

## 工作單 1-1：研究案例分析

Due Date: \_\_\_\_\_

案例來源：環境資料中心 <http://e-info.org.tw/node/111588>

### 全世界10月高溫創紀錄 今年恐為史上最熱

◎ 建立於 2015/11/20

▲ 上稿編輯：蒲琦佩



摘錄自2015年11月19日中央社 邁阿密報導

美國政府18日公布的最新數據顯示，今年10月是近代歷史上全世界最熱的10月，而今年前10個月的溫度也創下新高紀錄，2015年似已篤定成為1880年以來最熱的一年。

關係人類未來的氣候高峰會即將於本月底在巴黎展開，舉世都大為關切全球暖化的危機，而美國公布的這項數據有如又一記警鐘。

根據美國國家海洋暨大氣總署（NOAA）發布的每月報告，今年10月平均溫度為攝氏14.98度，已是全球溫度連續第6個月創下新高紀錄。

報告說：「包括陸地和海洋表面，2015年10月的全球平均溫度創下1880年有紀錄以來的10月最高溫，今年1月至10月的溫度也創紀錄。」

美國今年經歷1963年以來最暖的10月，澳洲則過了1910年以來最熱的10月，非洲今年10月溫度也創歷來最高紀錄。

A. 探討議題	環境議題-氣候變遷
B. 所需資料	1880~2015 年全球每月均溫資料
C. 資料來源	<input type="checkbox"/> 無 <input type="checkbox"/> 美國國家海洋大氣總署(NOAA)每月報告
D. 資料表	<input type="checkbox"/> 無
E. 資料分析	全球各重要國家每月月份均溫變化
F. 資料視覺化方式	<input type="checkbox"/> 無 <input type="checkbox"/> 長條圖 <input type="checkbox"/> 折線圖 <input type="checkbox"/> 圓餅圖 <input type="checkbox"/> 其他
G. 資料解讀	美國政府 18 日公布的最新數據顯示，今年 10 月是近代歷史上全世界最熱的 10 月，而今年前 10 個月的溫度也創下新高紀錄，2015 年似已篤定成為 1880 年以來最熱的一年。 美國今年經歷 1963 年以來最暖的 10 月，澳洲則過了 1910 年以來最熱的 10 月，非洲今年 10 月溫度也創歷來最高紀錄。

## 資料分析與視覺化 Data Analysis and Visualization

H. 行動方案	關係人類未來的氣候高峰會即將於本月底在巴黎展開，舉世都大為關切全球暖化的危機，而美國公布的這項數據有如又一記警鐘。
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### 工作單 1-2：研究案例分析

Due Date: \_\_\_\_\_

案例來源：

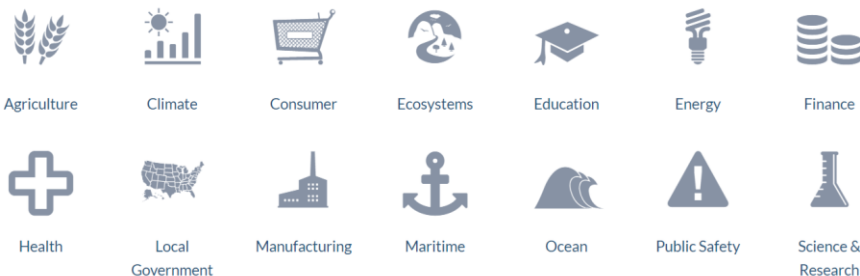
A. 探討議題	
B. 所需資料	
C. 資料來源	
D. 資料表	
E. 資料分析	
F. 資料視覺化方式	<input type="checkbox"/> 長條圖 <input type="checkbox"/> 折線圖 <input type="checkbox"/> 圓餅圖 <input type="checkbox"/> 其他
G. 資料解讀	
H. 行動方案	



# 資料分析與視覺化 Data Analysis and Visualization

## 工作單 2 – 資料收集 Data Collection

BROWSE TOPICS



美國國家政府資料開放平臺 <https://www.data.gov/>

政府資料開放平臺 <http://data.gov.tw/>

臺北市政府資料開放平台 <http://data.taipei/>

《任務 1》臺北市政府資料開放平台

1. 尋找『臺北市各級學校分布圖(含國小.國中.高中職.特教學校.市立大專院校)』並下載。

A. 分類及編號	
B. 資料集描述	
C. 主要欄位說明	
D. 資料集類型	
E. 發布時間	
F. 最後更新時間	
G. 資料量	
H. 檔案格式	

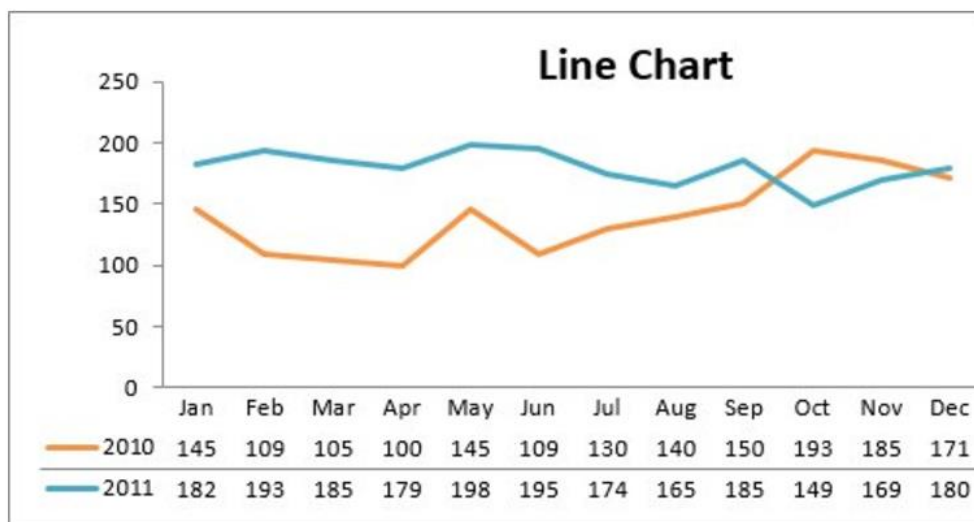
工作單 3：資料分析 **Data Analysis**



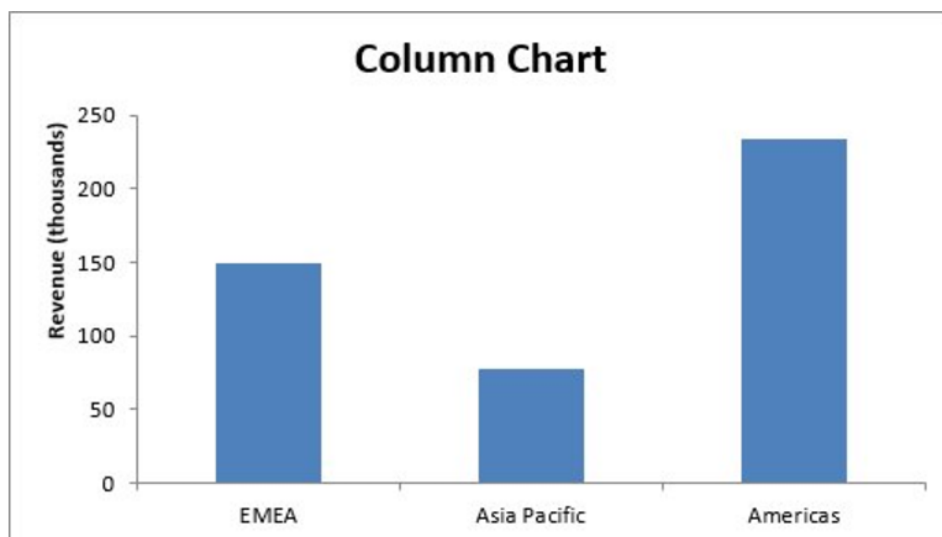
# 資料分析與視覺化 Data Analysis and Visualization

## 工作單 4：資料視覺化 Data Visualization

**Line Chart:** The line chart is one of the most frequently used chart types, typically used to show trends over a period of time. If you need to chart changes over time, consider using a line chart.

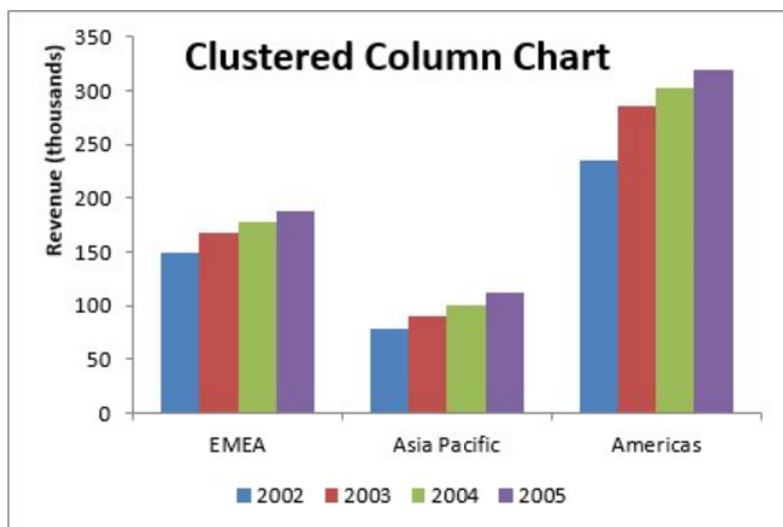


**Column Chart:** Column charts are typically used to compare several items in a specific range of values. Column charts are ideal if you need to compare a single category of data between individual sub-items, such as, for example, when comparing revenue between regions.

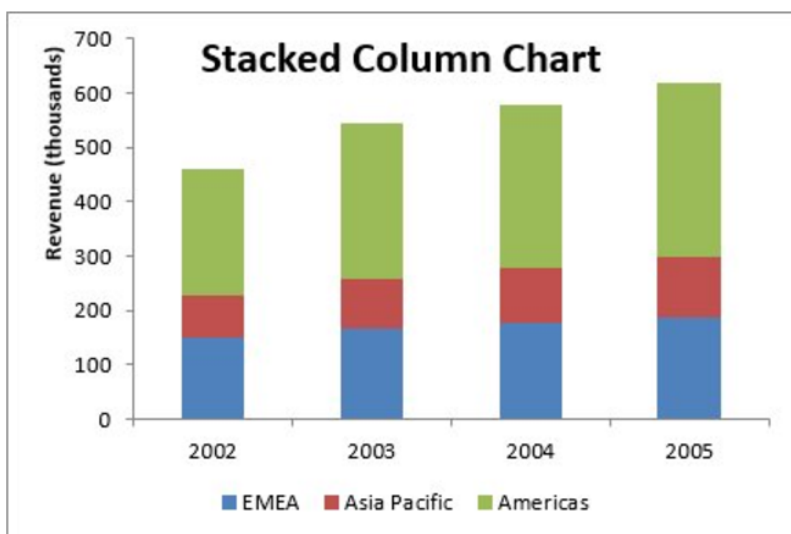


## 資料分析與視覺化 Data Analysis and Visualization

**Clustered Column Chart:** A clustered column chart can be used if you need to compare multiple categories of data within individual sub-items as well as between sub-items. For instance, you can use a clustered column chart to compare revenue for each year within each region, as well as between regions.

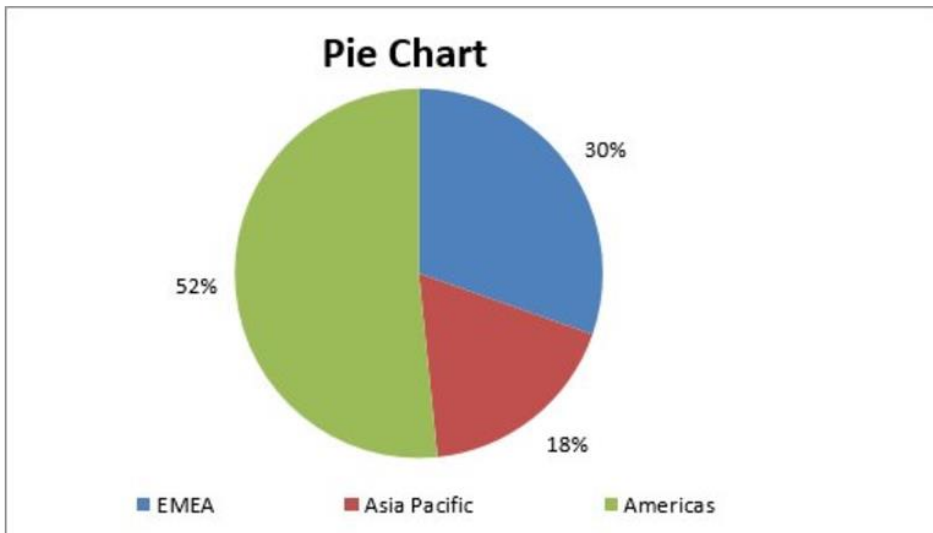


**Stacked Column Chart:** A stacked column chart allows you to compare items in a specific range of values as well as show the relationship of the individual sub-items with the whole. For instance, a stacked column chart can show not only the overall revenue for each year, but also the proportion of the total revenue made up by each region.

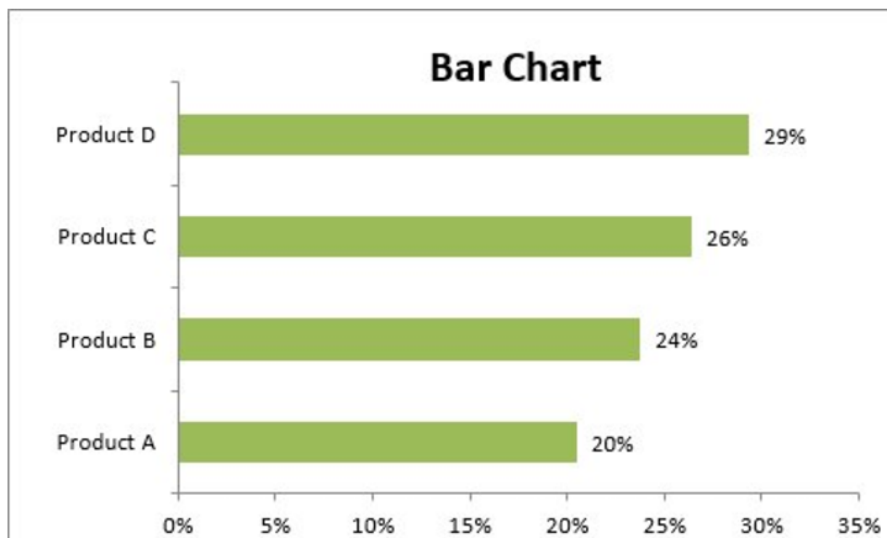


## 資料分析與視覺化 Data Analysis and Visualization

**Pie Chart:** Another frequently used chart is the old pie chart. A pie chart represents the distribution or proportion of each data item over a total value (represented by the overall pie). A pie chart is most effective when plotting no more than three categories of data.



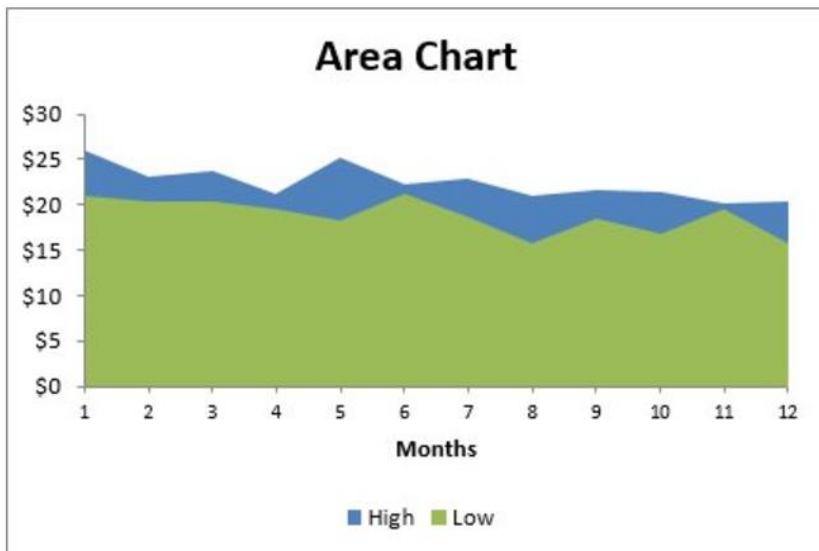
**Bar Chart:** Bar charts are typically used to compare several categories of data. Bar charts are ideal for visualizing the distribution or proportion of data items when there are more than three categories. For instance a bar chart could be used to compare the overall revenue distribution for a given set of products.



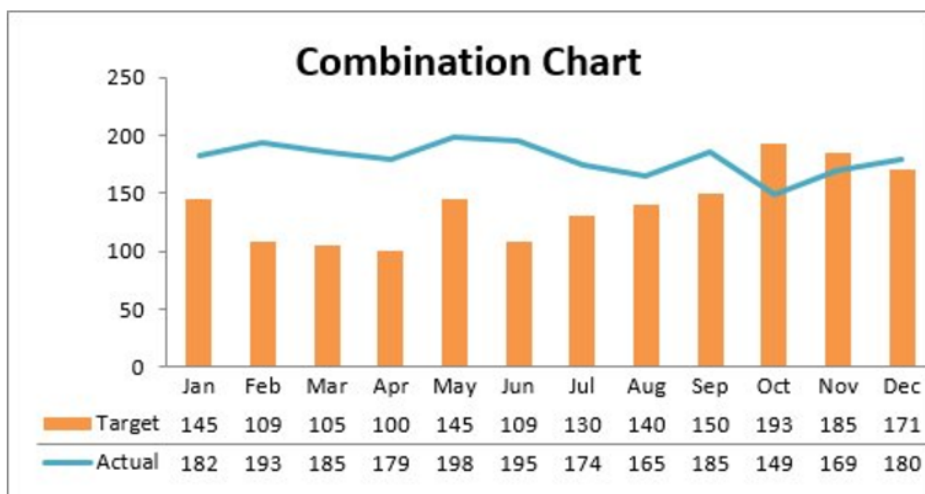


## 資料分析與視覺化 Data Analysis and Visualization

**Area Chart:** Area charts are ideal for clearly illustrating the magnitude of change between two or more data points. For example, you can give your audience a visual feel for the degree of variance between the high and low price for each month.

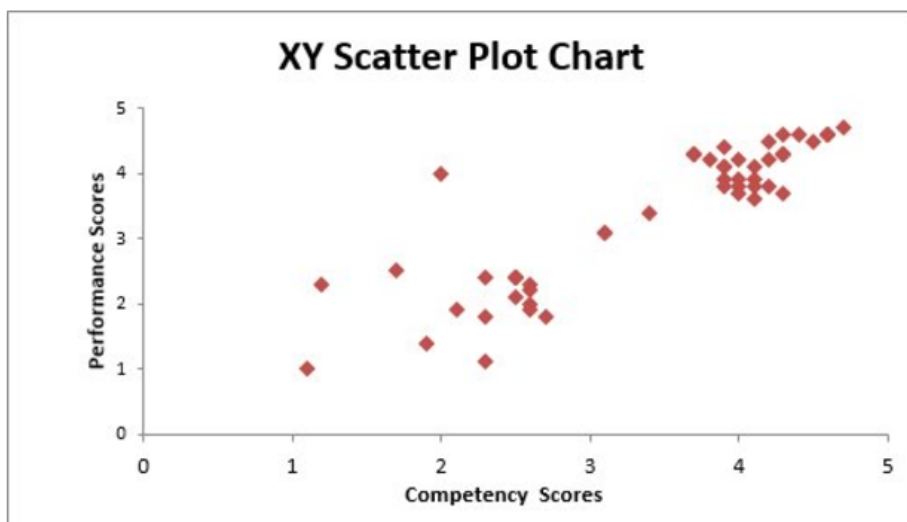


**Combination Chart:** A combination chart is a visualization that combines two or more chart types into a single chart. Combination charts are an ideal choice when you want to compare two categories of each individual sub-item. They are commonly used to create visualizations that show the difference between targets versus actual results.



## 資料分析與視覺化 Data Analysis and Visualization

**XY Scatter Plot Chart:** Scatter charts in Excel (also known as XY scatter plot charts) are excellent for showing correlations between two sets of values. For example an XY scatter plot can be used to illustrate the correlation between employee performance and competency, demonstrating that employee performance rises as competency improves. The x and y axes work together to represent data plots on the chart based on the intersection of x values and y values.



## 資料分析與視覺化 Data Analysis and Visualization

**Bubble Chart:** A bubble chart is a variation of an XY scatter plot. Just like the XY scatter plot, bubble charts show the correlation between two sets of data. The difference is the addition of a third dimension that is represented by the size of each bubble in the chart. This third dimension is typically used to show the relative impact of a quantitative data item. For instance, in addition to showing employee performance versus competency, you can have the size of each bubble represent years of service, allowing your audience to quickly get a sense of how years of service may affect the relationship between competency and performance.

