



Attention Parents!

You MUST encourage your child (children) to do well in mathematics and science!

The SMART Consortium
Idea Center™
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www.smartconsortium.org

Northeast Ohio suffers from a reputation for being a depressed region—a “rust belt” of closed steel factories and automotive plants and high unemployment.

Facts and numbers, however, belie that tired stereotype. In addition to an internationally acclaimed orchestra and art museum, Cleveland boasts NASA Glenn Research Center, a university renowned for its first-ranked engineering and science programs (Case Western Reserve), and one of the nation’s top systems of research and teaching hospitals (including the Cleveland Clinic, Rainbow Babies’ and Children’s, and the University Hospitals). Neighboring Akron has its own fast-growing university (University of Akron) positioning itself to be a leader in polymers, nanotechnology, and technology transfer.

In healthcare, one of Ohio’s premier high-tech industries, **there is an acute labor shortage. In northeast Ohio alone, nearly 4,000 vacancies are at any given time in need of skilled medical professionals ranging from entry level technicians to Ph.D. researchers.** In science and engineering, **manufacturing facilities just in this region perennially have approximately 6,000 openings for technical professionals ranging from entry-level maintenance technicians and skilled welders to materials scientists and design engineers.** Indeed, some high-tech companies are concerned that they may have to leave the state because of a *lack* of a qualified workforce, despite the fact that some entry-level technical positions requiring only a B.A. or even an A.A. degree offer as much as \$60,000 to start.

Gone are the days—not just in Ohio, but also anywhere in the U.S.—when most 18-year-olds could realistically expect that a high-school diploma plus some skill in metal-working or auto mechanics would be enough to secure a job that would put food on the table until retirement. Ohio, like the rest of the nation, must tool up for the 21st century. Ohio’s future, as the nation’s, lies in nanotechnology, polymers, robotically-assisted medicine, space technologies, sustainable energy, and other pioneering opportunities.

**Northeast Ohio
desperately
needs a skilled
mathematics
and science
workforce!**

See reverse side for careers of “high need” in northeast Ohio!

What MUST you and your child (children) do?

Let your child (children) know that anyone can learn mathematics and science. It is not OK to say “I am not good at math and science.”

Encourage your child (children) do their homework and do it well. Praise them when they do well in mathematics and science. Let them know they are going to accomplish great things with the skills they are learning.

Encourage your child (children) to take the highest level math and science courses offered at their grade level. Be sure that you are aware of whether or not your child is placed in a low level track in mathematics and/or science.

Practice mathematics and science skills at home. See www.smartconsortium.org for tips on how to do this.

Northeast Ohio desperately needs a skilled mathematics and science workforce!

To find a complete profile of the following STEMM careers including:

The Nature of the Work
Training, Other Qualifications and Advancement
Employment
Job Outlook – nationally and in Ohio
Average Earnings – nationally and in Ohio
Related Occupations
Sources of Additional Information
Ohio Training Locations
High School Course of Study Recommended

Go to www.smartconsortium.org and click on the STEMM Career tab.

Health Care Careers
of “high need” in northeast Ohio:

Graduate Degree Required :

[Mental Health & Substance Abuse Social Work
Occupational Therapist
Physical Therapist](#)

Undergraduate (4 year) Degree Required:

[Clinical Laboratory Technologist
Registered Nurse](#)

Associates (2 year) Degree Required:

[Cardiovascular Technologist & Technician
Clinical Laboratory Technicians
Dental Hygienist
Dietetic Technician
Emergency Medical Technicians & Paramedics
Medical Records and Health Information Technician
Medical Transcriptionist
Nuclear Medicine Technologist
Occupational Therapy Assistant
Physical Therapy Assistant and Aide
Physician Assistant
Radiation Therapists
Respiratory Therapist
Social & Human Service Assistants
Surgical Technologist](#)

High School Diploma Required:

[Home Health Aides
Medical Assistant
Pharmacy Technician](#)

Manufacturing Careers
of “high need” in northeast Ohio

Undergraduate (4 year) Degree Required:

[Environmental Engineers](#)

Associate (2 year) Degree Required:

[Environmental Engineering Technician
Environmental Science & Protection Technician
Tool & Die Makers](#)

Special Training Required:

[Welders](#)

High School Diploma Required:

[Inspectors/Testers/Sorters/Samplers/Weighers
Machine Setters
Machinists
Production Workers
Team Assemblers](#)

Construction Careers
of “high need” in northeast Ohio

Undergraduate (4 year) Degree Required:

[Surveying & Mapping Technicians](#)

Associate (2 year) Degree Required:

[Construction and Building Inspectors](#)

Special Training Required:

[Cement Masons & Concrete Finishers
Glaziers
Heating, AC & Refrigeration Mechanics/Installers
Painters, Construction & Maintenance
Plumbers
Pipefitters & Steamfitters](#)

High School Diploma Required:

[Brickmasons & Blockmasons
Carpet, Floor, and Tile Installers and Finishers
Carpenters
Electrician
Hazardous Materials Removal Workers
Roofers
Structural and Reinforcing Iron and Metal Workers](#)

Technology Careers
of “high need” in northeast Ohio

Undergraduate (4 year) Degree Required:

[Computer & Information Systems Management
Computer Software Engineers - Applications
Computer Software Engineers - Systems Software
Computer Systems Analysts
Database Administrator
Network Systems & Data Communications Analyst
Associate \(2 year\) Degree Required:
Network Systems & Data Communications Analyst](#)

Business Careers
of “high need” in northeast Ohio

Undergraduate (4 year) Degree Required:

[Landscape Architects, Personal Financial Advisor](#)

Associate (2 year) Degree Required:

[Veterinary Technologists & Technician](#)