A Partial List of Online and Community STEM Resources

MINNDEPENDENT does not endorse or recommend any organization, product, or professional association. Contact Beth Murphy, MINNDEPENDENT STEM Program Manager, at bmurphy@minndependent.org with suggested additions.

In addition to her work with MINNDEPENDENT, Beth also works directly with schools and nonprofits as a consultant to guide planning and implementation of exceptional STEM learning experiences. Visit Beth Murphy Consulting to learn more or contact Beth at bethmurphyconsulting@gmail.com to schedule a free consultation for your school.

ACADEMIC STANDARDS & RELATED RESOURCES

A Framework for K-12 Science Education

Framework for 21st Century Learning

Getting Ready for the New Minnesota Science Standards online course

ITEEA Standards for Technological and Engineering Literacy

Matrix of Crosscutting Concepts in NGSS

MN Department of Education - STEM

MN Academic Standards for Science

MN Academic Standards for Mathematics

Minnesota STEM Teacher Center

Science & Engineering Practices in K-12 Classrooms

The Next Generation Science Standards

US Department of Education – STEM & Computer Science

COLLEGES & UNIVERSITIES

Hamline University: **Center for Global Environmental Education (CGEE)**

National Institute for STEM Education

University of Minnesota:

- **BrainU: The Neuroscience Teacher Institute**
- **Monarch Lab**
- **Educator Development**
- **STEM Center Resources**

University of St. Thomas:

- **Center for Engineering Education (CEE)**
- Curriculum and Teaching Resources: STEM

Minnesota State:

- **Minnesota State Centers of Excellence**

MUSEUMS & EDUCATION PROVIDERS

The Bakken Museum: inspiring a passion for innovation to make the world a better place

Bell Museum: Minnesota's natural history museum with a mission to ignite curiosity and wonder, explore our connections to nature and the universe, and create a better future for our evolving world

Climate Generation: A Will Steger Legacy: empowering individuals and their communities to engage in solutions to climate change

Code Savvy: striving to make kids and teens more code-savvy through creative educational programs and services

createMPLS: bringing hands-on technology programs to k-12 students

High Tech Kids: nonprofit that supports Minnesota *FIRST*® LEGO® League Junior, *FIRST*® LEGO® League, and *FIRST*® Tech Challenge programs

MN Agriculture in the Classroom: Free curriculum, educational resources, grants, outreach and PD opportunities to advance STEM education.

MN Department of Transportation: Aeronautics and Aviation Education

Minnesota HOSA - Offers students in middle school through college opportunities to volunteer, lead, compete, and explore healthcare careers.

Minnesota Zoo: Educator resource page

Project Scientist: Creates joyful and engaging experiences in STEM

Science from Scientists: providing exciting, informative and engaging programming by practicing scientists

Science Museum of Minnesota: hands-on exhibits, dinosaurs, Omnitheater as well as field trips, outreach programs, and teacher professional development

Science Museum of Minnesota Lending Library/Teacher Resource Center: membership-based teacher resource to

borrow instructional, hands-on STEM materials

World Savvy: educating and engaging youth to learn, work, and thrive as responsible global citizens

The Works Museum: hands-on children's museum that focuses on technology and engineering

We Share Solar: hands-on solar education that inspires students to light the world

PROFESSIONAL ASSOCIATIONS

Computer Science Teachers Association, Gopher State Chapter (MN)

Minnesota Academy of Science

Minnesota Council of Teachers of Mathematics

Minnesota Science Teachers Association

Minnesota Technology & Engineering Educators Association

National Science Teaching Association

ADDITIONAL RESOURCES

3M STEM and Skilled Trades: Visiting Wizards, Tech Talks, 3M Twist Program and STEP- Science Training Encouragement Program

Accelerate Learning/STEMscopes: STEM focused curriculum

Catapult Learning: K-12 STEAM curriculum based on the engineering design process

Centers for Disease Control and Prevention: K-12 teacher resources

Code.org: non-profit dedicated to growing computer programming education.

Edutopia: resources for teachers including project-based learning and integrated studies

Engineering byDesign™ Program, PreK-12 standards-based curriculum developed by the International Technology and Engineering Educators Association (ITEEA)

Engineering is Elementary: developed by the Museum of Science, Boston

Engineer's Playground: information, products and services about engineering and STEM for schools and parents

Fenworks: Pioneering Esports and Drone Racing for Schools

Full Option Science System (FOSS)®: K-8 science curriculum from the Lawrence Hall of Science, University of California, Berkeley

getSTEM of Minnesota, a web portal designed to connect Minnesota educators with science and technology businesses

Girls That Code: FREE summer programs and after- school clubs for girls. Learn to code

Great Explorations in Math and Science (GEMS): from the Lawrence Hall of Science, University of California, Berkeley

Growing Green Hearts: Resources to help students learn to care for land, air, water, and living things all around us.

KidWind: clean energy curriculum and materials

LASER Classroom™: K-12 tools and resources to teach about light, lasers and optics

Maker Education: whose mission is to create more opportunities for young people to build confidence, foster creativity, and spark interest in STEM and the arts

Minnesota Department of Natural Resources: providing natural resources education

Minnesota STEM Ecosystem: network that strengthens STEM learning pathways in MN

Minnesota Tech for Success: creating digital equity for students in STEM

National Center for Technological Literacy: programs and resources to raise awareness and understanding of engineering

Next Wave STEM: Powering STEM education through emerging tech

Project Lead the Way (PLTW): bringing real-world learning to PK-12 classrooms

Raspberry Pi Foundation: Enabling all young people to realize their full potential through computing.

Sadlier: K-12 education resources

Smithsonian Science Education Center: transforming K-12 Education Through Sciences. **FREE curriculum** for K–8 covering life, earth, and physical sciences with technology.

SciGirls: evidence-based practices in STEM education for girls

SciMathMN - Minnesota STEM Teacher Center

Starbase Minnesota: Educating and inspiring youth in STEM

SmartLab: Career connected STEM ecosystem that equipes today's students for tomorrow's challenges

Sparkpoint Innovations: orbit earth expo program

STEM Supplies: STEM supplies designed to immerse students in STEM/STEAM principles and connect their learnings to the real world

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TeachEngineering: digital library of standards-based engineering content for K-12

Teaching Channel: Online STEM Courses for Educators

Teachers TryScience: a collaborative effort between the New York Hall of Science, IBM Corporation and teachengineering.org to provide STEM Lessons/resources for educators**,** including teacher-contributed lessons

Try Engineering: engineering resources for students, parents, teachers & school counselors

TPT Twin Cities Center for Lifelong Learning: extensive library of resources and activities for K-12 students, and educators

Vernier Science Education: company that provides sensors, software and curriculum to teach science and collect and interpret data

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