洲開發銀行和泛美衛生組織 （泛美衛生組織） 。總部的其他機構，如工會，遊說團體，專業協會也設在區。

這個城市是由一個市長和一個 13 人組成的市議會 。 然而， 美國國會擁有最高權力在華盛頓特區，並可能推翻當地的法律。區居民，因此較少自治超過居民的狀態。區有一個無表決權超大國會代表 ，但沒有參議員。區居民無法投票選舉總統之前，批准了第二十三次修訂美國憲法於 1961 年。

華盛頓特區是一個規劃的城市 。設計為華盛頓市的工作主要是對皮埃爾（彼得）查爾斯歐萊雅朗方 ，法國出生的建築師，工程師，城市規劃誰第一次來到殖民地作為一個軍事工程師與拉法耶特少將在美國革命戰爭 1791 年，華盛頓總統委託歐萊雅朗方規劃佈局的新首都歐萊雅 Enfant's 計劃是在模仿巴洛克風格和輻射納入途徑從矩形，空間提供休憩用地和美化他的設計還設想了一個花園式內襯的“大渠道”大約 1 英里（1.6 公里）長和 400 英尺（120 米）寬的領域，現在是國家廣場

在 1792 年 3 月，華盛頓總統駁回歐萊雅朗方由於他堅持微觀管理城市的規劃，這已經導致衝突與三名專員任命華盛頓監督首都建設。 安德魯埃利科特 ，誰一直與歐萊雅朗方測量的城市，然後委託他們完成計劃。 雖然埃利科特了修改原來的計劃，其中包括更改一些街道模



式，歐萊雅朗方仍記入與整體設計的城市。[55]在華盛頓市界按現在佛羅里達州大道北，搖滾溪西，和 Anacostia 河向東

由開始的 20 世紀，歐萊雅 Enfant's 視覺資本開放公園和大的國家古蹟已成為貧民窟蒙上陰影，隨機放置的建築物，包括火車站的國家廣場 1900 年，美國國會成立了一個聯合委員會 ，負責參議員詹姆斯麥克米蘭 ，被控美化華盛頓禮儀的核心。什麼被稱為麥克米蘭計劃於 1901 年定稿。它包括重新美化國會大廈前的理由和購物中心，興建新的聯邦建築物和古蹟，清理貧民窟，全市範圍內建立一個新的公園系統。建築師招募委員會保留大部分城市的原始佈局，以及他們的工作被認為是基本上保持與歐萊雅 Enfant's 打算設計

前 10 大的美國建築師學會 '2007 年排名的“ 美國最喜歡的建築 ”，位於哥倫比亞特區美國白宮，在華盛頓國家大教堂 ，在托馬斯杰斐遜紀念館 ，在美國國會大廈 ;的林肯紀念堂 ，以及越戰紀念碑 。在新古典主義 ， 格魯吉亞 ， 哥特式和現代建築風格都反映在這 6 個機構和許多其他著名的華廈在華盛頓舉行。明顯的例外，包括建築建造在法國第二帝國風格，如舊行政辦公大樓

華盛頓市中心以外，建築風格更加多樣化。歷史建築的設計主要是在安妮女王 ，Châteauesque , Richardsonian 羅馬 ，格魯吉亞復興， 美術學院 ，以及多種維多利亞風格。聯立式房屋內有突出的地區，特別是發達國家在南北戰爭之後，通常遵循聯邦和維多利亞後期設計喬治敦成立以來在華盛頓城市，街道的功能區最古老的建築。喬治城的老石家建於 1765 年，是最老，地位的原建設的城市目前多數家庭在附近，但是，並沒有建立，直到 19 世紀 70 年代後期和反映維多利亞設計的時期。成立於 1789 年， 喬治敦大學 ，更不同於附近，並配有混合的羅馬式和哥特復興式建築在裡根大廈是最大的建設區總面積大約為 310 萬平方英尺（28.8 萬米)

有關紐約 About New York 簡介

很多人可能不知道紐約名稱的由來，1621 年，荷蘭人原本將此地稱為「新阿姆斯特丹」，後來到了 1664 年，英國人將這個原屬荷蘭的殖民地搶走，並且重新取名為「New York」(紐約)，後來這個名稱一直到 1783 年，在美國獨立之後仍然被沿用迄今。

而對於多元文化的包容，一直是紐約最偉大的優點之一，三百年來，這座年輕的舞台，以各種形式表現在此輪番上演著各具特色的劇碼，在衝突與融合的微妙互動之間，激盪成一股異常旺盛的生命力，也呈現出多采多姿的新世界風貌。

佔領紐約牆面的塗鴉文化(Graffiti's Art)

美國從 1970 年代開始，素人畫家以艷麗油彩、狂放筆觸恣意揮灑在紐約的屋頂、牆壁、地鐵站的「塗鴉」，這種沒有修飾的粗放藝術，形成紐約特殊的都市景觀，並且從地鐵，一路發揚光大出現在街頭，並延伸到藝廊、美術館與世界各地……。

其中，以塗鴉聞名的翹楚是凱斯哈林(Keith Haring)，他的作品以自由奔放的線條勾勒出中空的人型，這種風格別具的表現手法漸漸從暗無天日的地鐵牆壁攀升到藝廊、美術館、世界各地，凱斯哈林 31 歲即因 AIDS 去世，而他的塗鴉作品使精緻藝術

與通俗文化打破藩籬，並且讓藝術的呈現方式真正走入人群，不過現在要目睹昔日「紐約塗鴉之王」的真跡，只有親自走一趟美術館囉！否則就得到專賣店購買紀念品吧！

族群融合的小地球村(We are the World)

曼哈頓島由北至南，讓全世界不同的種族分區佔領，哈林區是非洲人的黑暗新大陸、上東區有德國教堂、中城東部是日本餐廳的天下、第五大道與 31 街充斥著韓國紀念品店、東村東端瀰漫著印度檀香的神秘氣息、東村西邊有烏克蘭的東正教教堂與愛爾蘭酒館，一路往南是古老的中國城與毗鄰的小義大利，沿著當年印地安人走出來的百老匯大道，在曼哈頓島的南端，自 1625 年，荷蘭人登陸紐約的第一步起，300 多年以來，不辭細壤、不擇細流的紐約讓豐富多元的民族文化交流迸發出璀璨的光芒。

交通概況

飛航資訊目前由台灣飛紐約航線，計有華航、長榮、國泰、西北、聯合、泰國等航空公司，訂位電話分別為中華航空(02)2715-1212，長榮航空(02)2501-1999，國泰航空(02)2715-2333，西北航空(02)2772-2188，聯合航空(02)2325-8868，泰國航空(02)2509-6800，飛行時間約需 17 小時。

市區交通

◎地下鐵紐約地下鐵在市區旅遊最便捷的交通方式，24 小時營運，全年無休，地鐵系統每天載運 350 萬人次，有 468 個車站，包括 25 個免費的轉運點，包括 1 - 7 和 9，及 A - G、J、L - N、Q - S、V、W、Z 等共 27 條路線，路線彼此交疊，方便轉車；大多數的地鐵站入口處會有紅色或綠色燈球標示，「綠色」表示會有 24 小時的售票亭，「紅色」則表示會限制進入的時段。

1.車種區分為「Express」(快車)和「Local」(慢車)兩種車，快車全日營運，只停大站，有的地鐵站則只停靠慢車而不停快車，至於慢車則每站都停，需要特別注意；上車後若有廣播要注意收聽，因為有時候班車會互相調度，中途兩車種會有互換的情形，尤其是在進出曼哈頓地區時最常見。

2.購票在紐約搭乘地鐵相當方便，可以在地鐵站的售票機器，自行購買便捷優惠的地鐵周遊券(MetroCard)，票價主要可分為下列 4 種： * 單程票(Per Ride)—費用 2 美元，只要不出站的話，便可以在站內任意換線，相當方便。 * 1 日通行證(One Day Fun Pass)，費用 7 美元，1 天內不限次數搭乘地鐵和區域巴士，可使用至購買當天凌晨 03：00。 * 7 天券(7-Day Unlimited Ride)，費用 24 美元，7 天內不限次數搭乘地鐵和區域巴士。 * 1 個月(30-Day Unlimited Ride)，費用 76 美元，30 天內不限次數搭乘地鐵和區域巴士。

◎公車紐約的公車也很方便，可以與地鐵互相搭配。藍白相間的紐約市公車，行駛於曼哈頓、皇后區、布魯克林、布朗克斯、史丹頓島等 5 個區、超過 200 條路線，記得上車時要準備零錢，票價$2，不收紙幣也不找零錢，如果要轉車的話，可在上車投幣時索取免費換車券(Transfer)，2 小時內可搭乘任何轉接班車。

上車前要看清楚公車上方和側前方的路線號碼，或詢問司機是否到達你要去的目的地。公車只停靠指定的車站位置，主要大道上從北到南，平均每隔兩條街就有一站，東西向的則是環

市公車(Crosstown Bus)，停靠每個街區。許多路線是 24 小時營運，傍晚後班次較少；部分路線只在 07:00 - 22:00 間行駛。

◎計程車計程車由 2.5 美元起跳，每行駛 0.2 英里加 30 Cents，如遇紅燈或堵車，每超過 1 分鐘加 20 Cents；晚上 8 點 - 早上 6：00 間夜間加程，費用要多付 50 Cents；小費是總車資 15%；如果有行李，每一件並且要多給小費 1 - 2 美元。

◎乘車注意事項 1.搭乘地鐵盡可能避免特別擁擠的尖峰時段，像是 07：30 - 09：30 或是 17：00 - 18：30。另外，在夜間 23：00 到凌晨 07：00 之間搭乘地鐵，特別是過了東 96 街、西 120 街，以及曼哈頓以外的郊區，危險性也相對增高。

2.記得 42 街附近幾個擁擠的車站，由於人潮洶湧要特別注意防範扒手；比較荒涼、人煙稀少的車站則要小心暴力犯罪。

3.候車時不要站得靠月台邊緣太近，免得一不小心被蓄意推擠或跌下去，另外，車廂停靠關車時間很快，要小心趕快走進車廂內，以免被夾傷。

交通概況

◎如何辨別紐約街道曼哈頓是一個長型小島，除了 Downtown 必須按圖索驥外，其他街道都呈棋盤式排列。東西向道路叫作「Street」，從格林威治村的第一街(1st Street)開始算起，街數由南往北漸增。而南北向的道路叫作「Avenue」，由最東邊的「Avenue A、B」開始，往西數目遞增，最西邊的是「12th Avenue」，中間則插進幾條大道，紐約客在說明地址時，通常會提到「位於第幾街或第幾大道」間，也就是「between ___ and ___ Street」。

注意事項 【駐紐約臺北經濟文化辦事處】 Taipei Economic and Cultural Office in New York

1,E. 42nd Street New York , NY10017 U.S.A.

電話 : (1-212)317—7300 傳真 : (1-212)754—1549 領務專用電話 : (1-212)486—0088 領務專用傳真 : (1-212)421—7866 領務專用電子郵件信箱 : consular@tecony.org * 辦理護照換新、簽證及文件驗證，請至第 4 樓領務服務部門急難救助： 行動電話(1-917)743-4546 (假日) 行動電話(1-212)317-7300 (平日) 美國境內直撥 : 1-917-743-4546 , 1-212-317-7300 受理領務申請案件時間： 週一 ~ 週五： 09 : 00~16 : 30 (截止收件，中午不休息) 週六 : 09 : 00~11 : 00 (截止收件)

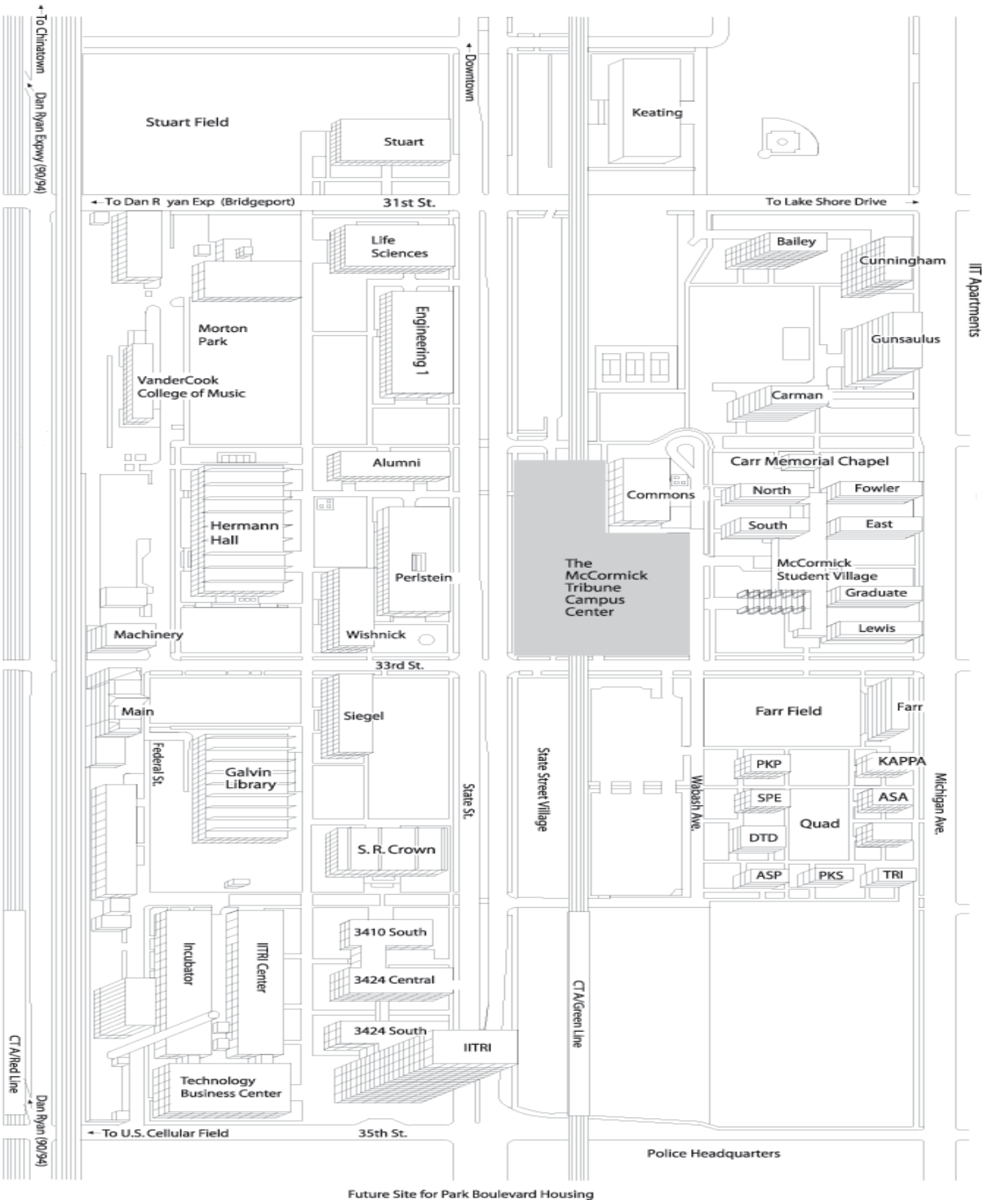
◎美國旅遊推展協會(台北) 電話：(02)2723-1762 傳真：(02)2723-1763 網址：http://www.seeamerica.org.tw/

◎紐約市旅客服務中心(The NYC & Company Visitor Information Center) 地址 : 810 Seventh Avenue (位於 52nd 和 53rd St.之間) 電話：(212)484-1222 時間：星期一至星期五 08：30~18：00，週末假日 09：00~17：00。網址：http://www.nycvisit.com

◎時代廣場旅客服務中心(Times Square Information Center) 地址：1560 7 Ave.(位於第七大道、46 St.和 47 St.之間) 電話：(212)869-1890 時間：08：00~20：00 網址：http://www.timessquare.org 備註 : 提供紐約的地鐵圖、公車路線和戲劇娛樂等資訊，也有電腦可讓遊客上網查詢。

◎時代廣場旅客資訊中心 (Times Square Information Center) 電話：212-869-1890 地址：1560 7 Ave.(位於 46 St.和 47 St.之間) 網址：http://www.timessquare.org 營業時間：08:00 - 20:00

Illinois Institute of Technology Campus Map



伊利諾理工大學

學校網址 http://www.iit.edu/

簡稱 IIT，是全美國排名前 100 名的學校，該培訓項目不僅在美國而且在世界上也是名列前茅。IIT 是位於美國第三大城市芝加哥最有名的私立大學之一(這是他們的優勢之一，私立大學在美國和中國的情況正好不同，比公立學校更有地位和權威性)。與眾多世界知名的國際大企業大公司有長期緊密的合作與交流項目。伊利諾伊斯理工大學是一所具有博士授予權的美國頂尖的私立大學，綜合全美排名多年來高居美國最好大學的前 100 名，眾多專業排名更是排名前 50 位！它建立於 1890 年，後於 1940 年與路易士大學合併，始稱伊利諾理工學院。面積達 120 英畝的主校區位於芝加哥市中心以南 3 英里處，市中心校區位於芝加哥的 CBD 內，莫非特校區和萊斯校區位於芝加哥郊區。學生人數，本科 1544，研究所 3601，法學院研究生 1054。學校男女比例 76：24，51%的學生為外洲學生，9%的學生為國際學生，40%的學生在中學裏成績排在前 10%，50%的學生的 SAT 成績在 1205 至 1360 間。學校提供工程，科學，建築，設計，以及心理學，公共管理，通信技術，商業，以及法學等綜合學科。伊利諾伊斯理工大學也是獨立技術大學聯盟享有崇高聲望的成員之一(獨立技術大學聯盟包括 MIT 麻省理工大學，密西根理工大學，佛吉尼亞理工大學，加州理工大學等眾多世界頂尖知名大學)。

學校五大特點

◎在商業研究和學術領域具有享譽世界的聲望

伊利諾理工學院的學位是極具聲望的，伊利諾理工學院的畢業生對世界產生巨大的影響，比如磁介質錄音的發明和發(Marvin Carn)，應用於蜂窩通信的無線技術(Marty Copper)，Pop Tarts。臭氧層空洞的確認(Susan Solomon)，以及最初為 NASA 設計的 John Madden，電子於寫板(Leonard Rerffel)。伊利諾理工學院的建築師設計了許多世界著名的建築，其中包括 John Hancock 中心，芝加哥 O' Hare 機場聯合航空公司候機室，Lake Point 大廈，新 Solder Hold 球場，以及二十世紀兩百個最重要的建築成就之一，伊利諾理工學院校園內的 SR Crown 教學樓。

◎畢業生就業率

過去的六年中，伊利諾理工學院的畢業生獲得了百分之九十二的就業率(畢業後六個月之內找到工作或得到研究生院的錄取)。伊利諾理工學院畢業生的起點工資普遍高於全國的平均水平，在世界上只有少數的大學能做到這一點，這些都得益於伊利諾理工學院的跨學科實踐項目，在這個項目中學生會利用兩個學期的時間為校外的企業或機構解決實際的課題，學生可以從實際工作中培養專案管理和解決問題的能力。伊利諾理工學院的校外實習專案給學生提

供了非常好的工作經驗，開闊了眼界，大多數申請校外實習的學生都能實現他們的願望。

◎大量的獎學金機會

伊利諾理工學院是一所私立大學，擁有大量的獎學金和助學金，能確保學生得到一個可負擔得起且極具聲望的私立學校教育和學位。

◎小班授課和個別輔導

伊利諾理工學院的小班授課意味著學生可以得到更多的關注和個別輔導，這些只有其他少數同等級的大學可以做到。在伊利諾理工學院，大多數班級少於四十人，其中百分之二十六的班級少於十人。伊利諾理工學院的學生通常能參加本科生研究工作。當教授發表他們的學術論文時，學生的名字經常被包括在其中以肯定他們的貢獻。百分之十八的教授擁有博士或終極學位。他們講授初級和高級課程，而其他大多數大學通常由助教講授初級課程。

◎獨特的地理環境

伊利諾理工學院位於芝加哥的中心地帶，距市中心僅十分鐘路程，學生能體驗這個世界上極具文化色彩的城市，並能夠與無數的跨國公司和機構建立聯繫。統計顯示伊利諾理工學院是中西部大學中最安全的校園之一。

學校概述

學校類型：私立，擁有博士授權資格，男女同校，具備中北部大學聯合會的認證。

教師情況：

學生教師比例 12:1

339 名全職教師，196 名兼職教師，均是來自工業界的專業人士

98%全職教師擁有博士或終極學位

專業方向：

航太航空工程/應用數學/建築學/建築工程/生物醫學工程/生物學/工商管理/化學/化學工程/土木工程/電腦工程/電腦資訊系統/電機工程/人文學/互聯網通信/機械工程/冶金和材料工程/分子生物化學和生物物理學/物理學/政治科學/專業和技術傳播學/心理學

體育運動隊：

伊利諾理工學院是全國校際運動聯盟（NAIA）的成員。擁有男子運動隊/女子運動隊(棒球/籃球/越野/足球/游泳)。

Vander Cook 音樂學院：

坐落於伊利諾理工學院的校園，伊利諾理工學院的學生可以在該校選修非表演類的課程，這些課程可以作為他們必修課程的一部分。

資助:

伊利諾理工學院資助專案包括贈款、獎學金、貸款和半公半讀計畫，大約 90%的伊利諾理工學院有各種各樣的獎學金機會，其中包括 4 年或 5 年全額獎學金。

畢業生：

在過去的六年中：92%的伊利諾理工學院的畢業生在畢業後六個月之內找到了工作。大約有 100 家公司每年會在校園內舉行 1500 人次面試,伊利諾理工學院的畢業生起點工資普遍高於全國的平均水平。在最近一次校友調查中，94%的校友對他們在伊利諾理工學院得到的教育表示滿意。

美東四大名城深度文化+長春藤名校參訪之旅

STUDT TOUR AT IIT WORK SHEETS
Learning and experiencing

PREFACE: Briefing of work sheets

- These work sheets included all of knowledge about nation's civilian space program and aeronautics and aerospace for students who participate in the trip of STUDY TOUR AT IIT.

HOW TO USE THESE WORK SHEETS?

- Using these work sheets as information resources day by day and step by step.
  跟著行程一邊練習你的作業單。

- You can get useful information about visiting trips and obtain further detail knowledge from these work sheets.
  從這本學習單，你可以得到額外的資訊和更進一步的知識關於旅遊行程。

- It will be helpful if you pre-study the information every day. Or you can pre study before the day beginning.
  每天閱讀書本的資訊內容，加深你對這些知識的瞭解。

- Electrical dictionary will be required and helpful with these work sheets.
  此本學習單將需要使用到電子辭典，遇到不會的單字可以查詢幫助記憶。

- Don't be afraid of reading English information, the more you read, the more you will find interesting knowledge and information included on it.
  不要害怕嚐試去瞭解英文的訊息。閱讀越多，越發現更多更有趣的資訊喔!!

- After daily visiting, combine what you have pre learned and with these work sheets will impress your understanding on this trip.
  在每天參觀過後，結合今日所學與作業單裡的書面訊息做結合，加深對參訪的地方的瞭解。

- Don't forget to finish the questions below after you have read the Chinese or English articles. The answer could be from Chinese or English article. You can write answer in Chinese or English.
  不要忘記讀完每日資料後，下方有題目可以測驗是否瞭解並深入內容。你可用英文或中文作答。答案在中文或英文的文章內可以找到，注意劃線的部份。

- You can discuss the questions with your friends and partner, try to brainstorm together and get conclusion.
  你可以和你認識的新朋友或夥伴一起討論答案，腦力激盪一起想出結論。

- If you have further questions to ask, please ask teacher without hesitation, he/she will assist you to work out your enquiries.
  如果你有任何不懂的資訊，可以問我們的課堂老師，請老師幫助你一起做答。

◎哈佛大學 Harvard University

is a private Ivy League university located in Cambridge, Massachusetts, United States, established in 1636 by the Massachusetts legislature. Harvard is the oldest institution of higher learning in the United States and the first corporation (officially *The President and Fellows of Harvard College*) chartered in the country. Harvard's history, influence, and wealth have made it one of the most prestigious universities in the world.

Harvard was named after its first benefactor, John Harvard. Although it was never formally affiliated with a church, the college primarily trained Congregationalist and Unitarian clergy. Harvard's curriculum and students became increasingly secular throughout the 18th century and by the 19th century had emerged as the central cultural establishment among Boston elites. Following the American Civil War, President Charles W. Eliot's forty year tenure (1869–1909) transformed the college and affiliated professional schools into a centralized research university, and Harvard became a founding member of the Association of American Universities in 1900. James Bryant Conant led the university through the Great Depression and World War II and began to reform the curriculum and liberalize admissions after the war. The undergraduate college became coeducational after its 1977 merger with Radcliffe College. Drew Gilpin Faust was elected the 28th president in 2007 and is the first woman to lead the university. Harvard has the largest financial endowment of any academic institution in the world, standing at $27.4 billion as of September 2010.

The university comprises eleven separate academic units — ten faculties and the Radcliffe Institute for Advanced Study — with campuses throughout the Boston metropolitan area. Harvard's 210-acre (85 ha) main campus is centered on Harvard Yard in Cambridge, approximately 3.4 miles (5.5 km) northwest of downtown Boston. The business school and athletics facilities, including Harvard Stadium, are located across the Charles River in Allston and the medical, dental, and public health schools are located in the Longwood Medical Area.

As of 2010, Harvard employs about 2,100 faculty to teach and advise approximately 6,700 undergraduates (Harvard College) and 14,500 graduate and professional students. Eight U.S. Presidents have graduated from Harvard and 75 Nobel Laureates have been affiliated with the university as students, faculty, or staff. Harvard is also the alma mater of sixty-two living billionaires, the most in the country. The Harvard University Library is the largest academic library in the United States, and the second largest library in the country.

The Harvard Crimson competes in 41 intercollegiate sports in the NCAA Division I Ivy League. Harvard has an intense athletic rivalry with Yale University traditionally culminating in *The Game*, although the Harvard–Yale Regatta predates the football game.

◎哈佛大學 Harvard University-Rankings

Harvard's undergraduate program is ranked first among "National Universities" by *U.S. News & World Report* and eighth by *Forbes* The university is ranked ninth nationally by *The Washington Monthly*.

Internationally, Harvard is ranked first in the Times Higher Education World University Rankings and second in the QS World University Rankings. When the two lists were published in partnership between 2004 and 2009 as the Times Higher Education-QS World University Rankings, Harvard was ranked first each year. Harvard is ranked first by the Academic Ranking of World Universities (ARWU), a position it has held since the first ARWU rankings were released in 2003. In its individual subject tables, ARWU ranked Harvard first in natural sciences and mathematics, life and agricultural sciences, clinical medicine and pharmacy, social sciences, and 42nd in engineering/technology and computer sciences. In individual fields in 2010, Harvard is ranked first in Physics and Economics/Business, second in Chemistry, third in Mathematics, and ninth in Computer Science in the world.

In the 2009 QS Global 200 Business Schools Report, Harvard was ranked first in North America.

In 2010, according to University Ranking by Academic Performance (URAP), Harvard is the best overall university in the world.

In 2010 Harvard University was, for its excellence in co-operation projects with the corporate world globally and especially in the US, chosen to be a part of the BBNM Group. They are currently represented among the BBNM Member schools.

◎哈佛大學 Harvard University-Colonial

← Harvard was founded in 1636 by vote of the Great and General

Court of the Massachusetts Bay Colony, making it the oldest institution of higher learning in the United States. Initially

called "New College" or "the college at New Towne", the institution was renamed *Harvard College* on March 13, 1639. It was named after John Harvard, a young English clergyman from Southwark, London, an alumnus of the University of Cambridge (after which Cambridge, Massachusetts is named), who bequeathed the College his library of four hundred books and £779 pounds sterling, which was half of his estate. The charter creating the corporation of Harvard College came in 1650. In the early years, the College trained many Puritan ministers. The college offered a classic academic course based on the English university model—many leaders in the colony had attended Cambridge University—but one consistent with the prevailing Puritan philosophy. The College was never affiliated with any particular denomination, but many of its earliest graduates went on to become clergymen in Congregational and Unitarian churches throughout New England. An early brochure, published in 1643, justified the College's existence: "To advance *Learning* and perpetuate it to Posterity; dreading to leave an illiterate Ministery to the Churche".

The leading Boston divine Increase Mather served as president from 1685 to 1701. In 1708, John Leverett became the first president who was not also a clergyman, which marked a turning of the College toward intellectual independence from Puritanism.

Are you familiar with all of contents above? Let's take a quiz!!

1. Where is Harvard? Where is it located?

2. When is the Harvard established?

3. The original name of Harvard is?

4. Who changed the Harvard into a centralized research university?

5. How about the rank of Harvard in the world?

◎麻省理工學院 Massachusetts Institute of Technology

Massachusetts Institute of Technology (**MIT**) is a private research university located in Cambridge, Massachusetts. MIT has five schools and one college, containing a total of 32 academic departments, with a strong emphasis on scientific and technological education and research.

Founded in 1861 in response to the increasing industrialization of the United States, the Institute adopted the European polytechnic university model and emphasized laboratory instruction from an early date. MIT's early emphasis on applied technology at the undergraduate and graduate levels led to close cooperation with industry but curricular reforms under Karl Compton and Vannevar Bush in the 1930s re-emphasized basic scientific research. MIT was elected to the Association of American Universities in 1934 and researchers were involved in efforts to develop computers, radar, and inertial guidance in connection with defense research during World War II and the Cold War. Post-war defense research contributed to the rapid expansion of the faculty and campus under James Killian.

The current 168-acre (68.0 ha) campus opened in 1916 and extends over 1 mile (1.6 km) along the northern bank of the Charles River basin. In the past 60 years, MIT's educational disciplines have expanded beyond the physical sciences and engineering into fields like biology, economics, linguistics, political science, and management.

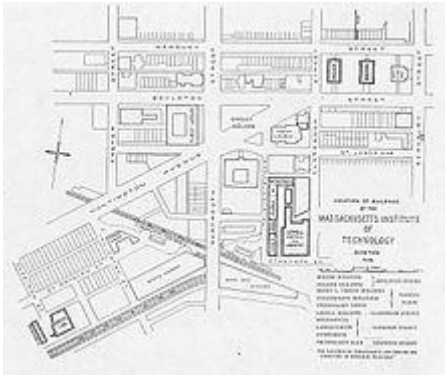
MIT enrolled 4,232 undergraduates and 6,152 graduate students for 2009–2010. It employs around 1,000 faculty members. 76 Nobel Laureates, 50 National Medal of Science recipients, and 38 MacArthur Fellows are currently or have previously been affiliated with the university.

MIT has a strong entrepreneurial culture and the aggregated revenues of companies founded by MIT alumni would be the eleventh largest economy in the world. MIT managed $718.2 million in research expenditures and an $8.0 billion endowment in 2009.

The Engineers sponsor 33 sports, most teams of which compete in the NCAA Division III's New England Women's and Men's Athletic Conference; the Division I rowing programs compete as part of the EARC and EAWRC.

◎麻省理工學院 Massachusetts Institute of Technology-Foundation and early years (1857–1917)

In 1859, the Massachusetts General Court was given a proposal for use of newly opened lands in Back Bay in Boston for a museum and Conservatory of Art and Science. In 1861, The Commonwealth of Massachusetts approved a charter for the incorporation of the "Massachusetts Institute of Technology and Boston Society of Natural History" submitted by William Barton Rogers. Rogers sought to establish a new form of higher education to address the challenges posed by rapid advances in science and technology during the mid-19th century with which classic institutions were ill-prepared to deal. Barton believed, “The true and only practicable object of a polytechnic school is, as I conceive, the teaching, not of the minute details and manipulations of the arts, which can be done only in the workshop, but the inculcation of those scientific principles which form the basis and explanation of them, their leading processes and operations in connection with physical laws.”



← A 1901 map of MIT's Boston campus.

The Rogers Plan, as it has come to be known, reflected the German research university model, emphasizing an independent faculty engaged in research as well as instruction oriented around seminars and laboratories. Rogers proposed that this new form of education be rooted in three principles: the educational value of useful knowledge, the necessity of “learning by doing”, and integrating a professional and liberal arts education at the undergraduate level.

Because open conflict in the Civil War broke out only weeks after receiving the charter, MIT's first classes were held in rented space at the Mercantile Building in downtown Boston in 1865. Though it was to be located in the middle of Boston, the mission of the new institute matched the intent of the 1862 Morrill Land-Grant Colleges Act to fund institutions "to promote the liberal and practical education of the industrial classes." Although the Commonwealth of Massachusetts founded what was to become the University of Massachusetts under this act, MIT was also named a land grant school. The proceeds went toward new buildings in Boston's Back Bay in 1866; MIT was called "Boston Tech." During the next half-century, the focus of the science and engineering curriculum drifted towards vocational concerns instead of theoretical programs. Over the next 40 years, the MIT faculty and alumni repeatedly rejected overtures from Harvard University president Charles W. Eliot to merge MIT

with Harvard College's Lawrence Scientific School.

◎麻省理工學院 Development and post-war growth (1916–1965)

Industrialist George Eastman donated the funds to build a new campus along a mile-long tract on the Cambridge side of the Charles River, almost entirely on landfill. In 1916, MIT moved into the handsome new neoclassical campus designed by William W. Bosworth.

In the 1930s President Karl Taylor Compton and Vice-President (effectively Provost) Vannevar Bush drastically reformed the applied technology curriculum by re-emphasizing the importance of "pure" sciences like physics and chemistry and reducing the work required in shops and drafting. In sharp contrast to the Ivy League, it catered to middle-class families and depended more on tuition than on endowments or grants. Despite the challenges of the Great Depression, the reforms "renewed confidence in the ability of the Institute to develop leadership in science as well as in engineering." The expansion and reforms cemented MIT's academic reputationand it was elected to the Association of American Universities in 1934.

MIT was substantially changed by its involvement in military research during World War II. Bush was appointed head of the enormous Office of Scientific Research and Development and directed funding to only a select group of universities, including MIT. MIT's Radiation Laboratory was established in 1940 to assist the British in developing a microwave radar and the first mass-produced units were installed on front-line units within months. Other defense projects included gyroscope-based and other complex control systems for gun and bombsights and inertial navigation under Charles Stark Draper's Instrumentation Laboratory, the development of a digital computer for flight simulations under Project Whirlwind, and high-speed and high-altitude photography under Harold Edgerton. By the end of the war, MIT employed a staff of over 4,000 (including more than a fifth of the nation's physicists) and was the nation's single largest wartime R&D contractor.

In the post-war years, government-sponsored research such as SAGE and guidance systems for ballistic missiles and Project Apollo combined with surging student enrollments under the G.I. Bill contributed to a rapid growth in the size of the Institute's research staff and physical plant as well as placing an increased emphasis on graduate education. The profound changes that occurred at MIT between 1930 and 1957 included the doubling of its faculty and a quintupling of its graduate student population. These changes were significantly guided and shaped by the institution-building strategies of Karl Taylor Compton, president of MIT between 1930 and 1948,

James Rhyne Killian, president from 1948 to 1957, and Julius Adams Stratton, chancellor from 1952 to 1957.

While the school mainly served the needs of industrial patrons in the 1920s, by the 1950s it had gained considerable autonomy from industrial corporations while attracting new patrons and building a close relationship with philanthropic foundations and the federal government. As the Cold War and Space Race intensified and concerns about the technology gap between the U.S. and the Soviet Union grew more pervasive throughout the 1950s and 1960s, MIT's involvement in the military-industrial complex was a source of pride on campus.

◎麻省理工學院 Recent history (1966–present)

The MIT Media Lab houses researchers developing novel uses of computer technology. Shown here is the 1982 building, designed by I.M. Pei, with an extension (background) designed by Fumiko Maki and opened in March 2010.

Following a comprehensive review of the undergraduate curriculum in 1949 and the successive appointments of more humanistically oriented Presidents Howard W. Johnson and Jerome Wiesner between 1966 and 1980, MIT greatly expanded its programs in the humanities, arts, and social sciences. Previously marginalized faculties in the areas of economics, management, political science, and linguistics emerged into cohesive and assertive departments by attracting respected professors, launching competitive graduate programs, and forming into the School of Humanities, Arts, and Social Sciences and the MIT Sloan School of Management in 1950 to compete with the powerful Schools of Science and Engineering.

In late 1960s and early 1970s, student and faculty activists protested against the Vietnam War and MIT's defense research. The Union of Concerned Scientists was founded on March 4, 1969 during a meeting of faculty members and students seeking to shift the emphasis on military research towards environmental and social problems. Although MIT ultimately divested itself from the Instrumentation Laboratory and moved all classified research off-campus to the Lincoln

Laboratory facility in 1973 in response to the protests, the student body, faculty, and administration remained comparatively unpolarized during the tumultuous era.

In addition to developing the predecessors to modern computing and networking technologies, students, staff, and faculty members at the Project MAC, Artificial Intelligence Laboratory, and Tech Model Railroad Club wrote some of the earliest interactive computer games like *Spacewar!* and created much of modern hacker slang. Several major computer-related organizations have originated at MIT since the 1980s; Richard Stallman's GNU Project and the subsequent Free Software Foundation were founded in the mid-1980s at the AI Lab, the MIT Media Lab was founded in 1985 by Nicholas Negroponte and Jerome Wiesner to promote research into novel uses of computer technology, the World Wide Web Consortium standards organization was founded at the Laboratory for Computer Science in 1994 by Tim Berners-Lee, the OpenCourseWare project has made course materials for over 1,800 MIT classes available online free of charge since 2002, and the One Laptop per Child initiative to expand computer education and connectivity to children worldwide was launched in 2005. Upon taking office in 2004, President Hockfield launched an Energy Research Council to investigate how MIT can respond to the interdisciplinary challenges of increasing global energy consumption.

MIT was named a sea-grant college in 1976 to support its programs in oceanography and marine sciences and was named a space-grant college in 1989 to support its aeronautics and astronautics programs. Despite diminishing government financial support over the past quarter century, MIT launched several development campaigns to significantly expand the campus: new dormitories and athletics buildings on west campus, the Tang Center for Management Education, several buildings in the northeast corner of campus supporting research into biology, brain and cognitive sciences, genomics, biotechnology, and cancer research, and a number of new "backlot" buildings on Vassar Street including the Stata Center. Construction on campus has recently concluded an expansion of the Media Lab, the Sloan's eastern campus, and graduate residences in the northwest.

Are you familiar with all of contents above? Let's take a quiz!!

1. Where is the MIT located?

2. How many departments the MIT have?

3. Why MIT is famous in the world?

◎自由女神像 Statue of Liberty

The Statue of Liberty (Liberty Enlightening the World, French: La Liberté éclairant le monde) is a colossal neoclassical sculpture on Liberty Island in New York Harbor, designed by Frédéric Bartholdi and dedicated on October 28, 1886. The statue, a gift to the United States from the people of France, is of a robed female figure representing Libert as, the Roman goddess of freedom, who bears a torch and a tabula ansata (a tablet evoking the law) upon which is inscribed the date of the American Declaration of Independence. A broken chain lies at her feet. The statue has become an icon of freedom and of the United States.

Bartholdi was inspired by French law professor and politician Édouard René de Laboulaye, who commented in 1865 that any monument raised to American independence would properly be a joint project of the French and American peoples. Due to the troubled political situation in France, work on the statue did not commence until the early 1870s. In 1875, Laboulaye proposed that the French finance the statue and the Americans provide the pedestal and the site. Bartholdi completed both the head and the torch-bearing arm before the statue was fully designed, and these pieces were exhibited for publicity at international expositions. The arm was displayed in New York's Madison Square Park from 1876 to 1882. Fundraising proved difficult, especially for the Americans, and by 1885 work on the pedestal was threatened due to lack of funds. Publisher Joseph Pulitzer of the World initiated a drive for donations to complete the project, and the campaign inspired over 120,000 contributors, most of whom gave less than a dollar. The statue was constructed in France, shipped overseas in crates, and assembled on the completed pedestal on what was then called Bedloe's Island. The statue's completion was marked by New York's first ticker-tape parade and a dedication ceremony presided over by President Grover Cleveland.

The statue was administered by the United States Lighthouse Board until 1901 and then by the Department of War; since 1933 it has been maintained by the National Park Service. The statue was closed for renovation for much of 1938. In the early 1980s, it was found to have deteriorated to such an extent that a major restoration was required. While the statue was closed from 1984 to 1986, the torch and a large part of the internal structure were replaced. After the September 11 attacks in 2001, it was closed for reasons of safety and security; the pedestal reopened in 2004 and the statue in 2009, with limits on the number of visitors allowed to ascend to the crown. The statue is scheduled to close for up to a year beginning in late 2011 so that a secondary staircase can be installed. Public access to the balcony surrounding the torch has been barred for safety reasons since 1916.

◎自由女神像 Statue of Liberty-Design and construction

Origin

The origin of the Statue of Liberty project is generally traced to a comment made by French law professor and politician Édouard René de Laboulaye in mid-1865. In after-dinner conversation at his home near Versailles, Laboulaye, an ardent supporter of the Union in the American Civil War, stated, "If a monument should rise in the United States, as a memorial to their independence, I should think it only natural if it were built by united effort—a common work of both our nations."

← Bartholdi's design patent

Laboulaye's comment was not intended as a proposal, but it inspired a young sculptor, Frédéric Bartholdi, who was present at the dinner.Given the repressive nature of the regime of Napoleon III, Bartholdi took no immediate action on the idea except to discuss it with Laboulaye. Instead, Bartholdi approached Ismail Pasha, Khedive of Egypt, with a plan to build a huge lighthouse in the form of an ancient Egyptian female *fellah* or peasant, robed and holding a torch aloft, at the northern entrance to the Suez Canal in Port Said. Sketches and models were made of the proposed work, though it was never erected. There was a classical precedent for the Suez proposal, the Colossus of Rhodes: a bronze statue of the Greek god of the sun, Helios. This statue is believed to have been over 100 feet (30 m) high, and it similarly stood at a harbor entrance and carried a light to guide ships.

The American project was further delayed by the Franco-Prussian War, in which Bartholdi served as a major of militia. In the war, Napoleon III was captured and deposed. Bartholdi's home province of Alsace was lost to the Prussians, and a more liberal republic was installed in France. As Bartholdi had been planning a trip to the United States, he and Laboulaye decided the time was right to discuss the idea with influential Americans. In June 1871, Bartholdi crossed the Atlantic, with letters of introduction signed by Laboulaye. Arriving at New York Harbor, Bartholdi fixed on Bedloe's Island as a site for the statue, struck by the fact that vessels arriving in New York had to sail past it. He was delighted to learn that the island was owned by the United States government—it had been ceded by the New York State Legislature in 1800 for harbor defense. It was thus, as he put it in a letter to Laboulaye, "land common to all the states." As well as meeting

many influential New Yorkers, Bartholdi visited President Ulysses S. Grant, who assured him that it would not be difficult to obtain the site for the statue. Bartholdi crossed the United States twice by rail, and met many Americans whom he felt would be sympathetic to the project. However, he remained concerned that popular opinion on both sides of the Atlantic was insufficiently supportive of the proposal, and he and Laboulaye decided to wait before mounting a public campaign.

← Bartholdi's *Lion of Belfort*

Bartholdi had made a first model of his concept in 1870. The son of a friend of Bartholdi's, American artist John La Farge, later maintained that Bartholdi made the first sketches for the statue during his U.S. visit at La Farge's Rhode Island studio. Bartholdi continued to develop the concept following his return to France. He also worked on a number of sculptures designed to bolster French patriotism after the defeat by the Prussians. One of these was the *Lion of Belfort*, a monumental sculpture carved in sandstone below the fortress of Belfort, which during the war had resisted a Prussian siege for over three months. The defiant lion, 73 feet (22 m) long and half that in height, displays an emotional quality characteristic of Romanticism, which Bartholdi would later bring to the Statue of Liberty.

◎自由女神像 Statue of Liberty- Design, style, and symbolism

← Detail from a fresco by Constantino Brumidi in the U.S. Capitol in Washington, D.C., showing two early symbols of America: Columbia (left) and the Indian princess

Bartholdi and Laboulaye considered how best to express the idea of American liberty. In early American history, two female figures were frequently used as cultural symbols of the nation. One, Columbia, was seen as an embodiment of the United States in the manner that Britannia was identified with the United Kingdom and Marianne came to represent France. Columbia had supplanted the earlier

figure of an Indian princess, which had come to be regarded as uncivilized and derogatory toward Americans. The other significant female icon in American culture was a representation of Liberty, derived from Libertas, the goddess of freedom widely worshipped in ancient Rome, especially among emancipated slaves. A Liberty figure adorned most American coins of the time, and representations of Liberty appeared in popular and civic art, including Thomas Crawford's *Statue of Freedom* (1863) atop the dome of the United States Capitol Building. The figure of Liberty was also depicted on the Great Seal of France.

Artists of the 18th and 19th centuries striving to evoke republican ideals commonly used representations of Liberty. However, Bartholdi and Laboulaye avoided an image of revolutionary liberty such as that depicted in Eugène Delacroix's famed *Liberty Leading the People* (1830). In this painting, which commemorates France's Revolution of 1830, Liberty leads an armed mob over the bodies of the fallen. Laboulaye had no sympathy for revolution, and so Bartholdi's figure would be fully dressed in flowing robes. Instead of the impression of violence in the Delacroix work, Bartholdi wished to give the statue a peaceful appearance and chose a torch, representing progress, for the figure to bear.

Crawford's statue was designed in the early 1850s. It was originally to be crowned with a *pileus*, the cap given to emancipated slaves in ancient Rome. Secretary of War Jefferson Davis, a Southerner who would later serve as president of the Confederate States of America, was concerned that the *pileus* would be taken as an abolitionist symbol. He ordered that it be changed to a helmet. Delacroix's figure wears a *pileus*, and Bartholdi at first considered placing one on his figure as well. Instead, he used a diadem, or crown, to top its head In so doing, he avoided a reference to Marianne, who invariably wears a *pileus*. The seven rays form a halo or aureole. They evoke the sun, the seven seas, and the seven continents, and represent another means, besides the torch, whereby Liberty enlightens the world.

Bartholdi's early models were all similar in concept: a female figure in neoclassical style representing liberty, wearing a *stola* and *pella* (gown and cloak, common in depictions of Roman goddesses) and holding a torch aloft. The face was modeled after that of Charlotte Beysser Bartholdi, the sculptor's mother. He designed the figure with a strong, uncomplicated silhouette, which would be set off well by its dramatic harbor placement and allow passengers on vessels entering New York Bay to experience a changing perspective on the statue as they proceeded toward Manhattan. He gave it bold classical contours and applied simplified modeling, reflecting the huge scale of the project and its solemn purpose. Bartholdi wrote of his technique:

← Thomas Crawford's *Statue of Freedom*

The surfaces should be broad and simple, defined by a bold and clear design, accentuated in the important places. The enlargement of the details or their multiplicity is to be feared. By exaggerating the forms, in order to render them more clearly visible, or by enriching them with details, we would destroy the proportion of the work. Finally, the model, like the design, should have a summarized character, such as one would give to a rapid sketch. Only it is necessary that this character should be the product of volition and study, and that the artist, concentrating his knowledge, should find the form and the line in its greatest simplicity.

Aside from the change in the statue's headgear, there were other design alterations as the project evolved. Bartholdi considered having Liberty hold a broken chain, but decided this would be too divisive in the days after the Civil War. The erected statue does rise over a broken chain, half-hidden by her robes and difficult to see from the ground. Bartholdi was initially uncertain of what to place in Liberty's left hand; he settled on a *tabula ansata*, a keystone-shaped tabletused to evoke the concept of law. Though Bartholdi greatly admired the United States Constitution, he chose to inscribe "JULY IV MDCCLXXVI" on the tablet, thus associating the date of the country's Declaration of Independence with the concept of liberty.

Consultations with the metalwork foundry Gaget, Gauthier & Co. led Bartholdi to conclude that the skin should be made of copper sheets, beaten to shape by the repoussé method. An advantage of this choice was that the entire statue would be light for its volume—the copper need be only .094 inches (2.4 mm) thick. He decided on a height of 151 feet (46 m) for the statue, double that of Italy's Colosso di San Carlo Borromeo and the German statue of Arminius, both made with the same method. Bartholdi interested a former teacher of his, architect Eugène Viollet-le-Duc, in the project. Viollet-le-Duc planned to construct a brick pier within the statue, to which the skin would be anchored.

Are you familiar with all of contents above? Let's take a quiz!!

1. Where is the statue of liberty located? In which island?

2. Which country sent the statue of liberty to United States as a gift?

3. Why the designer of sculpture used a woman representing the symbol of freedom?

4. Who is the designer of statue of liberty?

5. The first proposal of making this sculpture was?

6. Briefing describes the creative process for statue of liberty.

◎華爾街 Wall Street

Wall Street refers to the financial district of New York City, named after and centered on the eight-block-long street running from Broadway to South Street on the East River in lower Manhattan. Over time, the term has become a metonym for the financial markets of the United States as a whole, or signifying New York-based financial interests. It is the home of the New York Stock Exchange, the world's largest stock exchange by market capitalization of its listed companies. Several other major exchanges have or had headquarters in the Wall Street area, including NASDAQ, the New York Mercantile Exchange, the New York Board of Trade, and the former American Stock Exchange. Anchored by Wall Street, New York City is one of the world's principal financial centers.

◎華爾街 Wall Street-Wall Street in the New York economy

Finance professor Charles R. Geisst wrote that the exchange has become "inextricably intertwined into New York's economy".Wall Street pay, in terms of salaries and bonuses and taxes, is an important part of the economy of New York City, the tri-state metropolitan area, and the United States. In 2008, after a downturn in the stock market, the decline meant $18 billion less in taxable income, with less money available for "apartments, furniture, cars, clothing and services".A falloff in Wall Street's economy could have "wrenching effects on the local and regional economies".

Estimates vary about the number and quality of financial jobs in the city. One estimate was that Wall Street firms employed close to 200,000 persons in 2008. Another estimate was that in 2007, the financial services industry which had a $70 billion profit became 22 percent of the city's revenue. Another estimate (in 2006) was that the financial services industry makes up 9% of the city's work force and 31% of the tax base. An additional estimate (2007) from Steve Malanga of the Manhattan Institute was that the securities industry accounts for 4.7 percent of the jobs in New York City but 20.7 percent of its wages, and he estimated there were 175,000 securities-industries jobs in New York (both Wall Street area and midtown) paying an average of

$350,000 annually. Between 1995 and 2005, the sector grew at an annual rate of about 6.6% annually, a respectable rate, but that other financial centers were growing faster. Another estimate (2008) was that Wall Street provided a fourth of all personal income earned in the city, and 10% of New York City's tax revenue.

The seven largest Wall Street firms in the first decade of the 21st century were Bear Stearns, JPMorgan Chase, Citigroup Incorporated, Goldman Sachs, Morgan Stanley, Merrill Lynch and Lehman Brothers. During the recession of 2008–2010, many of these firms went out of business or were bought up at firesale prices by other financial firms. In 2008, Lehman filed for bankruptcy, Bear Stearns was bought up by JP Morgan Chase with blessing by the U.S. government, and Merrill Lynch was bought up by Bank of America. These failures marked a catastrophic downsizing of Wall Street as the financial industry goes through restructuring and change. Since New York's financial industry provides almost one-fourth of all income produced in the city, and accounts for 10% of the city's tax revenues and 20% of the state's, the downturn has had huge repercussions for government treasuries. New York's mayor Michael Bloomberg reportedly over a four year period dangled over $100 million in tax incentives to persuade Goldman Sachs to build a 43-story headquarters in the financial district near the destroyed World Trade Center site. In 2009, things looked somewhat gloomy, with one analysis by the Boston Consulting Group suggesting that 65,000 jobs had been permanently lost because of the downturn. But there were signs that Manhattan property prices were rebounding with price rises of 9% annually in 2010, and bonuses were being paid once more, with average bonuses over $124,000 in 2010. The U.S. banking industry employes 1.86 million people and earned profits of $22 billion in the second quarter of 2010, up substantially from previous quarters.

Are you familiar with all of contents above? Let’s take a quiz!!

1. Where is the Wall Street located?

2. The largest stock exchange is in?

◎三一教堂 Trinity Church

Trinity Church (also known as **Trinity Wall Street**) at 79 Broadway, Lower Manhattan, is a historic, active parish church in the *Diocese of New York*. *Trinity Church* is at the intersection of Wall Street and Broadway, New York.

◎三一教堂 Trinity Church-History and architecture

In 1696, Governor Benjamin Fletcher approved the purchase of land in Lower Manhattan by the Church of England community for construction of a new church. The parish received its charter from King William III of England on May 6, 1697. Its land grant specified an annual rent of sixty bushels of wheat. The first rector was William Vesey (for whom nearby Vesey Street is named), a protege of Increase Mather, who served for 49 years until his death in 1746.

◎三一教堂 Trinity Church-First Trinity Church

The first Trinity Church building, a modest rectangular structure with a gambrel roof and small porch, was constructed in 1698. According to historical records, the infamous privateer Captain William Kidd lent the runner and tackle from his ship for hoisting the stones.

Queen Anne of England increased the parish's land holdings to 215 acres (870,000 m^2) in 1705. Later, in 1709, William Huddleston founded Trinity School as the Charity School of the church, and classes were originally held in the steeple of the church. In 1754, King's College (now Columbia University) was chartered by King George II of Great Britain and instruction began with eight students in a school building near the church.

During the American Revolutionary War the city became the British military and political base of operations in North America, following the departure of General George Washington and the Continental Army shortly after Battle of Long Island and subsequent local defeats. Under British occupation clergy were required to be Loyalists, while the parishioners included some members of the revolutionary New York Provincial Congress, as well as the First and Second Continental Congresses.

The church was destroyed in a fire, which started in the Fighting Cocks Tavern destroyed nearly 500 buildings and houses and left thousands

of New Yorkers homeless. Six days later, most of the city's volunteer firemen followed General Washington north.

The Rev. Samuel Provoost, was appointed Rector of Trinity (1784-1800) in 1784 and the New York State Legislature ratified the charter of Trinity Church, deleting the provision that asserted its loyalty to the King of England. Whig patriots were appointed as vestrymen. In 1787, Provoost was consecrated as the first Bishop of the newly formed Diocese of New York. Following his 1789 inauguration at Federal Hall, George Washington attended Thanksgiving service, presided over by Bishop Provoost, at St. Paul's Chapel, a chapel of the Parish of Trinity Church. He continued to attend services there until the second Trinity Church was finished in 1790. St. Paul's Chapel is currently part of the Parish of Trinity Church and is the oldest public building in continuous use in New York City.

◎三一教堂 Trinity Church-Second Trinity Church and Third Trinity Church

← View from church steeple, 1872

Construction on the second Trinity Church building began in 1788; it was consecrated in 1790. The structure was torn down after being weakened by severe snows during the winter of 1838–39.

Third Trinity Church

The third and current Trinity Church was finished in 1846 and at the time of its completion its 281-foot (86 m) spire and cross was the highest point in New York until being surpassed in 1890 by the New York World Building.

In 1843, Trinity Church's expanding parish was divided due to the burgeoning cityscape and to better serve the needs of its parishioners. The newly formed parish would build Grace Church, to the north on Broadway at 10th street, while the original parish would re-build Trinity Church, the structure that stands today. Both Grace and Trinity Churches were completed and consecrated in 1846.

In 1876-1877 a reredos and altar was erected in memory of William Backhouse Astor, Sr., to the designs of architect Frederick Clarke Withers.

Architectural historians consider the present, 1846 Trinity Church building, designed by architect Richard Upjohn, a classic example of Gothic Revival architecture. In 1976 the United States

Department of the Interior designated Trinity Church a National Historic Landmark because of its architectural significance and its place within the history of New York City.[2][5][6]

When the Episcopal Bishop of New York consecrated Trinity Church on Ascension Day May 1, 1846, its soaring Neo-Gothic spire, surmounted by a gilded cross, dominated the skyline of lower Manhattan. Trinity was a welcoming beacon for ships sailing into New York Harbor.

On July 9, 1976 Queen Elizabeth II of the United Kingdom visited Trinity Church. Vestrymen presented her with a symbolic "back rent" of 279 peppercorns. Thereby, in 1697, King William III gave Trinity Church a charter that called for the parish to pay an annual rent of one peppercorn to the crown. Since 1993, Trinity Church has hosted the graduation ceremonies of the High School of Economics and Finance. The school is located on Trinity Place, a few blocks away from the church.

← Tree Sculpture at Trinity Church, made out of giant sycamore destroyed in 9-11

During the September 11, 2001 attacks, as the 1st Tower collapsed, people took refuge from the massive debris cloud inside the church. Falling wreckage from the collapsing tower knocked over a giant sycamore tree that had stood for nearly a century in the churchyard of St. Paul's Chapel, which is part of Trinity Church's parish and is located several blocks north of Trinity Church. Sculptor Steve Tobin used its roots as the base for a bronze sculpture that stands next to the church today.

Are you familiar with all of contents above? Let's take a quiz!!

1. Where is the Trinity Church located?

2. The first Trinity Church was built in which year?

3. The first Trinity Church was destroyed by what?

4. The second Trinity Church crashed again because of?

5. When was the Third Trinity Church finished?

6. The designer of Third Trinity Church is?

7. Describe the architecture and style of Third Trinity Church.

◎古根漢博物館 Solomon R. Guggenheim Museum

← Guggenheim Museum exterior after the 3-year renovation

Solomon R. Guggenheim Museum (often referred to as "The Guggenheim") is a well-known museum located on the Upper East Side of Manhattan in New York City, United States. It is the permanent home to a renowned collection of Impressionist,

Post-Impressionist, early Modern, and contemporary art and also features special exhibitions throughout the year. Designed by Frank Lloyd Wright, it is one of the 20th century's most important architectural landmarks.

The museum opened on October 21, 1959, and was the second museum opened by the Solomon R. Guggenheim Foundation; from 2005 to 2008 it underwent an extensive renovation.

◎古根漢博物館 Exterior restoration

Between September 2005 and July 2008, the Guggenheim Museum underwent a significant exterior restoration.

In the first phase of this project, a team of restoration architects, structural engineers, and architectural conservators worked together to create a comprehensive assessment of the building's current condition that determined the structure to be fundamentally sound. This initial condition assessment included:

- the removal of 11 coats of paint from the original surface, revealing hundreds of cracks caused over the years, primarily from seasonal temperature fluctuations
- detailed monitoring of the movement of selected cracks over 17 months
- impact-echo technology, in which sound waves are sent into the concrete and the rebound is measured in order to locate voids within the walls
- extensive laser surveys of the exterior and interior surfaces, believed to be the largest laser model ever compiled
- core drilling to gather samples of the original concrete and other construction materials
- testing of potential repair materials.

Much of the interior of the building was restored during the 1992 renovation and addition by Gwathmey Siegel and Associates Architects. The 2005-2008 restoration primarily addresses the exterior of the original building and the infrastructure. This includes the skylights, windows, doors, concrete and gunite facades and exterior sidewalk, as well as the climate-control. The goal will be to preserve as much significant historical fabric of the Solomon R. Guggenheim Museum as possible, while accomplishing necessary repairs and attaining a suitable environment for the building's continuing use as a museum.

On September 22, 2008, friends and supporters of the Guggenheim gathered in New York to mark the completion of the 3-year renovation of the Frank Lloyd Wright-designed Museum. New York City Mayor Michael R. Bloomberg officiated at the celebration that culminated, just after sunset, with the premiere of artist Jenny Holzer's tribute *For the Guggenheim*, a work commissioned in

honor of Peter B. Lewis, who was a major benefactor in the Museum restoration project. Other supporters of the $29 million dollar restoration included the Board of Trustees of the Solomon R. Guggenheim Foundation, and the Department of Cultural Affairs of the City of New York. Additional support was provided by the State of New York and MAPEI Corporation. The museum was registered as a National Historic Landmark on October 6, 2008.

◎古根漢博物館 Significance in popular culture

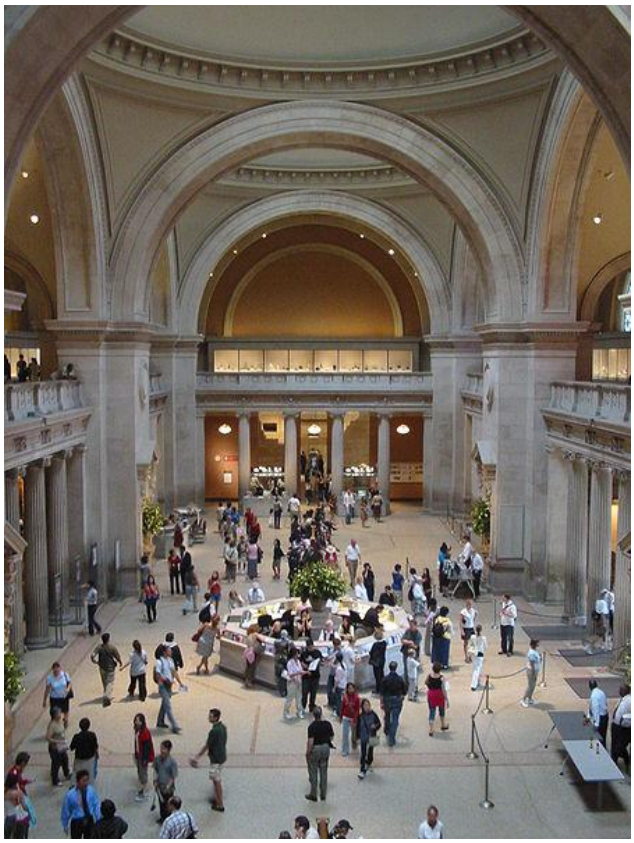
← The Guggenheim interior

The building has become a cultural icon and can be seen widely throughout popular culture. It is featured in Matthew Barney's *The Cremaster Cycle*, *Bye Bye Birdie*, *Men in Black*, *When in Rome*, *Downtown 81*,*Ugly Betty* and prominently in *The International*, where a major shootout occurs in the museum. (In fact, a life-size replica of the museum was built for this scene.) The movie *Mr. Popper's Penguins* also features a scene where the penguins surf on ice water spilled on the floor, during a social event being held in the museum. The *New Yorker* magazine has included the museum multiple times on its cover and in various cartoons.

Are you familiar with all of contents above? Let's take a quiz!!

1. The Solomon R. Guggenheim Museum has exclusive external looks, who is the designer of this architecture?

◎大都會博物館-Metropolitan Museum of Art



Metropolitan Museum of Art (colloquially **The Met**) is an art museum on the eastern edge of Central Park, along "Museum Mile" in New York City, United States. Its permanent collection contains more than two million works of art, divided into nineteen curatorial departments. The main building, often called "the Met", is one of the world's largest art galleries; there is also a much smaller second location, at "The Cloisters", in Upper Manhattan, which features medieval art.

Represented in the permanent collection are works of art from classical antiquity and Ancient Egypt, paintings and sculptures from nearly all the European masters, and an extensive collection of American and modern art. The Met also maintains extensive holdings of African, Asian, Oceanic, Byzantine, and Islamic art. The museum is also home to encyclopedic collections of musical instruments, costumes and accessories, and antique weapons and armor from around the world. Several notable interiors, ranging from 1st-century Rome through modern American design, are permanently installed in the Met's galleries.

The Metropolitan Museum of Art was founded in 1870 by a group of American citizens. The founders included businessmen and financiers, as well as leading artists and thinkers of the day, who wanted to open a museum to bring art and art education to the American people. It opened on February 20, 1872, and was originally located at 681 Fifth Avenue.

As of 2007, the Met measures almost $^{1}\!/_{4}$-mile (400 m) long and occupies more than 2,000,000 square feet (190,000 m^2).

◎大都會博物館-Drawings and prints

***Melencolia I* by Albrecht Dürer→**

Though other departments contain significant numbers of drawings and prints, the Drawings and Prints department specifically concentrates on North American pieces and western European works produced after the Middle Ages. Currently, the Drawings and Prints collection contains more than 11,000 drawings, 1.5 million prints, and twelve thousand illustrated books. The collection has been steadily growing ever since the first bequest of 670 drawings donated to the museum by Cornelius Vanderbilt in 1880. The great masters of European painting, who produced many more sketches and drawings than actual paintings, are extensively represented in the Drawing and Prints collection. The department's holdings contain major drawings by Michelangelo, Leonardo da Vinci, and Rembrandt, as well as prints and etchings by Van Dyck, Dürer, and Degas among many others.

Are you familiar with all of contents above? Let's take a quiz!!

1. What kind of collection you may see in Metropolitan Museum?

2. When the Metropolitan Museum was founded?

3. Even the Metropolitan Museum contains a lot of drawings and prints, however, specifically concentrates are?

4. The most impressive drawing or print to you in Metropolitan Museum is?

◎帝國大廈 Empire State Building

Building is a 102-story landmark in New York City, United States, at the intersection of Fifth Avenue and West 34th Street. It is 1,250 ft (381 meters) tall. Its name is derived from the nickname for New York, the Empire State. It stood as the world's tallest building for 40 years, from its completion in 1931 until construction of the World Trade Center's North Tower was completed in 1972. Following the destruction of the World Trade Center in 2001, the Empire State Building once again became the tallest building in New York City.

The Empire State Building has been named by the American Society of Civil Engineers as one of the Seven Wonders of the Modern World. The building and its street floor interior are designated landmarks of the New York City Landmarks Preservation Commission, and confirmed by the New York City Board of Estimate. It was designated as a National Historic Landmark in 1986. In 2007, it was ranked number one on the List of America's Favorite Architecture according to the AIA. The building is owned and managed by W&H Properties. The Empire State Building is currently the third tallest skyscraper in the United States (after the Willis Tower and Trump International Hotel and Tower, both in Chicago), and the 15th tallest in the world. It is also the fourth tallest freestanding structure in the Americas. The Empire State Building is currently undergoing a $550 million renovation, with $120million utilized in an effort to transform the building into a more energy efficient and eco-friendly structure.

◎帝國大廈 Empire State Building-History

The Empire State Building was designed by William F. Lamb from the architectural firm Shreve, Lamb and Harmon, which produced the building drawings in just two weeks, using its earlier designs for the Reynolds Building in Winston-Salem, North Carolina, and the Carew Tower in

Cincinnati, Ohio (designed by the architectural firm W.W. Ahlschlager & Associates) as a basis. Every year the staff of the Empire State Building sends a Father's Day card to the staff at the Reynolds Building in Winston-Salem to pay homage to its role as predecessor to the Empire State Building. The building was designed from the top down. The general contractors were The Starrett Brothers and Eken, and the project was financed primarily by John J. Raskob and Pierre S. du Pont. The construction company was chaired by Alfred E. Smith, a former Governor of New York and James Farley's General Builders Supply Corporation supplied the building materials. John W. Bowser was project construction superintendent.

Excavation of the site began on January 21, 1930, and construction on the building itself started symbolically on March 17—St. Patrick's Day—per Al Smith's influence as Empire State, Inc. president. The project involved 3,400 workers, mostly immigrants from Europe, along with hundreds of Mohawk iron workers, many from the Kahnawake reserve near Montreal. According to official accounts, five workers died during the construction. Governor Smith's grandchildren cut the ribbon on May 1, 1931. Lewis Wickes Hine's photography of the construction provides not only invaluable documentation of the construction, but also a glimpse into common day life of workers in that era.

←A worker bolts beams during construction; the Chrysler Building can be seen in the background.

←The Empire State Building under construction, 1931.

The construction was part of an intense competition in New York for the title of "world's tallest building". Two other projects fighting for the title, 40 Wall Street and the Chrysler Building, were still under construction when work

began on the Empire State Building. Each held the title for less than a year, as the Empire State Building surpassed them upon its completion, just 410 days after construction commenced. The building was officially opened on May 1, 1931 in dramatic fashion, when United States President Herbert Hoover turned on the building's lights with the push of a button from Washington, D.C. Coincidentally, the first use of tower lights atop the Empire State Building, the following year, was for the purpose of signaling the victory of Franklin D. Roosevelt over Hoover in the presidential election of November 1932.

◎帝國大廈 Empire State Building- Architecture

←Street level view of the Empire State Building

The Empire State Building rises to 1,250 ft (381 m) at the 102nd floor, and including the 203 ft (62 m) pinnacle, its full height reaches 1,453 ft–$8^{9}\!/_{16}$ in (443.09 m). The building has 85 stories of commercial and office space representing 2,158,000 sq ft (200,500 m^2). It has an indoor and outdoor observation deck on the 86th floor. The remaining 16 stories represent the Art Deco tower, which is capped by a 102nd-floor observatory. Atop the tower is the 203 ft (62 m) pinnacle, much of which is covered by broadcast antennas, with a lightning rod at the very top.

The Empire State Building was the first building to have more than 100 floors. It has 6,500 windows and 73 elevators, and there are 1,860 steps from street level to the 102nd floor. It has a total floor area of 2,768,591 sq ft (257,211 m^2);

←The Empire State Building as seen from Brooklyn

The base of the Empire State Building is about 2 acres (8,094 m^2). The building houses 1,000 businesses, and has its own zip code, 10118. As of 2007, approximately 21,000 employees work in the building each day, making the Empire State Building the second-largest single office complex in America, after the Pentagon. The building was completed in one year and 45 days. Its original 64 elevators are located in a central core; today, the

Empire State Building has 73 elevators in all, including service elevators. It takes less than one minute by elevator to get to the 80th floor where visitors can take another elevator or stairs to the 86th floor, where an observation deck is located.) The building has 70 mi (113 km) of pipe, 2,500,000 ft (760,000 m) of electrical wire, and about 9,000 faucets. It is heated by low-pressure steam; despite its height, the building only requires between 2 and 3 psi (14 and 21 kPa) of steam pressure for heating. It weighs approximately 370,000 short tons (340,000 t). The exterior of the building was built using Indiana limestone panels.

←The Empire State Building cost $40,948,900 to build.

A series of setbacks causes the building to taper with height.

Unlike most of today's skyscrapers, the Empire State Building features an art deco design, typical of pre–World War II architecture in New York. The modernistic stainless steel canopies of the entrances on 33rd and 34th Streets lead to two story-high corridors around the elevator core, crossed by stainless steel and glass-enclosed bridges at the second-floor level. The elevator core contains 67 elevators.

The lobby is three stories high and features an aluminum relief of the skyscraper without the antenna, which was not added to the spire until 1952. The north corridor contains eight illuminated panels, created by Roy Sparkia and Renée Nemorov in 1963, depicting the building as the Eighth Wonder of the World, alongside the traditional seven.

Long-term forecasting of the life cycle of the structure was implemented at the design phase to ensure that the building's future intended uses were not restricted by the requirements of previous generations. This is particularly evident in the over-design of the building's electrical system.

Are you familiar with all of contents above? Let's take a quiz!!

1. The highest building in New York City is? How tall it is?

2. When the Empire State Building was completed?

3. How much the Empire State Building was cost?

4. Who is the designer of Empire State Building?

◎時代廣場 Times Square

Times Square is a major commercial intersection in the borough of Manhattan in New York City, at the junction of Broadway and Seventh Avenue and stretching from West 42nd to West 47th Streets. The extended Times Square area, also called the Theatre District, consists of the blocks between Sixth and Eighth Avenues from east to west, and West 40th and West 53rd Streets from south to north, making up the western part of the commercial area of Midtown Manhattan.

Formerly named Longacre Square, Times Square was renamed in April 1904 after *The New York Times* moved its headquarters to the newly erected Times Building, which is now called One Times Square and is the site of the annual ball drop on New Year's Eve. Times Square, nicknamed "The Crossroads of the World" and "The Great White Way," has achieved the status of an iconic world landmark and is a symbol of New York City and the United States.

The northern triangle of Times Square is technically Duffy Square, dedicated in 1937 to Chaplain Francis P. Duffy of New York City's "Fighting 69th" Infantry Regiment; a memorial to Duffy is located there, along with a statue of George M. Cohan, and the TKTS discount theatre tickets booth. The stepped red roof of the TKTS booth also provides seating for various events. The Duffy Statue and the square were listed on the National Register of Historic Places in 2001

◎時代廣場 Times Square-History

←Broadway at 42nd St in 1880.

Before and after the American Revolution, the area belonged to John Morin Scott, a general of the New York militia where he served under George Washington. Scott's manor house was at what is now 43rd Street, surrounded by countryside used for farming and breeding horses. In the first half of the 19th century it became one of the prized possessions of John Jacob Astor, who made a second fortune selling off lots to hotels and other real estate concerns as the city rapidly spread uptown.

In 1904, *New York Times* publisher Adolph S. Ochs moved the newspaper's operations to a new skyscraper on 42nd Street at Longacre Square. Ochs persuaded Mayor George B. McClellan, Jr. to construct a subway station there, and the area was renamed "Times Square" on April 8, 1904. Just three weeks later, the first electrified advertisement appeared on the side of a bank at the corner of 46th Street and Broadway.

The New York Times, according to Nolan, moved to more spacious offices across Broadway in 1913. The old Times Building was later named the Allied Chemical Building. Now known simply as One Times Square, it is famed for the Times Square Ball drop on its roof every New Year's Eve.

←A crowd outside *The New York Times* to follow the progress of the Jack Dempsey-Georges Carpentier fight in 1921.

Also in 1913, the Lincoln Highway Association, headed by entrepreneur Carl G. Fisher, chose the intersection of 42nd Street and Broadway, at the southeast corner of Times Square, to be the Eastern Terminus of the Lincoln Highway, the first road across the United States, which originally spanned 3,389 miles (5,454 km) coast-to-coast through 13 states to its Western Terminus in Lincoln Park in San Francisco, California.

As the growth in New York City continued, Times Square quickly became a cultural hub full of theaters, music halls, and upscale hotels.

Times Square quickly became New York's agora, a place to gather to await great tidings and to celebrate them, whether a World Series or a presidential election

—James Traub,*The Devil's Playground: A Century of Pleasure and Profit in Times Square*

Celebrities such as Irving Berlin, Fred Astaire, and Charlie Chaplin were closely associated with Times Square in the 1910s and 1920s. During this period, the area was nicknamed *The Tenderloin*[7] because it was supposedly the most desirable location in Manhattan. However, it was during this period that the area was besieged by crime and corruption, in the form of gambling and prostitution; one case that garnered huge attention was the arrest and subsequent execution of police officer Charles Becker.

← The Hotel Astor c.1900–1910

The general atmosphere changed with the onset of the Great Depression in the 1930s. Times Square acquired a reputation as a dangerous neighborhood in the following decades. From the 1960s to the early 1990s, the seediness of the area, especially due its go-go bars, sex shops, and adult theaters, became an infamous symbol of the city's decline.

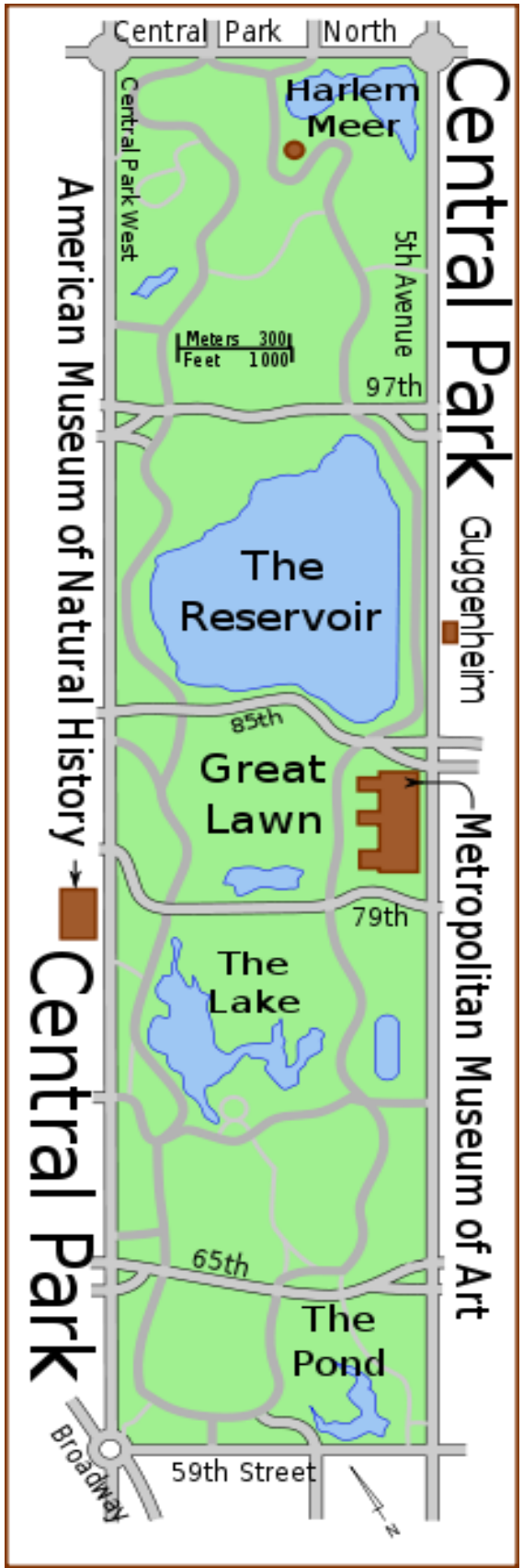
In the 1980s, a commercial building boom began in the western parts of the Midtown as part of a long-term development plan developed under Mayor Ed Koch and David Dinkins. In the mid-1990s, Mayor Rudolph Giuliani (1994–2002) led an effort to "clean up" the area, increasing security, closing pornographic theaters, pressuring drug dealers and "squeegee men" to relocate, and opening more tourist-friendly attractions and upscale establishments. Advocates of the remodeling claim that the neighborhood is safer and cleaner. Detractors have countered that the changes have homogenized or "Disneyfied" the character of Times Square and have unfairly targeted lower-income New Yorkers from nearby neighborhoods such as Hell's Kitchen.

In 1990, the state of New York took possession of six of the nine historic theatres on 42nd Street, and the New 42nd Street non-profit organization was appointed to oversee their restoration and maintenance. The theatres underwent renovation for Broadway shows, conversion for commercial purposes, or demolition.

Are you familiar with all of contents above? Let's take a quiz!!

1. Where is the Times Square located?

2. Time Square formerly name was?



3. Describe the feeling when you see the Time Square.

◎中央公園 Central Park

Central Park is a public park in the center of Manhattan in New York City, United States. The park initially opened in 1857, on 843 acres (3.41 km^2) of city-owned land. In 1858, Frederick Law Olmsted and Calvert Vaux won a design competition to improve and expand the park with a plan they entitled the *Greensward Plan*. Construction began the same year and was completed in 1873.

Designated a National Historic Landmark in 1963, the park is currently managed by the Central Park Conservancy under contract with the city government. The Conservancy is a nonprofit organization that contributes 85% of Central Park's $25 million dollar annual budget, and employs 80% of the park's maintenance staff.

◎中央公園 Central Park-Central Park today

Central Park, which has been a National Historic Landmark since 1963, was designed by landscape

designer and writer Frederick Law Olmsted and the English architect Calvert Vaux in 1858 after winning a design competition. They also designed Brooklyn's Prospect Park.

The park, which receives approximately thirty-five million visitors annually, is the most visited urban park in the United States. It was opened on 770 acres (3.1 km^2) of city-owned land and was expanded to 843 acres (3.41 km^2; 1.317 sq mi). It is 2.5 miles (4 km) long between 59th Street (Central Park South) and 110th Street (Central Park North), and is 0.5 miles (0.8 km) wide between Fifth Avenue and Central Park West. It is similar in size to San Francisco's Golden Gate Park, Chicago's Lincoln Park, Vancouver's Stanley Park, and Munich's Englischer Garten.

Central Park is bordered on the north by West 110th Street, on the south by West 59th Street, on the west by Eighth Avenue, and on the east by Fifth Avenue. Along the park's borders however, these are known as Central Park North, Central Park South, and Central Park West, respectively. Only Fifth Avenue retains its name as it delineates the eastern border of the park.

The park is maintained by the Central Park Conservancy, a private, not-for-profit organization that manages the park under a contract with the New York City Department of Parks and Recreation,in which the president of the Conservancy is *ex officio* Administrator of Central Park.

Today, the conservancy employs four out of five maintenance and operations staff in the park. It effectively oversees the work of both the private and public employees under the authority of the Central Park administrator, (publicly appointed), who reports to the parks commissioner, conservancy's president. As of 2007, the conservancy had invested approximately $450 million in the restoration and management of the park; the organization presently contributes approximately 85% of Central Park's annual operating budget of over $25 million.

The system was functioning so well that in 2006 the conservancy created the Historic Harlem Parks initiative, providing horticultural and maintenance support and mentoring in Morningside Park, St. Nicholas Park, Jackie Robinson Park, and Marcus Garvey Park.

While foliage in much of the park appears natural, it is in fact almost entirely landscaped. The park contains several natural-looking lakes and ponds that have been created artificially, extensive

walking tracks, bridle paths, two ice-skating rinks (one of which is a swimming pool in July and August), the Central Park Zoo, the Central Park Conservatory Garden, a wildlife sanctuary, a large area of natural woods, a 106-acre (43 ha) billion-gallon reservoir with an encircling running track, and an outdoor amphitheater, called the Delacorte Theater, which hosts the "Shakespeare in the Park" summer festivals. Indoor attractions include Belvedere Castle with its nature center, the Swedish Cottage Marionette Theatre, and the historic Carousel. In addition there are numerous major and minor grassy areas, some of which are used for informal or team sports, some are set aside as quiet areas, and there are a number of enclosed playgrounds for children.

The 6 miles (10 km) of drives within the park are used by joggers, bicyclists, skateboarders, and inline skaters, especially on weekends and in the evenings after 7:00 p.m., when automobile traffic is prohibited.

The real estate value of Central Park was estimated by the property appraisal firm, Miller Samuel, to be $528,783,552,000 in December 2005.

As crime has declined in the park and in the rest of New York City, many negative perceptions have begun to wane. The park has its own New York City Police Department precinct (Central Park Precinct), which employs both regular police and auxiliary officers. In 2005, safety measures held the number of crimes in the park to fewer than one hundred per year (down from approximately 1,000 in the early 1980s). New York City Parks Enforcement Patrol also patrols Central Park.

↑ Central Park is the most visited city park in the United States.

Are you familiar with all of contents above? Let's take a quiz!!

1. Who was the designer of central park?

2. The landmark park in New York City is?

3. How many people will visit central park in annually?

4. The major management of central park is which organization?

5. The real estate value of Central Park was how much?

6. New York is a most busy and crowed city in the world do you think is necessary to have such huge park for people who live in New York? Why?

◎費城-獨立宮 自由鐘 Independence Hall

Independence Hall is the centerpiece of Independence National Historical Park located in Philadelphia, Pennsylvania, United States, on Chestnut Street between 5th and 6th Streets. It is known primarily as the location where both the Declaration of Independence and the United States Constitution were debated and adopted.

The building was completed in 1753 as the **Pennsylvania State House** for the Province of Pennsylvania. It became the principal meeting place of the Second Continental Congress from 1775 to 1783 and was the site of the Constitutional Convention in the summer of 1787. The building is part of Independence National Historic Park and is listed as a World Heritage Site.

◎費城-獨立宮 自由鐘 Building

Independence Hall was built between 1732 and 1753, designed by Edmund Woolley and Andrew Hamilton, and built by Woolley. Its construction was commissioned by the Pennsylvania colonial legislature which paid for construction as funds were available, so it was finished piecemeal. It was initially inhabited by the colonial government of Pennsylvania as its State House, from 1732 to 1799.

The hall is a red brick building designed in the Georgian style. It consists of a central building with belltower and steeple, attached to two smaller wings via arcaded hyphens. The highest point to the tip of the steeple spire is 168 ft, 7 1/4 inches above the ground. The two wings were demolished in 1811-1812, though these have since been reconstructed.

Two smaller buildings adjoin the wings of Independence Hall: Old City Hall to the east, and Congress Hall to the west. These three buildings are together on a city block known as Independence Square, along with Philosophical Hall, the original home of the American Philosophical Society. Since its construction in the mid-20th century, to the north has been Independence Mall, which includes the current home of the Liberty Bell.

◎費城-獨立宮 自由鐘 Liberty Bell

The bell tower steeple of Independence Hall was the original home of the "Liberty Bell" and today it holds a "Centennial Bell" that was created for the United States Centennial Exposition in 1876. The original Liberty Bell, with its distinctive crack, is now on display across the street in the Liberty Bell Center. In 1976 Queen Elizabeth II visited Philadelphia and presented a gift to the American people of a replica Bicentennial Bell, which was cast in the same British foundry as the original. This 1976 bell hangs in the modern bell tower located on 3rd Street near Independence Hall.

↑Long Gallery

↑Governor's Council Chamber

↑Committee of Assembly Chamber

↓ Independence Hall Assembly Room

↓ Independence Hall Public Court Room

Are you familiar with all of contents above? Let's take a quiz!!

1. Where is the Independence Hall Located?

2. Who is the designer of Independence Hall?

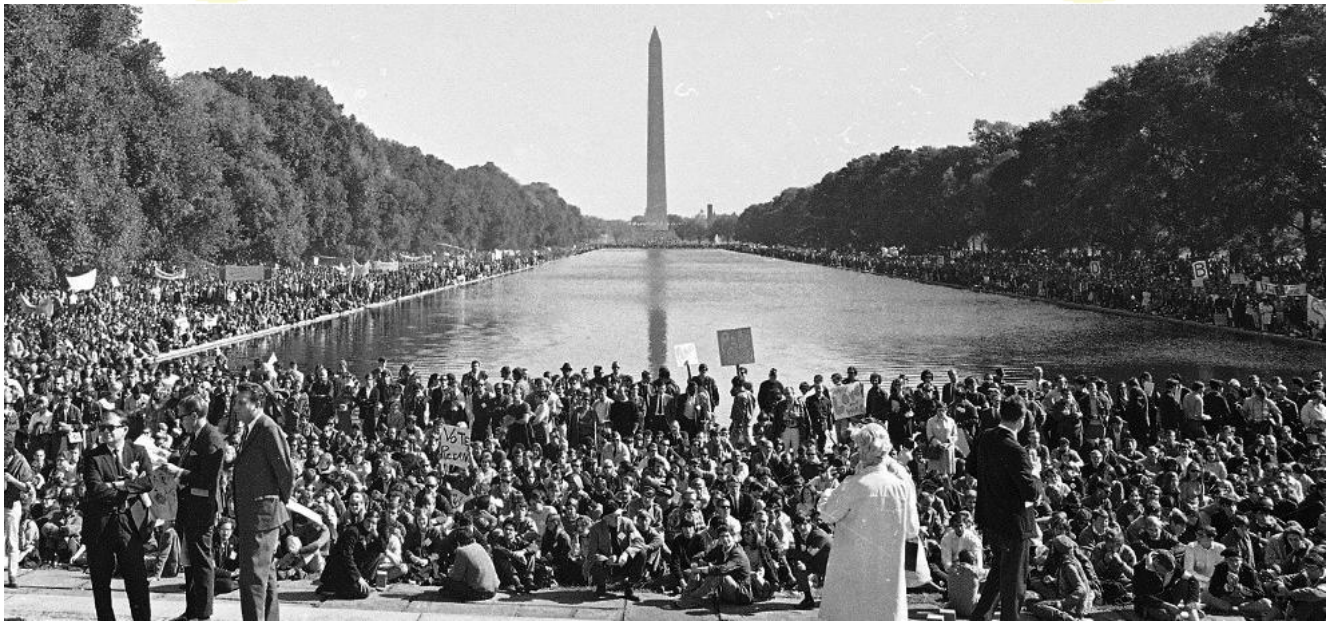
3. What kind of architecture or style the Independence Hall have?

4. How come the Liberty Bell had distinctive crack?

5. Who presented the replica Bicentennial Bell as a gift to American people?

◎華盛頓紀念碑 Washington Monument

The **Washington Monument** is an obelisk near the west end of the National Mall in Washington, D.C., built to commemorate the first U.S. president, General George Washington. The monument, made of marble, granite, and bluestone gneiss, is both the world's tallest stone structure and the world's tallest obelisk, standing 555 feet $5\frac{1}{8}$ inches (169.294 m). There are taller monumental columns, but they are neither all stone nor true obelisks. It is also the tallest structure in Washington D.C.. It was designed by Robert Mills, an architect of the 1840s. The actual construction of the monument began in 1848 but was not completed until 1884, almost 30 years after the architect's death. This hiatus in construction happened because of co-option by the Know Nothing party, a lack of funds, and the intervention of the American Civil War. A difference in shading of the marble, visible approximately 150 feet (46 m) or 27% up, shows where construction was halted for a number of years. The cornerstone was laid on July 4, 1848; the capstone was set on December 6, 1884, and the completed monument was dedicated on February 21, 1885. It officially opened October 9, 1888. Upon completion, it became the world's tallest structure, a title previously held by the Cologne Cathedral. The monument held this designation until 1889, when the Eiffel Tower was completed in Paris, France. The monument stands due east of the Reflecting Pool and the Lincoln Memorial.



◎華盛頓紀念碑 Washington Monument-History of the monument

Why Washington?

←George Washington, bronze replica of Houdon's marble, lobby, next to the elevators

Hailed as the father of his country, and the leader who was "first in war, first in peace, and first in the hearts of his countrymen", George Washington (1732–1799) was the dominant military and political leader of the new United States of America from 1775 to 1797, leading the American victory over Britain in the American Revolutionary War as commander in chief of the Continental Army, and presiding over the writing of the Constitution in 1787. As the unanimous choice to serve as the first President of the United States, he built a strong and financially secure nation that earned the respect of the world.

In colonial Virginia, Washington was born into the provincial gentry in a wealthy, well-connected family that owned tobacco plantations using slave labor. Strong, brave, eager for combat and a natural leader, young Washington quickly became a senior officer of the colonial forces, during the French and Indian War in 1754-58. Washington's experience, his military bearing, his leadership of the Patriot cause in Virginia, and his political base in the largest colony made him the obvious choice of the Second Continental Congress in 1775 as commander-in-chief of the Continental Army to fight the British in the American Revolution. After the colonial victory over the British was finalized in 1783, Washington resigned from the military rather than become an American king,

and returned to his plantation at Mount Vernon. This prompted his erstwhile enemy King George III to call him "the greatest character of the age".

Washington presided over the Constitutional Convention that drafted the United States Constitution in 1787 because of his dissatisfaction with the weaknesses of Articles of Confederation. Washington became President of the United States in 1789 where he successfully brought rival factions together to create a unified nation. President Washington built a strong, well-financed national government that avoided war, suppressed rebellion, and won acceptance among America's natural citizens. Washington's farewell address was a primer on republican virtue and a stern warning against partisanship, sectionalism, and involvement in foreign wars. Two years after his presidential term ended, Washington died at Mt. Vernon in 1799, leaving America and the world a legacy of republican virtue and devotion to civic duty. Washington was a public icon of American military and civic patriotism.

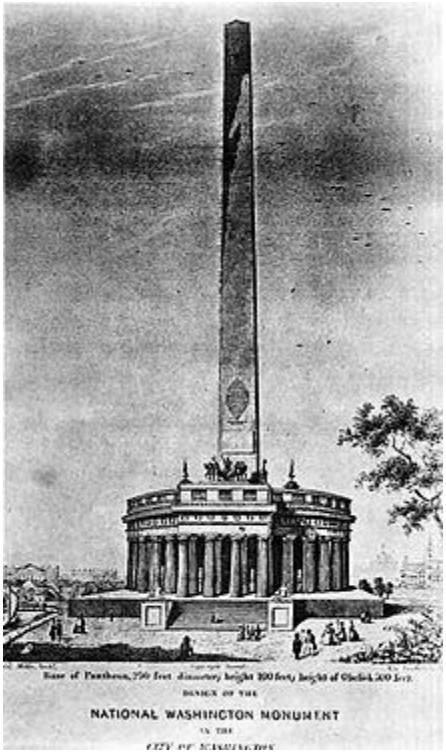
◎華盛頓紀念碑 Washington Monument- Proposals for a memorial

Starting with victory in the Revolution, there were many proposals to build a monument to Washington. After his death, Congress authorized a suitable memorial in the national capital, but the decision was reversed when the Democratic-Republican Party (Jeffersonian Republicans) took control of Congress in 1801.The Republicans were dismayed that Washington had become the symbol of the Federalist Party; furthermore the values of Republicanism seemed hostile to the idea of building monuments to powerful men. They also blocked his image on coins or the celebration of his birthday. Further political squabbling, along with the North-South division on the Civil War, blocked the completion of the Washington Monument until the late 19th century. By that time, Washington had the image of a national hero who could be celebrated by both North and South, and memorials to him were no longer controversial.

As early as 1783, the Continental Congress had resolved "That an equestrian statue of George Washington be erected at the place where the residence of Congress shall be established." The proposal called for engraving on the statue which explained it had been erected "in honor of George Washington, the illustrious Commander-in-Chief of the Armies of the United States of America during the war which vindicated and secured their liberty, sovereignty, and independence."Currently, the only equestrian statue of President Washington is Washington Circle at the intersection of the Foggy Bottom and West End neighborhoods at the north end of the George Washington University.

Ten days after Washington's death, a Congressional committee recommended a different type of monument. John Marshall, a Representative from Virginia (who later became Chief Justice of the Supreme Court) proposed that a tomb be erected within the Capitol. But a lack of funds, disagreement over what type of memorial would best honor the country's first president, and the Washington family's reluctance to move his body prevented progress on any project.

◎華盛頓紀念碑 Washington Monument- Design



←Sketch of the proposed Washington Monument by architect Robert Mills circa 1836.

Progress towards a memorial finally began in 1832. That year, which marked the 100th anniversary of Washington's birth, a large group of concerned citizens formed the Washington National Monument Society. They began collecting donations, much in the way Blodgett had suggested. By the middle of the 1830s, they had raised over $28,000 ($600,000 in 2010 dollars) and announced a competition for the design of the memorial.

On September 23, 1835, the board of managers of the society described their expectations:

It is proposed that the contemplated monument shall be like him in whose honor it is to be constructed, unparalleled in the world, and commensurate with the gratitude, liberality, and patriotism of the people by whom it is to be erected... [It] should blend stupendousness with elegance, and be of such magnitude and beauty as to be an object of pride to the American people, and of admiration to all who see it. Its material is intended to be wholly American, and to be of marble and granite brought from each state, that each state may participate in the glory of contributing material as well as in funds to its construction.

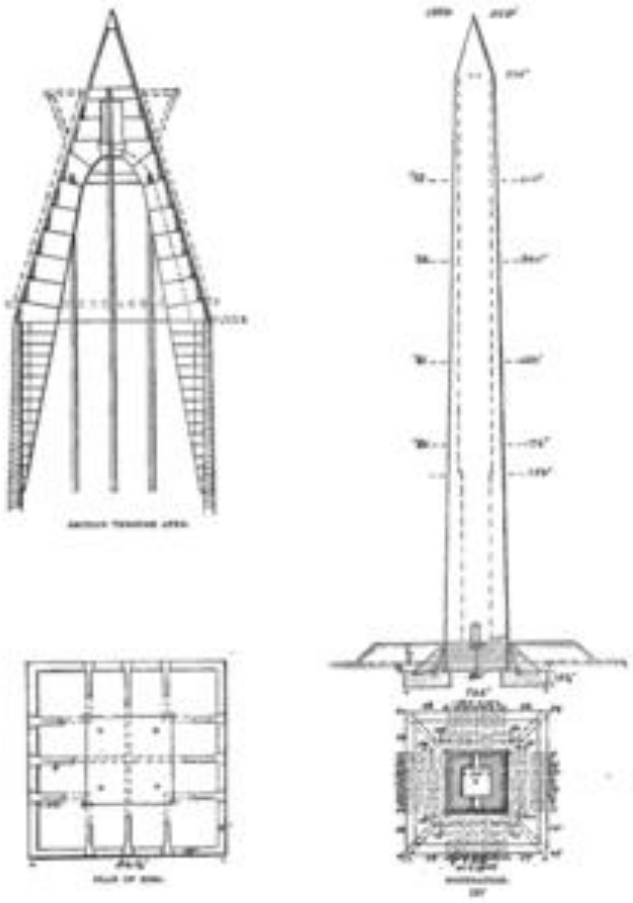
The society held a competition for designs in 1836. The winner, architect Robert Mills, was well-qualified for the commission. The citizens of Baltimore had chosen him to build a monument to Washington, and he had designed a tall Greek column surmounted by a statue of the President. Mills also knew the capital well, having just been chosen Architect of Public Buildings for Washington.

His design called for a tall obelisk—an upright, four-sided pillar that tapers as it rises—with a nearly flat top. He surrounded the obelisk with a circular colonnade, the top of which would feature Washington standing in a chariot. Inside the colonnade would be statues of 30 prominent Revolutionary War heroes.

One part of Mills' elaborate design that was built was the doorway surmounted by an Egyptian-style Winged sun. It was removed when construction resumed after 1884. A photo can be seen in *The Egyptian Revival* by Richard G. Carrot.

Yet criticism of Mills' design and its estimated price tag of more than $1 million ($21,200,000 in 2010 dollars) caused the society to hesitate. Its members decided to start building the obelisk and to leave the question of the colonnade for later. They believed that if they used the $87,000 they had already collected to start work, the appearance of the monument would spur further donations that would allow them to complete the project.

◎華盛頓紀念碑 Washington Monument-Construction



←Monument plans and timeline of construction.

The Washington Monument was originally intended to be located at the point at which a line running directly south from the center of the White House crossed a line running directly west from the center of the Capitol. Pierre (Peter) Charles L'Enfant's 1791 "Plan of the city intended for the permanent seat of t(he) government of the United States ..." designated this point as the location of the equestrian statue of George Washington that the Continental Congress had voted for in 1783. However, the ground at the intended

location proved to be too unstable to support a structure as heavy as the planned obelisk. The Jefferson Pier, a small monolith 390 feet (119 m) WNW of the Monument, now stands at the intended site of the structure.

Excavation for the foundation of the Monument began in early 1848.The cornerstone was laid as part of an elaborate Fourth of July ceremony hosted by the Freemasons, a worldwide fraternal organization to which Washington belonged. Speeches that day showed the country continued to revere Washington. One celebrant noted, "No more Washingtons shall come in our time ... But his virtues are stamped on the heart of mankind. He who is great in the battlefield looks upward to the generalship of Washington. He who grows wise in counsel feels that he is imitating Washington. He who can resign power against the wishes of a people, has in his eye the bright example of Washington."

Construction continued until 1854, when donations ran out. The next year, Congress voted to appropriate $200,000 to continue the work, but rescinded before the money could be spent. This reversal came because of a new policy the society had adopted in 1849. It had agreed, after a request from some Alabamians, to encourage all states and territories to donate commemorative stones that could be fitted into the interior walls. Members of the society believed this practice would make citizens feel they had a part in building the monument, and it would cut costs by limiting the amount of stone that had to be bought. Blocks of Maryland marble, granite and sandstone steadily appeared at the site. American Indian tribes, professional organizations, societies, businesses and foreign nations donated stones that were 4 feet (1.2 m) by 2 feet (0.61 m) by 12–18 inches (1.2 m by 0.6 m by 0.3 – 0.5 m). One stone was donated by the Ryukyu Kingdom and brought back by Commodore Matthew C. Perry,but never arrived in Washington (it was replaced in 1989).Many of the stones donated for the monument, however, carried inscriptions which did not commemorate George Washington. For example, one from the Templars of Honor and Temperance stated "We will not buy, sell, or use as a beverage, any spiritous or malt liquors, Wine, Cider, or any other Alcoholic Liquor." It was just one commemorative stone that

started the events that stopped the Congressional appropriation and ultimately construction altogether. In the early 1850s, Pope Pius IX contributed a block of marble. In March 1854, members of the anti-Catholic, nativist American Party—better known as the "Know-Nothings"—stole the Pope's stone as a protest and supposedly threw it into the Potomac (it was replaced in 1982). Then, in order to make sure the monument fit the definition of "American" at that time, the Know-Nothings conducted an election so they could take over the entire society"Congress immediately rescinded its $200,000 contribution.

←The partially completed monument, photographed by Mathew Brady; circa 1860.

The Know-Nothings retained control of the society until 1858, adding 13 courses of masonry to the monument—all of which were of such poor quality that they were later removed. Unable to collect enough money to finish work, they increasingly lost public support. The Know-Nothings eventually gave up and returned all records to the original society, but the stoppage in construction continued into, then after, the Civil War.

Interest in the monument grew after the Civil War ended. Engineers studied the foundation several times to see whether it remained strong enough. In 1876, the Centennial of the Declaration of Independence, Congress agreed to appropriate another $200,000 to resume construction.The monument, which had stood for nearly 20 years at less than one-third of its proposed height, now seemed ready for completion.

Before work could begin again, however, arguments about the most appropriate design resumed. Many people thought a simple obelisk, one without the colonnade, would be too bare. Architect Mills was reputed to have said omitting the colonnade would make the monument look like "a stalk of asparagus"; another critic said it offered "little... to be proud of."

←P.H. McLaughlin setting the aluminum tip.

This attitude led people to submit alternative designs. Both the Washington National Monument Society and Congress held discussions about how the monument should be finished. The society considered five new designs, concluding that the one by William Wetmore Story seemed "vastly superior in artistic taste and beauty." Congress deliberated over those five as well as Mills' original; while it was deciding, it ordered work on the obelisk to continue. Finally, the members of the society agreed to abandon the colonnade and alter the obelisk so it conformed to classical Egyptian proportions.

Construction resumed in 1879 under the direction of Lieutenant Colonel Thomas Lincoln Casey of the U.S. Army Corps of Engineers. Casey redesigned the foundation, strengthening it so it could support a structure that ultimately weighed more than 40,000 tons. He then followed the society's orders and figured out what to do with the commemorative stones that had accumulated. Though many people ridiculed them, Casey managed to install most of the stones in the interior walls—one stone was found at the bottom of the elevator shaft in 1951. One difficulty that is visible to this day is that the builders were unable to find the same quarry stone used in the initial construction, and as a result, the bottom third of the monument is a slightly lighter shade than the rest of the construction.

The building of the monument proceeded quickly after Congress had provided sufficient funding. In four years, it was finally completed, with the 100 ounce (2.85 kg) aluminum tip/lightning-rod being put in place on December 6, 1884. It was the largest single piece of aluminum cast at the time. The monument opened to the public on October 9, 1888.

Are you familiar with all of contents above? Let's take a quiz!!

1. Where is the Washington Monument located?

2. Who is the designer of Washington Monument?

3. Washington Monument took many years finished what happened delay the process of construction?

◎航空航太博物館 National Air and Space Museum

National Air and Space Museum (NASM) of the Smithsonian Institution holds the largest collection of historic aircraft and spacecraft in the world. It was established in 1976. Located in Washington, D.C., United States, it is a center for research into the history and science of aviation and spaceflight, as well as planetary science and terrestrial geology and geophysics. Almost all space and aircraft on display are originals or backups to the originals. It is the second-most popularof the Smithsonian museums and operates an annex, the Steven F. Udvar-Hazy Center, at Dulles International Airport. The museum currently conducts restoration of its collection at the Paul E. Garber Preservation, Restoration, and Storage Facility in Suitland, Maryland.

◎航空航太博物館 National Air and Space Museum-Architecture

Because of the museum's close proximity to the United States Capitol, the Smithsonian wanted a building that would be architecturally impressive but would not stand out too boldly against the Capitol building. St. Louis-based architect Gyo Obata of Hellmuth, Obata and Kassabaum accepted the challenge and designed the museum as four simple marble-encased cubes containing the smaller and more theatrical exhibits, connected by three spacious steel-and-glass atria which house the larger exhibits such as missiles, airplanes and spacecraft. The mass of the museum echoes the National Gallery of Art across the National Mall, and uses the same pink Tennessee marble as the National Gallery.Built by Gilbane Building Company, the museum was completed in 1976. The west glass wall of the building is used for the installation of airplanes, functioning as a giant door.

◎航空航太博物館 National Air and Space Museum- History

←Wright Flyer hanging in the museum in 1982

It was originally called the National Air Museum when formed on August 12, 1946 by an act of Congress and signed into law by President Harry S. Truman,some pieces in the National Air and Space Museum collection date back to the 1876 Centennial Exposition in Philadelphia after which the Chinese Imperial Commission donated a group of kites to the Smithsonian after Smithsonian Secretary Spencer Fullerton Baird convinced exhibiters that shipping them home would be too costly. The Stringfellow steam engine intended for aircraft was accessioned into the collection in 1889, the first piece actively acquired by the Smithsonian now in the current NASA collection.

After the establishment of the museum, there was no one building that could hold all the items to be displayed, many obtained from the United States Army and United States Navy collections of domestic and captured aircraft

from World War I. Some pieces were on display in the Arts and Industries Building, some were stored in the Aircraft Building (also known as the "Tin Shed", a large temporary metal shed in the Smithsonian Castle's south yard. Larger missiles and rockets were displayed outdoors in what was known as Rocket Row. The shed housed at large Martin bomber, a LePere fighter-bomber, and an Aeromarine 39B floatplane. Still, much of the collection remained in storage due to a lack of display space.

The combination of the large numbers of aircraft donated to the Smithsonian after World War II and the need for hangar and factory space for the Korean War drove the Smithsonian to look for its own facility to store and restore aircraft. The current Garber Facility was ceded to the Smithsonian by the Maryland-National Capital Park and Planning Commission in 1952 after the curator Paul E. Garber spotted the wooded area from the air. Bulldozers from Fort Belvoir and prefabricated buildings from the United States Navy kept the initial costs low.

The space race in the 1950s and 1960s led to the renaming of the museum to the National Air and Space Museum, and finally congressional passage of appropriations for the construction of the new exhibition hall, which opened July 1, 1976 at the height of the United States Bicentennial festivities under the leadership of Director Michael Collins, who had flown to the Moon on Apollo 11. The Steven F. Udvar-Hazy Center opened in 2003, funded by a private donation.

The museum will receive several artifacts, including a former camera, that were removed from the Hubble Space Telescope and returned to Earth after Space Shuttle mission STS-125. The museum also holds the backup mirror for the Hubble which, unlike the one that was launched, was ground to the correct shape. There were once plans for it to be installed to the Hubble itself, but plans to return it to Earth were scrapped after the Space Shuttle Columbia disaster in 2003; the mission was re-considered as too

risky.

The Smithsonian has also been promised the International Cometary Explorer, which is currently in a solar orbit that occasionally brings it back to Earth, should NASA attempt to recover it.

Are you familiar with all of contents above? Let's take a quiz!!

1. The major collections in National Air and Space Museum are?

2. Who are the designers of National Air and Space Museum?

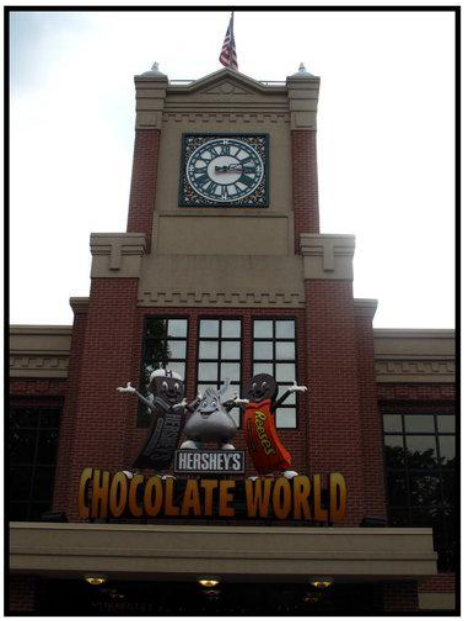
3. Write down the external looks of National Air and Space Museum what kind of shape it is?

4. What are the difference of air craft between modern day and war world 2?

5. National Air and Space Museum is one of popular scene in the movies. Do you remember at least one of movie?

6. Write down the most impressive air craft to you in National Air and Space Museum.

◎賀喜巧克力王國



有一則廣告令人印象深刻～大象的巴掌
內容是一名男孩去看大象表演,手裡拿著賀喜巧克力,當大象正要用鼻子接過去吃時男孩就一口把巧克力吃掉,之後男孩長大後,在一次大象遊行表演中,有隻大象就過去賞了他一巴掌....

接著的廣告字幕是：「有些滋味，你永遠不會遺忘！賀喜巧克力。」

美國賓州賀喜鎮(Hershey, PA) 的賀喜是全世界最大的巧克力公司， 在 1876 年由 Milton Snavely Hershey 的一間糖果店開始。
賀喜鎮的名字就是來自有名的巧克力 Hershey，因為這裡就是 Hershey 巧克力的母公司. 賀喜的老板賺了大錢後，也把錢回饋給他的員工及附近的居民，把這個鎮建得相當漂亮。

賀喜鎮可說是因巧克力而建，這是賀喜鎮市區的一條主要道路，叫做巧克力大道 (chocolate avenue). 它的路燈都是做成像 Hershy Kisses 一樣.，採用 kiss 巧克力造型， 十分有趣。

巧克力的原料是可可豆,被稱為「眾神的飲料」,也被視為醫藥使用。以瑪雅文化聞名的古阿茲克特王國,甚至把可可豆當成貨幣通用,足見其珍貴。

歐洲人喜歡可可的氣味,在殖民地大加栽種,並持續改良可可的加工技術。
一般的巧克力,就是將可可粉加熱溶解,加入砂糖、奶粉、乳化劑、阿拉伯樹膠等,經過多重加工程序,最後冷卻、固化成型。因此它有可可的香,牛奶的醇,與砂糖的甜,如此巧妙的結合,其美味自然不是一般人所能招架的。

巧克力的主要原料其實是苦澀的可可豆。像咖啡一樣，可可豆成熟後，需經過一番發酵、烘培、篩殼、研磨的過程，才能展現它香醇的美味，尤其是研磨的過程，可以說是決定巧克力好不好吃的關鍵：可可豆研磨的越細緻，所製造出來的巧克力表面也就越光滑，那入口即化的細緻口感也就越佳，也更能保留住可可的香醇。

◎可可豆的介紹

亦稱“可可子”。梧桐科常綠喬木可可樹長卵圓形堅果的扁平種子，含油 53%～58% 。榨出的可哥脂有獨特香味及融化性能。是可可樹的產物。可可樹是一種熱帶植物，只在炎熱的氣候下成長。這樣，它的種植就被限定在赤道南北各二十個緯度間的陸地上。假定有肥沃的土壤條件和精心的耕作，一旦成活，可可樹就可以在充足的陽光下成長。可哥種植園(人工種植下的可可樹）通常位於谷地或沿海平原，必須有均勻分佈的降雨量和肥沃、排水通暢的土地。1922 年開始在我國臺灣的嘉義、高雄等地引種。

◎可可豆的介紹-培植與收穫工程

第一批果實經過修剪和精心培植，大多數種類的可可樹會在第五年開始結果。如果予以最好的護理，一些樹種甚至在第三和第四年就有好的收成。
可可樹是常綠樹種，它碩大光滑的葉子在幼年時是紅色的，成熟之後則變成綠色。在成熟期,人工種植可可樹有 15 到 25 英尺高，但野生可可樹高度可達 60 英尺以上。可可樹的預計壽命仍在猜測中。一般認為二十五年後，一棵可可樹的經濟作用就可能被認為到了終點，這時就適於重新種植年輕的可可樹來取代它。可可樹全年都結果（或豆莢），而收穫卻通常是季節性的。由於可可樹是自由交叉授粉的，豆莢形成各種種類，其中包括拉美種、外來種和特利尼達德種。

◎可可豆的介紹-收穫可可豆

採摘成熟可可豆莢的工作絕非易事。可可樹很脆弱而且根基很淺，工人不能冒險爬上去摘高處枝上的豆莢。

種植者為到地裡幹活的採摘工人配備了長把、手形鋼刀。鋼刀是為了夠到並剪下最高的豆莢而不傷可可樹的軟樹皮。隨身攜帶的大彎刀則被用來採摘長在低枝幹上的夠得著的豆莢。

◎可可豆的介紹-採摘後做些什麼

收集者會同採摘者一同工作，將豆莢收集到籃中並運到田地的邊上。在那裡將豆莢破碎。如果方法得當，只要揮舞一兩下大彎刀就可以劈開豆莢的木質外殼。一個訓練有素的破碎者每小時能夠劈開五百個豆莢。

完成收穫需要耐心。通常從一個標準豆莢裡都要挖出 20 到 50 粒乳白色的可可豆，然後丟棄豆莢的外殼和內膜。一個普通豆莢中經過乾燥的可可豆不到 58 克重，確切地說製造 1 磅巧克力需用 400 粒可可豆。

可可豆與我們所熟悉的最終產品還是有很大差別。乳白色的可可豆暴露在空氣中，很快就變成了淡紫色或紫色。此時，它們看上去並不象製成的巧克力，聞上去也沒有熟悉的巧克力芳香。

◎可可豆的介紹-裝運作物

從豆莢中取出的可可豆或種子被裝進盒子或堆積起來包裝。包裹著可可豆的是一層開始升溫和發酵的果肉。發酵持續三到九天，去除了可哥的苦味，並產生出具有巧克力特點的原料。發酵是可可豆中所含糖分轉化為酸—主要是乳酸和醋酸的簡單過程。

發酵過程導致可可豆溫度升到 125 華氏度，殺死了其中的細菌，並啟動了存在著的酵素，形成當烘烤可可豆時產生巧克力味道的混合物。最後的結果是生成了深棕色的經過充分發酵的可可豆，這種顏色表明可可豆現在準備進入乾燥過程了。

象所有飽含水分的水果一樣，如果要保存可可豆的話，就必須將它們乾燥。在有些國家，乾燥工序十分簡單：只是把可可豆鋪在盤上或竹墊上，然後將它們放在陽光下曬烤。當潮濕的天氣干擾了這種乾燥法時，人工方法才得以應用。例如，可可豆可能被帶進室內，在熱氣管下乾燥。

如果有良好的天氣，乾燥過程通常需要幾天。在這個間隙，農人經常翻動可可豆。他們利用

這一機會挑選外運的可可豆，並將扁平、破碎或發芽的可可豆揀出來。在乾燥中，可可豆會失去幾乎所有的水分和超過一半的重量。

可可豆乾燥後，就準備以每袋 130 到 200 磅裝運了。它們很少被存入倉庫，除非要等待買主檢查的裝運中心。

◎可可豆的介紹-產地特點

可可樹生長在南北緯 20°的狹長地帶內，可可豆的種類、產地和特點。

⑴克裡奧羅（criollo），可哥中的佳品，香味獨特，但產量稀少，相當於咖啡豆中的阿拉比卡（arabica）咖啡豆，僅占全球產量的 5%;主要生長在委內瑞拉、加勒比海、馬達加斯加、爪哇等地。

⑵佛拉斯特羅(forastero)，產量最高，約占全球產量的 80%，氣味辛辣，苦且酸，相當於咖啡豆中的羅拔斯塔（robusta）,主要用於生產普通的大眾化巧克力；西非所產的可可豆就屬於此種，在馬來西亞、印尼、巴西等地也有大量種植。這種豆子需要劇烈的焙炒來彌補風味的不足，正是這個原因使大部分黑巧克力帶有一種焦香味。

⑶特立尼達（trinitario），上述兩種的雜交品種，因開發於特立尼達島而得名，結合了前兩種可可豆的優勢，產量約占 15%，產地分佈同克裡奧羅，與克裡奧羅一樣被視為可哥中的珍品，用於生產優質巧克力，因為，只有這兩種豆子才能提供優質巧克力的酸度、平衡度和複雜度。非洲可可豆約占世界可可豆總產量的 65%，大部分被美國以期貨的形式買斷，但是非洲可可豆絕大部分是佛拉斯特羅，只能用於生產普通大眾化的巧克力；而歐洲的優質巧克力生產商，會選用優質可哥種植園裡面所產的最好的豆子，有的甚至還有自己的農場，如法國著名巧克力生產商 VALRHONA

◎可可豆的介紹-形態結構

可哥果實呈橢圓形，長度不等，種子埋藏在膠質果肉中，通常 30～40 粒，卵形或橢圓形，長 1.8～2.6cm，直徑 1～1.5cm，每粒種子外面附有白色膠質，種子表面的膠質可以通過發酵除去。每粒種子或可可豆包括席捲的子葉和胚，外面有種皮包圍。子葉顏色由白色到深紫色，不同品種的子葉顏色不同。

◎可可豆的介紹-主要成分

可可豆(生豆)含水分 5.58%，脂肪 50.29%，含氮物質 14.19%，可哥堿 1.55%，其他非氮物

質 13.91%，澱粉 8.77%，粗纖維 4.93%，其灰分中含有磷酸 40.4%、鉀 31.28%，氧化鎂 16.22%。可可豆中還含有咖啡因等神經中樞興奮物質以及丹甯，丹寧與巧克力的色、香、味有很大關係。

可哥脂的溶點接近人的體溫，具有入口即化的特性，在室溫下保持一定的硬度，並具有獨特的可哥香味，有較高的營養價值，不易氧化，是製作巧克力的主要原料。
可哥餅可製成可哥粉，可哥粉富有碳水化合物、脂肪、蛋白質、維生素Ｂ。

◎可可豆的介紹-品質規格

(1)等級標準：
某批可可豆如果有一項超過二級標準，則為等外可可豆，其標記為“SS”，等外可可豆只能在特殊的合同下銷售。

(2)項目解釋：
①發黴豆：肉眼可見內部發黴的可可豆。
②僵豆：肉眼可見剖切面一半或一半以上為青灰色的可可豆。
③蟲蛀豆：不論是哪個發育時期，只要在內部發現蟲蛀或肉眼可見害蟲危害痕跡的可可豆。
④發芽豆：胚芽的萌發突破外殼，外殼成裂口或碎碎的可可豆。
⑤扁癟豆：子葉很薄以致剖切時不能形成子葉切面的可可豆。
⑥煙熏豆：能嘗到或嗅到或者有煙薰跡象的可可豆。
⑦破碎豆：破碎部分不足本粒一半的可可豆。
⑧殼片：不含可哥仁的外殼。
(3)進口可可豆的合同規格：一般規定：①100g 粒數：非洲產可可豆為 100 粒，馬來西亞產為 110 粒；②疵豆：不超過 5%。

◎可可豆的介紹-包裝儲運

裝運可可豆的包裝必須是清潔、乾燥、完好、堅固的新麻袋。縫口要嚴密、良好。製作麻袋的材料必須無害、無毒。
可可豆應該貯存在庫房中，並用適當的防潮材料鋪墊，不得與污染性產品以及油、水泥、焦油等一起貯存，以免受異味和灰塵的污染。必要時可通過薰蒸或噴殺蟲劑滅蟲。運輸工具應

該清潔、乾燥，無異味，以免污染產品。

◎可可豆的介紹-氣候對可可豆產量的影響

據倫敦國際可哥生產組織的統計學家勞倫·皮皮托訥（Laurent Pipitone）說，由於全球經濟衰退抑制主要用於巧克力生產的可可豆的市場需求，今年可可豆的產量已經下降了 12 個百分點。另外，從 2006 年 7 月持續到 2007 年 2 月的厄爾尼諾現象已經使印尼的可可豆產量下降了 2.7 個百分點，減少了 15000 公噸，產量只有 545000 公噸。

根據國際可哥生產組織 5 月 21 號發佈的報告，預計到今年 9 月，2008 年到 2009 年印尼生產季節出口的可可豆只有 485000 噸，厄瓜多爾的產量則為 112000 噸。 富通銀行的可可豆交易部主管埃裡克·斯維裡（Eric Sivry）說：“今年出現厄爾尼諾現象的可能性已經得到確證，我認為可可豆的產量還會下降。”

◎可可豆的介紹-功效

科學家發現,可哥含油酸、亞油酸、硬脂酸、軟脂酸，蛋白質，維生素 A、維生素 B1、B３、B５、B６、維生素 D、維生素 E，礦物質鈣、鎂、銅、鉀、鈉、鐵、鋅；纖維素；多酚，包括低聚體類黃酮物質，其中主要有黃烷醇低聚體-原花青素和單體兒茶素，以及多聚體單寧；含苯乙胺、可哥堿等。此外，可哥含有 500 多種芳香物質,可哥熔點為 35～37℃，味道和口感令人回味無窮。我總結過去的研究發現，可哥具有以下八大功能:

（１） 控制食欲

賓州州立大學的研究發現,食用可哥能夠穩定血糖,控制體重.可哥富含可哥脂、蛋白質、纖維素、多種維生素和礦物質;營養全,可吸收碳水化合物很少(不到 10%)。所以，可哥屬於露卡素綠燈食品，吃可哥容易有飽腹感,並對血糖影響很小。

可哥脂中的亞油酸可以產生 GLA，經 DGLA

最終轉化為 1 型前列腺素,可以舒張血管 , 消除代謝障礙 , 以及幫助胰島素工作,從而穩定血糖,控制食欲。

另外,麻省理工學院的研究發現,可哥能夠提高腦中血清素的濃度,從而穩定情緒,控制食欲。

最後 , 可哥能夠增加一氧化氮的形成 , 從而舒張血管 , 加速代謝 , 以及説明“瘦素”(leptin) 工作。

(2) 美膚美容

美國醫學學會證實吃可哥不會上火長痘。相反,可哥中豐富的原花青素和兒茶素以及維生素 E,具有很強的抗氧化作用。這些抗氧化劑和可哥中的維生素 A 和鋅一起可以美膚美容,去痘除疤。

(2) 增情助“性”

可哥含苯乙胺,這是一種當我們在戀愛或做愛高潮時大腦所產生的信號物質。

更重要的是,可哥能夠增加一氧化氮的形成,從而促進血管擴展,幫助陰莖勃起。這個原理與偉哥一樣。、偉哥之父路易士.伊格納羅(LouisIgnarro) , 因發現一氧化氮在血液迴圈和神經等系統的信號作用而獲得諾貝爾獎。

(3) 賞心悅口

可哥中的“完美祝福素”(anadamide)能夠使你心曠神怡,神清氣爽.可哥含有 500 多種芳香物質,這是在實驗室裡無法模仿合成的。可哥的熔點為 35-37 攝氏度,與人的口腔及血液溫度一樣,所以進口即融 ; 同時大腦開始分泌內啡呔,一種使你爽的信號物質。這就是為什麼可哥的口味和口感最是使你難忘,回味時口水無窮 !

(4) 聚精提神

可哥中的可哥城可以使你思維敏銳,精力集中。可哥中的色氨酸和鎂可以幫助血清素的產生,使你變得冷靜。

(5) 降脂護心

美國心臟協會和加州大學 2002 年的研究發現,食用可哥能夠改善心血管功能。受試者每天吃近 50 克含黃烷醇高的巧克力,持續兩周。結果顯示,

受試者在食用兩小時後,血管有明顯擴張。

加州大學的施羅特教授在題為“可哥多酚與心血管健康”的報告中說，“自然界中存在許多種多酚，在植物性食物中最常見的是類黃酮物質。多項調查顯示，心血管疾病的風險降低與富含類黃酮的植物性食品有關。黃烷醇和原花青素是可哥中主要的類黃酮，它們可以延長體內其它抗氧化劑，如維生素 E、維生素 C 的作用時間，同時還可以促進血管舒張，降低炎症反應和降低血凝塊形成，從而起到預防心血管病的作用。”

賓州州立大學和其它大量研究發現,可哥中豐富的原花青素和兒茶素具有很強的抗氧化作用,可以減少低密度脂蛋白膽固醇(LDL),增加高密度脂蛋白膽固醇(HDL)。這種作用由可哥中的亞油酸、油酸和軟脂酸所強化。可哥中的硬脂酸對膽固醇沒有影響。

（６） 清口固齒

普林斯頓大學研究中心證實可哥能夠清理口腔,防止牙齦結石和蛀牙。可哥中的單寧和多酚可以阻止牙齦結石和蛀牙的形成。

（７） 抗氧化益壽

哈佛大學的研究發現,可哥能夠降低心血管病和癌症等疾病的風險,延長壽命。維生素 E 是可哥中最主要的維生素,原花青素是可哥中最主要的多酚。它們是主要的自由基清除劑能夠保護機體免受氧化損傷。因此,它們對多種疾病，如心血管病、癌症及衰老有預防作用。

總結來說，可哥的許多功能和它的抗氧化作用有關,如美膚美容、降脂護心和延年益壽。一方面,每時每刻幾乎每個細胞需要氧氣；沒有氧氣,我們就無法從食物中釋放能量,無法驅動身體的每一個反應。另一方面,氧氣很不穩定,很危險。氧化的廢料是“自由基”，它可以“燒傷”細胞,導致炎症、動脈硬化、癌變和衰老。

氧氣的雙刃劍作用象火和電。一方面，我們需要火或電照明和提供能源。另一方面,我們會被火或電燒傷甚至致死。於是,我們發明了防火牆和絕緣板。抗氧化劑,例如可哥,就是我們身體的防火牆!

為什麼可哥會同時具有瘦身、美容、催情、開心、提神、護心、固齒和益壽等八大功能呢?無獨有偶,可哥來自赤道熱帶雨林;科學家認為,人類也來自赤道熱帶。所以,可哥和人“本是同根生”，可以說是“近親”,有相同的“體溫”和“成份”。

據專家考證，早在 500 多年前，西方國家的醫生們就用可哥治療結核病、貧血、頭痛、胃腸

不適、性冷漠和腎結石等病。可見，可哥對人的健康功效由來已久。

Are you familiar with all of contents above? Let's take a quiz!!

1. 可可豆是什麼東西?

2. 請說明可可豆的栽種方式和成長尺吋。

3. 可可豆喜歡成長於怎樣的環境?

4. 如何採收可可豆?從土裡面拔出來?爬上樹上摘?

5. 可可豆原本的顏色就是咖啡色嗎?通常一磅通常要幾顆可可豆?

6. 可可豆為什麼這樣容易融化?

7. 可可豆的成份有哪些?

8. 可可豆喜歡怎樣的環境才能維持品質?

9. 請列舉出五點可可豆的好處

彩筆一揮

凡踏過的足跡及記憶 必留下永恆的回憶

有一天，我們將會老去—青春、容顏、童言笑語，

還有那滿頭的青絲....。

只有回憶是不老的，註定要在生命的流裡，晃盪、發酵。於是，

終有一天你會發現，能夠擁有回憶是一件多麼幸福的事!

所以呢~~請你一定一定記得：

仔細紀錄這段旅程中你所經歷的點點滴滴~

【July 9, 2011】

起程心情點滴

【July 10, 2011】

科學營研習心得

【July 11, 2011】

科學營研習心得

【July 12, 2011】

科學營研習心得

【July 13, 2011】

科學營研習心得

【July 14, 2011】

科學營研習心得

【July 15, 2011】

文化體驗日誌

【July 16, 2011】

文化體驗日誌

【July 17, 2011】

科學營研習心得

【July 18, 2011】

科學營研習心得

【July 19, 2011】

科學營研習心得

【July 20, 2011】

科學營研習心得

【July 21, 2011】

科學營研習心得

【July 22, 2011】

回程心情點滴

創作心情寫真

時間：_____

地點：_____

主題：_____

Choose a picture here
and write your reflection

創作心情寫真

時間：_____

地點：_____

主題：_____

創作心情寫真

Choose a picture here
and write your reflection

時間：_____

地點：_____

主題：_____

Choose a picture here
and write your reflection

創作心情寫真

時間：_____

地點：_____

主題：_____

Choose a picture here
and write your reflection

創作心情寫真

時間：_____

地點：_____

主題：_____

Choose a picture here
and write your reflection

創作心情寫真

時間：_____

地點：_____

主題：_____

Choose a picture here
and write your reflection

創作心情寫真

時間：_____

地點：_____

主題：_____

Choose a picture here
and write your reflection

創作心情寫真

時間：_____

地點：_____

主題：_____

Choose a picture here
and write your reflection

創作心情寫真

時間：_____

地點：_____

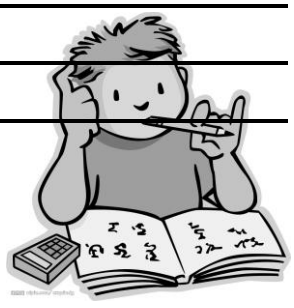
主題：_____

Choose a picture here
and write your reflection

◆ Point of View & Summary ◆

Part I：Please capture memorable aspects of each day regarding people, places, or things.

Part II：According to your aspects regarding people, places, or things, write down how do the memorable aspects of each day influence, inspire, and reflect you.



◆ Point of View & Summary ◆

Part I：Please capture memorable aspects of each day regarding people, place, or things.

Part II : According to your aspects regarding people, place, or things, write down how do the memorable aspects of each day influence, inspire, and reflect you.

◆ Point of View & Summary ◆

Part I：Please capture memorable aspects of each day regarding people, place, or things.

Part II : According to your aspects regarding people, place, or things, write down how do the memorable aspects of each day influence, inspire, and reflect you.

◆ Point of View & Summary ◆

Part I：Please capture memorable aspects of each day regarding people, place, or things.

Part II : According to your aspects regarding people, place, or things, write down how do the memorable aspects of each day influence, inspire, and reflect you.