# The power of packaging

Have you ever bought something because you liked the look of its packaging? Maybe not. Well, at least not consciously. But maybe the packaging and branding has heavily influenced your decision.

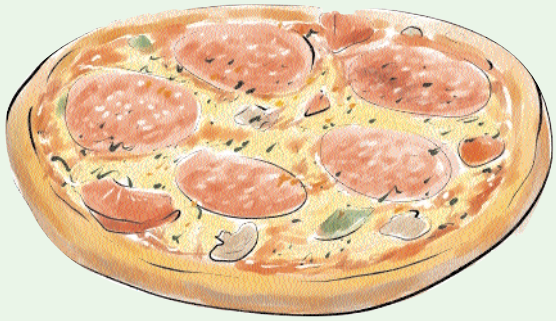
A great example is paracetamol. Next time you buy a pain killer, have a look at the 'active ingredients' on the shop's own brand paracetamol. Now compare it to a famous brand. They're probably the same, except one's about twice the price.

Or Easter eggs. How much chocolate is there in an Easter egg? Less than you'd get if you bought a simple bar of chocolate for the same price. It's all about packaging and presentation (it's harder to make an egg shape than a slab).

But despite these negative aspects of packaging, its number one priority remains keeping products safe and fresh - especially food packaging.

The last thing you want is to have your bacon rashers packed in toxic plastic that doesn't keep the meat fresh. Or your baked beans in a small cardboard box, leaking tomato juice into your shopping trolley. The choice of materials used in packaging is important.

## Hold the anchovies



When you get a pizza delivered it comes in a box. If you're lucky, and the delivery boy isn't too late, the box will have kept the food warm.

This sort of simple packaging relies on a property called thermal conductivity. The cardboard is usually corrugated, creating an air cavity. This helps the box retain heat, and keeps the pizza warm. The box is insulated.

This simple package won't keep something warm for too long. But other types of containers do. Thermos flasks are a good example.

An understanding of heat transfer has led to the design of Thermos flasks. They keep liquid hot - or cold - for lengthy periods of time.

# Contacting food

Packaging isn't the only thing that comes into contact with food. Kitchen utensils in the home have to be safe.

Saucepans have numerous features that improve their quality. Why are some so much more expensive than others? Probably because they're made from metals that are more hard-wearing or have a better thermal conductivity.

Think about frying an egg. The pan has to conduct heat, or the egg will stay raw. But the handle has to be an insulator, or you'll burn your hand. Melting temperatures are also important - you wouldn't want your frying pan to melt.

Chopping boards can be wooden or plastic. But which is best? Whichever material is used, it must be tough. It should also be non-porous, or the numerous germs from your raw meat juice will seep into the board, resulting in a high risk of food poisoning.

And then there are all the things we keep our food in. Lunchboxes, for example. Or, if we take a look inside the lunchbox, the cling film covering your sandwiches.

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Cling film has to undergo various tests to make sure it's fit for use. It has to be quite strong so it doesn't rip every time you stretch it over a half-eaten yoghurt pot. And, because its purpose is to retain freshness, it should be watertight and airtight.

Aluminium foil is very similar, and also has to undergo a lot of tests. It also has to have good thermal conductivity. You may cook a chicken wrapped in aluminium foil. It would be a lengthy task if the foil insulated the chicken and stopped it getting hot.

# I'll drink to that


Drinks can be still or sparkling, by having carbon dioxide added. They can come in plastic bottles, glass bottles, aluminium cans or steel cans. And they can be sealed with screw tops, corks or ring pulls.

So how does a manufacturer decide which container is best for the beverage? There are numerous considerations.

A lot of it depends on where the manufacturer thinks the drink will be drunk. For example, a sports drink that can be carried when running shouldn't be made from glass. It would be dangerous if you fell over and smashed it. But sometimes drinks taste a bit 'plasticy', especially if they're stored for a long time. That's why you're unlikely to find a vintage wine in a screw top plastic bottle. Cheap, 'drink-the-same-day' wines, on the other hand, sometimes do.

The size of the container is another factor. A can of cola contains about one 'portion' of drink. But larger bottles are likely to contain more fluid than you need in one sitting. So you re-seal it. And you want it to retain its fizz and freshness for the next time you fancy a drink.