



Eggsperiments

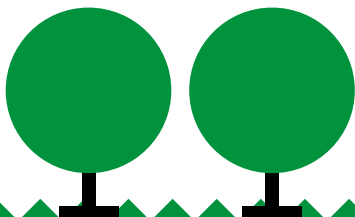
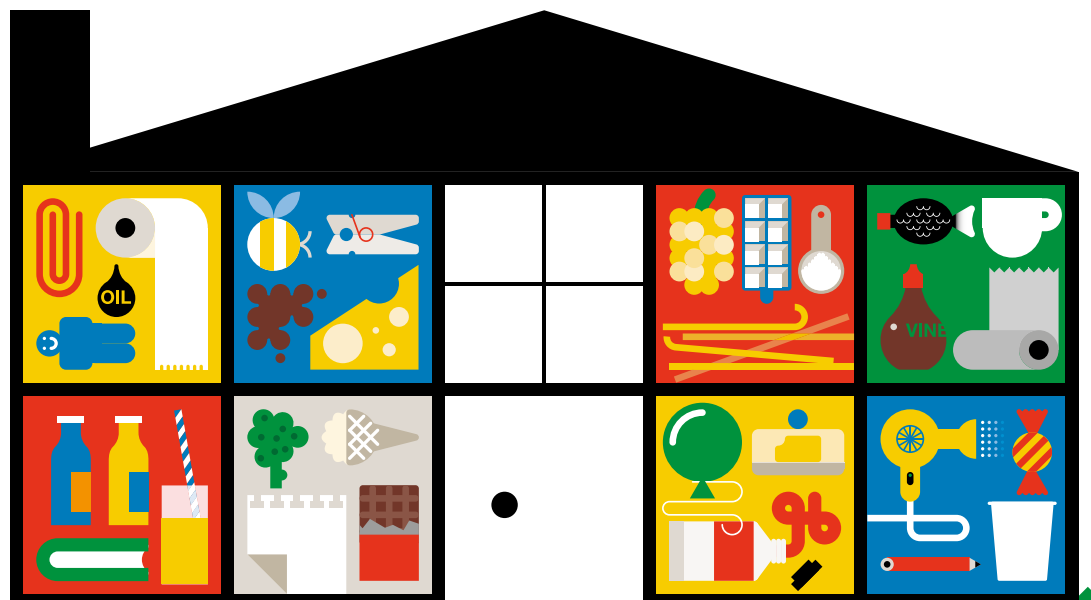


The activity

Make an uncooked egg bounce!

ExpeRiment with different liquids to see what effect they have on eggs.

Learn how the acid in household liquids like orange juice and vinegar react with eggshells and make them dissolve, leaving the inside of the egg intact.





What you'll need

- 5 eggs
- Glasses or jars that an egg can fit inside comfortably
- Cling film (Saran/plastic wrap)
- Oil
- Milk
- Water
- Vinegar
- Orange juice

What to do

Being safe

There are no specific risks with this activity but we always recommend that you use common sense and take general care. For example, it's fine to let children dip their fingers in vinegar and oil to taste them, but it's not a good idea to let them drink them.

Pour some water into one of your glasses/jars so that when an egg is put in it is totally covered but doesn't make the water overflow. Look closely at the egg to see if anything changes about it.

Repeat this process with all the other liquids.

Leave the eggs in the liquids overnight (you may want to cover the ones in vinegar and orange juice with the plastic film as they may start to smell).

Look at the eggs in the liquids again. Carefully take them out and put them on a plate. See if you can feel as well as see whether the eggs have changed in any way. You should notice that the eggs left in vinegar and orange juice have lost some or even all of their shells. If so, you can try squashing the eggs or even bouncing them from a height of a few centimetres – take care not to drop them from too high up or you'll get the same result that Oly and her daughters got in the video.

If the shell has not completely dissolved for the egg in vinegar, leave for another day.

Questions to ask children

Before putting the eggs in the glasses, ask children in what way the liquids you've got are the same, and in what ways they're different. (Allow them to taste the liquids).

For each liquid before egg put in: what do you think will happen if we put an egg in it?

Continues >>



Questions to ask children (continued)

For each liquid once egg is in: what do you see happening?
(You should notice bubble formation on surface of eggs).

What do you think will happen if we leave the eggs in these liquids overnight?

After eggs have been left overnight, for each liquid: how is the egg different now?

Do you think the egg inside is still ok? How could we find out?

The science

Investigating how different liquids affect an egg is a fun way to introduce children to the idea that different substances have different chemical properties even though they might be the same in other ways.

Eggs shells are made mostly of calcium carbonate. Orange juice and vinegar both contain acids which react with the calcium carbonate in the eggs to produce carbon dioxide gas. This is why the eggs fizz in those liquids. Over time, this reaction has the effect of destroying the egg shells and leaving behind the inside of the egg.

Going further

You can use the shell-less eggs you make from this experiment to do another activity which will let you shrink and expand the eggs by placing them in different liquids: <http://bit.ly/nakedeggs>

Watch a video of how to make a coloured bouncy egg, then try making one yourself: <http://bit.ly/RubberEgg>