



Activity 1

Searching for Information

Using ViewPoint's forward and backward arrows, and the search tool, find out the following information about minerals and vitamins.

Load a copy of ViewPoint and open the **Minerals** datafile.

Use the **arrows** to look through the sheets to find out the answers to the following questions:

- 1 Lack of which mineral causes a goitre? _____
- 2 Why should we eat less salt? _____
- 3 From this datafile, suggest one reason why some salt in our diet is necessary

- 4 Name two minerals that are needed for healthy bones and teeth
(a) _____ (b) _____
- 5 Suggest a reason why deficiency of phosphorus is unlikely



Load the **Vitamins** datafile.

Use the **search tool** to answer these questions:

- 6 Which vitamin's chemical name is Calciferol? _____
- 7 Lack of which vitamin causes beri beri? _____
- 8 List good food sources of vitamin C _____
- 9 Find the chemical names of two vitamins, lack of which can cause tiredness
(a) _____ (b) _____
- 10 For which vitamins do we not know what happens when they are deficient?
(*HINT: Search for 'unknown'*)



Activity 2

Project 1

Use the Search tool to investigate a day's diet of one 12 year old girl.

The following is what one 12 year old girl ate and drank in a day:



Breakfast: Cup of **black coffee** (1g dry weight)



Mid morning: 25g **bag crisps**
Cup of **cola drink** (200g)



Lunch: 2 **pork** sausages (100g)
100g **chips**
Currant bun (50g) + **butter** (10g)
Squash (75g undiluted + water)



Tea: **Baked beans** (200g)
Toast – made from 100g white bread + **margarine** (20g)
Apple pie (100g) + made up **custard** (100g)
Cola drink (400g)



Supper: **Drinking chocolate**
(5g powder, 200g **whole milk**, 10g white sugar)
4 chocolate biscuits (50g)

1 Prepare a table on paper, with each separate food or drink item that she ate or drank, including the number of grams consumed, down the left hand side (use the paper with the longest edge along the top). Across the top of the page put first **Energy in kJ** and then all the nutrients for which the **Foods** datafile gives values.

2 Use the **search tool** to complete the table.



3 Work out totals for each column. You may use a calculator.

4 Then look at the **RDAs** datafile to find the recommended daily amounts for a 12 year old girl.

Now answer the questions on the next page.



Activity 2 continued

Questions for Project 1

Using the information gathered to answer questions about the girl's diet.

- 1 How much more energy than she needs has this girl eaten?
- 2 If she continues to overeat by this much, what will happen?
- 3 Is she eating enough protein?
- 4 Although RDAs are not given for fat, carbohydrate and fibre, we are told to keep the amount of fat in our diet as low as possible and the amount of fibre as high as possible. Explain whether this girl has followed this advice.
- 5 If she hadn't had baked beans for tea, what difference would it have made to the amount of (a) protein and (b) fibre in her diet?
- 6 Look at the vitamins and minerals. Which has she (a) had enough of, and (b) not had enough of?
- 7 Look at the **Vitamins** and **Minerals** datafiles. What might happen if she continues not to have enough of those nutrients you listed in 6(b)?
- 8 If she had made her drinking chocolate with all water and no milk, (a) what effect would this have had on the amount of calcium she had? (b) What does a regular lack of calcium cause?
- 9 Can you suggest any changes to her day's diet that would make it healthier?

Project 2

Investigate your own diet.

Keep a careful record of everything *you* eat and drink in a day, including the mass in grams.

Make a similar table as in Project 1 with your data.

(NB. You may eat or drink some items which are not in the **Foods** datafile. If so, try to find the nearest food to that which you have eaten, which *is* in the datafile, and use the data for that.)

- 1 Compare your diet with (a) RDAs for your age and sex, and (b) that of the girl in Project 1.
Give us much detail as you can about which nutrients you are eating enough of, which you are not eating enough of and if there are any that you are eating too much of.
- 2 Are there any ways you could change your diet to make it healthier?



Activity 3

Using the List View

Use ViewPoint's List View to sort and select sheets and produce statistics, and prepare graphs/charts in Graph View to answer questions on diet and nutrition.

Load the **Foods** datafile and click on the List View tool.

Click on the **Fields** menu and choose just **Food** and **Fibre**.

Food	Fibre	
Clear	Type	0.00
Clear	Nutrients	0.00
Milk, b	Main	0.00
Milk, c	Stale	0.00
Milk, v	Vegetarian	0.00
Milk, v	Fat	0.00
Milk, v	Energy	0.00
Milk, s	Protein	0.00
Milk, s	Fat	0.00
Yogurt	Carbohydrate	0.00
Yogurt	Fibre	0.50
Cheese	Energy_kJ	0.00
Cheese	Water	0.00
Bacon	Calcium	0.00
Bacon	Iron	0.00
Beef	Thiamin	0.00
Beef	Riboflavin	0.00
Beef	Nicotinic_acid	0.00
Beef	Vit_C	0.00
Beef	Vit_A	0.00
Beef	Vit_D	0.00
Black, cooking		0.70
Chicken, raw		0.00
Chicken, roast		0.00
Ham, cooked		0.00
Kidney, average		0.00

1 Find out which three foods contain the most fibre and how much (in g/100g).

Use the Sort tool to sort **Fibre** into a decreasing order.

The three foods you want will now be the first three in the list, with their fibre content next to them.

Load the **RDAs** file and click on the List View tool.

Sort the sheets by **Energy** and answer these questions:

2 What are the sex, type of work and age of the two groups which need the most energy?

3 Which female group needs the most energy?

4 What two groups need 7000kj?



Activity 3 continued

Using the List View

In the **Foods** datafile use the Search tool to select all the **males**, whose recommended energy requirement is greater than 9500 KJ.

Choose **energy** is greater than 9500 (>9500).

5 How many groups of males are there who need more than 9500 kJ energy?

6 Which is the youngest group in this selection?

Use the **Statistics tool** to find the following averages for your selected data:

7 What is the average amount of (a) protein and (b) calcium needed by these groups?

(a) _____

(b) _____

8 Find out which nutrient — fat, protein or carbohydrate — the majority of foods in the Foods datafile have as their main nutrient.

To do this go to **Graph View** and plot a pie chart of the main nutrients found in food.



Activity 4

Project 3

Planning menus for specific groups of people.

Using these datafiles, plan a day's menu for one or more of the following people:

- (a) An 8 year old boy who doesn't like any vegetables except chips and peas.
- (b) A 15 year old girl who is a vegetarian.
- (c) A 24 year old woman who is on a 1000 kcal a day slimming diet.
- (d) A 75 year old man who is recovering his appetite following an illness.
- (e) A 2 year old boy who can't cope with eating hard meat.
- (f) A 30 year old man who works on a building site and who doesn't like milk.

In each case, check that the menu provides:

- (i) approximately the correct energy
- (ii) at least the given RDAs for the nutrients listed
- (iii) as low a level a fat as possible
- (iv) as high a level of fibre as possible.

Project 4

Use ViewPoint to prepare your own datafile on diet. Using this, as well as the given datafiles, to test hypotheses.

Use ViewPoint to prepare a questionnaire to find out what people eat. Collect data using this questionnaire and enter it into the datafile.

Use your datafile and the Diet and Nutrition datafiles to test one or more of the following hypotheses:

- (a) **"Most people do not eat enough vitamins and minerals and should take a daily multi-vitamin and mineral supplement."**
- (b) **"Most people do not eat enough fibre a day."**
(Assume an ideal of at least 30g a day.)
- (c) **"It is harder, but not impossible, for a vegetarian to obtain all the nutrients they need than for a non-vegetarian."**

Present your evidence using charts, graphs, statistics etc., wherever possible.



Answers

Activity 1 – Searching for Information

1. Iodine.
2. It can cause high blood pressure.
3. It prevents cramp.
4. Calcium and phosphorous.
5. Most foods contain it.
6. D.
7. B1 (Thiamin).
8. Green veg and citrus fruits.
9. Thiamin, folic acid.
10. E and K.

Activity 2 – Project 1

Food	Energy kJ	Protein g	Fat g	Carbo g	Fibre g	Thia g	Ribo mg	N acid g	VitC mg	VitA µg	VitD g	Calc mg	Iron mg
1g coffee	7.00	0.04	0.01	0.36	0.00	0.00	0.00	0.46	0.00	0.00	0.00	1.40	0.04
25g crisps	556.00	1.55	8.50	12.30	2.75	0.50	0.02	1.60	4.25	0.00	0.00	9.25	0.50
600g cola	780.00	0.00	0.00	48.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100g pork saus	1520.00	10.60	32.10	9.50	0.30	0.04	0.12	5.70	0.00	0.00	0.00	41.00	1.10
100g chips	1028.00	3.80	9.00	37.30	2.10	0.10	0.04	2.20	20.00	0.00	0.00	14.00	1.40
50g c. bun	693.00	3.90	4.25	29.30	1.20	0.08	0.05	1.00	0.00	12.00	0.14	44.00	0.80
10g butter	301.00	0.05	8.10	0.00	0.00	0.00	0.00	0.01	0.00	99.50	0.13	1.50	0.02
75g squash	391.00	0.75	0.75	24.15	0.00	0.00	0.01	0.00	0.75	0.00	0.00	12.00	0.15
200g b. beans	532.00	10.20	0.80	20.60	14.00	0.14	0.10	2.80	6.00	100.00	0.00	90.00	2.80
100g w. bread	1068.00	8.00	1.70	54.30	2.70	0.18	0.03	2.60	0.00	0.00	0.00	100.00	1.70
20g marg	605.00	0.04	16.30	0.00	0.00	0.00	0.00	0.02	0.00	180.00	0.00	0.08	0.06
100g apple pie	1179.00	3.20	14.40	40.40	3.10	0.08	0.02	0.90	2.00	2.00	0.00	42.00	0.80
100g custard	387.00	3.00	3.50	12.90	0.00	0.04	0.14	0.80	0.00	37.00	0.03	110.00	0.20
5g dr. choc.	85.00	0.28	0.32	4.24	0.00	0.00	0.00	0.07	0.00	0.10	0.00	0.25	0.14
200g milk	548.00	6.60	7.60	9.60	0.00	0.08	0.30	1.80	2.00	88.00	0.10	240.00	0.20
10g sugar	168.00	0.00	0.00	9.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00
50g choc. bis.	1044.00	3.55	12.45	32.65	1.50	0.05	0.02	0.95	0.00	0.00	0.00	65.50	0.75
TOTALS	10892.00	55.56	119.77	346.39	27.65	1.29	0.85	20.91	35.00	518.60	0.39	771.08	10.66
RDAs	9000.00	53.00	—	—	—	0.90	1.40	16.00	25.00	725.00	0.00	700.00	12.00

1. 1892kJ.
2. She will store excess fat and become overweight.
3. Yes.
4. No — fat consumption much too high and fibre consumption rather low.
5. (a) Reduced by 10.2g, leaving her well below the RDA.
(b) Halved it.
6. (a) Thiamin, nicotinic acid, vitamin C, vitamin D, calcium.
(b) Riboflavin, Vitamin A, Iron.
7. Riboflavin — slower growth; skin, eye and mouth infections
Vitamin A — night blindness, dry/infected linings
Iron — tiredness & anaemia.
8. (a) Reduced it by 240mg, brought it well below the RDA
(b) Poor bones and teeth. In severe cases, can cause rickets. Muscles and nerves don't function.
9. Any ways that reduce fat; increase fibre; increase riboflavin, vitamin A and iron; or reduce energy consumption.

Activity 3 – Using the worksheet

1. Coconut, desiccated 22g
Apricots, dried 21g
Prunes, dried 13g.
2. Male, very active, 35-64
Male, very active, 18-34.
3. Breast feeding mothers.
4. Females aged 5-6 and over 75 sedentary.
5. 9.
6. 12-14.
7. (a) 70.0g; (b) 533.3mg.
8. Carbohydrate.