Food cards

Cards available to download from www.s4s.org.uk/food-cards/

How to Play

Any number of people can play – as individuals or in teams. Shuffle and deal out all the cards face down. Each player holds their cards face up, in the palm of their hand. Players can only look at their top card.

The player to the dealer's left starts by reading out an item from the top card, e.g. Energy daily target. The other players then read out the same item. The one with the 'best' value wins the other players' cards (see categories below – highest or lowest value could be the 'best') and places all the cards they have won and their own to the bottom of their pile. It is then their turn to choose an item from the next card in their hand.

If 2 or more cards share the top value or no data is available for that particular subject then all the cards are placed in the middle and the same player chooses again from the next card. The winner of the hand takes the cards in the middle as well.

The person with all the cards at the end is the winner!

Data – What is 'best'?

	100g	Portion	% daily target
Energy (kcal)	Lowest value wins	Lowest value wins	Lowest value wins
Fat (g)	Lowest value wins	Lowest value wins	Lowest value wins
Carbohydrate (g)	Lowest value wins	Lowest value wins	Lowest value wins
Fibre (g)	Highest value wins	Highest value wins	Highest value wins
Protein (g)	Highest value wins	Highest value wins	Highest value wins
Water Footprint (litres)	Lowest value wins	Lowest value wins	Lowest value wins
Carbon Footprint (gCO2e)	Lowest value wins	Lowest value wins	Lowest value wins

This is how to play the game at its simplest level.

Other Ideas for Cards

Line ups

Each person has a card and everyone lines up in order of the different categories from low to high. This can show the different 'values' of foods – some are very good for one but not for another.

Meals

Try to analyse a recent meal – take each food in the meal and see if you can work out the total values for each category. Could some elements be replaced and get a better score, e.g. replace high energy, fat or carbohydrate items with something lower, or replace low fibre or protein items with something higher? Who can create the 'best' value meal?

Data categories – what do they mean?

Energy (measured in kilocalories)

This is the amount of energy in an item of food or drink. Our bodies need energy to keep us alive and our organs functioning normally. When we eat and drink, we put energy into our bodies. Our bodies use up that energy through everything from breathing to running. To maintain a stable weight, the energy we put into our bodies must be the same as the energy we use by normal bodily functions and physical activity. An important part of a healthy diet is balancing the energy you put into your bodies with the energy you use. For example, the more physical activity we do the more energy we use. When we eat and drink more calories than we use up, our bodies store the excess as body fat. If this continues over time we may put on weight.

These values can vary depending on age, size and levels of physical activity, among other factors.

- 2500 kcal per day average male
- 2000 per day average woman
- 2000 kcal per day assumed for a teenager

Fat

A small amount of fat is an essential part of a healthy, balanced diet. Fat is a source of essential fatty acids, which the body can't make itself. Fat helps the body absorb vitamins A, D and E. These vitamins are fat-soluble, meaning they can only be absorbed with the help of fats. Any fat not used by your body's cells or to create energy is converted into body fat. Likewise, unused carbohydrate and protein are also converted into body fat. All types of fat are high in energy. A gram of fat, whether saturated or unsaturated, provides 9kcal (37kJ) of energy compared with 4kcal (17kJ) for carbohydrate and protein.

The main types of fat found in food are:

- saturated fats
- unsaturated fats

Most fats and oils contain both saturated and unsaturated fats in different proportions. As part of a healthy diet, we should try to cut down on foods and drinks high in saturated fats and trans fats and replace some of them with unsaturated fats. Most people in the UK eat too much saturated fats.

Fat: 60g per day

Carbohydrates (measured in grams)

Starchy foods are our main source of carbohydrate and play an important role in a healthy diet. Starchy foods such as potatoes, bread, rice, pasta and cereals should make up just over a third of the food you eat. Wholegrain varieties are preferable and eat potatoes with their skins on for more fibre. We should eat some starchy foods every day as part of a healthy, balanced diet.

To calculate the amount of carbohydrate you should have per day start with your daily calorie need and halve it. That's how many calories should come from carbohydrates. Each gram of carbohydrate has four calories. Divide the number you got from the first step by four. The final number is equal to the amount of carbohydrates in grams you need each day. For example, a person who eats approximately 2,000 calories per day should take in about 250 grams of carbohydrates (2,000 divided by 2 = 1,000 and 1,000 divided by 4 = 250).

Carbohydrates: 250g per day

Fibre (measured in grams)

Fibre is an important part of a healthy balanced diet. It can help prevent heart disease, diabetes, weight gain and some cancers, and can also improve digestive health. Many people don't have enough fibre in their diet. On average, most people in the UK eat about 18g of fibre a day. Foods such as meat, fish and dairy products don't contain any fibre. Fibre is only found in foods that come from plants.

Fibre: 30g per day

Protein (measured in grams)

Proteins are essential nutrients for the human body. They are one of the building blocks of body tissue and can also serve as a fuel source. Protein is essential for the body to grow and repair itself. As a fuel, proteins provide as much energy density as carbohydrates: beans, pulses, nuts, fish, eggs and meat are all sources of protein.

Protein: 55g per day

Water Footprint (measured in litres)

The water footprint tells us how much water is used in all our activities, such as for producing our food and to clothe us. Water footprints can be calculated for an individual person, a process or a product. The size of the water footprint lets us know how much of our limited water resources that product has used and whether it could be made more efficiently.

Each of us uses water at home for cooking, bathing, laundry but our larger water footprint is the 'hidden' water in all the products we use or consume. Depending upon what we eat and our lifestyle, we can have a larger or smaller water footprint.

Carbon Footprint (measured in grams of CO2 - gCO2e)

Greenhouse gases (GHG) such as water vapour, methane and carbon dioxide stop heat escaping from the Earth into space. An increased greenhouse effect can lead to global warming and climate change. The carbon footprint is total GHG emissions caused by an individual, event, organisation, or product, expressed as carbon dioxide equivalent. Production, transport, storage, cooking and wastage of food are substantial contributors to GHG emissions. These emissions include: carbon dioxide (from fossil fuels used to power farm machinery and to transport, store and cook foods), methane (from livestock) and nitrous oxide (released from tilled and fertilised soils). For simplicity, all these impacts are added together and expressed as a single number in terms of carbon dioxide equivalent (CO2e): the amount of CO2 that would create the same amount of warming.

Data sources

A range of source material was used to obtain the data in the cards.

Nutritional data

McCance and Widdowson's Composition of Foods Integrated Dataset

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/417175/McCance__Widdowson_s_Comp_of_Foods_Integrated_Dataset_User_Guide.pdf

https://www.food.gov.uk/sites/default/files/multimedia/pdfs/nutrientinstitution.pdf (Protein)

https://www.nhs.uk/Livewell/loseweight/Pages/understanding-calories.aspx

https://www.verywell.com/yes-you-do-need-carbs-every-day-2506236

Water Footprint

http://waterfootprint.org/en/resources/interactive-tools/product-gallery/

Carbon Footprint

Carbon footprint data taken from the following documents:

Scarborough P, Appleby P N, Mizdrak A, Briggs A, Travis R.; Bradbury K E, & Key T J 'Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK' *Climatic Change* (2014) 125: 179. https://doi.org/10.1007/s10584-014-1169-1

Berners-Lee M (2010) *'How bad are bananas?'* Profile Books

http://www.internationalpasta.org/resources/WPD2014/25_10_2014_WPD_2014_Buenos_Aires_Pasta_Sustainability_Luca_Ruini.pdf

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