

Maths Activities - Week Four

Food Data



Warming up*

This week we are looking at some foods and what they contain.

Food	sugar	fat
Pineapple slices		
Oat so Simple		
Chicken noodles		
Chicken soup		
Tomato soup		
Baked beans		
Tuna chunks		
Fruited popcorn bites		

Task one is to number the food types on the table below, saying which you think has the lowest to the highest amounts - 1 lowest → 8 highest

	values per 100g			
Product	energy (KJ)	saturated fat (g)	sugar (g)	salt (g)
Quaker Oat so simple	1539	1.2	19	0
Fruited popcorn bites	2159	27.5	46.8	0.48
Chicken soup	47	0.8	0.7	0.6
chicken flavour noodles	526	4.4	0.8	0.5
Baked beans	277	0.001	1.9	0.4
tomato soup	215	2.1	4.8	0.5
pineapple slices	217	0.001	12	0.03
tuna chunks	109	0.3	0	0.9

Use the above table to answer the following questions.

1) Order the energy totals from highest to lowest.

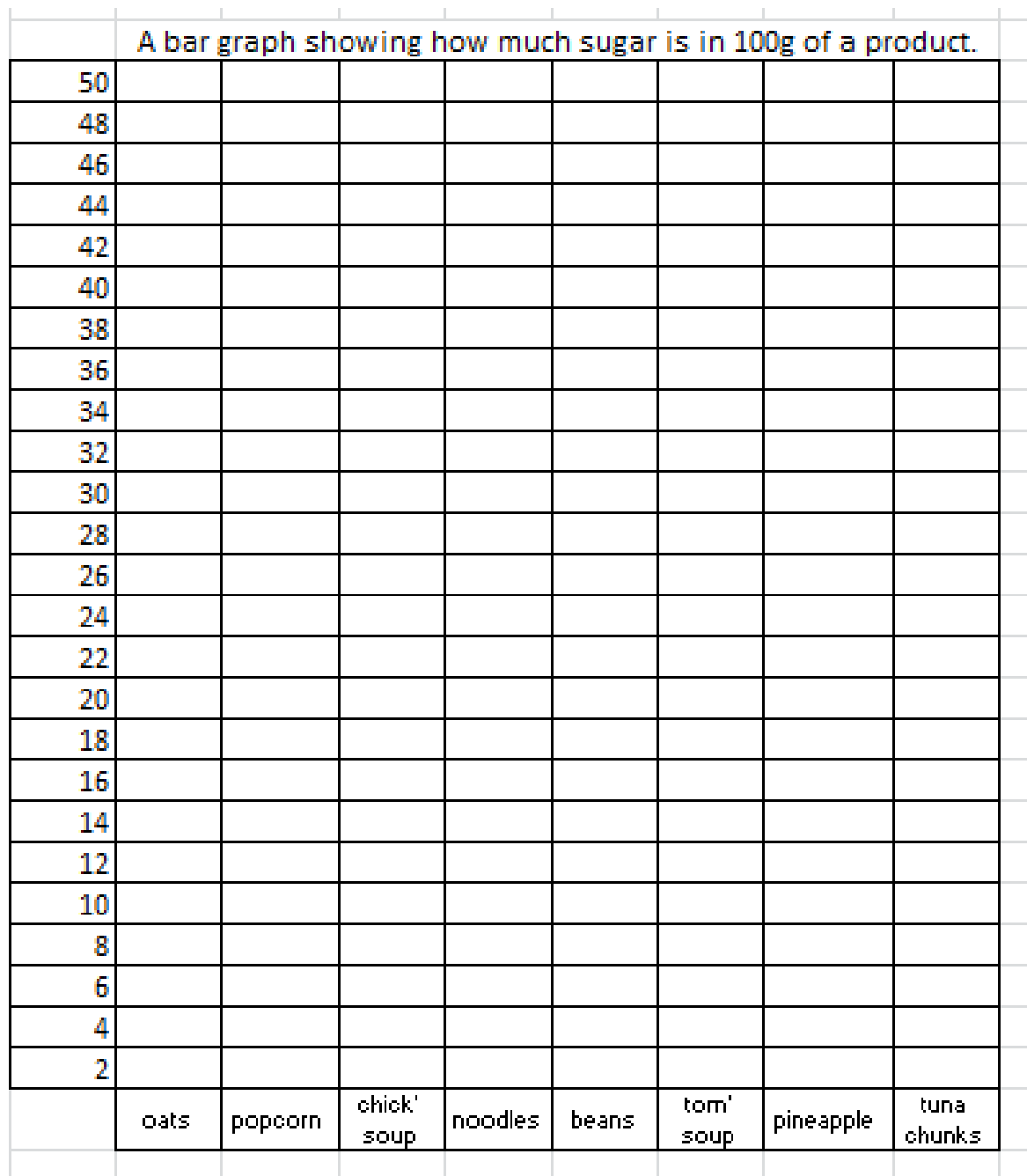
2) Order the salt totals from lowest to highest.

3) Which items have more fat than the tomato soup?

4) Which is the sweetest item?

5) How many more grams of sugar do the oats have than the pineapple?

- 6) Complete a bar graph to show how much sugar is in each product. You won't be able to fill some values in exactly. Estimate and be as close as you can.



Feeling Confident **

Use the data in the table to help answer the questions.

- 1) How much more fat is there in the popcorn than the oats?

- 2) If I eat 100g of pineapple and 100g of popcorn bites, how much salt will I have consumed (eaten)?

- 3) How much saturated fat is there in 50g of chicken noodles?

- 4) Which product has four times as much saturated fat as the tuna chunks?

- 5) What is the difference between the largest amount of saturated fat and the lowest level of saturated fat?

- 6) What do you think is the healthiest product? Explain why.

- 7) Which do you think is the least healthy product? Why?

Draw a graph of the amount of salt in each product.

Think about the axes. What intervals would be best to use on the Y axis?

[illegible]

Ready for a challenge ***

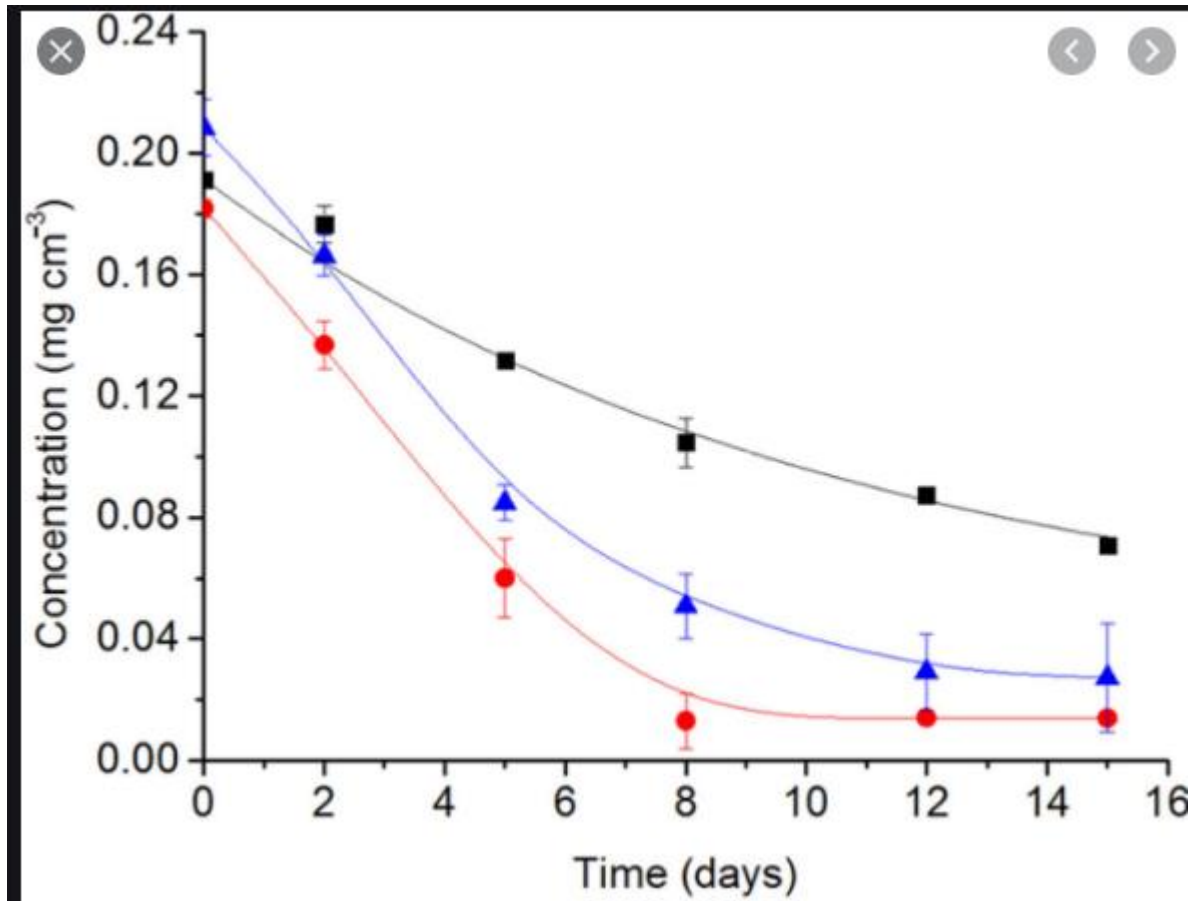
Using the table of information, work out the following problems.

- 1) If I wanted to take in as close to 1000kj of energy as I could, what foods might I eat, and how much of each type?

- 2) What is the mean amount of saturated fat in the chicken noodles, chicken soup, popcorn bites? *(add the measures and divide by the number of numbers that were added together)*

- 3) Cara says, "With 0.001g of saturated fat in 100g of pineapple, it means that there will be no fat in 1g of pineapple." Do you think she is right? Prove your idea?

It is not only the amount of salt, fat or sugar that shows how healthy a food might be, the amount of vitamins and minerals is important too. It is important for food to be fresh, as vitamins begin to break down over time.



Use the line graph to find the answers to the following questions. The black line is vitamin C. The blue line is vitamin A. The red line is vitamin B.

1) How much vitamin B was there on the first day?

2) How much vitamin A was there on day 8?

3) How much vitamin C is lost between day 5 and day 15?

4) How much vitamin B was present on day 8?

5) Which vitamin lost the least over the 15 days?

6) Between which six days was the most vitamin b lost?

7) Why do you think the shapes are not always on the lines?

8) What do you think the values for each vitamin would be on day 17?

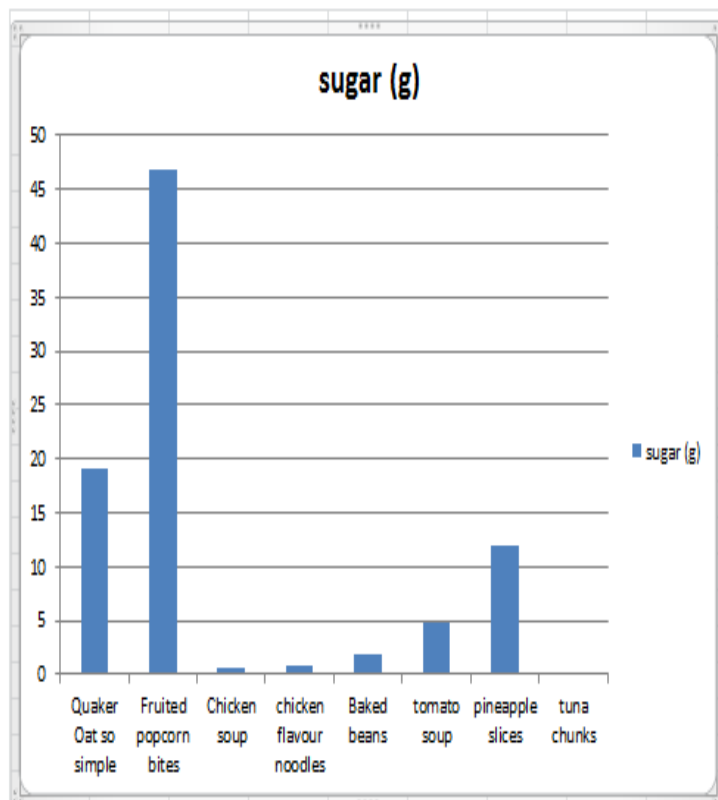
Answers

Task one

Product	Energy (KJ)	Saturated fat (g)	Sugar (g)	Salt (g)
Quaker Oat so simple	7	5	7	1
Fruited popcorn bites	8	8	8	4
Chicken soup	1	4	2	7
Chicken flavour noodles	6	7	3	5
Baked beans	5	2	4	3
Tomato soup	3	6	5	5
Pineapple slices	4	1	6	2
Tuna chunks	2	3	1	8

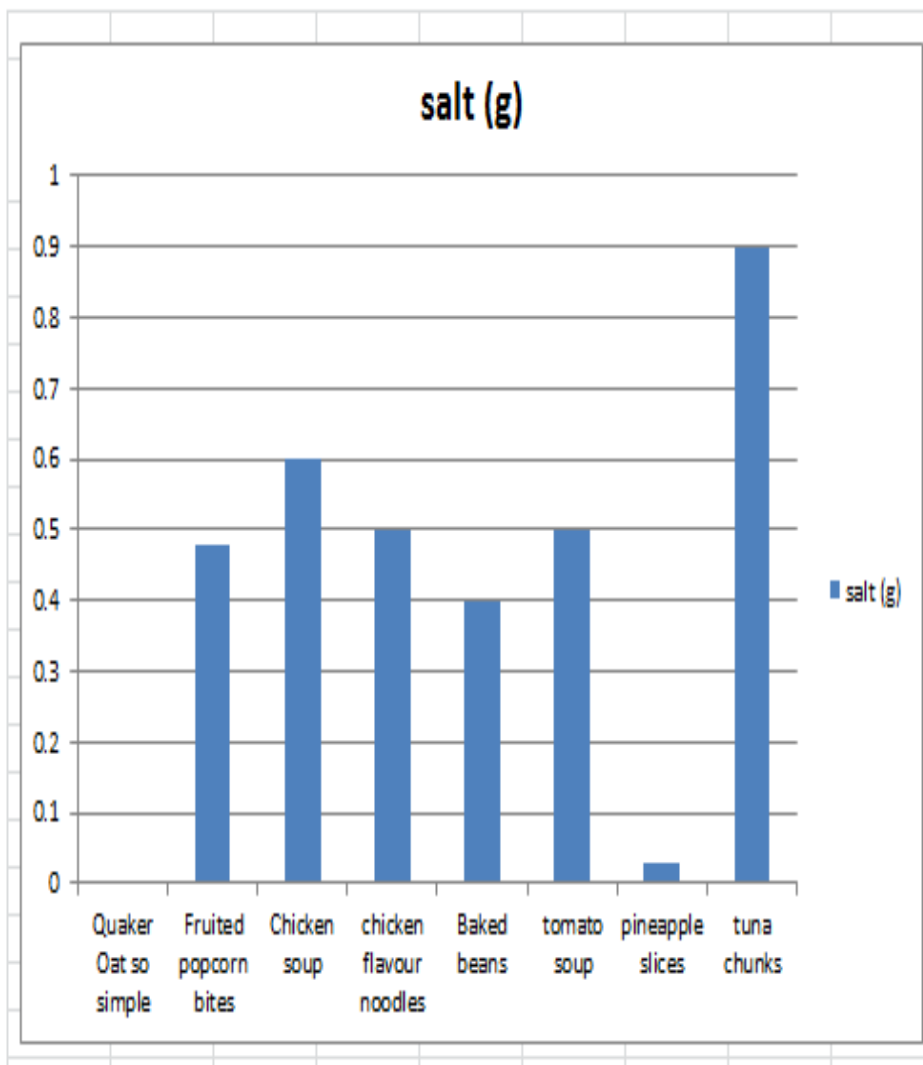
Warming up *

- 1) 2159, 1539, 526, 277, 217, 215, 109, 47
- 2) 0, 0.03, 0.4, 0.48, 0.5, 0.5, 0.6, 0.9
- 3) Chicken flavoured noodles, popcorn bites
- 4) Popcorn bites
- 5) 7g
- 6)



Feeling Confident **

- 1) 26.3g
- 2) 0.5lg
- 3) 2.2g
- 4) Oat-so-simple
- 5) 27.499g
- 6) Choice depends on argument, for example: chicken soup as it has low scores overall; pineapple has low fat and salt, though its sugar is high.
- 7) Popcorn bites - high in sugar and fat.



Ready for a challenge ***

- 1) Various answers. Pupils could divide 1000 by the number of 'kj' for the product then multiply that by 100 to find the number of grams of the product, for example
- chicken soup - $1000/47 = 21.272 \times 100 = 2127.2\text{g}$ of soup
The pupil might also add up product energy total to get as close as they can - Chicken soup + chicken noodles + Tomato soup + pineapple slices = 1005kj
- 2) 10.9g
- 3) Cara is wrong. There will be 0.00001g of saturated fat. (0.001g divided by 100)

- 1) c 0.18 mgcm^{-3}
- 2) c 0.06 mgcm^{-3}
- 3) c 0.06 mgcm^{-3}
- 4) c 0.01 mgcm^{-3}
- 5) Vitamin C
- 6) Days 0 to 6
- 7) There may be inaccuracies in the data due to small sample size. The graph is looking for a pattern showing how the vitamins degrade so the writer has drawn a falling arc that roughly follows the points.
- 8) Vitamin A - c 0.04 mgcm^{-3}
Vitamin B - c 0.01 mgcm^{-3}
Vitamin C - c 0.08 mgcm^{-3}