

Catalyzer



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Best of the best

Today we will talk about substances - champions of the taste. How is it possible to estimate taste digitally? It's very simple! The main criterion is the minimal concentration of substance (bitter, sour, salty, hot) at which our tongue perceives this taste as dominated.

The champions of the taste

Sensitivity of tongue to the different tastes is unequal. In most cases the first place takes bitter substances: the organism as though warns us - spit out this muck immediately! Taste of the most bitter substances - quinine and strychnine - is distinctly perceived in mix 1:100 000 and more (it approximately the teaspoon of substance dissolved in half ton of water).

However in very small concentration bitter taste can be pleasant, therefore in some drinks we add the quinine (usually in the form of sulfuric salt). It is possible to find out quinine in tonic not only to taste, but also to a bright light blue luminescence of a drink under beams of a ultra-violet lamp.

Vanilamide - one of derivatives of vanillin marked as 8-methyl-N-vanillyl-trans-6-nonenamide - has pos-

sibly the most burning taste. It has second name Capsaicinum from the Latin name of capsicum. Capsicum Annum contains the most part of this substance, it is about 0,03 %. If you chew a little bit of this pepper your tongue will be tormented with a burning pain for a long time afterwards. Capsaicinum is known since 1876.

It is difficult to tell, what taste has a grapefruit. But from 100 liters of juice of this exact fruit Swiss chemists E.Demolle, P.Entist and G.Oloff have picked out in 1982 the champion of the taste. It was mercaptan, chemical name is 1-p-menthene-8-thiol. Taste of this substance



can be felt at concentration only 0,02 ng/l. You need to mix only 2 mg of this substance to get such concentration in the huge tanker of 100 000 tons of water!

Use your brain

Why do roofs cover with tile?

Question. Beautiful tile roofs are a visiting card of the European countries. A tile has been exactly used here for a long time for a roof. Why is it exactly a tile?

Answer. It is clear, that a tile was used as a good protection. But from what? From acid rains! When in the Europe almost all woods have been fired people started to heat houses with coal. And local coal contains fair quantity of sulfur. At combustion it formed oxides which were dissolved in drops of water and dropped out on the ground by acid rains. The metal roof quickly would fail. And the tile is acid-proof, therefore in the Europe it serves for centuries. Now in the European countries coal isn't used for heating so often. And air in the European cities became much purer. But the beautiful tradition has remained.



Have you asked the photographs? Here they are, please!



"A happy scientist is the one who searches for a needle in a haystack, and finds a daughter of a farmer". Edmond Fisher

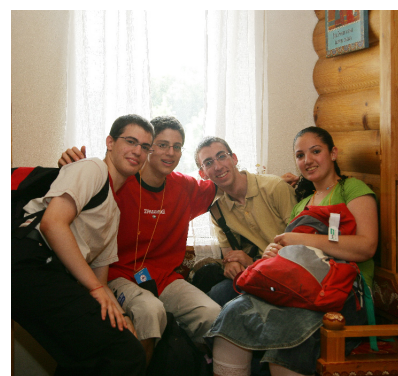


"The more I live, the more I am confirmed of the idea that in the Solar system the Earth plays a role of a madhouse". George Bernard





*"Life does not have the sense that could be opened.
It has the sense that we give to it". K. Nilsen*



*"Put off till tomorrow what you can not think about today".
Haruki Murakami*

Entertaining Statistics

We asked the participants of the Olympiad to fill questionnaires for the statistics. Here are preliminary results.

The questionnaires were filled by 58 students, most of them are boys – 47 smart chemists, and 11 nice girls.

Almost everybody want to connect their future life with science. Here are branches of science they want to work in.

- 1) Organic chemistry – 13 students.
- 2) Medicine – 12 students.
- 3) Biochemistry – 6 students.
- 4) Physics – 5 students.
- 5) Engineering - 4 students.
- 6) Researching work – 4 student.
- 7) Nanotechnology – 4 students.
- 8) Mathematics – 2 students.

And this is the list of the most urgent problems for the humanity.

- 1) Pollution – 9 students.
- 2) Global warming – 9 students
- 3) Energy crisis – 7 students.
- 4) Poverty – 5 students.
- 5) Human rights – 3 students.
- 6) A.I.D.S. – 3 students.
- 7) War – 2 students.
- 8) Unemployment – 1 student.
- 9) G.W.B. – 1 student.



The majority of the students were fascinated by Moscow. But, of course, there are several things they disliked.

- 1) Traffic jams – 11 students.
- 2) Food – 6 students.
- 3) Unfriendly people – 5 students.
- 4) Expensive city – 4 students.
- 5) Airport – 4 students.
- 6) Mosquitoes – 2 students.
- 7) Noise – 2 students.
- 8) Weather – 2 students.
- 9) Smoking – 1 student.

Dear Friends, we are waiting for your questionnaires!

Alina Sabanova

Lessons in Russian

It's a nice day today – Сегодня прекрасный день – [sevodnja prekrasnij den]
I want to eat (to drink) – Я хочу есть (пить) – [ja hochu est(pit)]
I have a good mood – У меня хорошее настроение – [u menja horoshee nastroyenie]
I'm tired – Я устал [ja ustal]
I need your help – Мне нужна ваша помощь – [mne nuzhna va-

sha pomosch]

Let's photograph together – Давайте сфотографируемся – [davajte sfotografiruemsja].

I would like to get to know you better – Я хочу узнать тебя лучше – [ja hochu uznat tebja poluchshe]

Good night – Спокойной ночи – [spokojnoj nochi]

Call

Police - 02

Fire station and ambulance - 911

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Tomorrow program Saturday July 21th

8.00 – 8.30 Breakfast, Olympiets

8.40 – Buses depart to the excursions

10.00 – 13.30 Excursion in groups: Kremlin

13.30 – 19.00 Lunch at "Manezh" café

15.00 – 19.00 Excursion to the Moscow Zoo

19.00 – 20.00 Transfer to Olympiets

20.00 – 21.30 Dinner, Olympiets

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