Milk and More

BIOCHEMISTRY WORKSHOP

Milk Facts – some interesting facts to complement the Milk and More activities

Why can't everybody drink milk?

Young mammals of all kinds drink their mother's milk in infancy. This milk is rich in lactose so the intestines produce the enzyme lactase to digest it. Most mammals stop drinking their mother's milk as they mature so the production of lactase decreases as they get older. Humans are the exception and adult humans produce lactase enabling them to drink milk for their entire lives.

However, this isn't true for all humans. In areas where milk from mammals is a large source of food, such as in Europe, a large proportion of adults – over 70% - produce lactase in their bodies and can therefore drink milk but in other areas such as south-eastern Asia, less than 30% of adults can drink milk. These people are lactose intolerant.

Composition of milk

Different types of milk have different amounts of fat. Milk also contains proteins, minerals and sugar in the form of lactose.

Full fat cow's milk has the following composition:

Water	87.5%
Lactose	4.8%
Fat	3.9%
Proteins	3.4%
Minerals	0.8%

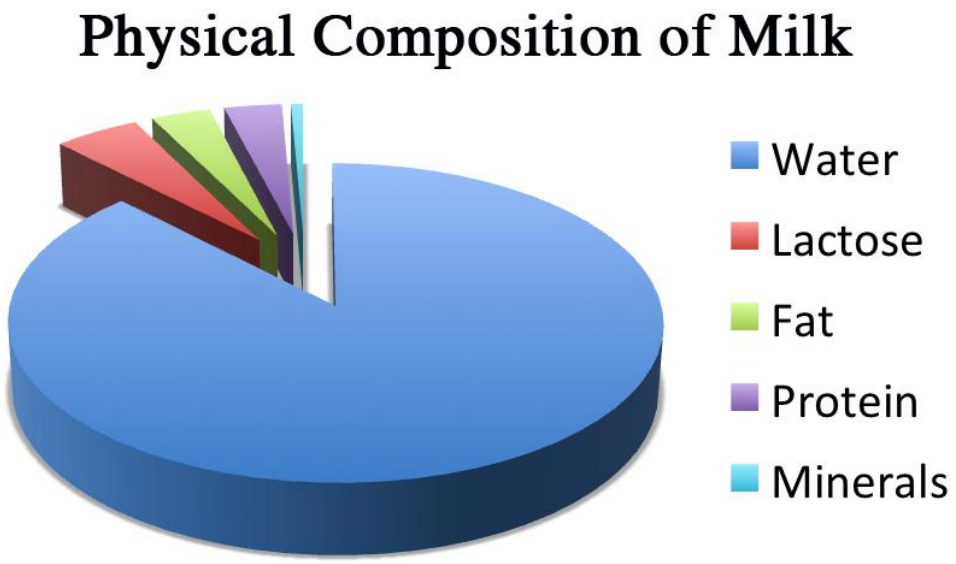

Figure from https://www.miagclassroom.org/matrix/lessonplan_print.cfm?lpid=269

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Different kinds of milk

On a supermarket shelf there is a large variety of different milks on offer. Cow's milk comes in many forms, e.g. full-fat, semi-skimmed and skimmed; there are milks from other animals such as goat and sheep; there are plant based milks such as almond, soy, rice and coconut.
Below is a table showing nutrition facts for different milks. Figures are per glass (225ml/8 fluid ounces) of milk.

	Calories	Carbohydrates (total)	Sugars	Fat (total)	Protein
Cow's milk (whole)	150	12 g	12 g	8 g	8 g
Cow's milk (1%)	110	12 g	12 g	2 g	8 g
Cow's milk (skim)	80	12 g	12 g	0 g	8 g
Almond milk (unsweetened)	40	1 g	0 g	3 g	2 g
Soy milk (unsweetened)	80	4 g	1 g	4 g	7 g
Rice milk (unsweetened)	120	22 g	10 g	2 g	0 g
Coconut milk beverage (unsweetened)	50	2 g	0 g	5 g	0 g

Table from https://www.healthline.com/health/milk-almond-cow-soy-rice

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