HEALTH AND DISEASE

Diet and fitness: Energy and food Stefka Kitanova



1 Healthy eating

Writing, Vocabulary

What did you eat and drink yesterday? Try to remember everything. Fill in the chart. You can use vocabulary from the list in exercise 2.

Time	Ate	Drank
8.00		
11.00		
14.00		
17.00		
19.00		



2 Energy content of foods

Here is a list of foods and their energy content. Calculate the amount of energy in the food you eat in a normal day.

MILK and DAIRY	Energy (Portion Size)	Per 100g
Cheese (average)	460 kJ (25g)	1840 kJ
Cottage cheese	200 kJ (49g)	410 kJ
Cream cheese	840 kJ (47g)	1790 kJ
Eggs (1 average size)	380 kJ (60g)	630 kJ
Ice cream	840 kJ (111g)	750 kJ
Milk (whole)	730 kJ (250ml)	292 kJ
Milk (semi-skimmed)	525 kJ (250ml)	210 kJ
Milk (skimmed)	400 kJ (250ml)	160 kJ
Trifle with cream	1200 kJ (150g)	800 kJ
Yoghurt (natural)	375 kJ (150g)	250 kJ
Yoghurt (reduced fat)	285 kJ (150g)	190 kJ
BREADS and CEREALS	Energy (Portion Size)	Per 100g
Bagel	585 kJ (45g)	1300 kJ
Bread (white, thick slice)	400 kJ (1 slice 40g)	1000 kJ
Bread (wholemeal, thick slice)	368 kJ (1 slice 40g)	920 kJ
Noodles (boiled)	733 kJ (250g)	293 kJ
Pasta (normal, boiled)	1380 kJ (300g)	460 kJ
Porridge oats (with water)	805 kJ (350g)	230 kJ
Potatoes (boiled)	880 kJ (300g)	293 kJ
Rice (white, boiled)	1760 kJ (300g)	587 kJ
MEATS and FISH	Portion Size	Per 100g
Bacon (average, fried)	1050 kJ (50g)	2100 kJ
Beef (roast)	1255 kJ (107g)	1173 kJ
Chicken	920 kJ (110g)	837 kJ
Ham	502 kJ (50g)	1005 kJ
Lamb (roast)	1256 kJ (100g)	1256 kJ
Luncheon meat	1256 kJ (75g)	1674 kJ
Prawns	754 kJ (180g)	419 kJ
Pork	1337 kJ (110g)	1215 kJ
Salmon (fresh)	920 kJ (122g)	754 kJ
Sausage (pork, fried)	1045 kJ (78g)	1340 kJ
Trout (fresh)	838 kJ (167g)	502 kJ
Turkey	838 kJ (125g)	670 kJ
FRUITS and VEGETABLES	Portion Size	Per 100g
Apple	184 kJ (100g)	184 kJ
Banana	449 kJ (165g)	272 kJ
Broccoli	113 kJ (84g)	134 kJ
Cucumber	13 kJ (30g)	42 kJ
Grapes	230 kJ (88g)	260 kJ
Lettuce	17 kJ (27g)	63 kJ
Peas	880 kJ (142g)	620 kJ
Spinach	33 kJ (100g)	33 kJ
Strawberries	42 kJ (33g)	126 kJ

Source: US Department of Agriculture



Work in groups. Look at the information about how much energy different people need.

Compare the energy intake of each member of the group with the recommended minimum. You will need to know how much each person weighs.

Can you draw any conclusions?

Category	Age (years)	Energy per day (kJ per kilo of weight)	Proportion of protein (g/kg)	Calcium (mg/kg)
Infants	Up to 6 months	453	2.2	66.7
	6 months to a year	395	1.6	66.7
Children	1–3	418	1.2	61.5
	4–6	377	1.2	40.0
	7–10	299	1.0	28.6
Males	11–14	233	1.0	26.7
	15–18	190	0.9	18.2
	19–24	167	0.8	16.7
	25–50	154	0.8	10.1
	Over 50	125	0.8	10.4
Females	11–14	200	1.0	26.1
	15–18	167	0.8	21.8
	19–24	159	0.8	20.7
	25–50	146	0.8	12.7
	Over 50	122	0.8	12.3

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Teacher's Notes and Answer Key

This worksheet will take 45-60 minutes to complete. It is suitable for lower secondary school students and provides a general introduction to energy and food.

1 Healthy eating

Writing, Vocabulary

Aims:

- · to gather information to be used in subsequent exercises
- · to start to reflect about individual eating habits
- · to revise English vocabulary for food and drink

Students work individually to complete the diary page. Encourage them to remember everything, including how many servings they ate at each meal and what snacks they ate between meals.

2 Energy content of foods

Reading

Aims:

- to learn about the relative energy values of common foods
- to read information from a detailed table and apply it
- to calculate an individual figure for daily energy intake

Students can continue to work individually, or you may prefer to allow them to help one another in pairs. They will probably need to use calculators, and may need advice on typical portion sizes. The table is based on portions that are considered typical by the US Department of Agriculture. At the end of the task each student should have a figure in kilojoules (kJ) for the total energy they consumed from food and drink the previous day.



Aims:

- to calculate recommended energy intake and compare it with actual intake
- to make calculations and comparisons in a group and discuss their implications.

Put the students into groups of three or four. Remember that some students are sensitive about their weight so try to avoid trouble in selecting the groups.

In order to make the calculation they will need to multiply their weight in kilos by the number given in the chart. For example, a 14-year-old girl who weighs 50 kg has a recommended daily intake of $50 \times 200 = 10000 \text{ kJ}$. Ideally in a day, according to the chart, she might eat and drink, for example:

- A glass of semi-skimmed milk (525 kJ)
- Two eggs (760 kJ)
- Some cheese (460 kJ)
- One slice of white bread (400 kJ) with bacon (1050 kJ)
- Chicken (929 kJ) with potatoes (880 kJ) and peas (880 kJ)
- Fresh salmon (920 kJ) with noodles (733 kJ)
- A green salad of lettuce and cucumber (30 kJ)
- 1 pot of natural yoghurt (375 kJ)
- An apple (184 kJ)
- A banana (449 kJ)
- A dessert such as trifle with cream (1200 kJ)

It will be necessary to make clear rules about how to treat foods that do not appear on the list: all sweets and crisps eaten during the day could be equivalent to 1 trifle, for example.

If you have an internet connection available, you could allow students to research further and find values for other foods they have eaten.

In discussing this data, it is important to point out that it is very approximate and cannot be taken to have serious implications for anybody's lifestyle. It will allow students to see if they are greatly different from their peers in their eating habits.