



STEM Resource Guide – Fall 2024

Organizations Offering Resources (Partial List)

	Association for Supervision and Curriculum Development www.ascd.org		California Dept. of Education www.cde.gov
	Edutopia www.edutopia.org		Harvard Graduate School of Education www.gse.harvard.edu
	International Literacy Association – The Reading Teacher www.literacyworldwide.org		International Society for Technology in Education www.iste.org
	International Technology Engineering and Education Association www.iteea.org		National Council of Teachers of Mathematics www.nctm.org
	National Science Teaching Association www.nsta.org		PDK International - Kappan www.pdkintl.org
	We Are Teachers www.weareteachers.com		YouTube www.youtube.com

These resources were curated by Michael Tapia, VEP Board member and retired VUSD Principal



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Articles/Lessons/Activities

- [4 Ways to Make STEM Classrooms More Inclusive | Edutopia](#) February 25, 2022
- [Incorporating Coding in Middle School STEM Classes | Edutopia](#) January 18, 2022
- [Developing High School Students' Ethical Thinking in STEM Classes | Edutopia](#) October 7, 2021
- [4 Quick and Inexpensive Design Challenges for Elementary and Middle School | Edutopia](#) July 30, 2021
- [How to Design a Fun 'Survivor'-Themed Classroom Activity to Promote Science Learning | Edutopia](#) July 26, 2021
- [How to Ensure That All High School Students Can See Themselves in STEM | Edutopia](#) February 8, 2021
- [Inclusive STEM high schools increase opportunities for underrepresented students - kappanonline.org](#) May 1, 2016 (**PDK**)
- [What top high schoolers think about STEM subjects - kappanonline.org](#) April 7, 2020 (**PDK**)
- [Making STEM More Engaging and Inclusive in Grades 6-12 | Edutopia](#) August 7, 2020,
- [The STEM Gender Gap: Encouraging Girls to Persist in Science and Math | Edutopia](#) March 12, 2019,
- [Get to Know These 91 Famous Female Scientists \(thoughtco.com\)](#)
- [There is an "E" in STEM! | Edutopia](#) April 25, 2011
- [Applied Engineering in Elementary School | Edutopia](#) January 26, 2016
- [Elementary Engineering: From Simple Machines to Life Skills | Edutopia](#) (Video with transcript) January 26, 2016
- [The Reading Teacher - 2021 - West - Supporting Scientific Discussions Moving Kindergartners Conversations Forward.pdf](#) May/June 2021 (**ILA**)
- [Teacher Resources K-12 \(cdc.gov\)](#) **Teacher Resources K-12 CDC STEM Program Core Components** (Divided in 2 sections: Elementary & Middle/High School)
- [Resources and Downloads for STEM | Edutopia](#) (There are close to 3 dozen links to lessons, articles, models, etc. related to STEM), January 13, 2016

- [How to Manage an Engaging Virtual STEM Program for Grades 3 to 12 | Edutopia](#) December 7, 2021
- [How Hidden Classroom Dynamics Can Stymie Girls in STEM | Edutopia](#) May 14, 2021
- [Building a STEM Pathway for Native Students | Edutopia](#) January 10, 2019
- [Sparking Curiosity About STEM | Edutopia](#) July 11, 2018
- [Implicit Bias in the STEM Classroom | Edutopia](#) May 5, 2017
- [STEM to STEAM: Resources Toolkit | Edutopia](#) May 21, 2014, Updated January 20, 2016
- [STEM Everywhere: Science, Technology, Engineering, and Math in the Real World | Edutopia](#) August 26, 2014
- [A STEM Project That Connects to Middle School Students' Interest in Social Movements | Edutopia](#) March 29, 2022
- [STEM at School | Let's Talk Science \(letstalkscience.ca\)](#) (Provides links to resources and projects)
- [A Scientific Age - ASCD](#) November 20, 2021, **Educational Leadership**
- [How to Make Virtual STEM Lessons More Engaging for Young Learners | Edutopia](#) October 22, 2020
- [To engage students in STEM, engage them in the world - kappanonline.org](#) April 1, 2017 (**PDK**)
- [Looking for STEM Beyond the Classroom \(and Beyond the Field Trip\) | Edutopia](#) May 20, 2014
- [Teaching the Environment | Harvard Graduate School of Education](#) December 15, 2015, **Usable Knowledge (HGSE)**
- [50 Stem Activities To Help Kids Think Outside the Box - We Are Teachers](#) January 14, 2022
- [Does Your STEM Curriculum Teach These 4 Skills? \(Students Need Them in the Real World\) - We Are Teachers](#) April 6, 2018
- [So Your Student Believes the Earth Is Flat | Harvard Graduate School of Education](#) January 20, 2022, **Usable Knowledge (HGSE)**
- [Stand Up for Mother Earth! | Harvard Graduate School of Education](#) March 8, 2022, **Usable Knowledge (HGSE)**
- [STEM Accessibility Is a Family Affair - ASCD](#) July 29, 2021, **Educational Leadership**
- [How to Use the Outdoors to Teach STEM | Edutopia](#) December 3, 2019
- [Professional development that improves STEM outcomes - kappanonline.org](#) January 17, 2020 (**PDK**)

- [Generative AI Art in School | Edutopia](#) February 2024
- [Grappling With AI Writing Technologies in the Classroom | Edutopia](#) January 2023
- [Why I'm Banning Student AI Use This Year | Edutopia](#) August 2024
- [AI Literacy for Students | Edutopia](#) May 2024
- [Guiding Students to Creative AI Use | Edutopia](#) April 2024
- [Encouraging AI Adoption in Schools | Edutopia](#) April 2024
- [Teaching CTE Students to Use AI | Edutopia](#) March 2024
- [Creating AI Usage Guidelines for Students | Edutopia](#) November 2023
- [9 Tips for Using AI for Learning \(and Fun!\) | Edutopia](#) October 2023
- [The Role of Generative AI in Education | Edutopia](#) September 2023
- [Using AI to Create Do Now Activities | Edutopia](#) May 2024
- [Using AI Tutors in a Flipped Classroom | Edutopia](#) June 2024
- [Using AI in Universal Design for Learning | Edutopia](#) April 2024
- [Using AI in Restorative Practices | Edutopia](#) November 2023
- [Using AI in Math Instruction | Edutopia](#) June 2023
- [Using AI Tools for Differentiated Instruction | Edutopia](#) June 2023
- [Using ChatGPT to Plan High School Math Lessons | Edutopia](#) May 2023
- [How Generative AI Can Support Nonfiction Reading | Edutopia](#) July 2024
- [7 Digital Tools That Help Bring History to Life | Edutopia](#) February 2024
- [Using AI Image Generators in World Language Classes | Edutopia](#) March 2024
- [Using AI to Fuel Engagement and Active Learning \(ascd.org\)](#) July 2024
- [Uniting Tech and Pedagogy \(ascd.org\)](#) June 2023

- [Prompt Literacy: A Key for AI-Based Learning \(ascd.org\)](#) June 2023
- [Taking a Transformative Approach to AI \(ascd.org\)](#) June 2023
- [How to Use ChatGPT: Time-Saving Tips for Busy Educators \(ascd.org\)](#) June 2023 (Webinar link)
- [Why Science? | Harvard Graduate School of Education](#) November 13, 2015, **Usable Knowledge (HGSE)**
- [Khan Academy's Discovery Lab: Summer Camp Where STEM Meets PBL | Edutopia](#) December 18, 2012
- [Immersive Science, Deeper Learning | Harvard Graduate School of Education](#) January 16, 2018, **Usable Knowledge (HGSE)**
- [A Scientific Age - ASCD](#) November 1, 2020, **Educational Leadership (ASCD)**
- [Home | BioEd Online](#) **Science Teacher Resources from Baylor College of Medicine** (Links to STEM home lessons, educator lesson plans, etc. are offered)
- [Of Swallowtails and Swallows - ASCD](#) October 1, 2016, **Educational Leadership**
- [UEN Resources for K-12 Education - UEN](#) (Homepage offers 2 dozen links to various lesson plans and resources), **Utah Education Network**
- [Elementary School Science Lessons With Paper Airplanes | Edutopia](#) February 11, 2021
- [Make Earth Day a Global Learning Day | Edutopia](#) April 11, 2014
- [Research Matters / Outside and Inspired - ASCD](#) by Bryan Goodwin and Tracie Corner, November 1, 2020, **Educational Leadership (ASCD)**
- [Common Core in Action: How Two Science Teachers are Implementing Common Core | Edutopia](#)
- [How to Create Authentic Writing Opportunities in Science Classes | Edutopia](#) February 11, 2022
- [The Reading Teacher - 2021 - Lopas - Writing to Learn in Science Accommodations to Support English-Language Learners .pdf \(ILA\)](#)
- [Using ELL Strategies in the Science Classroom | Edutopia](#) June 17, 2021
- [5 Simple, At-Home Spanish STEM Challenges • Bilingually Yours](#) (Note: not all of the materials are in Spanish)
- [Elementary STEM Curriculum in Spanish | PLTW](#) Note: You will need to provide some information to access resources), **Project Lead The Way**

- [Let's Talk, Read and Sing About STEM! | The Administration for Children and Families \(hhs.gov\)](#) (Links to 4 resources in English and Spanish provided), **Office of Early Childhood Development**
- [STEM in Spanish - English-Spanish Dictionary | Glosbe](#)
- [The Reading Teacher - 2016 - Morabito - Science in Writing Workshop Enhancing Students Science and Literacy Learning.pdf](#) January/February 2017, **(ILA)**
- [The Reading Teacher - 2017 - Wright - Supporting Disciplinary Talk From the Start of School Teaching Students to Think and \(1\).pdf](#) September/October 2017, **(ILA)**
- [The Reading Teacher - 2017 - Barnes - Teaching Scientific Metaphors Through Informational Text Read-Alouds.pdf](#) January/February 2017, **(ILA)**
- [5 Science Experiments Inspired by Harry Potter | Edutopia](#) \ September 11, 2019
- [When Science Meets Fiction - ASCD](#) May 31, 2017, **Educational Leadership**
- [Computational Thinking Across the Curriculum | Edutopia](#) March 30, 2017
- [High School Physics Design Challenges Based on Big Ideas | Edutopia](#) July 7, 2022
- [Taking an Interdisciplinary Approach to Environmental Science in Middle and High School | Edutopia](#) September 24, 2021
- [Outdoor Science Lessons Foster Environmental Stewardship in Middle School | Edutopia](#) June 17, 2022
- [Lessons and Activities | Soils 4 Teachers](#) **Soil Science Society of America**
- [Free K-12 resources developed for teaching soil science \(newswise.com\)](#) **Soil Science Society of America**
- [Exploring Local Waterways in Place-Based Middle School Environmental Education | Edutopia](#) April 28, 2022
- [Why Climate Change Is a Tough Topic to Teach | Edutopia](#) February 8, 2022
- [When Teaching Climate Change, Knowledge Is Power - ASCD](#) May 1, 2017, **Educational Leadership**
- [EdTech Essentials / Building a Smarter Tech Tool Belt - ASCD](#) November 1, 2021, **Educational Leadership**
- [3 Ways to Teach Logic Without Coding in Middle and High School | Edutopia](#) September 7, 2021
- [Teaching Elementary Students to Code Using Free Simulators | Edutopia](#) by Debra Jacoby, June 10, 2021
- ["Techquity": Going from Digital Poverty to Digital Empowerment - ASCD](#) September 1, 2021, **Educational Leadership (ASCD)**

- [Counterbalancing the Screenager Effect - ASCD](#) September 1, 2021, *Educational Leadership (ASCD)*
- [EdTech Essentials / Let's "Hear" It for Student Learning - ASCD](#) September 1, 2021, *Educational Leadership (ASCD)*
- [Engagement, Not Distraction: Managing Technology's Pull in the Classroom - ASCD](#) July 8, 2021, *Educational Leadership (ASCD)*
- [How to Design Tech Programs to Prepare Students for the Future | Edutopia](#) February 9, 2021
- [Creative Computing | Harvard Graduate School of Education](#) December 8, 2016, *Usable Knowledge (HGSE)*
- [Using Problem-Solving in Middle and High School Math to Build Community From Day 1 | Edutopia](#) July 13, 2022
- [Dos and Don'ts for the First 2 Weeks of Elementary Math Classes | Edutopia](#) July 11, 2022
- [How to Use Universal Design for Learning to Make Math Accessible for All Students | Edutopia](#) July 8, 2022
- [Computational Thinking Across the Curriculum | Edutopia](#) March 30, 2017
- [Using Problem-Solving in Middle and High School Math to Build Community From Day 1 | Edutopia](#) July 13, 2022
- [Are We Teaching the Math Kids Need? | Edutopia](#) January 29, 2021
- [Rough Draft Thinking Can Make Math Class More Inclusive | Edutopia](#) October 15, 2020
- [4 Ways to Encourage Math Talks | Edutopia](#) by Sarah Gonser, June 10, 2020
- [Connecting Math and Science to Reading and Writing | Edutopia](#) January 10, 2020
- [Deeper Discussions in Math Add Up - ASCD](#) April 1, 2020, *Educational Leadership*
- [Let's Talk Math - ASCD](#) April 1, 2020, *Educational Leadership*
- [Making Mathematical Thinking Visible - ASCD](#) December 1, 2019, *Educational Leadership*
- [From Answer-Getters to Problem Solvers - ASCD](#) October 1, 2017, *Educational Leadership*
- [Five Practices to Unleash Problem Solvers - ASCD](#) October 1, 2017, *Educational Leadership*
- [Citizenship: What's Mathematics Have to Do With It? - ASCD](#) December 1, 2016, *Educational Leadership*
- [Step by Step / 5 Steps to ... Spark Joy in Math This Year - ASCD](#) December 6, 2021, *Educational Leadership*

- [Becoming a Math Person | Harvard Graduate School of Education](#) January 16, 2016, *Usable Knowledge (HGSE)*
- [Using comparison in mathematics classrooms | Harvard Graduate School of Education](#) July 21, 2021, *Usable Knowledge (HGSE)*
- [Math Ain't That Hard, but Establishing Trust Is | Harvard Graduate School of Education](#) September 10, 2020, *Usable Knowledge (HGSE)*
- [The Reading Teacher - 2018 - Colonnese - Writing in the Disciplines How Math Fits Into the Equation.pdf](#) November/December 2018, *The Reading Teacher (ILA)*
- [Making Math a Family Thing | Harvard Graduate School of Education](#) January 4, 2018, *Usable Knowledge (HGSE)*
- [Mathematics, Everywhere for Everyone | Harvard Graduate School of Education](#) June 2, 2016, *Usable Knowledge (HGSE)*
- [Summer Math Loss | Harvard Graduate School of Education](#) June 24, 2016, *Usable Knowledge (HGSE)*
- [Multiple Methods | Harvard Graduate School of Education](#) April 13, 2015, *Usable Knowledge (HGSE)*

Guides/Publications/Organizations

- [Science, Technology, Engineering, & Mathematics - Science \(CA Dept of Education\)](#) (homepage)
- [2016 Science Framework - Science Framework \(CA Dept of Education\)](#)
- [Science - Teaching & Learning \(CA Dept of Education\)](#) (Includes links to 6 relevant resources for California educators)
- [Empowering Learning - A Blueprint for Great Schools \(CA Dept of Education\)](#)
- [Appendix I - Engineering Design in NGSS - FINAL_V2.pdf \(nextgenscience.org\)](#) *CDE*
- [CA CSS Math - Content Standards \(CA Dept of Education\)](#) *California Common Core State Standards – Mathematics, CDE*
- [NGSS for California Public Schools, K-12 - Science \(CA Dept of Education\)](#)
- [Science - Curriculum Areas \(CA Dept of Education\)](#) (Home page with links to 11 helpful “State” and “Partner” Resources)
- [Freebies and Opportunities for Science and STEM Teachers From the Field, June 14, 2022 | NSTA](#)

- [About | Computer Science Teachers Association \(csteachers.org\)](http://csteachers.org)
- [pd overview : StemTeachingTools \(en-US\)](#) (Home page – accessed through CDE link)
- [Best Science Websites for Middle School and High School \(weareteachers.com\)](http://weareteachers.com) (Multiple links for these science topics are provided: Biology, Chemistry, Earth Science, Environmental Science, Physics)
- [Engaging Girls in STEM - Science \(CA Dept of Education\)](#) (Links to supportive CDE and external resources are provided), **CDE**
- [STEM Equity Pipeline | National Alliance for Partnerships in Equity \(napequity.org\)](http://napequity.org) (home page – accessed through a CDE link)
- [Microsoft Word - PositionStatement_ScienceForEnglishLanguageLearners.doc](#) **NSTA**
- [NSTA Press® Sample Chapters | NSTA](#) (Dozens of links are provided to free sample chapters for Grades K-12; in addition, links to sample pages from children's books on a variety of science topics are provided),
- [Our Beautiful Planet | NSTA](#) **Free Resources** (Links to 12 activities with lesson plans/guides and short video are provided)
- [ISTE](#) **ISTE Standards for Students, Educators, Educator Leaders, International Society for Technology in Education**
- [STEM Professional Associations \(utep.edu\)](http://utep.edu) (provides links to 11 organizations for STEM educators)
- [8 Edtech organizations every teacher should know about \[INFOGRAPHIC\] - NEO BLOG \(neolms.com\)](#)
- [Over 22 Free STEM Posters for the Classroom - WeAreTeachers](#) December 8, 2021
- [The Best Free Posters of STEM Women | Edutopia](#) June 4, 2019
- [Spanish STEM Resources - Becoming Bilingual](#) (Links to 6 different resources are included)
- [Recopilación de recursos — AAAS/Subaru Prize for Excellence in Science Books \(sbfpriize.org\)](http://sbfpriize.org) (Links to 8 STEM/CTIM resources are provided), **AAAS STEM Education**
- [Growing Readers | Reading Rockets](#) (Scroll down to **Science and math activities** for 21 activities with resources available in English and Spanish)
- [Home Science Tools Resource Center](#) **Explore Projects Lessons and Guides** ("Hundreds of free resources and activities for learning science at home! Browse projects by type or grade level)
- [Kids STEM Guide | Encouraging STEM Activities for K-12 & Beyond \(discoverdatascience.org\)](http://discoverdatascience.org) (Multiple links to K-5 and 6-12 resources)

STEM Booklists

- [Best STEM Books K–12 | NSTA 2024](#) **National Science Teaching Association**
- [Outstanding Science Trade Books for Students K–12 2024 | NSTA](#)
- [50 Great STEM Books for Kids - Data Science Degree Programs Guide](#)
- [50 Best Fictional STEM & Science Books for Kids - Imagination Soup](#)
- [47 STEM Books for K-12 Readers \(mastersindatascience.org\)](#) , October 29, 2020
- [50 STEM Books to Update Your Collection - We Are Teachers](#)
- [STEM 2013mashup \(ala.org\)](#) **STEM Reads for Teens, American Library Association (ALA)**
- [STEM Booklist Collection | Lee & Low Books \(leeandlow.com\)](#)
- [Best STEM Books List – Children's Book Council \(cbcbooks.org\)](#)
- [STEM Booklists - Carnegie Library of Pittsburgh](#) (links to 9 STEM topics)
- [STEM book list - Bookshop.org](#) **Page Ahead Children's Literacy Program**
- [Stem Books \(goodreads.com\)](#)
- [LitLinks: What is a STEM book? Characteristics and examples \(patriciamnewman.com\)](#) **January 8, 2020, Patricia Newman**
- [STEM Tuesday- Diversity in STEM- Book List - From The Mixed Up Files](#)
- [100+ Best Biographies For Kids - Read to Inspire - KidPillar](#) (Click on *Biographies of Scientists, Inventors, and Mathematicians*)
- [21+ Children's Books about Women Scientists – Science Books for Kids \(growingwithscience.com\)](#)
- [18 Children's Books About Female Scientists, Because STEM-inism Is The Future \(romper.com\)](#)
- [Best Picture Book Biographies - Imagination Soup](#) (Scroll down to STEM)
- [Math Books for Kids.pdf - Google Drive](#) 2022, **TwoMathMoms**
- [10 Living Books for Middle School Math - Our Journey Westward](#) March 2022
- [40 Children's Books That Foster a Love of Math | Development and Research in Early Math Education \(stanford.edu\)](#) **Stanford Graduate School of Education**

- [15 Fun, Creative Math Books for Students in 1st to 8th Grade | Prodigy Education \(prodigygame.com\)](#)
March 16, 2017
- [Top Rated Educational Math Books for Children \(135 books\) \(goodreads.com\)](#)
- [Math Book Lists \(twomathmoms.com\)](#)
- [Spanish Informational Text Set Book List – Hameray Publishing](#) (Includes K-2 titles that address STEM topics and prices)
- [Non-Fiction Books in Spanish | Children's Book World \(childrensbookworld.com\)](#) (List on home page is limited but book searches are possible using title, author, keyword, or ISBN)
- [Spanish Non-fiction for children | The European Bookshop](#) (Offers 3 pages to titles that include some STEM topics)
- [Libros en español \(raz-kids.com\)](#) (Includes links to some STEM-inclusive titles)
- [Amazon.com: spanish books children - Science & Math: Books](#) (Many STEM titles offered but requires lots of multiple page searching)
- [Science Resources Translated in Spanish - Science A-Z](#) **Spanish Unit Nonfiction Books Multilevel Nonfiction Science Books for Kids** (Life, Earth/Space, Physical – Primary grades)
- [Science A-Z](#) **Spanish Focus Books Additional Science Spanish Books for each Unit on High-Interest Topics** (Grades K-2 Topics: *Animals, Living/Non-living, Plants, Senses, Earth, Moon & Sun, Weather, Earth's Surface, Doing Work, Energy, Light, Properties, Magnets*; Grade 3-4 Topics: *Vertebrates, Plant Life, The Human Body, Life Cycles, Habitats/Environment, The Solar System, Clouds, Winds, and Storms, Minerals, Rocks, and Soil, Machines, Heat Energy, Sound, Solids, Liquids and Gases*; Focus Book Teacher's Guide offered for both grade level sets)
- [10 Award Winning Science Books for High School Students - 2017 - Parents' Picks Awards \(parentspicksawards.com\)](#)
- [My Favorite Science Novels for Middle School - Beakers and Ink](#) (8 titles suggested,

Videos from YouTube and Other Sources

- [Integrating STEM into the Elementary Classroom - YouTube](#) December 22, 2016, 6:11
- [Creating a STEM Culture with Chris Woods - YouTube](#) April 16, 2021, 7:29
- [English Learners in STEM: Language Log - YouTube](#) December 10, 2019, 7:42
- [Best practices in STEM education - YouTube](#) Dec. 18, 2020, 23:35

- [K-5 STEM Team Building Activity - YouTube](#) September 11, 2018, 3:32
- [What Are The Benefits Of STEM Learning In Early Years? | STEM education - Tinkerly - YouTube](#) May 4, 2022, 3:38
- [1st Grade STEM Lesson - YouTube](#) January 9, 2020, 10:46
- [5 Crazy Cool Ways to Explore Balance | STEM Activities to Try at Home - YouTube](#) May 6, 2020, 6:06
- [Introducing STEM Standards Through Engaging, High-Interest Projects - YouTube](#) February 4, 2019, 7:52
- [Panel: "Diversifying STEM Education: Challenges and Best Practices" Season 5 \(2014\) - YouTube](#), July 8 2021, 31:45
- [Diversity, Equity, and Inclusion: Best Practices in Engineering Part 1 | Expanding the K12 Pipeline - YouTube](#) December 21, 2021, 9:41
- [Beaverton middle school event aims to get more girls interested in STEM careers - YouTube](#) March 30, 2022, 2:20
- [The Future of STEM Depends on Diversity | Nicole Cabrera Salazar | TEDxGeorgiaStateU - YouTube](#) TOP 14 SUPER STEM ACTIVITIES - YouTube January 14, 2021, 20:42
- [5 Inspiring Black People in STEM - YouTube](#) February 25, 2021, 4:16
- [Black History Month - Black Scientists and Inventors Part 1 \(Animated\) - YouTube](#)
- [Black Excellist: 10 Black Women Inventors - YouTube](#) October 8, 2020, 18:56
- [Latino astronauts, engineers inspiring the next generation in STEM - YouTube](#) October 20, 2020, 4:15
- [Latino Inventors They Don't Teach You in School - YouTube](#) September 20, 2020, 5:13
- [10 Hispanic Inventors Who've Changed Your Life | Trending Topics - YouTube](#) August 25, 2021, 12:44
- [MatSE Celebrates Hispanic and Latinx Scientists - YouTube](#) October 6, 2021, 1:02:39
- [Bipartisan resolution aims to get more Latinos in STEM - YouTube](#) May 19, 2022, 3:09
- [Girls in STEM: A conversation with CEO of Society of Hispanic Professional Engineers - YouTube](#) December 21, 2018, 3:29
- [ASME INSPIRE | K-12 engineering education/STEM initiative - YouTube](#) September 12, 2019, 3:43
- [Design Thinking: A Problem Solving Framework - YouTube](#) September 19, 2018, 5:22

- [Must-Have STEM Materials for the Classroom - YouTube](#) April 21, 2019, 17:05
- [Flipping STEM Best Practices - STEM Tips / Teaching Online - YouTube](#) July 21, 2020, 2:43
- [Ken Hecht President, National STEM Honor Society | STEM education - YouTube](#) *Why is STEM education so important?* February 25, 2022, 10:53
- [Strengthening STEM Education with Video Instruction - YouTube](#) September 12, 2017, 3:40
- [New Pathways to STEM: Increasing Access and Opportunity in Science Education - YouTube](#) November 15, 2021, 1:01:01
- [Discovery Education STEM Camp Inspires Future Scientists - YouTube](#) November 8, 2013, 3:27
- [STEM Barriers and Best Practices - YouTube](#) October 4, 2017, 15:00
- [Virtual Briefing: STEM Education and the Return to School During COVID-19 - YouTube](#) September 29, 2020, 53:00
- [Junior Engineers - Coding and Robotics for Kids - YouTube](#) March 19, 2019, 1:55
- [A Conversation on STEM Education with Bright Spots Across the Country - YouTube](#) March 16, 2016, 58:35
- [COVID Learning Loss in the STEM Subjects: What Do We Know and What Can We Do About It? - YouTube](#) March 17, 2021, 1:03:33
- [High school students apply STEM skills at SAWS water summit - YouTube](#) February 25, 2020, 2:29
- [Exploring STEM Through Play - YouTube](#) May 10, 2019, 4:53
- [STEM in Early Learning - Using Open-Ended Questions to Encourage Learning - YouTube](#) October 18, 2017, 4:28
- [STEM as an Approach to Early Childhood Learning - YouTube](#) July 11, 2019, 4:28
- [Learning Problem Solving and Growth Mindset in a Makerspace - YouTube](#) November 16, 2018, 3:55
- [A Project-Based Approach to Teaching Elementary Science - YouTube](#) February 21, 2021
- [Making Projects Accessible - YouTube](#) June 12, 2018, 2:53
- [Teaching STEM/STEAM with Graphic Novels - YouTube](#) May 3, 2021, 59:28
- [Picture-Perfect STEM, Grades 3–5: Chapter 15—From Seed to Tree - YouTube](#) October 4, 2018, 5:04

- [3 Team Challenges to Test Creativity | STEM Engineering Activities - YouTube](#) May 13, 2020, 7:27
- [Famous Buildings: Engineering STEM Activity - YouTube](#) January 29, 2021, 18:36
- [AI for STEM Educators \(youtube.com\)](#) 58:32
- [How Artificial Intelligence is Making DPS STEM Classrooms More Equitable \(youtube.com\)](#) 3:08
- [Important Questions in K-12 STEM Education #9 | Should we be Afraid of AI in Education? \(youtube.com\)](#) 18:49
- [AI in the Classroom: Teachers Leading the Way \(youtube.com\)](#) 3:05
- [AI in the K-12 Classroom: Session 1: What is AI, and why now? \(youtube.com\)](#) 29:00
- [AI in the K-12 Classroom \(youtube.com\)](#) 50:34
- [WATCH: How one school is using AI to give their students feedback \(youtube.com\)](#) 6:32
- [Artificial Intelligence in K 12 Classrooms - Implications for Educators \(youtube.com\)](#) 48:08
- [AI education tools are helping students learn, grow and gain confidence \(youtube.com\)](#) 3:31
- [Some U.S. schools banning AI technology while others embrace it \(youtube.com\)](#) 3:04
- [Teaching AI in K-12: Examples, Issues & Guidance from K-12 CS Education Research \(youtube.com\)](#) 1:02:09
- [Girls + AI introduces local middle school students to careers in STEM \(youtube.com\)](#) 1:46
- [chatGPT for K-12 Educators - AI in the Classroom \(youtube.com\)](#) 1:19:38