



# Acquire 'future skills' in a hands-on way with pneumatic construction kits

St. Johannes-School in Bakum / Niedersachsen (Germany)

Grade 9 | Subject Technology | STEM Pneumatics | Deployment period 2024

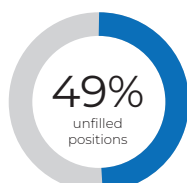


## THE CHALLENGE

We at St. Johannes-School are also undergoing a process of transformation and must be ready for fundamental changes in order to enable children and young people to lead sustainable lives. At the same time, there is an acute shortage of skilled labour in the technical professions. Students need to be introduced to the basics of technology and IT in a fun way. Suitable teaching materials are needed to enable young people to develop creative solutions for technical tasks independently and as part of a team.

Due to insufficient or a lack of STEM skills, a further increase in the shortage of skilled labour is to be expected in the coming years. Of 480,460 vocational training positions, 235,520 are expected to remain unfilled in 2024.

Source: Federal Employment Agency



The aim is to bring STEM subjects at the school into the modern age with attractive learning objects.

**Robert Rother-Reinelt & Axel Wernke-Stefan, Teachers**



## THE SOLUTION

With the help of the fischertechnik construction kits, numerous curricular requirements can be taught and learnt in a practical way. The pneumatics sets provide a practical introduction to the basics of pneumatics and mechanical systems. The kits contain components such as compressed air cylinders, valves, hoses and other parts that make it possible to control movements or actions using compressed air. Students can create models in which compressed air is used, for example, to open or close flaps, move arms or carry out other mechanical movements. The construction kits also promote an understanding of technical relationships and the development of problem-solving skills. They offer an exciting opportunity to put theoretical knowledge into practice and at the same time encourage creativity and technical thinking. By building and modifying the models, students can also experience the importance of precision and careful planning. This hands-on experience makes our lessons not only educational, but also particularly motivating and engaging for the students.



## THE RESULT

The pneumatics sets from fischertechnik offer a variety of interactive opportunities for students to understand and apply curricular requirements. The knowledge and skills taught with the pneumatic kits can be applied by young people in a variety of technical training programmes in trade and industry. The technology lessons at St. Johannes School therefore serve as an 'appetiser' for technical professions.

## HANDS-ON-LERNKONZEPTE FÜR DEN REGELUNTERRICHT

fischertechnik offers innovative digital and analog learning concepts for interdisciplinary use in pre-schools, primary and secondary schools, as well as in universities and vocational education. Based on hands-on learning, STEM (Science, Technology, Engineering, Mathematics) subjects are made easily accessible and tangible, fostering important future skills such as problem-solving abilities, creative thinking, and emotional and social competencies.

All learning concepts include thematic construction sets, technical components like motors, sensors, and controllers, as well as freely accessible educational support and training materials such as building and programming instructions, lesson plans with tasks and solutions, curriculum references, and professional development opportunities.

"The skilled workers for the local region of tomorrow are not born, but are trained at St. Johannes-Schule Bakum in line with the times."

Robert Rother-Reinelt & Axel Wernke-Stefan,  
Teachers



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