ALL STIMULI SET AND TEST DESCRIPTION
Section 1
Working Memory

- No question preview
- Show stimulus with time limit
- Pause for removing iconic store
- Q&A without stimulus

Diagram:

1. Display stimulus, D=9s
2. Pause with blank screen, W=5s
3. Q&A, record AC and RT

Stimulus: stimulus with a timing bar
Blank Screen: blank screen with a timing bar
Q&A: Q&A task

Secondary Tasks:
- Secondary task
- Next
Q: The previous visualization shows that the most and least popular sports are:

A. football 150, swimming 82
B. rugby 150, tennis 82
C. football 150, tennis 82
D. rugby 150, football 82
Section 2
Long-term Memory

- No question preview
- Show stimulus with time limit
- Pause for removing iconic store
- Q&A without stimulus

**Display stimulus**
- D=9s

**Pause with blank screen**
- W=22s

**Q&A**
- Record AC and RT

- **stimulus with a timing bar**
  - secondary task

- **blank screen with a timing bar**
  - secondary task

- **Q&A**
  - next
  - secondary task
Q: The previous visualization shows that students purchased:

A. more meat main courses than fast-food meals
B. more seafood main courses than vegetarian dishes
C. more fast-food meals than pasta meals
D. more sea-food main courses than meat main courses
Section 3
Visual Search

- Question preview
- Then show stimulus with Q&A

- Display stimulus D=∞
- Q&A record AC and RT

- blank screen with a timing bar
- stimulus (no timing bar)

secondary task

secondary task
Q: Please read the question first. The visualization will appear soon. It shows:

A. Flags of Russia, China and Nigeria have red colour
B. Flags of Italy, Brazil and Indonesia have green colour
C. Flags of France, Germany and Japan have blue colour
D. Flags of Canada, India and Pakistan have white colour
Section 1
Concept Grasping

- No question preview
- Show stimulus with time limit
- No pause
- Q&A without stimulus

![Diagram showing the flow of stimulus display, Q&A, stimulus with timing bar, and secondary task]

- Display stimulus D=9s
  - Q&A
    - record AC and RT

- stimulus with a timing bar
  - Q&A
    - next

- secondary task
  - secondary task
Q: The previous visualization compares:

There are many important measurements for a lake, including surface area, volume, elevation above sea level, maximum and mean depths, and so on. The maximum and mean depths are often very different. One might guess that lakes in high mountains might be deeper. As shown in the chart below, there is no correlation between the maximum depth of lakes and their surface elevation above the mean sea level.
Stimuli for an Empirical Study on the Effects of Visual Metaphors in Visualization

Four sections, 4 x 18 trials in total

In each section, all 18 stimuli are to be displayed in a pseudo-random order with two constraints. For each pair of stimuli \(<\text{set#}.<i>\) and \(<\text{set#}><i+1>m\), (a) there is an exact 50% chance \(<i>\) will be before \(<i+1>\) and vice versa. (b) the minimal distance between that display of \(<i>\) and \(<i+1>\) is 4.
Section 1
Working Memory

- No question preview
- Show stimulus with time limit
- Pause for removing iconic store
- Q&A without stimulus

**Diagram:**
- Display stimulus \( D=9s \)
- Pause with blank screen \( W=5s \)
- Q&A record AC and RT

**Stages:**
- Stimulus with a timing bar (secondary task)
- Blank screen with a timing bar (secondary task)
- Q&A (next)
Q: The two numbers shown in the previous visualization are

A. hot chocolate 68 and tea 37
B. coffee 68 and tea 37
C. tea 68 and coffee 37
D. coffee 68 and hot chocolate 37
Q: The two numbers shown in the previous visualization are

A. tea 78 and hot chocolate 44
B. tea 78 and coffee 44
C. coffee 78 and tea 44
D. coffee 78 and hot chocolate 44
Q: The two numbers shown in the previous visualization are

A. electricity 3129 and gas 4100
B. gas 3129 and electricity 4100
C. domestic oil 3129 and gas 4100
D. domestic oil 3129 and electricity 4100
Q: The two numbers shown in the previous visualization are

A. gas 3921 and electricity 1589
B. electricity 3921 and oil 1589
C. gas 3921 and oil 1589
D. electricity 3921 and gas 1589
Q: The two numbers shown in the previous visualization are

A. shower 129 and bath 115
B. bath 129 and shower 115
C. bath 129 and basin 115
D. shower 129 and basin 115
Q: The two numbers shown in the previous visualization are

A. shower 195 and basin 165
B. shower 195 and bath 165
C. bath 195 and shower 165
D. bath 195 and basin 165
Q: The previous visualization shows that the most and least used facilities are:

A. pool 77, tennis 41
B. pool 77, gym 41
C. gym 77, tennis 41
D. tennis 77, gym 41
Q: The previous visualization shows that the most and least used facilities are:

A. pool 70, tennis 34
B. tennis 70, gym 34
C. gym 70, pool 34
D. gym 70, tennis 34
Q: The previous visualization shows that:

- A. art museum is further than aquarium
- B. aquarium is further than concert hall
- C. art museum is further than concert hall
- D. concert hall is further than aquarium
Q: The previous visualization shows that:

A. aquarium is further than concert hall
B. art museum is further than aquarium
C. art museum is further than concert hall
D. aquarium is further than art museum
Q: The previous visualization shows that:

A. taxi rank is further than tram stop
B. bus stop is further than taxi rank
C. taxi rank is further than underground station
D. underground station is further than taxi rank
Q: The previous visualization shows that:

A. bus stop is further than tram stop
B. taxi rank is further than bus stop
C. underground station is further than bus stop
D. bus stop is further than underground station
Q: The previous visualization shows that in GREENSTONE primary school there were:

A. more pottery classes than sports classes
B. more music classes than painting classes
C. more gardening classes than painting classes
D. more painting classes than gardening classes
Q: The previous visualization shows that in REDWALL primary school there were:

A. more pottery classes than music classes
B. more pottery classes than painting classes
C. more painting classes than pottery classes
D. more sports classes than music classes
Q: The previous visualization shows that in BROWNHILL high school there were:

A. more woodwind players than brass players
B. more brass players than woodwind players
C. more keyboard players than string players
D. more percussion players than woodwind players

BROWNHILL High School
Number of students playing each type of music instrument in 2011

- Strings: 389
- Keyboards: 119
- Brass: 252
- Woodwinds: 167
- Percussion: 23
Q: The previous visualization shows that in BLUEDALE high school there were:

A. more keyboard players than string players
B. more woodwind players than brass players
C. more percussion players than brass players
D. more brass players than woodwind players
Q: The previous visualization shows that the store sold:

A. more study furniture than dining room furniture
B. more dining room furniture than bedroom furniture
C. more soft furnishing than living room furniture
D. more study furniture than living room furniture
Q: The previous visualization shows that the store sold:

A. more study furniture than living room furniture
B. more living room furniture than soft furnishing
C. more dining room furniture than soft furnishing
D. more study furniture than bedroom furniture
Section 2
Long-term Memory

- No question preview
- Show stimulus with time limit
- Pause for removing iconic store
- Q&A without stimulus

**Diagram:**
- Display stimulus: D=9s
- Pause with blank screen: W=22s
- Q&A: record AC and RT

**Stages:**
- Stimulus with a timing bar
- Blank screen with a timing bar
- Q&A

Secondary task
Q: The two numbers shown in the previous visualization are

A. all guests 8204 and male guests 6198
B. all guests 8204 and female guests 6198
C. male guests 8204 and female guests 6198
D. female guests 8204 and male guests 6198
Q: The two numbers shown in the previous visualization are

A. all guests 7611 and male guests 6014
B. all guests 7611 and female guests 6014
C. female guest 7611 and male guests 6014
D. male guests 7611 and female guests 6014
Q: The two numbers shown in the previous visualization are

A. 230 single rooms and 310 double rooms
B. 230 twin rooms and 310 double rooms
C. 230 double rooms and 310 single rooms
D. 230 double rooms and 310 twin rooms
Q: The two numbers shown in the previous visualization are

A. 190 single rooms and 290 double rooms
B. 190 double rooms and 290 twin rooms
C. 190 twin rooms and 290 double rooms
D. 190 double rooms and 290 single rooms
Q: The two numbers shown in the previous visualization are

A. dessert 4902, main course 8097
B. appetizer 4902, main course 8097
C. dessert 4902, appetizer 8097
D. appetizer 4902, dessert 8097
Q: The two numbers shown in the previous visualization are

A. main courses 6597, dessert 8101
B. dessert 6597, main courses 8101
C. appetizer 6597, dessert 8101
D. dessert 6597, appetizer 8101
Q: The previous visualization shows that the most and least transactions were made with:

A. Master Card $7.1M, American Express $4.2M
B. Visa $7.1M, Master Card $4.2M
C. Visa $7.1M, American Express $4.2M
D. Master Card $7.1M, Visa $4.2M
Q: The previous visualization shows that the most and least transactions were made with:

A. American Express $4.9M, Visa $2.9M
B. Master Card $4.9M, Visa $2.9M
C. Visa $4.9M, American Express $2.9M
D. American Express $4.9M, Master Card $2.9M
Q: The previous visualization shows that:

A. Japanese restaurant is further than Indian restaurant
B. Spanish restaurant is further than Indian restaurant
C. Indian restaurant is further than Mexican restaurant
D. Spanish restaurant is further than Japanese restaurant
Q: The previous visualization shows that:

A. Chinese restaurant is further than Mexican restaurant
B. Italian restaurant is further than Mexican restaurant
C. Mexican restaurant is further than Japanese restaurant
D. Mexican restaurant is further than Chinese restaurant
Q: The previous visualization shows that there were

A. more guests in the summer than in the winter
B. more guests in the spring than in the winter
C. more guests in the spring than in the autumn
D. more guests in the autumn than in the spring
Q: The previous visualization shows that there were

A. more guests in the winter than in the spring
B. more guests in the summer than in the spring
C. more guests in the winter than in the summer
D. more guests in the autumn than in the summer
Q: The previous visualization shows that in REDWALL primary school pupils borrowed:

A. more non-fictions than fantasy books
B. more picture books than classic tales
C. more realistic fictions than fantasy books
D. more classic tales than picture books
Q: The previous visualization shows that in GREENSTONE primary school pupils borrowed:

A. more non-fictions than realistic fictions  
B. more fantasy books than realistic fictions  
C. more classic tales than picture books  
D. more picture books than classic tales

GREENSTONE Primary School
Number of library books being borrowed in each category

- Non-fiction (inc. biography): 365
- Realistic fiction: 438
- Fantasy (inc. science fiction): 287
- Picture book: 185
- Classic tale: 96
Q: The previous visualization shows that in BLUEDALE high school there were:

A. more students taking mathematics than computing
B. more students taking drama than sciences
C. more students taking mathematics than literature
D. more students taking literature than mathematics

BLUEDALE High School
Number of students who attended each examination in 2011

- Mathematics: 296 students
- Sciences: 220 students
- Literature: 189 students
- Drama: 98 students
- Computing: 387 students
Q: The previous visualization shows that in BROWNHILL high school there were:

BROWNHILL High School
Number of students who attended each examination in 2011

- Literature: 367
- Computing: 286
- Drama: 220
- Sciences: 96
- Mathematics: 185

A. more students taking drama than computing
B. more students taking computing than literature
C. more students taking computing than drama
D. more students taking sciences than drama
Q: The previous visualization shows that the village produced:

A. more leave & stem vegetables than fruit vegetables
B. more flower bud vegetables than fruit vegetables
C. more root than seed vegetables
D. more flower bud vegetables than root vegetables

Three Farms in SEACOURT Village
2011 Vegetable Products in weight (unit: ton)

Seeds (inc. Legumes)
487

Leaves & Stems
111

Fruits
170

Flower Buds
255

Roots (inc. tubers, bulbs)
388
Q: The previous visualization shows that the village produced:

A. more flower bud vegetables than fruit vegetables
B. more fruit vegetables than leave & stem vegetables
C. more seed vegetables than root vegetables
D. more leave & stem vegetables than fruit vegetables

Three Farms in SEACOURT Village
2011 Vegetable Products in weight (unit: ton)

- **Flower Buds**: 156
- **Seeds** (inc. Legumes): 78
- **Roots** (inc. tubers, bulbs): 432
- **Leaves & Stems**: 223
- **Fruits**: 347
Section 3
Visual Search

- Question preview
- Then show stimulus with Q&A

- Question preview Q=9
- Display stimulus D=∞
- Q&A record AC and RT
- Blank screen with a timing bar
- Stimulus (no timing bar)
- Secondary task
- Secondary task

next
Q: Please read the question first. The visualization will appear soon. It shows:

A. Italy 0.10, Germany 1.89, Russia 0.41
B. Italy 0.41, Germany 0.23, Russia 0.41
C. Italy 0.10, Germany 0.23, Russia 1.21
D. Italy 0.41, Germany 1.89, Russia 1.21
Q: Please read the question first. The visualization will appear soon. It shows:

2008 COFFEE Consumption: G8 (Group of Eight) Countries
Annual figures in kg per capita, countries in random order

- Italy: 5.9 kg
- UK: 2.8 kg
- France: 5.4 kg
- Canada: 5.7 kg
- Russia: 1.7 kg
- Japan: 3.3 kg
- USA: 4.2 kg
- Germany: 5.5 kg

A. Russia 1.7, Italy 2.8, Germany 4.2
B. Russia 5.7, Italy 5.9, Germany 4.2
C. Russia 1.7, Italy 5.9, Germany 5.5
D. Russia 5.7, Italy 2.8, Germany 5.5
Q: Please read the question first. The visualization will appear soon. It shows:

**2005 WINE Consumption: G8 (Group of Eight) Countries**
Annual figures in litres per capita, countries in random order

- **Japan**: 0.29 litres
- **Russia**: 0.10 litres
- **Italy**: 6.38 litres
- **USA**: 1.36 litres
- **Germany**: 3.15 litres
- **UK**: 3.53 litres
- **Canada**: 1.50 litres
- **France**: 8.14 litres

**Options:**
A. Canada 3.53, Japan 0.29, USA 3.15
B. Canada 1.50, Japan 0.10, USA 3.15
C. Canada 3.53, Japan 0.10, USA 1.36
D. Canada 1.50, Japan 0.29, USA 1.36

Avoid using this area for easy screen layout in this section.
Q: Please read the question first. The visualization will appear soon. It shows:

**Gross Domestic Product (GDP): G8 (Group of Eight) Countries**

Figures in US 1,000$ per capita, countries in random order

- **Canada**: 51.1
- **Germany**: 44.6
- **Japan**: 45.8
- **Italy**: 37.0
- **USA**: 48.1
- **Russia**: 13.2
- **France**: 44.4
- **UK**: 39.6

A. USA 37.0, Canada 44.6, Japan 13.2
B. USA 48.1, Canada 44.6, Japan 13.2
C. USA 37.0, Canada 51.1, Japan 45.8
D. USA 48.1, Canada 51.1, Japan 45.8
Q: Please read the question first. The visualization will appear soon. It shows:

2004 Annual Health Spending: G8 (Group of Eight) Countries
Figures in US 1,000$ per capita, countries in random order

- Japan: 2.83
- France: 3.46
- Russia: 0.24
- UK: 2.90
- USA: 6.10
- Germany: 3.52
- Canada: 3.04
- Italy: 2.58

A. UK 6.10, Germany 3.52, France 2.83
B. UK 2.90, Germany 3.52, France 3.46
C. UK 2.90, Germany 3.04, France 2.83
D. UK 6.10, Germany 3.04, France 3.46
Q: Please read the question first. The visualization will appear soon. It shows:

2008 Oil Consumption: G8 (Group of Eight) Countries
Annual figures in 1,000m³ per capita, countries in random order

- UK: 1.61
- Canada: 3.91
- Russia: 1.21
- Japan: 2.18
- France: 1.84
- USA: 3.59
- Italy: 1.60
- Germany: 1.81
Q: Please read the question first. The visualization will appear soon. It shows:

**2008 TEA Consumption: 8 Most Populated Countries**

Annual figures in kg per capita, countries in random colours

- A. Russia 0.32, USA 0.36, China 0.82
- B. Russia 1.21, USA 0.33, China 0.82
- C. Russia 1.21, USA 0.36, China 0.02
- D. Russia 0.32, USA 0.33, China 0.02
2005 Alcohol Consumption: 8 Most Populated Countries
Annual figures in litres per capita, countries in random colours

A. Russia 12.28, China 0.06, USA 9.44
B. Russia 15.76, China 5.91, USA 9.44
C. Russia 15.76, China 5.91, USA 9.16
D. Russia 12.28, China 0.06, USA 9.16

Q: Please read the question first. The visualization will appear soon. It shows:
Q: Please read the question first. The visualization will appear soon. It shows:

2008 COFFEE Consumption: 8 Most Populated Countries
Annual figures in kg per capita, countries in random colours

A. Brazil 5.8, Pakistan 1.7, Nigeria 0.1
B. Brazil 4.2, Pakistan 0.0, Nigeria 0.1
C. Brazil 5.8, Pakistan 0.0, Nigeria 0.2
D. Brazil 4.2, Pakistan 1.7, Nigeria 0.2
Q: Please read the question first. The visualization will appear soon. It shows:

2004 Annual Health Spending: 8 Most Populated Countries
Figures in US $ per capita, countries in random order

- Brazil 290, Nigeria 75, Pakistan 31
- Brazil 245, Nigeria 75, Pakistan 14
- Brazil 290, Nigeria 23, Pakistan 14
- Brazil 245, Nigeria 23, Pakistan 31

USA 6,096
Russia 245
India 33
India 31
Pakistan 14
Nigeria 23
China 75
Brazil 290
Q: Please read the question first. The visualization will appear soon. It shows:

Gross Domestic Product (GDP): 8 Most Populated Countries
Figures in US $1,000 per capita, countries in random colours

USA 48.1
Russia 13.2
Brazil 12.9
China 4.4
Indonesia 3.5
India 1.5
Pakistan 1.2
Nigeria 1.2

A. Pakistan 1.2, Indonesia 3.5, India 1.5
B. Pakistan 1.2, Indonesia 12.9, India 13.2
C. Pakistan 4.4, Indonesia 3.5, India 1.5
D. Pakistan 4.4, Indonesia 12.9, India 13.2
Q: Please read the question first. The visualization will appear soon. It shows:

**2007 Oil Consumption: 8 Most Populated Countries**
Annual figures in 1,000m³ per capita, countries in random colours

- Russia 1.17
- Indonesia 0.32
- Nigeria 0.13
- USA 3.99
- Brazil 0.72
- China 0.33
- Pakistan 0.13
- India 0.14

**Options:**

A. India 0.14, Indonesia 0.32, Pakistan 0.13
B. India 0.14, Indonesia 1.17, Pakistan 0.72
C. India 0.33, Indonesia 1.17, Pakistan 0.13
D. India 0.33, Indonesia 0.32, Pakistan 0.72
A. cattle: total = 259 + 201 + 338
B. sheep: total = 259 + 389 + 140
C. horses: total = 162 + 201 + 338
D. cattle: total = 162 + 201 + 140

Q: Please read the question first. The visualization will appear soon. It shows:

Agricultural Livestock in APPLETON Village
The order and colour coding is specific for this visualization

Avoid using this area for easy screen layout in this section
A. sheep: total = 308 + 408 + 340
B. horses: total = 122 + 329 + 391
C. cattle: total = 250 + 408 + 340
D. horses: total = 250 + 408 + 139

Q: Please read the question first. The visualization will appear soon. It shows:

Agricultural Livestock in BROWNHILL Village
The order and colour coding is specific for this visualization

- **sheep**
  - Oakleaf Farm: 308
  - Pebblestone Farm: 329
  - Eagle Farm: 250

- **cattle**
  - Oakleaf Farm: 122
  - Pebblestone Farm: 201
  - Eagle Farm: 139

- **horse**
  - Oakleaf Farm: 250
  - Pebblestone Farm: 391
  - Eagle Farm: 340

avoid using this area for easy screen layout in this section
VS3.3, Q9, D0, W0

A. chicken: total = 260 + 420 + 288
B. duck: total = 362 + 420 + 288
C. goose: total = 362 + 420 + 191
D. chicken: total = 222 + 108 + 259

Q: Please read the question first. The visualization will appear soon. It shows:

Agricultural Livestock in SEACOURT Village
The order and colour coding is specific for this visualization

Avoid using this area for easy screen layout in this section.
A. duck: total = 390 + 379 + 339
B. goose: total = 342 + 312 + 120
C. duck: total = 198 + 241 + 339
D. chicken: total = 198 + 312 + 120

Q: Please read the question first. The visualization will appear soon. It shows:

Agricultural Livestock in LAKESIDE Village
The order and colour coding is specific for this visualization

avoid using this area for easy screen layout in this section
Q: Please read the question first. The visualization will appear soon. It shows:

A. crop: total = 175 + 134 + 212
B. livestock: total = 175 + 115 + 155
C. forestry: total = 54 + 194 + 75
D. livestock: total = 91 + 194 + 155

Farming Land Usage in BROWNHILL Village
The order and colour coding is specific for this visualization

- Oakleaf Farm: crop = 175, livestock = 91, forestry = 54
- Pebblestone Farm: crop = 194, livestock = 115, forestry = 134
- Eagle Farm: crop = 75, livestock = 155, forestry = 212

avoid using this area for easy screen layout in this section
VS3.6m, Q9, D0, W0

Q: Please read the question first. The visualization will appear soon. It shows:

Farming Land Usage in APPLETON Village
The order and colour coding is specific for this visualization

A. crop: total = 69 + 120 + 169
B. livestock: total = 205 + 120 + 101
C. forestry: total = 205 + 186 + 80
D. crop: total = 69 + 186 + 80

avoid using this area for easy screen layout in this section
Section 1
Concept Grasping

- No question preview
- Show stimulus with time limit
- No pause
- Q&A without stimulus

Display stimulus D=9s

Q&A
record AC and RT

stimulus with a timing bar
next

Q&A

secondary task

secondary task
Q: The previous visualization compares:

A. the costs of six programmes made by a TV channel
B. the costs of the best programmes in three genres made by two TV channels
C. the viewing figures of six programmes shown on a TV channel
D. the highest viewing figures of three types of programmes on two TV channels

Viewing statistics is the key performance indicator for any TV programme. The scale of viewing figures normally varies substantially from a genre to another. For example, the plot below compares two TV channels by showing the best viewing figure in 2010 in each of the three most popular genres.
A survey of 128 tourists in London and 115 tourists in Paris suggests that the spending profiles in the two cities may be very different. Consider average spending per person per day. The chart below shows the top three items which these tourists spent on in the two cities.
Q: The previous visualization compares:

A. the number of students from BROWNHILL and BLUEDALE catchment areas
B. the A-level examination results in percentage of two high schools
C. the percentages of students from BROWNHILL and BLUEDALE catchment areas
D. the number of A, B and C grades awarded to two high schools

The local authority redefined the catchment areas of BROWNHILL and BLUEDALE high schools in 2004. Whilst there was a short term impact on the academic performance of these two schools, BROWNHILL has been improving its academic performance continuously. The plot below shows the percentages of “C or above” grades over all grades awarded to the two schools in A-level examinations during 2001-2010.
Q: The previous visualization compares the emergency calls for:

A. police department and ambulance in a shopping centre
B. ambulance service and fire brigade in a railway station
C. ambulance service and fire brigade in a shopping centre
D. police department and ambulance in a railway station

Each year, staff and passengers at the MIDTOWN railway station made a number of emergency phone calls. Most of the calls were made to the local police department (over 500 per year). A small number of them, as shown below, were made to the ambulance service and fire brigade.
Q: The previous visualization compares the votes for:

A. actors of 5 TV dramas using text messages and phone calls
B. actors of 5 TV dramas using landlines and mobile phones
C. 5 TV programmes using text messages and phone calls
D. 5 TV programmes using landlines and mobile phones

Many TV game shows and reality programmes reply on some forms of paid voting by the public. The costs of voting by using landline calls, mobile phone calls, text messages and emails can be very different. Despite that text messages are usually cheaper than phone calls, most people still prefer to use phone calls, as shown in the chart below, which depicts the numbers of votes received for five TV programmes.
Q: The previous visualization compares the responses to a newspaper about:

A. 5 international news items via letters and phone calls
B. 5 local news items via letters and phone calls
C. 5 international news items via emails and phone calls
D. 5 local news items via emails and phone calls

MIDTOWN newspaper normally received readers’ responses in letters, emails, and phone call. In recent years the number of postal letters received are usually below 100 per week. As shown below, there are usually more emails than phone calls. The figures shown here are the numbers of emails and phone calls within the first 7 days after the news.

- **2009 Obama inauguration**
  - Email: 620
  - Phone: 382
- **Oscar 2012**
  - Email: 243
  - Phone: 210
- **Steve Jobs died in 2011**
  - Email: 779
  - Phone: 201
- **Arab spring in 2011**
  - Email: 439
  - Phone: 361
- **2010 Haiti earthquake**
  - Email: 410
Height is no doubt one of the most important considerations for any skyscraper. However, we must note that there are more than one measurement. Architecturally, roof height and number of floors are important measures. Pinnacle height (the highest point) is useful for air traffic obstacle determination. The chart below shows that the pinnacle height can be quite different from the roof height for some buildings under construction.
An unofficial report suggests that many skyscrapers have frequent incidents of pipe leaks. These may include leakages of water, sewerage, oil, gas, steam, and so on. The chart below shows some unconfirmed numbers of two types of incidents in this report. All building managers of these skyscrapers expressed their doubts about the accuracy of this report.
Q: The previous visualization compares:

A. the number of floors of skyscrapers
B. the pinnacle height of skyscrapers
C. the number of floor and pinnacle height of skyscrapers
D. the number of floors and roof height of skyscrapers

There are several ranked lists for the world’s tallest buildings. While the common method is to rank buildings by pinnacle height (highest point), it does not correlate well with the ranking by number of floors. As shown on the right, even ranking by roof height produces a few anomalies in correlation with ranking by number of floors.
Q: The previous visualization compares different opinions about:

A. guns, smoking and pets in 2 cinemas
B. fast food, guns and pets in 2 cinemas
C. guns, smoking and pets in 2 museums
D. fast food, guns and pets in 2 museums

A survey was conducted to see if people would mind to allow guns, fast food and pets to be brought into museums. 223 visitors were interviewed in the city’s science museum and 185 in the city’s art museum.
Walt Disney has theme parks all around the world. The largest resort is in Orlando, Florida with four major theme parks. In terms of the land occupied by the theme parks, the resorts in Tokyo and Paris are slightly larger than that in California. The Florida resort has 4 major parks, while Hong Kong has only one.
Q: The previous visualization shows the change of what £1 of 1970 would worth

A. in USD $ over a period covering 4 US presidents
B. in GBP £ over a period covering 4 UK prime ministers
C. in GBP £ over a period covering 7 UK prime ministers
D. in USD $ over a period covering 7 US presidents

The historic record shows that the UK currency has decreased its purchasing power over the years. A pound in 1970 has the same purchasing power as £12.4 by 2010. During this period, there are four labour prime ministers, and three conservative prime ministers.
Q: The most suitable short title for the previous visualization is:

Title: to be finalized

A. correlation of different graduate destinations
B. distribution of different graduate destinations
C. imbalance among different graduate destinations
D. trend of graduate destinations
Q: The most suitable short title for the previous visualization is:

A. variation among different school budget components
B. distribution of different school budget components
C. analysis of different school budget components
D. asymmetry between different school budget components

Title: to be finalized

School Name: GREENSTONE Primary
Total Budget £2.6M
Year: 2011

Consumables: £0.2M
Staff salaries: £1.4M
Building Maintenance: £0.5M
Books & Equipment: £0.2M
Training & Travelling: £0.2M
Supply Teachers: £0.2M
CG3.3, P0, D9, W0

Q: The most suitable short title for the previous visualization is:

A. ordering different library books by the borrowing number
B. trend of book-borrowing behaviours
C. proportion of different library books being borrowed
D. understanding of book-borrowing behaviours

Title: to be finalized

School Name: BLUEDALE High
Total Number of Library Books Borrowed: 3050
Year: 2011
Q: The most suitable short title for the previous visualization is:

A. the total income from different sources
B. asymmetry of different income sources
C. proportion of income from different sources
D. comparison between different income sources
Q: The most suitable title of the previous visualization is:

A. distribution of salary costs in different months
B. understanding salary costs in different months
C. trend of salary costs throughout different months
D. imbalance salary costs among different months

Title: to be finalized

<table>
<thead>
<tr>
<th>Month</th>
<th>Salary Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>£16.2K</td>
</tr>
<tr>
<td>February</td>
<td>£16.2K</td>
</tr>
<tr>
<td>March</td>
<td>£27K</td>
</tr>
<tr>
<td>April</td>
<td>£30.6K</td>
</tr>
<tr>
<td>May</td>
<td>£36.4K</td>
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<tr>
<td>June</td>
<td>£41.6K</td>
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<tr>
<td>July</td>
<td>£52.0K</td>
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<tr>
<td>August</td>
<td>£50.0K</td>
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<tr>
<td>September</td>
<td>£50.0K</td>
</tr>
<tr>
<td>October</td>
<td>£41.4K</td>
</tr>
<tr>
<td>November</td>
<td>£30.6K</td>
</tr>
<tr>
<td>December</td>
<td>£18.0K</td>
</tr>
</tbody>
</table>

Farm Name: DRY WINTON
Total Salary Costs: £410,000
Year: 2011
Q: The most suitable title of the previous visualization is:

A. financial redistribution of the net profit
B. financial scale of the net profit
C. correlation between reinvestment and bonuses
D. imbalance between reinvestment and bonuses

Title: to be finalized