Technology + Software
Topic Test

1 a e.g. K9 - K7 (Maximum value for reserves in 2006, minus the "proven plus probable" value for 2006)

b e.g. Calculate the average using a formula for the cells B8 to K8
or =AVERAGE(B8:K8)

(The formula for the mean is "AVERAGE" and B8 to K8 are the possible reserve levels each year)

2 a Use a formula to calculate the average for cells C6 to M6
or =AVERAGE(C6:M6)

(C6 to M6 are the gas values per year)

b Produce a query which selects Fuel_Type and sorts into alphabetical order ← (A query must always be produced in a database) ← (SORT to order data)

c Advantage e.g.
- Data can be displayed in an easy way
- There are more statistical functions available on a spreadsheet

Disadvantage e.g.
- Spreadsheets are limited in how much data can be stored
- Databases can show you only relevant data you ask for.

(Must produce a query in a database)

3 Produce a query
which filters PupilGender = Female
and SchoolYear = 8
and sorts by PupilSurname in alphabetical order

(Filter only shows data satisfying a condition)

(sort puts into an order)

4 e.g use a formula to add up the cells B9 to H9
= SUM(B9:H9)

(= sum adds up cells, B9 to H9 are the numbers for 2006)

b e.g select the education column in both spreadsheets
copy both columns into a new spreadsheet
select and copy the "years" column into the new spreadsheet.

(so values from the same year can be compared)

(so you know what year.)

(Must produce a query in a database)

5 a Produce a query
which filters gender = female
age ≤ 18
geo_name = Northern Ireland
mid_year_to_mid_year = 2018/2019

(Filter only shows data satisfying a condition)

b Produce a query
which groups by geo_code

(Must produce a query in a database)

(Group returns a list of field values with no duplicates.)

6 a e.g. Use a formula to calculate the mean of the cells E2 to E9
= AVERAGE(E2:E9)

("Expected" = mean, E2 to E9 are total times)

b e.g. Use a formula to calculate the standard deviation of cells B2 to D9
= STDEV.S(B2:D9)

(any spread measure, B2 to D9 (as a block) contain all lap times)

c e.g. Use a formula to add up the cells B9 to D9
= SUM(B9:D9)

7 a Produce a query ← (Must produce a query in a database)

which filters Ret_Category = Food ← (Filter shows only data satisfying a condition)
and sorts by Description in alphabetical order ← (Sort puts data in order)

b Produce a query ← (Must produce a query in a database)

which filters Ret_category = Household
and Ret_Subcategory = Laundry ← (Filter shows only data satisfying a condition)

and adds up all values in Quant_in_stock ← (once the filter is applied, these are all numbers we want)

8 (a)(i) e.g. Use a formula to add D14 and E14 ← (Tonnes of waste in Herefordshire)

= D14 + E14

(ii) e.g. Use a formula to add B6, B12, B16 ← (Total population)

= SUM(B6, B12, B16)

(iii) e.g. B16 divided by B6 + B12 + B16

(Total population of Area 3) (total population)

Percentage.

b Produce a query ← (Must produce a query in a database)

which filters by Household_total + Non_household_total > 40000

(Filter only shows data satisfying a condition)

Overall total waste.

9(a) Produce a query ← (Must produce a query in a database)

which filters Gender = male
25 ≤ Age ≤ 49
Ethnicity = Indian

(Filter only shows data satisfying a condition)
(E7 is for Indian males aged 25-49)

and counts the number of records ÷ 1000000

(total number satisfying the condition)

(spreadsheet numbers are in millions)

b e.g. E5 ÷ sum of E5 to E10

(E21 is the percentage of white males aged 25-49 out of all males aged 25-49. Only Age group/Gender percentages sum to 100%)

c The values/percentages are rounded to only 1 dp
(so there may be rounding error)