What’s the hardness of our water?

Try to figure it out using a small lidded jar, a bottle of mineral water and some soap.

How does a nappy/diaper work?

Just go for it!

Wie viel Gas entsteht aus einer Brausetablette?

Wie viel Gas steckt in einer Brausetablette? 5ml, 1dl, 1L oder sogar 10 Liter? Finden Sie es heraus!

**Hinweise**:

* Das Kohlendioxid entsteht durch Reak­tion einer Säure mit Natriumhydrogencarbonat. Es entstehen gleich viele Mol Kohlendioxid, wie ursprünglich Natriumhydrogencarbonat in der Brausetablette war.
* Auf der Packung wird das Natriumhydrogencarbonat als „Natriumbicarbonat“ bezeichnet.

Skizzieren Sie einen geeigneten Versuchsaufbau und bauen Sie diese Apparatur.

Bestimmen Sie das Volumen sowie die Masse an freigesetztem Kohlendioxid. Berechnen Sie dann die in einer Tablette enthaltene Menge (Masse) an Natriumhydrogencarbonat (NaHCO3), die in einer Brausetablette steckt. Zu wie vielen Massen-Prozent besteht die Tablette aus NaHCO3 ?

**How much gas is there in effervescent tablet?**

Design an apparatus to catch and measure the volume of the gas. Before you begin, draw the apparatus and show it to your favourite chemistry teacher.

Likewise, you should write down the equation that states how the gas is produced.

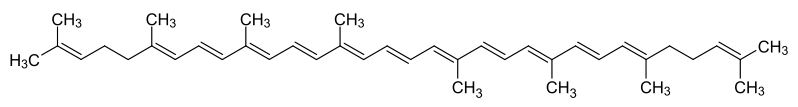
**In autumn leaves turn red…**

That is common knowledge, of course. But: is the red dye only produced then or is it already present in green leaves? Find it out!

* In fact it isn’t. What’s present is yellow, but red is only produced in autumn. What its purpose is remains still a mistery

**Red as a tomato …**

This:



is **lycopene**, a bright red carotene and phytochemical found in tomatoes and other red fruits and vegetables.

Your task is:

1. to isolate it
2. to find out if it’s the only dye in tomatoes

**Air, water vapour or what the heck?**

Boiling water seems something very simple. So does adding salt. But if you take a closer look, several questions arise:

* If you boil water and then add some salt it instantly boils extremely vigorous. What kind of gas is coming out of the water?
* In order to cook pasta: Is it better to add salt before or after the water boils?
* Does the temperature of the water change if you add salt?
* Does the boiling temperature of the water change if you add salt?

First write down your hypotheses and then design your experiments. If you plan to use a complicated apparatus draw it first and show it to your favourite chemistry teacher.