

Mathematics unites families!

There is no such thing as children, there are people with a different scale of understanding, different sources of experience, different goals, different play of feelings...

Janusz Korczak



The words of the unrivaled master Janusz Korczak have in recent years become the essence of my life, ever since I started teaching mathematics to small children. I have worked as a programmer before and often would have to explain to adult engineers how to work on a personal computer, teach them that. Now, working with school children, I see how easy it is for them to grasp complex logical and mathematical notions. These are the people of the 21st century, after all! I just don't understand those serious and respectable adults who bring me a first-grader saying, "Be as tough as you can with him!" Why not say, "Teach him something very interesting" instead?





And when picking up their child the parents ask the child, "How many problems have you solved today?" I would be much happier to hear them ask, "Which problem was the most interesting one? Let me try to solve it too!"



So, not having received any such questions from the parents I decided to organize a day of family math. The parents, just as their children, received papers with problems - the same ones as the children did, or slightly more complex. You should have seen the glow in the parents' eyes when they started competing with one another, with me, with the children! The parents, all of a sudden, became just like their children – anxious, active, and loud. And the children, too, started working with great enthusiasm, encouraged by their most cherished people – their parents – solving the same problems in the next room.



Since 2011, each winter and spring Junior Karazin University hosts the Math Festival. It is eagerly awaited by teachers, children, parents, grandmothers and grandfathers alike. One day we received an invitation to participate in the First Scientific Picnic. It was no easy task even for grown-ups, experienced university lecturers. This was because people of all walks of life were to attend: grown-ups and kids, techies and humanitarians, and each of them needed to be told about the project in such a way that they would understand its essence and get interested. So our first generation of little science popularizers and their parents thoroughly and meticulously prepared for the event. And their presentations were excellent!

Our team of young mathematicians and physicists have since then become a regular participant of the Science Picnics, and each year it expands thanks to new young experimenters joining in, speaking in front of thousands of listeners, and spreading the concept of fun science. Is it truly great that parents and children work as allies and colleagues in the process. The parents play a role of an older peer, who is always there to support and encourage. And the children gain some



of the most valuable skills in life: the ability to speak in public, to explain, to cooperate. And, most importantly of all, the children start really believing in the power of their minds, which really boosts their self-confidence. True miracles happen to some of our children back at their respective schools. One extremely shy girl, after receiving a round of applause for her speech at the Science Picnic, has become more open, started smiling more often, and later proved to be a great activity organizer herself. One rowdy boy, after he started to present his scientific experiments in front of his class, gained a great deal of respect from his friends. Another shy boy first started to answer his teacher's questions in class much more often, then went on to participate (and win) in various competitions. Today he studies at the specialized Physico-Mathematical Lyceum (High School).

2015 was a very fun and eventful year for us. This is when we started to organize our open presentations at the "LandauCenter". Four such exhibits were held: "Exciting Mathematics", "Winter Game Festival", "Festival of the Pi Number", and "The World of Optical Illusions". Our first interactive exhibition featured nine presentations, while the latest one – 18! This means that 18 children and their parents prepared new fun mathematical problems and our planet got 18 new children interested in math, in discovering new things, in sharing their experiences and stories of success with others. We also organized family games at "LandauCenter", where children together with their parents challenged each other in a bid for the "Most Scientific Family" title. The guests answered questions asked by the "wise men", young mathematicians of the Junior Karazin University, solved fun problems and quizzes, drew their own optical illusions, took part in the "What? Where? When?" quiz game. The winners were Khodusov, Shelest, Fadeyev families, and, in fact, EVERYONE! That's right, all the guests of "LandauCenter", all the presenters, all the parents! We spent four evenings in an atmosphere of fun,





excitement about science and new discoveries. Life just got a little more fun for all of us. Isn't it a joint victory then?! The 2015/2016 curricular year ended with the closing XV Conference of the Junior Karazin University. It was a true celebration of science! After a welcoming speech by the Kharkiv National University Rector, Member of the National Academy of Sciences, V. S. Bakirov, our young researchers, looking all smart and serious, had their poster and oral presentations, and then each received a printed thesis collection from the Head of the Junior Karazin University, V. I. Chebotaryov. These were their first ever scientific publications!



So, what's next? As more and more new fans of science are joining us, let's find more fun problems to solve! Let's host many more excellent events! And let us once again proclaim: "Math is so much fun!"

Parents' reviews.

This is how math should be studied: with fun, effort, and humor! To learn the Pi number down to its 14th digit, put together a pizza, travel around the globe, all in just two hours!

Lyudmila Shelest



Festival at the "LandauCenter" prompted the children to explore, to work creatively, to study the scientific facts. Even a second-grader could easily grasp the mystery of the Pi number. And 3.14 stopped being an abstract mysterious value. At the festival it was as if the Pi number materialized: it came in different images, one could almost touch it. The event was livened up by the family game of "What? Where? When?" We are thankful for publication of the questions of this quiz game of the web, as now we have the chance to work with them once more.

Tetyana Krekhno



I am thankful for providing our son with a chance to take part in the festival as a "wise man". It is a useful experience. Next time, I hope, we shall try ourselves as participants, as I think the event is very interesting, exploratory, you can feel the spirit of competition.

Olga Krasnopolska

Each event at the "LandauCenter" is a possibility to discover something new, test your abilities, find like-minded people. And to be a "wise man" is not just fun, but also sensible. It is great when such important qualities as the ability to solve complex problems, to communicate, and to explain are formed as part of a game, unobtrusively. It was very interesting and fun. THANK YOU, EVERYONE!

Sabina Kovalevska

Thanks to Halyna Viktorivna, Junior Karazin University and "LandauCenter" for yet another science feast, for the possibility to play with math, for the fun in our children's eyes!

Olga Sokolova

