Exploring Products—
Nano Food

Will nanotechnology change how we eat?

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The Biggest Event for the Smallest Science!

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Try this!

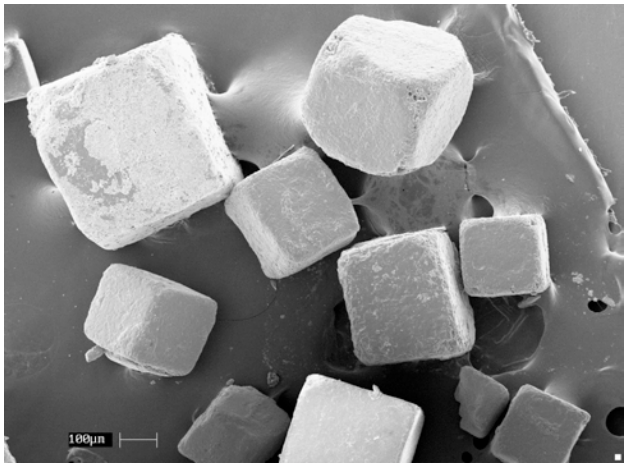
1. Roll the large cube of connected blocks into the tray.
2. Count how many squares the cube is touching.
3. Now take the cube apart and re-roll the eight small blocks in the tray.
4. Count how many squares the blocks are touching. How does this compare with the number of squares the large cube touched?

What's going on?

We taste things when they come into contact with the taste buds on our tongues. In this demo, the cube and blocks represent salt crystals, the playing surface represents your tongue, and the black squares represent your taste buds. Even though there is the same total amount of "salt" in both cases, the smaller "crystals" (the broken-apart blocks) cover more area and touch more "taste buds."

Some food scientists believe we can use much less salt but still get the same taste and experience just by using smaller crystals. So nano-sized salt crystals might help us make foods like potato chips lower in sodium and healthier—but with the same big flavor!

How is this nano?



Salt crystals

Nanotechnologies may improve existing products. Nano-sized particles are already being used in many foods, both natural and processed. Mayonnaise, for example, is created by dispersing nanometer-sized globules of fat in water.

Researchers are devising new ways to manipulate food on the nanoscale in order to create specific tastes and properties. By controlling the size and structure of salt, fat, and sugar, food scientists can create healthier food that still has yummy tastes and textures.

While nano-sized particles of salts, fats, or sugars are thought to be safe—since the body will metabolize them in the same way as larger particles—the same may not be true for other foods. As a result, more research may be needed on the long-term impact of nano-sized ingredients that aren't traditionally eaten but are finding their way into our foods, such as silver, titanium and silica.