

Interactive Tools Open a World of Learning for Students and Teachers in Tatarstan

Kazan Secondary School #9, Tatarstan/Russia



Students are writing the answers at the SMART Board® while the classmates check them in their exercise books.

Kazan State Secondary School #9 was founded in 1975 and currently has an enrollment of 950 students. SMART Board® interactive whiteboards are installed in almost every classroom. Student learning areas and amenities include a health and fitness center with a sports hall, choreographic hall as well as massage and diagnostics rooms. The IT center includes an English literature reading room, open-access study room, library, mobile multimedia center, computers with Internet, educational channel satellite TV and stereo microphones for English lessons.

In 2006 the school began to introduce SMART education solutions so that different teachers – specializing in a variety of subjects - could benefit from the technology. Over a five year period, 19 SMART Board interactive whiteboards were installed. School administrators used grants, awards and the support of state and regional programs to purchase the interactive equipment from SMART Technologies. Teachers and students have embraced the use of SMART Boards and the many interactive lessons available through SMART Notebook™ collaborative learning software as well as SMART Notebook™ Math Tools software. Today, all subjects across all grades use are taught using SMART education solutions.

Math Becomes More Visual

“Our Math teachers were the first ones to fall in love with the SMART Board interactive whiteboard in our school,” says Latysheva Galina Gennadevna, Director of Kazan School #9. “Math teachers with more than 20 years of working experience appreciated the advantages of the SMART Board immediately and started using it in every lesson.” SMART Notebook Math Tools is an add-on to SMART Notebook collaborative learning software that combines all the tools needed to teach math concepts and solve equations in a more visual and interactive manner. The software gives teachers and students flexibility when examining relationships between tables and graphs, plotting a line to best fit

Challenge

Explain math concepts to both visual and tactile learners, demonstrate math solutions along with graphs and plotting in an interactive way, have better control of the learning process and student outcomes

Solution

The School uses SMART Board® 680, SMART Notebook™, Math tools and SMART Exchange™ for up- and download lesson content.

Result

Teachers can now better engage and maintaining attention in all subjects, simple online checks with encyclopedias, easy use of quick tests and quizzes to check the progress, and science becomes easier to understand thanks to visual aids including interactive and multimedia materials.

and creating line graphs. It is possible to demonstrate concepts symbolically and numerically using a variety of graph types. "It is about attention and visual memory," says Gibadullina Tatyana Anatolevna, Math Teacher at School #9. "SMART Boards allow demonstration, analysis, graphing and plotting data in the most interesting and engaging way for students. And it doesn't matter whether students learn by seeing or doing."

Karaguzina Nadezhda Vladimirovna, Math Teacher at School #9, advised, "SMART Boards and Math Tools software help students gain a better understanding of solving math problems." She noted that tools such as the Texas Instruments emulator launcher and integrated math engine enable teachers to guide students step by step through a concept and motivate them to find the answer. "I like that SMART Notebook software can recognize handwritten mathematical equations so we can solve and graph handwritten equations." says Miftakhova Rezeda Khabirovna, Math Teacher at School #9. "The shapes and figures included in the Math Tools features are also very useful. We can manipulate and divide them while explaining the topic."

Bringing Chemistry and Biology to Life

SMART® Board interactive whiteboards are being used by science teachers to make their lessons exciting. The tools, pictures and multimedia resources are incorporated into simple as well as advanced lessons. Many teachers have used SMART Exchange™ to find useful lesson activities and experiments to enhance class lessons. SMART Exchange is a website-based resource for teachers around the world. It offers over 60,000 useful for demonstrations, lessons activities and manipulatives that may be applied across all subjects and grade levels. The website supports 48 country sites and 23 languages and offers teachers an exceptional resource for finding and sharing lesson materials. Khayrullina Esmeralda Vasilevna, Science Teacher at Kazan School #9, says "Chemistry and biology can be difficult topics to teach without the help of visual aids. Luckily, SMART offers various activities that can help me to educate students on many facets of science. Interactive activities are fun and motivating for students."

Some of the SMART Notebook™ activities that science teachers at School #9 have used include the study of animal and plant biology. This ranges from the study of the animal and plant species, such as mammal, amphibian and flowering plants, to studying how and where animals and plants live and grow. Another topic where Notebook lessons have proven very helpful is the study of human biology. Subjects such as physiology, anatomy and reproduction are covered in SMART Notebook activities and lessons. This can be especially helpful for demonstrating the interactions between parts of the body, such as the respiratory and circulatory systems. Cell biology can be the most difficult topic to teach because of obvious need for visual aids. Having all students looking through microscopes is one option but there are limitations to engaging the class and ensuring full understanding. Using the SMART Board display and SMART Notebook lessons helps all students better understand how cells are structured, how they function and divide and other related subjects such as viruses and bacteria.

Other common science applications include having students find the definitions for science terms by using a link to an online encyclopedia such as Wikipedia. A science principle or fact can be listed daily and students can circle true or false on the interactive whiteboard. A table of the students' names can be used to keep track of each student's answers. And every student can participate by taking turns using the SMART Board to record their answers. "With the help of interactive technologies from SMART, teachers can open up the world to their students by taking them on virtual field trips to laboratories, habitats, space, inside the human body and even the inner core of earth," says Latysheva Galina Gennadevna, Director of Kazan School #9.



3D model of a spider in the biology class.

"The SMART Board is helpful for both the visual and tactile learner. It also allows for better planning which always influences students in the classroom positively"

Khayrullina Esmeralda Vasilevna, teacher of science in Kazan school #9.

About SMART

SMART Technologies is a leading provider of collaboration solutions that transform the way the world works and learns. We believe that collaboration and interaction should be easy. As the global leader in interactive whiteboards, we bring more than two decades of collaboration research and development to a broad range of easy-to-use, integrated solutions that free people from their desks and computer screens, so collaborating and learning with digital resources are more natural.

SMART Technologies

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