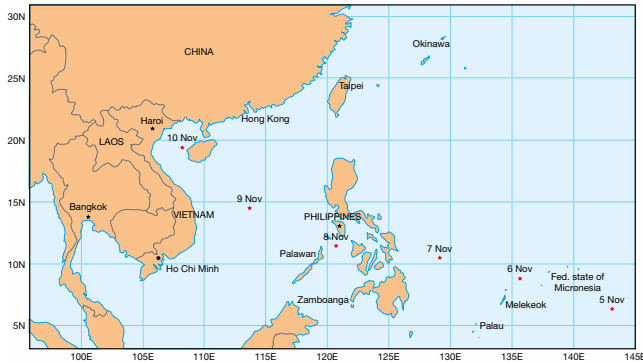


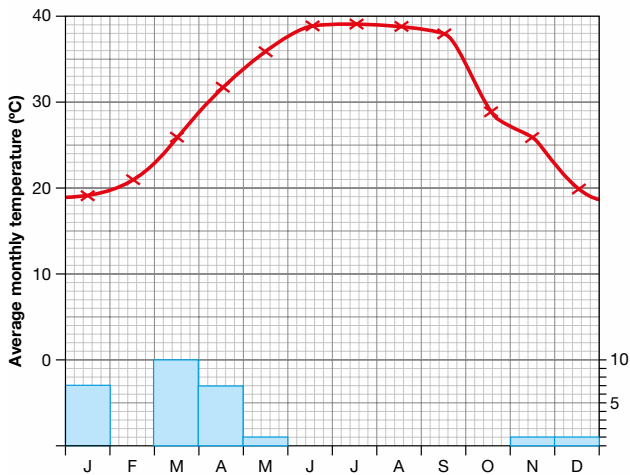
Page 22: Practical skills

1 The map below shows the date and time of the path of Typhoon Haiyan according to the table information:

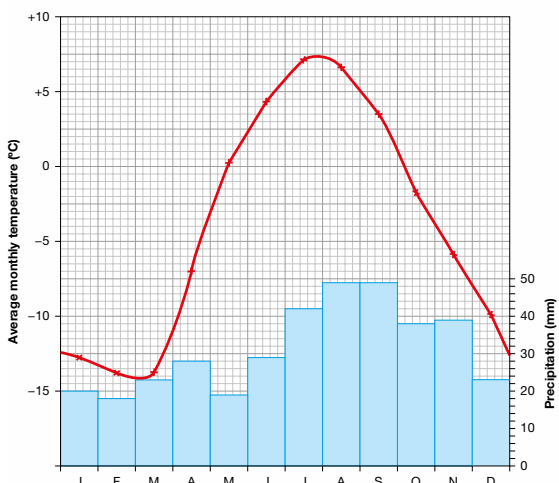


- 2 Countries affected: The Philippines, Vietnam, Laos and China. (Map distortion does not make this clear.)
- 3 Typhoon Haiyan tracked in a north-westerly direction before turning north as it approached landfall.
- 4 Typhoon Haiyan was moving fastest on 7 November.

Page 46: Graphical skills



Page 53: Graphical skills



Page 68: Numerical skills

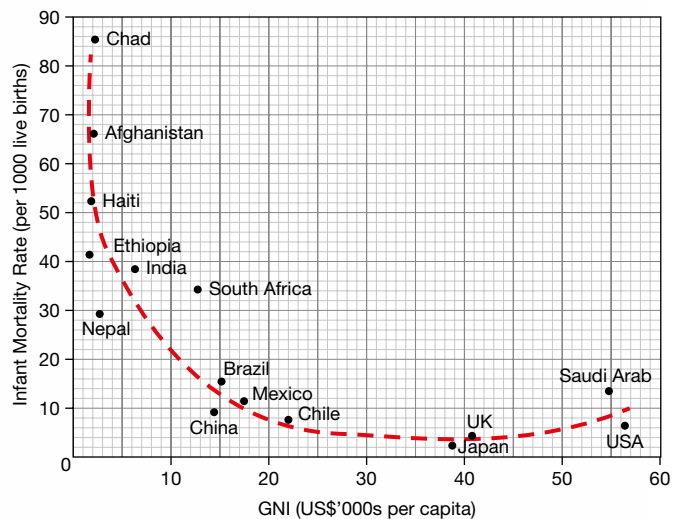
- Sea wall: £5000 per metre = £10 million cost
- Rock armour: £1000 per metre = £2 million cost
- Groynes: £5000 each (placed every 200 m) = £50000 cost
- Gabions: £110 per metre = £220 000 cost

Therefore the groynes would be the most cost effective.

Page 76: Graphical skills

- 1 The peak rainfall occurred between three and four hours after the storm began.
- 2 The peak discharge was at 6.5 hours after the storm began.
- 3 The lag time was 3.5 hours.

Page 111: Graphical skills

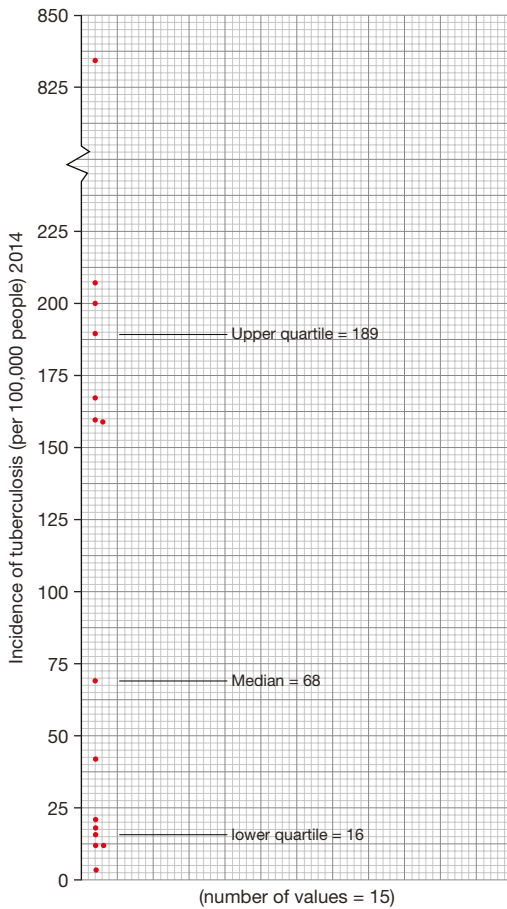


- 4 The main trend is that as GNI increases the infant mortality rate (IMR) decreases. This is because wealthier countries are able to invest in better housing and living conditions, and a better health care system. The trend is not linear but suggests steps or 'jumps' in lowering IMR as wealth increases. There are anomalies such as Nepal having a lower IMR than expected, and Saudi Arabia a higher IMR than expected; often these anomalies are linked to lifestyles and culture.

Page 115: Statistical skills

- 1 The median of the 'number of doctors' is 1.9 (per 1000 people).
- 2 The mean of the 'cases of tuberculosis' is 140.53 (2108 ÷ 15) (per 100 000 people).
- 3 The range of 'number of doctors' is 2.8 (2.8–0). The range of the 'cases of tuberculosis' is 831 (834–3).
- 4 The modes for the 'number of doctors' are 1.9 and 2.5 (a bi-modal pattern).
- 5 Modal class frequencies are: 0–0.5 = 2, 0.6–1.0 = 3, 1.1–1.5 = 0, 1.6–2.0 = 2, 2.1–2.5 = 4, 2.6–3.0 = 1. So 2.1–2.5 is the modal class.

6



Upper quartile is 189, lower quartile is 16; so interquartile range is 173 (189–16).

- 7 Conclusions may include: most countries have about two doctors for every 1000 people, but some HICs have nearly three and some LICs have none. There is a lot of tuberculosis in NEEs and LICs and even amongst these there is a great range from South Africa (834) to Mexico (21); there is an even greater range around the world (giving a large interquartile range), as incidence rates are much lower in HICs.

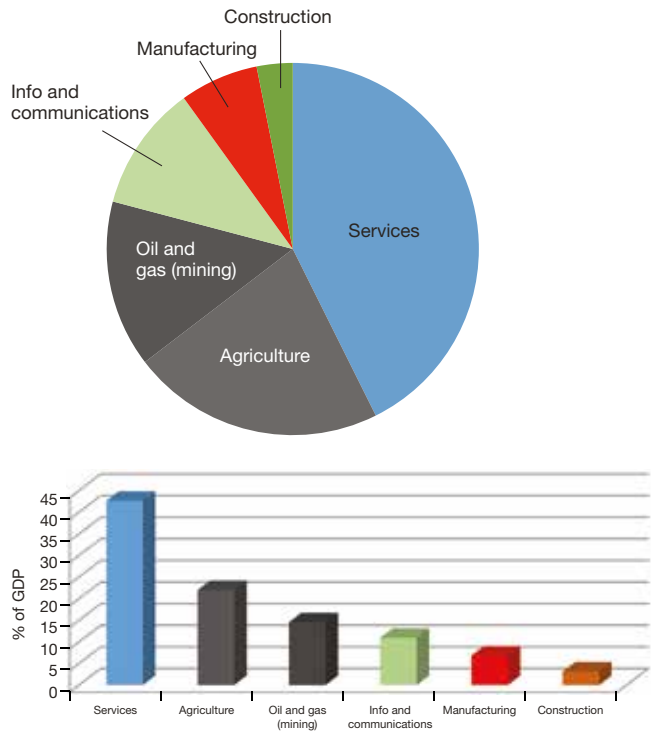
Page 121: Statistical skills

- The percentage change in number of tourists between 2000 and 2015 was +60.6% ($2.12 \times 100 \div 1.32 = 160.6$ then take away 100 to find the change).
- The percentage change in number of cruise passengers between 2000 and 2015 was +72.5% ($1.57 \times 100 \div 0.91 = 172.5$ then take away 100 to find the change).
- Weaknesses may include: the length of time that each tourist stays is not considered; it is not stated how many cruise passengers actually get off their ships to land in Jamaica; the amount of money that the tourists or cruise passengers spend is not given; the data is not compared with regional or international trends (for example, how does the increase in numbers visiting Jamaica compare with the change in number of tourists worldwide?)

Page 125: Graphical skills

The Nigerian data is given in separate distinct categories so a bar graph or pie chart would be appropriate because each category can be shown separately and compared. (An advanced method may be to have one long bar representing 100% and divide it into the % of GDP proportions.)

For example:



Page 135: Practical skills

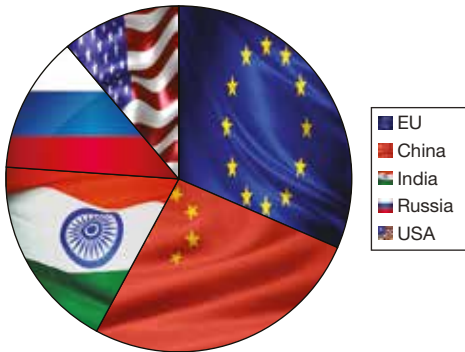
Summary arguments in favour:

Heathrow	Gatwick
Will help UK's economy grow through providing transport for trade, business and tourism	Noise compensation payments will be made
£100 billion of economic benefits to the UK	Limit to the area affected by noise
Transport and communications infrastructure is already in place and operational	No government (tax payer) money required and a commitment of money to further investment
Tax money created to help boost the UK economy	Good air quality record and confidence in keeping pollution low
120,000 new jobs created	Low charges for air passengers
Ability to connect with the world	Ability to connect to UK regions
Ability to compete with other international airports	Can complete expansion by 2025

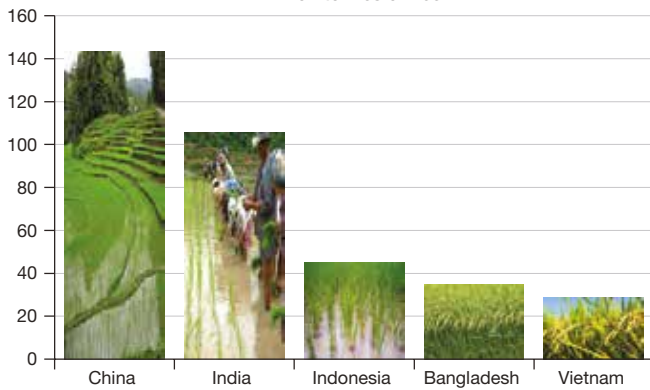
Page 144: Graphical skills

For example:

million tonnes of wheat



million tonnes of rice

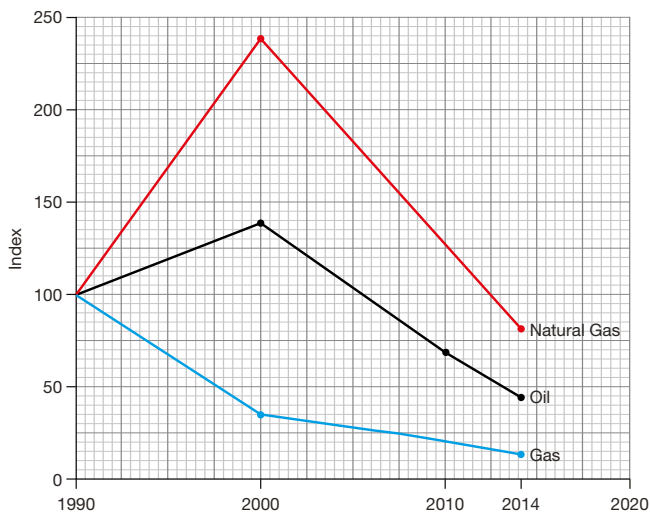


Page 151: Numerical skills

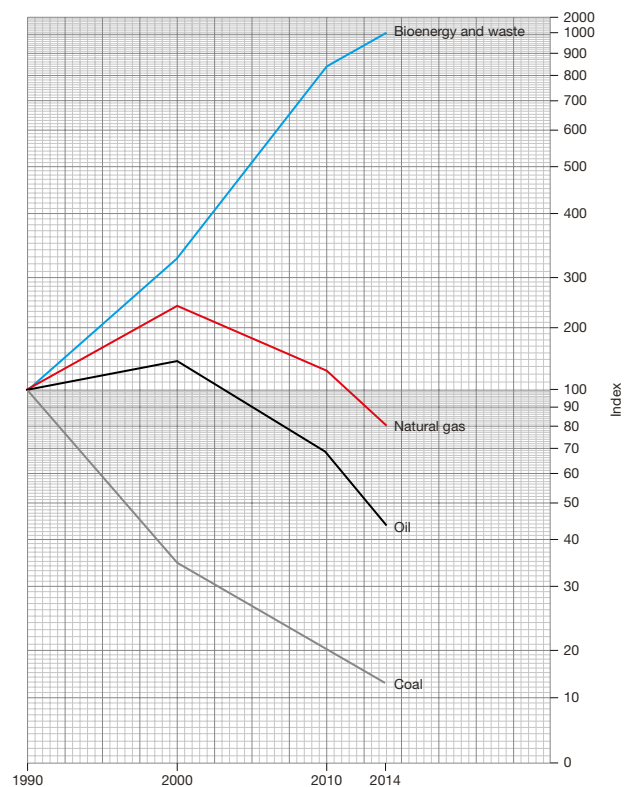
1 Completed table as below:

Primary fuel	1990	Index	2000	Index	2010	Index	2014	Index
Oil	100.1	100	138.3	138.2	69.0	68.9	43.7	43.7
Natural gas	45.5	100	108.4	238.2	57.2	125.7	36.6	80.4
Coal	56.4	100	19.6	34.8	11.4	20.2	7.3	12.9
Bioenergy and waste	0.7	100	2.3	328.6	5.9	842.9	7.9	1128.6

2 As time is involved a multiple line graph is appropriate to show the change over time. For example,

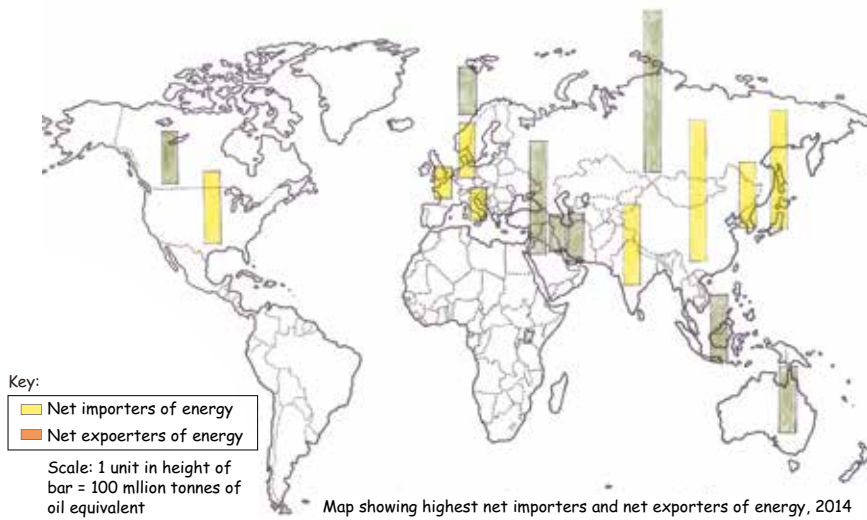


3



4 Points about the UK's primary fuel production since 1990 may include: increase in production of oil and natural gas between 1990 and 2000, especially natural gas. Coal in decline since 1990, although rate slower after 2000. Decline in all fossil fuels after 2000. Massive increase in the production of bioenergy and waste (but from a very small amount).

Page 169: Graphical skills



Many of the high performers indicated in Figure 15 are also featured in the map produced from Table 3 data, but in both importing and exporting categories. For example: USA, France, Italy, Germany and Japan are all net importers, which helps them to achieve energy access and security. Canada, Australia, Norway and Saudi Arabia have high energy access and security but are exporters of energy, suggesting that they have surpluses after meeting their own needs. The NEEs India and China are relatively low performers in Figure 15 despite the map from Table 3 showing that they import considerable energy. The pattern only partially matches as the energy use and supply around the world is complicated.

Page 173: Photographic interpretation skills

