

Investigating the maths inside:

Knowing nutrition

Activity 1

8700 kilojoules

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How many kilojoules/calories are in a bacon-and-egg roll with BBQ sauce?

If you went for a walk after you ate the bacon-and-egg roll, how long do you think it would take to ‘burn-off’ the energy? What if you ran?

# Introduction

Nearly everything you eat and drink provides your body with energy. This energy fuels your bodily functions and physical activity. Energy is measured in kilojoules (kJ) or kilocalories (kcal) although this is usually shortened to calories.

When you are active, your body burns up more energy and thus uses more kJ.

The average Australian adult consumes about 8700 kilojoules a day.

Energy estimation

## The bacon-and-egg roll

Estimate the number of kJ in a typical bacon-and-egg roll. Your teacher will record the highest and lowest estimates. Where does your estimate sit?

Estimate how long you would have to walk to burn off the kJ in a bacon-and-egg roll. How long if you were running? Again, your teacher will record the highest and lowest estimates. Where do your estimates sit?

## Other take-away foods

Here is a list of common take-away foods. Rank them from the one you think has the least kilojoules through to the one that has the most kilojoules. You do not need the estimate the actual amount of kJ, just compare them.

1. A sandwich (2 slices of bread) with chicken and mayonnaise
2. A rogan josh curry with naan bread (for one person)
3. A bacon-and-egg roll with BBQ sauce
4. Battered fish, served with hot chips (for one person)
5. A small Portuguese tart (for one person)
6. A plain croissant
7. A meat pie (for one person)

Be prepared to justify your choices.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Least kJ** |  | |  |  | |  | |  | | **Most kJ** |
|  |  |  | | |  | |  | |  |  |

What factors have not been considered?

Your teacher will tell you how many kj in the bacon-and-egg roll? How close was your estimate?

# Your food plan

## Your food diary

Keep a food diary where you record the food and drinks consumed over a day/several days/one week. You will need to record quantities (grams, millilitres, number etc) carefully.

This tracker is recommended:

[www.myfitnesspal.com/](http://www.myfitnesspal.com/)

## How many kilojoules for you?

The webpage linked below will estimate the number of kilojoules that should be consumed per day, based on age, gender, weight and activity levels.

[www.8700.com.au/kjs-and-kids/how-many-kjs-do-kids-need/](http://www.8700.com.au/kjs-and-kids/how-many-kjs-do-kids-need/)

What do you notice about the amount in comparison to the recommended number of kJ for an adult?

Explore what differences occur when you make changes to activity levels. Discuss.

## A maintenance plan

The webpage linked below provides useful information about what you eat and physical activity.

[www.8700.com.au/kjs-and-kids/explaining-kjs-to-kids/](http://www.8700.com.au/kjs-and-kids/explaining-kjs-to-kids/)

This webpage will calculate the number of kilojoules you consume in a day. Use it to design a meal plan for a day (three meals and two snacks) which matches the number of kilojoules you should be consuming.

[www.health.gov.au/internet/healthyactive/publishing.nsf/Content/healthy-eating-calculator](http://www.health.gov.au/internet/healthyactive/publishing.nsf/Content/healthy-eating-calculator)

How healthy is your food plan? Could it be improved?

## A plan with ‘treats’

Modify your plan to include some ‘treats’. How many extra kilojoules have been added?

## Burning off extra kilojoules

The webpage linked below estimates the number of kilojoules that are expended during different physical activities. Choose a favourite activity (or two) and calculate the amount of time needed to counteract the extra kilojoules from the treats.

[www.8700.com.au/balance-and-burn/how-to-burn-your-kjs/](http://www.8700.com.au/balance-and-burn/how-to-burn-your-kjs/)

## Analysis

How realistic was your daily food plan? Do you think that you can adequately compensate for additional kilojoules through exercise? Discuss.