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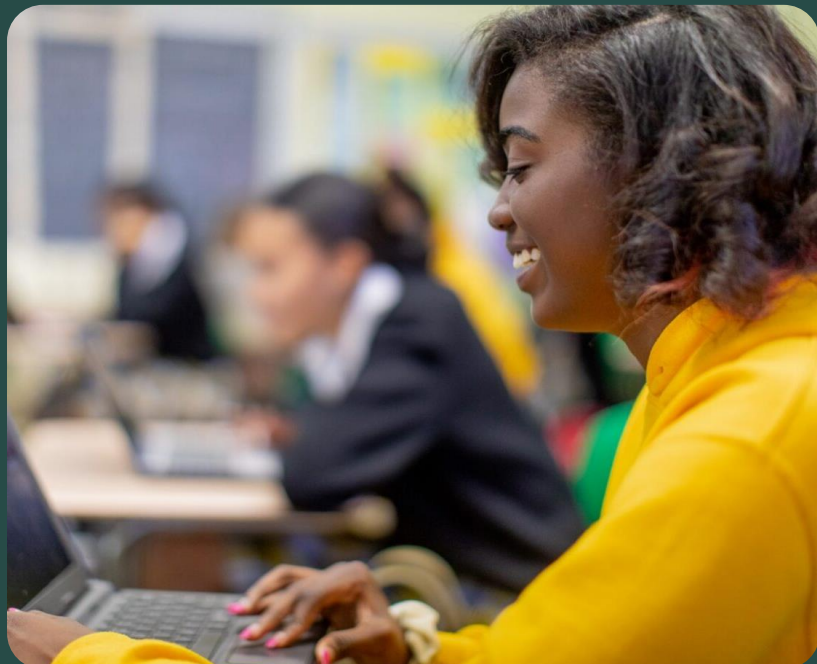
2023 CSEdWeek Resource Guide

*Curated by the **Microsoft Philanthropies TEALS Program***

Check back for updates
aka.ms/2023CSEW-guide

CSEd Week

CSEdWeek 2023

December 4-10, 2023

#CSEdWeek is an annual call to action to inspire K-12 students to learn computer science (CS), advocate for equity in CS education, and celebrate the contributions of students, teachers, and partners.

The CSEdWeek theme this year, #ImpactsOfComputing, refers to computer science's positive and negative effects on various aspects of our lives, including education, privacy, security and accessibility.

Learn more csedweek.org

The TEALS Program

The Microsoft Philanthropies Technology Education and Learning Support (TEALS) Program is pleased to present the 2023 CSEdWeek Resource Guide. This guide is possible thanks to the many partners who have contributed resources to help you celebrate!

TEALS supports CS education year-round by connecting students, educators and schools with volunteers from the tech industry.

Learn more about how TEALS supports high school teachers Microsoft.com/TEALS

"The power of education, especially computer science, is giving students the ability to change the world."

Kirk Thomas,
McDonogh 35, TEALS teacher

🖥 CSEdWeek Kick-off Panel

Danielle Boyer
Panelist

Mehar Bhasin
Panelist

Grace Magny-Fokam
Panelist

Maya Israel
Panelist

CSEdWeek
Kick-off
Panel

Monday, December 4, 2023

Kick-off CSEdWeek 2023 with a panel of 2023 CSHeroes who will discuss #ImpactsOfComputing with a particular focus on artificial intelligence and CS.

Learn more and **register here.**

CSTA

Many local chapters of the Computer Science Teacher Association (CSTA) across the US run regional CSEdWeek events. **Get connected** with your local chapter to see what is available.

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Resource key

🖥️ Teacher event or resource

📅 Student/class events

🕐 Hour of Code or student activity

🌐 Suitable for global audiences

🕐 Code.org – Hour of Code Library

Hour of Code is a one-hour, grassroots introduction to CS. Explore engaging, student-friendly tutorials and fun activities for learners of all skill levels in the **Hour of Code Library**. The brainchild of **Code.org**, this popular CS learning campaign is supported by over 400 partners and 200,000 educators worldwide.

It's a dynamic movement where nearly two million students have learned how to code in over 45 languages from over 180 countries. According to an **Hour of Code Impact Study**, there were significant changes noted in students' attitudes towards—and self-efficacy with—CS after engaging in just one Hour of Code activity.

Register your Hour of Code event to show your support and help Code.org build momentum for the CS education movement.

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🕐 CodeHS – Free Hour of Code Tutorials

CodeHS

Over 20 Free Hour of Code Tutorials

Access more than 20 free CodeHS Hour of Code tutorials at **codehs.com/hoc**. Tutorial topics include creating virtual worlds, generating beats with code, coding in sports, graphics with Tracy the turtle, and many more!

Need help choosing the right Hour of Code tutorial for your students? For middle and high school, reference the **How to Choose the Right Tutorial Guide**.

Choosing the Right Hour of Code Tutorial
Use this chart to recommend HoC tutorials based on the age and experience level of students.

CodeHS	No Coding Experience	Beginner (less than 1 year)	Intermediate (1-2 years)	Advanced (2+ years)
Grades 6-8	Karel Tracy Coding in Music Coding in Art Coding in Sports Litter-Free Community	Karel Tracy Coding in Music Coding in Art Coding in Sports Litter-Free Community	Karel Tracy Web Design Pixel Art	Karel Tracy Web Design Pixel Art
Grades 9-10	Karel Tracy Web Design Coding in Music Coding in Art Coding in Sports	Karel Tracy Web Design Coding in Music Coding in Art Coding in Sports Bitcoin Ledger Supporting Artists	VR React Native JS Apps Bitcoin Ledger	VR React Native JS Apps Bitcoin Ledger Calculating Triangles Punnett Square Data Visualizations
Grades 11-12	Karel Tracy Web Design Coding in Music Coding in Art Coding in Sports Bitcoin Ledger Collision Simulations	Karel, Tracy Web Design, VR Math Modeling Coding in Music Coding in Art Coding in Sports Bitcoin Ledger Collision Simulations Supporting Artists	VR React Native JS Apps Math Modeling Blockchain Tech Collision Simulations	VR React Native JS Apps Math Modeling Blockchain Tech Collision Simulations Calculating Triangles Punnett Square Data Visualizations

Unplugged Tutorials: Coding with Karel the Dog, Color by Pixel, & Caesar Cipher Wheel

Prepare for CSEdWeek with CodeHS

Register for a free 30-minute webinar to help you prepare.

How to Run an Hour of Code with CodeHS
- Tuesday, November 28, 2:30pm CT
- Thursday, November 30, 5:30pm CT

CodeHS Career Center

The **CodeHS Career Center** helps students match their CS skills to their passions and helps them make real-world connection.

On-Demand Hour of Code Workshops

CodeHS also has **pre-recorded virtual** workshops from past years.

Coding in the Wild Blog

Hear from real people about how they use programming in various industries from art to economics to healthcare, and beyond. **Explore the blogs.**

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⌨ **CMU CS Academy – CSEdWeek lineup**

ACADEMY.CS.CMU.EDU

SAVE THE DATE!
December 4-10
CSEdWeek
2023

Livestream events,
competitions,
resources, and more!
www.youtube.com/@cmucsacademy3467

Carnegie Mellon University
Computer Science Academy
academy.cs.cmu.edu
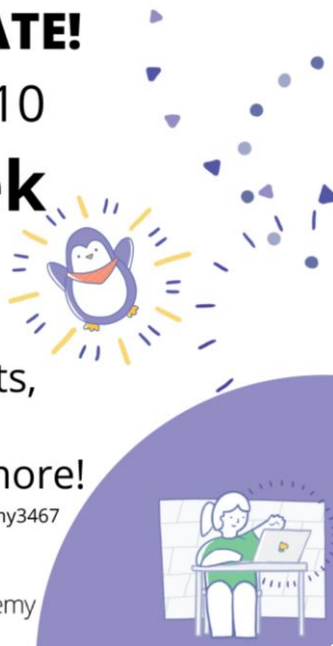
This year, CMU CS Academy will be celebrating CSEdWeek December 4-10, 2023. CMU CS Academy has an exciting week of panel discussions, special project walkthroughs, supplemental activities, interviews, highlights, and more!

Check out a sneak peek at some of the sessions that are planned!

- What Are the Most Significant Impacts of Computing? [According to the CMU CS Academy Team]
- CMU CS Academy Team Panel Interview [Livestream – English & Spanish]
- Making Circles Only Out of Triangles (Using CMU CS Academy)
- Recursive Tree to Learn Pascal's Triangle
- Industry Interviews

Learn more by following **@cmu_cs_academy** on Instagram

📅 **Dream Hustle Code – Teen Tech Live 4.0**
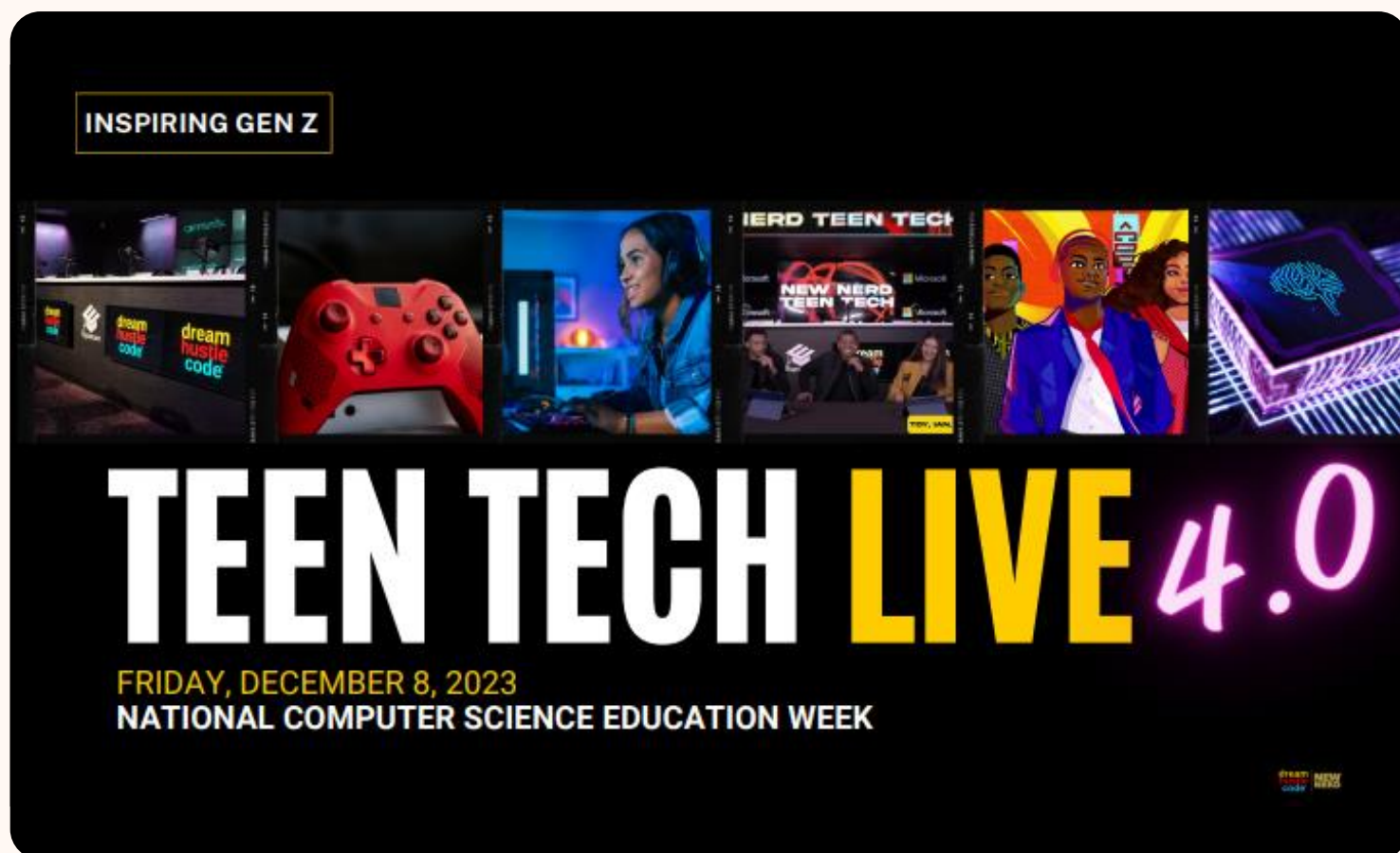
Friday, December 8, 2023

The largest virtual field trip on the planet, Teen Tech Live 4.0 is Dream Hustle Code's flagship virtual experience for students to explore technology and get inspired by disruptive ideas, forward-thinking visions and perspectives happening in the industry.

Hosts: **Ian Brock and the Gen Z Team**

Who should participate: **Middle and high school students**

Learn more on the **Dream Hustle Code website**

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🕐 EarSketch – Build a beat challenge

EarSketch, a free online platform, teaches students how to code in Python or JavaScript while remixing music beats from their favorite artists. We'll be hosting coding workshops throughout Computer Science Education Week for beginner to advanced coders and have partnered with Goldieblox and Black Girls Code for a special "Build a Beat Challenge" to win prizes for coding a song. Check out EarSketch: earsketch.gatech.edu and code the next greatest hit!

Register for our CS Education Week Events

Learn more and compete in the "Build a Beat" Challenge

📅 EarSketch – CSEdWeek events

🕐 Girls Who Code – Girl Jams AI

Register for EarSketch webinars

Date and Time	Webinar
Monday, December 4th 12PM EST	Getting Started in EarSketch
Monday, December 4th 2PM EST	What's New in EarSketch: New Stems and Functions
Tuesday, December 5th 2PM EST	Code with HipHop @ 50 with EarSketch
Wednesday, December 6th 11AM EST	Amp Up Your Code: Advanced EarSketch
Wednesday, December 6th 1PM EST	Salsa with Python: Latin Beats in EarSketch with GoSTEM
Thursday, December 7th 10AM EST	Bells, Loops, and Drums: Code a Holiday Jingle
Friday, December 8th 9AM EST	CodApalooza: Join the biggest coding music festival during CSEdWeek

For CSEdWeek, Girls Who Code is launching an interactive, digital songwriting experience that allows girls to have fun with AI. Through this digital experience, girls will learn the basics of AI from generating prompts to refining text-based queries for better results. It will feel like they're writing, creating art, and producing a hit single that's just for them!

This campaign highlights the importance of diversity and inclusion in the tech space, specifically AI and inspire our targeted audiences to consider computer science as a viable career path. Explore **GirlJams.ai.**

🕐 Harlem CODEtrotters

Harlem CODEtrotters is a basketball adventure with a techy twist.

Microsoft's Nonprofit Tech Acceleration Program and The Harlem Globetrotters have joined forces to bring you an electrifying collaboration dedicated to revolutionizing education and bridging the educational gap within Black and Brown communities. In this Harlem CODEtrotters lesson, your mission is to become a storyteller, a historian, and a coder all in one! You will dive deep into the exhilarating world of the Harlem Globetrotters, a basketball team known for their amazing skills and heartwarming humor.

Through this program, nonprofits gain free access to Community Training, an Azure-powered platform that promotes accessible learning. It includes comprehensive MakeCode educator/facilitator guides, including the Harlem CODEtrotters Facilitator Guide.

Learn more **aka.ms/codetrotters**

🕐 Hello World CS – CS Hour of Code

Hello World CS presents exciting VR, Web Development, and Python projects for students in grades 2-12.

The **VR projects** utilize block-based coding to construct immersive virtual worlds in convenient, web-based environments that are compatible with various VR headsets. Try **Escape Room: Tower Conquest** and **Floor is Lava Show and Tell Gallery.**

In the web development project, **Fan Page**, students learn the fundamentals of HTML and CSS as they build a real webpage to review a favorite movie, show, book, or song. This project allows students to share something they love with their peers, while also flexing their writing skills. Try **Fan Page.**

In **Color Illusion Challenge** students are introduced to the essentials of Python programming. Here, they build a game where users must correctly name the color represented by a word before time runs out. Students will have fun showing off and sharing this deceptively tough game! Try **Color Illusion Challenge.**

Microsoft – Flip
Careers in Coding with NASA

December 7, 2023 – Flip event for students

Minecraft and Flip are inviting you to an engaging event in honor of CSEdWeek, featuring robotics technologist Kamak Ebadi from **NASA's Jet Propulsion Lab.**

Kamak will share his incredible journey, from a 14-year-old dreaming of NASA in Iran to working with the renowned space agency. His story promises to ignite the dreams of every student and aspiring space enthusiast. He will also discuss the power of coding in shaping future careers and share about NASA's Artemis missions.

And finally, Minecraft team will share how students can start their coding journey with Minecraft's Artemis Missions games, developed in collaboration with NASA.

Before and after the event: Submit your video questions in **this Flip Group** for a chance to be featured in the event!

Register for the December 7 event **here**.

Microsoft – Flip
Unlocking Tomorrow's Innovators

December 13, 2023 – Flip event for educators

Coding can open up many opportunities for learners in the 21st century! MakeCode, Minecraft and Microsoft TEALS will join Flip for a conversation about how educators can foster creativity, problem-solving, collaboration and critical thinking skills with coding.

Register for the December 13 event **here**.

Bonus: With 48,000+ community-generated topics, the **Flip Discovery Library** is the perfect spot to find inspiration from fellow educators and featured partners! The Discovery Library is full of ready-to-use discussion prompts that are sure to get your students talking, including this special **coding and computer science collection**.

Microsoft MakeCode – Sparks Flying: Create Your Own Prehistoric Clicker Game!

Ignite your classroom's passion for coding with block-based tutorials that guide students to create their own retro-style arcade clicker game using magical fire effects!

Journey back 100,000 years to the Paleolithic Era and bring history to life through coding! Your students become Neanderthals on a quest to light a fire and survive the winter. This isn't just another coding lesson; it's an adventure in problem-solving, creativity, and storytelling!

With easy-to-follow steps, your students will master sprites, events, and variables while diving into the world of prehistory. Don't miss out on this heartwarming experience that makes learning code as thrilling as lighting that first fire! 💧
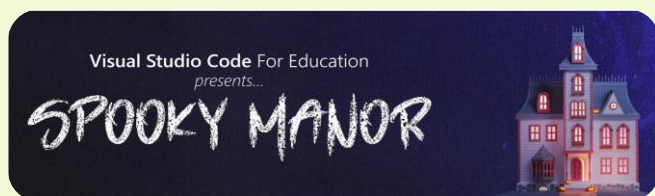
To get started, visit **aka.ms/prehistoric** or try the new *junior version* at **aka.ms/sparky.**

Already using MakeCode in your classes? Help MakeCode understand more about what you're doing **aka.ms/sparksTeacher**

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🕐 Microsoft - Visual Studio Code for Education – Spooky Manor

In this text-based Python adventure game, students explore an old house that is not as normal as it seems. Using Visual Studio Code for Education, students will use Python create a game that allows players to explore the rooms of the house, pick up clues, and rescue their friends.

Try **Spooky Manor** with your students.

Learn more about **Visual Studio Code for Education.**

📅 Minecraft Education Drop Everything and Code
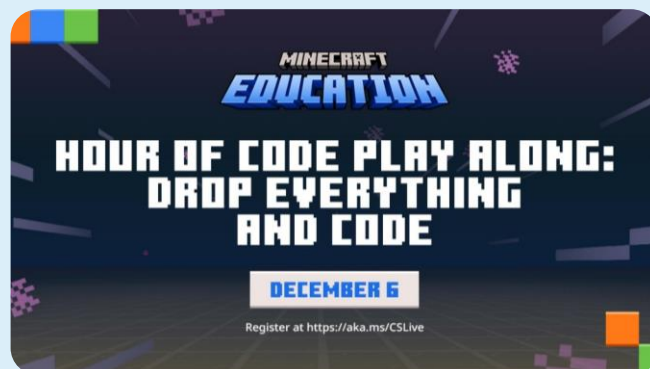
December 6, 2023 | available in four different times

Join classrooms worldwide on December 6 during for the Drop Everything and Code live event! Connect with Minecraft experts and streamers as students navigate time and innovate with AI-powered inventions. No prior Minecraft Education experience needed. This 30-minute event will be broadcast on YouTube at four different times. Register now and join educators ready to drop everything and code! Register **here**.

Try the new **Generation AI Hour of Code** with your students.

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NCWIT – Counselors for Computing (C4C)

NCWIT Counselors for Computing (C4C) equips school counselors and educators with professional development, knowledge, and resources to give all students access to transformative computing careers. Check out the **C4C Resource Booklet** and tune in to the webinar series, **Advising for Future-Ready Careers,** to get up-to-date info on computing careers, guidance on CS curriculum integration, tools to connect students with diverse interests and aspirations to opportunities in computing, and methods to engage them through culturally relevant outreach and pedagogy.
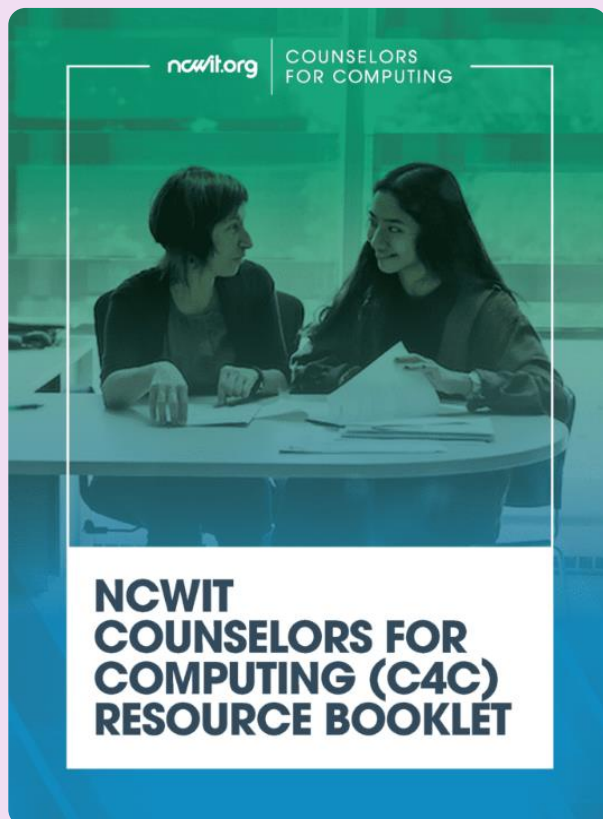
NCWIT – Aspirations in Computing Community

Aspirations in Computing Community is now open to high school women, non-binary, and genderqueer students. 9-12th grade students can join the largest student community for women, genderqueer, and non-binary tech innovators! Gain skills, meet peers, and get access to exclusive opportunities. Learn more **here**.

🕐 PLTW – Game Design and Development

Unleash creativity with PLTW's Game Design and Development module

Project Lead The Way invites you to step into the world of game design with an innovative Game Design and Development module. Perfect for both in-person and remote learning environments, this module is designed for flexibility, allowing students to craft adventure-style experiences on the popular Roblox platform. It's crafted to be engaging and effective in any setting - in-person, at home, or a mix of both. This Game Design and Development module provides the tools for seamless interaction and teamwork encouraging students to collaborate, present, and share ideas.

Dive into PLTW's Game Design and Development module to unlock the door to creative and flexible learning!

Game Design and Development module outline for educators

Student materials

Microsoft

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Thank you to our partners who shared resources for CSEdWeek 2023

Code.org

CodeHS

Computer Science Teacher Association (CSTA)

CMU CS Academy

Dream Hustle Code

Earsketch

Girls Who Code

Hello World CS

Langston League LLC

Microsoft – Flip

Microsoft MakeCode

Microsoft – Visual Studio Code for Education

Minecraft Education

National Center for Women & Informational Technology (NCWIT)

Project Lead the Way

Year-round teacher skilling

Sign-up for Bits and Bytes, a newsletter for CS educators and advocates brought to you by the Microsoft Philanthropies Teacher Skills team.

Sign-up for the Microsoft Education Newsletter to stay up-to-date on the latest and greatest Microsoft products for teachers.

Join the Computer Science Teacher Association to connect with a professional association aimed to empower, engage and advocate for K-12 CS teachers worldwide.

Become a TEALS teacher and work with technology volunteers to sharpen your CS skills.

Follow the Microsoft TEALS Program for more updates throughout CSEdWeek 2023.

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