
DEPARTMENT OF EDUCATION
UNITED STATES OF AMERICA
ED21
GAMES
EXPO

Guide to Education Learning Games and Technologies

Eighth Annual ED Games Expo (all-Virtual)

A Showcase of Game-Changing Education Technologies

Developed Through Programs at the U.S. Department of Education and Across Government

June 1 to 5, 2021

https://ies.ed.gov/sbir/2021EdGamesExpo.asp

Institute of Education Sciences

Contents

Introduction

Dear Readers:

The ED Games Expo is the U.S. Department of Education's (ED's) annual showcase of "game-changing" innovations in education technology that were developed through programs at ED and across the federal government. Since 2013, the Expo has been an in-person interactive event at venues across Washington, D.C., including the past three years at the John F. Kennedy Center for the Performing Arts.

Yes, this year … is different! Because of the ongoing COVID-19 pandemic, the 2021 ED Games Expo has moved online. Attendees will have the opportunity to participate virtually – to demo learning games and technologies, interact with developers, and attend events across a range of topics, focusing on innovation in education, mindful of the ongoing pandemic, and useful for educational programming in the summer and going forward. View the 2021 ED Games Expo Agenda for the full lineup and information on all the events with topics of interest for educators, students, caregivers, developers and researchers, and stakeholders across the EdTech ecosystem.

This "Guide to Education Learning Games and Technologies" provides brief descriptions and short video trailers of more than 160 learning games and technologies participating at the Expo this year. Readers can also visit the ED Games Expo 2021 website for a series of ED Games Expo YouTube Playlists, which present the short videos of the technologies.

Important Notes About Accessing the Learning Games and Technologies:

- The specifications for how to access the learning games and tech are listed below each YouTube video trailer and on each developer website.
- An internet connection is needed to access games and tech that are ready to use now.
- Each of the entries in this guide differ in terms of the device and operating system that is needed to play or use the games or tech, including computers, Chromebooks, tablets, or phones. Some games and tech can be accessed directly from a website, some require a free app download from Google Play or the AppStore, and some require a registration so that the developer can provide additional login instructions to an educator for a class of students. Many entries are optimized for CHROME (not Windows Explorer).
- Some of the entries make apps freely available yet still require additional hardware, such as a virtual reality headset or a 3D printer.
- Questions can be emailed directly to developers using the email listed at the end of each short description in the guide. Readers may also post questions in the public comment section of the YouTube videos.
- General questions about the ED Games Expo can be emailed to Edward.Metz@ed.gov.

We hope you enjoy the 2021 ED Games Expo!

The ED Games Expo Planning Team

Government Program Agencies and Offices (and Their Abbreviations) Represented at the 8thAnnual ED Games Expo

U.S. Department of Agriculture (USDA)

Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K–12 Classroom Challenge Grants Program (SPECA)

Small Business Innovation Research (USDA SBIR)

U.S. Department of Defense (DoD)

Advanced Distributed Learning Initiative (ADLI)

Naval Surface Warfare Center (NSWC)

Office of Naval Research (ONR)

U.S. Department of Education (ED)

Education Innovation and Research (EIR)

Institute of Education Sciences' National Center for Education Research (NCER)

Institute of Education Sciences' National Center for Special Education Research (NCSER)

Institute of Education Sciences' Small Business Innovation Research (ED/IES SBIR)

National Institute on Disability and Rehabilitative Research (NIDRR)

Office of Career, Technical, and Adult Education (OCTAE)

Office of Elementary and Secondary Education (OESE)

Office of Special Education Programs (OSEP)

Ready to Learn (RTL)

U.S. Department of Health and Human Services (HHS)

National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)

Office of Adolescent Health (OAH)

Office of Population Affairs (OPA)

US Department of State

Institute of Museum and Library Services (IMLS)

Library of Congress (LOC)

Teaching With Primary Sources

National Endowment for the Arts (NEA)

National Endowment for the Humanities (NEH)

National Institutes for Health (NIH)

National Institute on Drug Abuse Small Business Innovation Research (NIDA SBIR)

National Institute of General Medical Sciences (NIGMS)

National Institute on Drug Abuse (NIDA)

National Institute of Nursing Research (NINR)

Office of the Director (OD)

Science Education Partnership Award (SEPA)

Small Business Innovation Research (NIH SBIR)

National Science Foundation (NSF)

Advancing Informal STEM Learning (AISL)

Discovery Research K–12 (DRK12)

Division of Research on Learning (DRL)

Division of Undergraduate Education (DUE)

Education and Human Resources (EHR)

Industrial Innovation Partnerships (IIP)

Innovation Corps Program (ICP)

Major Research Instrumentation (MRI)

Small Business Innovation Research (NSF SBIR)

STEM + Computing K-12 Education (STEM + C)

Smithsonian Institution (SI)

Areas of Focus for Learning Games and Technologies

CAREERS AND TRAINING

1. E-MATES (video trailer) builds interactive content for high school and community college students for career and technical education areas, such as networking, cybersecurity, electronics, and basic math. Developed at Brookdale Community College through an NSF EHR award in 2016. Contact: Mike Qaissaunee (mqaissaunee@brookdalecc.edu) and John Sands (sands@morainevalley.edu)

2. End of Imperial (video demo) is a game-based simulation for middle school and high school students to explore health science careers as they collect evidence and use critical thinking and problem solving skills to solve a medical mystery and discover the cause of a fatal motor vehicle accident. Developed by Indelible Learning through a NIH SBIR award in 2019. Contact: Jasminka Criley, MD (jasminka@indl.com)

3. Hats and Ladders' (video trailer) is a platform with game-based activities and supports for high school students to develop career-readiness skills and abilities. Developed by Hats and Ladders with an ED/IES SBIR award in 2020 and an award from ED OCTAE. Contact: Scott Brewster (scott@hatsandladders.com)

4. Return on College (video trailer) is a dashboard for high school students and their families to create highly personalized models of the net price and return on investment of different college degree program options. Developed by Vantage Point Consulting through an ED/IES SBIR award in 2020. Contact: Jeffrey Carpenter (Jeffrey.Carpenter@vantagepoint-inc.com)

5. ROI Toolkit (video trailer) is a dashboard for educators, public agencies, and ed tech developers to calculate meaningful return-on-investment metrics for higher education programs. Developed by Brighthive through an ED/IES SBIR award in 2020. Contact: Thomas Plagge (tom@brighthive.io)

6. In Virtual Internships (video trailer) high school and community college students work in teams to deliver a curriculum-aligned project for an industry partner. Virtual internships provide students with an opportunity to apply their technical skills in a real-world project, develop their non-academic skills, and explore careers. Developed by Northeastern University through an NSF DUE award in 2017. Contact: Nikki James (ni.james@northeastern.edu)

EARLY LEARNING

Note: Many learning games and technologies listed in other sections in this guide may also be appropriate for early learning. If so, they are marked as such.

7. The A2i Software Platform (video trailer) guides in-person or distance learning educators, tutors, after-school or summer program users with research-based recommendations for literacy instruction for prekindergarten to third grade students. Developed by Learning Ovations through U.S. Department of Education's Institute of Education Sciences (ED/IES) Small Business Innovation Research (SBIR) awards, 2014 and 2020, and an ED EIR award in 2017. Contact: support@learningovations.com

8. BELLA (video trailer) is a bilingual (Spanish/English) adaptive assessment with game-based activities that align with preschool curricula for early literacy, numeracy, science, and social-emotional development. BELLA also assesses children's analytical, creative, and practical thinking skills. Developed at the University of Houston and by The Mind Trust Inc., with an IES/NCER award in 2016. Contact: Chris Errato (cerrato@mindtrust.com) and Elena Grigorenko (Elena.Grigorenko@times.uh.edu)

9. CLI Engage (video trailer) is a collection of early childhood quality improvement tools for teachers and administrators, including for early childhood progress monitoring, teacher professional development, and supplemental curricula. Developed in part by the Children's Learning Institute at The University of Texas Health Science Center with support from IES/NCER awards in 2002, 2009, 2011, 2014, 2014, and 2018. Contact: Jennifer Lindley (Jennifer.M.Lindley@uth.tmc.edu)

10. Cognitive ToyBox (video demo) is a hybrid observation and game-based assessment platform for children from birth to 5 years old. Children play developmentally appropriate touchscreen games, and teachers have access to timely information on each individual child's learning trajectory. Developed by Cognitive ToyBox, with awards from NSF SBIR in 2016 and ED/IES SBIR in 2020. Contact: Tammy Kwan (tammy@cognitivetoybox.com)

11. Counting by 2 Languages AR (video trailer) is a bilingual (Spanish/English) augmented reality (AR) app for children ages 2 to 6 that teaches counting. Developed by 7 Generation Games with an award from USDA SBIR. Contact: Maria Ortiz Burns (maria@7generationgames.com)

12. Fuzzy Numbers (video trailer) is a math game for children ages 3 to 5 for kindergarten readiness in numbers sense, which helps children leverage their approximate number system (a cognitive system responsible for estimating quantity without counting). Developed by Cognitive Toybox with an NSF SBIR award in 2016. Contact: Tammy Kwan (tammy@cognitivetoybox.com)

13. In Molly of Denali (Video Trailer), 5 to 8-year-olds use everyday informational texts (e.g., field guides, recipes, diagrams) to solve problems and fulfill their curiosity in an immersive version of Molly's Alaska Native village. Developed by PBS KIDS, CPB, and GBH, through an ED/RTL award in 2015. Contact: David Lowenstein (dmlowenstein@pbs.org).

14. In Operation Investigation (video trailer) children in kindergarten through grade two and parents can help the Sparks' Crew find the best sidekick for Fur Blur while learning about animals. Continue the fun by uploading pictures of your own animals to use in the game! Developed by Twin Cities PBS and Glitch with an ED/Ready to Learn (RTL) award in 2015. Contact: RTL@tpt.org

15. With PlaySchool Time (video trailer), preschool and kindergarten children play speech-interactive literacy lessons for five minutes a day on the web or smart speakers. Whether at school or home, the adaptive lessons get children moving and talking together, with no preparation for teachers or expertise for parents required. Developed by Hoogalit Inc. through an ED/IES SBIR award in 2020. Contact: Aparna Ramanathan (aparna@hoogalit.com)

16. Preschool During the Pandemic: Early Childhood Education in Extraordinary Times (video trailer) is a series of short videos that share experiences of practitioners and families that show how early education and childhood special education are successfully supporting preschoolers and their families during the COVID-19 pandemic through the use of technology. Produced at the Early Childhood TA Center (ECTA) through an ED/OSEP award. Contact: (https://ectacenter.org/about/contact.asp)

17. The Quick Interactive Language Screener™ (QUILS™) (video trailer) is a game-like, web-based language screener that is based on the literature on language development. QUILS evaluates children's language skills (ages 3 to 5) in three areas: vocabulary, syntax, and process, or how readily they learn new language items. Developed at the University of Delaware, Temple University, and Smith College with an IES/NCER award in 2011. Contact: (roberta@udel.edu)

18. ReadAskChat (video trailer) is a bilingual (English and Spanish) tool to support caregivers in reading stories and having conversations with children aged 6 months to 6 years to support prereading skills, imaginative engagement with literature, and scientific knowledge. Developed with awards from NSF SBIR in 2016 and 2018. Contact: Carolyn Sapor (carolyn@readaskchat.net)

Read, Read Again

19. Reading Checkup (video trailer) provides parents, tutors, after-school and summer programs with research-based recommendations for literacy instruction with prekindergarten to third grade students. Developed by Learning Ovations and Read Charlotte through an ED/EIR award in 2017. Contact: support@learningovations.com

20. Tami's Tower: Let's Think About Engineering (video demo) is an educational engineering design game for ages 4 to 8 that helps students solve a problem using basic engineering design principles. In Tami's Tower, students use blocks to build a tower that will help Tami, a golden lion tamarin, reach the tasty fruit on a branch overhead. Developed in 2018 by the Smithsonian Institution. Contact: Reuben Brenner-Adams (Brenner-AdamsR@si.edu)

21. The Team Hamster! Roll to the Rescue (video trailer) game invites children ages 4 to 8 to think creatively and engineer playful solutions to problems. Developed by PBS KIDS and the Corporation for Public Broadcasting with an award from ED/RTL in 2015. Contact David Lowenstein (dmlowenstein@pbs.org)

22. ThinkPlayful engages parents in assisting children ages 3 to 6 in gaining early math and executive functioning skills through real world activities. Charming characters with speech recognition capabilities guide families, encourage math talk, and provide timely encouragement along the way. Developed through an NSF SBIR award in 2019. Contact: Tyler Schwartz (tschwartz@thinkplayful.com)

23. Treehouse Trouble (video trailer) is an adaptive and level-based physics puzzle game for children in kindergarten through grade two to learn about motion, balance, and stability by helping Sara Snap fix broken treehouses by adding to, or taking away, blocks. Developed by Twin Cities PBS and Two Moos, with an ED/RTL award in 2015. Contact: (RTL@tpt.org)

24. Waterford Upstart (video trailer) is a personalized program to help 4-year-old children develop foundational academic and cognitive skills, including early literacy skills, such as phonological awareness, phonics, fluency, comprehension and vocabulary, and language concepts. Developed by Waterford through an ED/EIR grant in 2018. Contact: Katie Bradford (katiebradford@waterford.org)

ENGINEERING AND COMPUTER SCIENCE

25. BlocksCAD (Video Link) builds math and computer science skills by using specialized 3D CAD (computer-aided drafting) software. A block-based coding platform allows students ages 8 and above to create and manipulate 3D objects while using geometry and spatial reasoning skills. Developed by BlocksCAD through a USDA SBIR award in 2019. Contact (sol@blockscad3d.com)

26. In codeSpark Academy's Story Mode (video demo) kindergarten through fifth grade students learn the ABCs of computer science with a highly accessible word-free approach. Students program lovable characters called The Foos to create their own interactive stories, learning core computer science concepts in the process. Developed by codeSpark through an ED/IES SBIR award in 2019. Contact: Joe Shochet (support@codespark.com)

27. DESCARTES (video trailer) is an engineering design sandbox game for elementary school students to apply math and science concepts by using prototyping kits and 3D printing their own prototypes (for submersibles, boats, and other machines) using a standards-aligned curriculum. Developed by Parametric Studio with an ED/IES SBIR award in 2017. Contact: Chris Whitmer (whitmer@parametricstudioinc.com)

28. FabMaker Studio (video trailer) is a web-based design and fabrication tool that allows students from kindergarten through eighth grade to design, invent, and build their own geometric constructions and working machines. Developed by Fablevision Studios with an award from ED/IES SBIR in 2010, an NSF ITEST award, and through other philanthropic programs. Contact: (info@fablevisionlearning.com)

29. In FLEET (video trailer) elementary through high school students design and test ships, and improve them to use the engineering design process in a naval context. Developed by Navatek and the American Society of Naval Engineers through a DOD NSWC, Philadelphia Division award in 2016. Contact: Mike Briscoe (fleet@navalengineers.org).

30. Future Engineers is an online, multi-challenge platform for administering educational contests and challenges in or outside of K-12 classrooms. In 2020 Future Engineers administered NASA's National Student Challenge to name the Mars rover. Developed by Future Engineers with an ED/IES SBIR award in 2017. Contact: Deanne Bell (deanne.bell@futureengineers.org)

31. May's Journey (video trailer) is a puzzle solving game, in a 3D narrative to help middle school students to learn programming. Developed by Northeastern University and UC Santa Cruz through an NSF DRL award in 2018. Contact: Chaima Jemmali (jemmali.c@northeastern.edu)

32. In MindLabs: Energy and Circuits (video trailer), students from grades three through five learn STEM concepts like energy and circuits through state-of-the-art AR. Students work from home through hands-on challenges to solve problems and engineering design solutions either independently or collaboratively. Developed by Explore Interactive, Inc. through an NSF SBIR award in 2018 and an NIH SBIR award 2019. Contact: Amanda Thompson (athompson@exploresupport.com)

33. In NEWTON-AR (video trailer) early elementary students use an AR environment to apply learning STEM and computer science concepts and to solve Rube Goldberg-style STEM puzzles. Students design solutions, make prototypes with AR-enabled maker kits, simulate their virtual and real-world creations in teams, and then make narrated walk-through videos to document their thought processes. Current in development and coming soon by Parametric Studio with an ED/IES SBIR award in a 2020. Contact Chris Whitmer (whitmer@parametricstudioinc.com)

34. The Pack (video trailer) is a computational thinking game where middle school students collect Pack creatures to perform specific tasks, combining them into algorithms to solve problems in order to restore balance to the fictional world of Algos. Developed by the New York Hall of Science and Design I/O and supported by an NSF STEM+C award in 2015 and an ED/EIR award in 2019. Contact: Steve Uzzo (suzzo@nysci.org)

35. In Save the Building: Tuned Mass Dampers (video trailer) middle school through college students can explore how settings in an engineering game can be adjusted to save a skyscraper from an earthquake. Available in desktop and VR formats, players also get to kinesthetically create the game's earthquake. Developed by the Embodied Games Lab at Arizona State University with partial aid from an NSF/DRL award in 2014. Contact: Mina C. Johnson-Glenberg (Minaj@embodied-games.com)

36. Tekniverse (video demo), is a wireless toolkit for middle school and high school students for programming wireless devices and connecting people and data across the world. The toolkit includes a visual coding interface called Code Builder, and a control center for analyzing sensor data in real time. Developed by Teknikio through an NSF SBIR award in 2019. Contact: Deren Guler (deren@teknikio.com)

37. In Time Tails (video demo), high school students save the day by using standards-aligned computer science skills they learn through gameplay. Developed by Snowbright Studio through an ED/IES SBIR award in 2020. Contact: Grace Collins (collins@liminalesports.com)

38. vCoder (video trailer) is an immersive virtual reality game for middle school and high school students to learn computer science fundamentals. Students step inside the lessons and explore concepts interactively, providing hands-on, experiential learning. Developed by Beach Day Studios through an ED/IES SBIR award in 2020. Contact: Angela Patterson (angela@BeachDayStudios.com)

39. In VidCode (video trailer) students in grades four through 12 manipulate digital media assets, such as photos, audio, and graphics, to create special effects in videos while learning about the code responsible for the action. Through the dashboard, teachers view formative assessment results on individual student and class-wide progress. Developed by VidCode in part with an ED/IES SBIR award in 2019. Contact: Leandra Tejedor (leandra@vidcode.com)

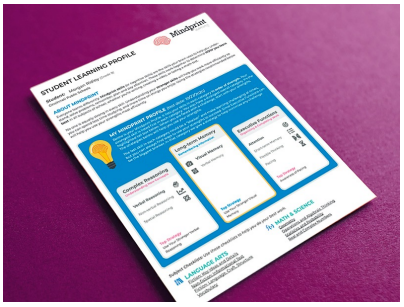
40. The Wearable Learning Cloud Platform (video trailer) and app enables students in kindergarten through grade 12 to play physically active math games, find math within their school or afterschool environments, and design math exercising their computational thinking. Developed at Worcester Polytechnic Institute and University of Massachusetts Amherst with awards from NSF. Contact: Contact Ivon Arroyo (ivon@cs.umass.edu)

FOR EDUCATORS

Note: Dozens of learning games and technologies listed in other sections in this guide include a dashboard component to present information to teachers on student progress using an intervention, or that provide educators information on how to implement interventions to support classroom instruction.

41. IRISconnect (video demo) is a video-based professional development tool that supports teachers to reflect on, analyze, and share their practice. Developed in part with an ED/IES SBIR award in 2007. Contact: Shawn Edmondson (shawn@irisconnect.com)

42. With Learn Platform (video trailer) teachers enter data on their experience implementing an education technology product and a dashboard presents a summary report to other teachers to inform the selection and implementation of products. In development by Learn Platform with an award from ED/IES SBIR in 2020. Contact: Daniel Stanhope (daniel.stanhope@learnplatform.com)



43. Mindprint Learning (video demo) is a dashboard that teachers use to create comprehensive learner profiles and detailed learning plans for every student, based on social-emotional and cognitive screening data, and student achievement data. The program promotes understanding and addresses learner variability. Developed by MindPrint Learning through an NSF SBIR award in 2020. Contact: Nancy Weinstein (nancy@mindprintlearning.com)

44. ZUNI Learning Tree (video trailer) is a website populated with thousands of free and open educational resources in STEM, literacy, and social studies for educators, students, and families to be inspired to dream, learn, grow, and do together. Developed in part with an ED/IES SBIR award in 2020. Contact: Tina McCord (tina.mccord@zunilearningtree.com)

FOR ENGLISH LEARNERS

Note: Many learning games and technologies listed in other sections in this guide are designed for Spanish speaking students who are English Learners. If so, they are marked as such.

45. Using LoomVue's Browser Extension (video trailer), English learners in middle school and high school learn new vocabulary and improve their reading comprehension with a "dynamic diglot weave" reader that blends languages together. Developed by King's Peak Technology, Inc. through an ED/IES SBIR award in 2020. Contact: Grant Rowberry (grant@loomvue.com)

46. Pictoword School (video demo) is an app that supports the vocabulary development of elementary school-aged English learners through engaging word puzzles, game-based learning, student-adaptive personalization, and tailored educational content. Developed by Kooapps with an ED/IES SBIR award in 2020. Contact Elli Suzuki (elli.suzuki@kooapps.com)

47. The Quick Interactive Language Screener:English-Spanish™ (QUILS™:ES) (video trailer) is a game-like, web-based language screener that is based on the literature on language development. It is rooted in the knowledge that language skill is distributed to a bilingual child in both languages. The QUILS:ES evaluates children's language skills (ages 3 to 5) in three areas: vocabulary, syntax, and process, or how readily they learn new language items. Developed at the University of Delaware, Temple University, and Smith College with an IES/NCER award in 2011. Contact: (roberta@udel.edu)

48. STORYWORLD™ (video demo) is a bilingual (English/Spanish) program that teaches language through stories with built-in language supports, interactive games, and online worksheets designed for English learners, (as well as Spanish or Mandarin instruction) in elementary school. A teacher dashboard tracks language proficiency and progress in all modalities by student and class. Developed by StoryWorld International through an ED/IES SBIR award in 2018. Contact: Cynthia Harrison Barbera (cynthia@storyworld.com)

49. In VESIP Spanish (Video Trailer), third through seventh graders navigate social situations in a virtual school environment and answer questions showcasing their social information processing skills. Developed by Rush University Medical Center and Soar Technology, Inc. with an IES/NCER award in 2020, ED/NIDRR SBIR awards, and other sources. Contact: Nicole Russo-Ponsaran, PhD (nicole_russo@rush.edu)

HEALTHY DEVELOPMENT

Note: Many learning games and technologies listed in other sections in this guide may also be appropriate for healthy development. If so, they are marked as such.

50. Chef Koochooloo (video demo) is a gamified application and curriculum for elementary school students and their parents and educators that teaches math, science, social studies, and global competency through cooking. Developed by Chef Koochooloo, Inc., through NSF SBIR awards in 2017 and 2019. Contact: Layla Sabourian (layla@chefkoochooloo.com)

51. Crossroads: Choices (video trailer) is a game to teach teenagers from communities disproportionately impacted by substance abuse, or with limited access to support and resources, about healthy social decision-making. Content covers risk of child sexual abuse, exposure to domestic violence in the home, and creating a safety plan. Developed by 7 Generation Games through a USDA SBIR award. Contact: AnnMaria De Mars (annmaria@7generationgames.com)

52. Crossroads: New Decisions (video trailer) is a game to teach teenagers about healthy social decision-making, with a focus on youth in communities disproportionately impacted by substance abuse and/or with limited access to support resources. Content covers drug use, drinking, and driving, unsupervised parties, budgeting, communication and living with a guardian abusing alcohol and drugs. Developed by 7 Generation Games with awards from USDA SBIR. Contact: AnnMaria De Mars (annmaria@7generationgames.com)

53. Crossroads: Options (video demo) is a game to teach teenagers with limited access to support and resources about healthy social decision-making and with a focus on youth in communities disproportionately impacted by substance abuse, drinking, dating partner violence, emotional abuse, living with a guardian abusing alcohol and drugs, and difficulty finding a job and keeping a job. Developed by 7 Generation Games through USDA SBIR. Contact: AnnMaria De Mars (annmaria@7generationgames.com)

54. In Finding Focus (video trailer), high school students receive attention training that helps them improve their focus and emotional resilience. Developed by the University of California Santa Barbara through an ED/IES award in 2017. Contact: Sana Karimi (support@findingfocus.app)

55. The Guinea Show, How To Get Kids to Eat Vegetables (video trailer) inspires young children to appreciate and eat fruits and vegetables in this unique and innovative health promotion program. Developed by Katalyst Kreations, LLC through a USDA SBIR award in 2020. Contact: Katalina McGlone (ginfo@guineashow.com)

56. Healthy U (video trailer) is a sexual health education program intended for school, after-school, special education, juvenile justice/foster care, and teen health clinic settings. In the fun, interactive game, youth from 14 to 19 explore the basics of puberty, reproduction, healthy relationships, STD/HIV prevention and communication skills on an imaginary college campus setting. Developed by Efficacity through an HHS/OPA in 2015. Contact: (BethWachter@gmail.com)

57. INSIGHTs Into Children's Temperament (video demo) is a social and emotional learning intervention with remote and in-person programs for children, teachers, and parents. Using puppetry for children and videos for adults, four typical temperaments are featured: Coretta the Cautious, Gregory the Grumpy, Frederico the Friendly, and Hilary the Hard Worker. Developed by researchers at New York University with an IES/NCER award in 2008 and NIH/NINR awards in 1998 and 2003. Contact: Sandee McClowry (sandee.mcclowry@nyu.edu)

58. Pick Your Plate! A Global Guide to Nutrition (video trailer) is an educational nutrition game that helps 8- to 17-year-old students build healthy meals while using nutritional guidelines from countries around the world. In the game, students travel to eight different countries. In each country, they must choose a selection of local dishes to form balanced morning, midday, and evening meals. Developed by the Smithsonian Institution in 2019. Contact: Reuben Brenner-Adams (Brenner-AdamsR@si.edu)

59. In PlaySmart (video trailer), adolescents aged 16 to 19 learn about the risks of opioid misuse through storylines and mini-games. Developed by the play2PREVENT Lab and Schell Games, in collaboration with the School-Based Health Alliance, through a NIH NIDA grant in 2019. Contact: (play2prevent@yale.edu)

60. Sown To Grow (video trailer) supports schools to improve middle school and high school students' social, emotional, and academic health through an easy and engaging check-in, reflection, and feedback process. Funded by an NSF SBIR award in 2019. Contact: Rupa Gupta (rupa@sowntogrow.com)

61. In Table Points (video trailer) teachers engage elementary school students in behavior improvement with a group-based game. Developed by LiveSchool through an ED/IES SBIR award in 2018. Contact: Matt Rubenstein (matt@liveschoolinc.com)

62. In VESIP (video trailer), third through seventh graders navigate social situations in a virtual school environment and answer questions showcasing their social information processing skills. Developed by Rush University Medical Center and Soar Technology, Inc. through ED/IES in 2015, ED/NIDRR SBIR awards and other sources. Contact: Nicole Russo-Ponsaran (nicole_russo@rush.edu)

MATH

63. ASSISTments (video trailer) is a forever free online math platform that makes it easy for teachers to assign from their curriculum and assess student progress in the classroom or remotely. The tool enhances math curricula with actionable data for teachers and immediate feedback for students. Developed with a series of awards from IES/NCER to researchers at Worcester Polytechnic Institute and partners. Contact Cristina Heffernan (contact@assistments.org)

64. AzTech: Empiric Empire (video trailer) is a game app for middle schoolers, incorporating mathematics and health sciences (including epidemiology) while integrating Aztec history and information about health careers. Developed by 7 Generation Games through NIH SBIR. Contact: Maria Ortiz Burns (maria@7generationgames.com)

65. AzTech: Meet the Maya (video trailer) is a bilingual (English/Spanish) game-based 3D virtual world for middle school students to learn basic statistics, measurement, and data, as well as the history of the Mayan Empire. Language of instruction – audio, video, and text – is controlled on every screen, enabling users to flip between English and Spanish to support in-context English-language acquisition for English language learners (ELLs). Developed by 7 Generation Games through USDA SBIR. Contact: Maria Ortiz Burns (maria@7generationgames.com)

66. AzTech: The Story Begins (video trailer) is a bilingual (English/Spanish) game-based 3D virtual world for middle school students to review fractions and learn basic statistics, as well as an introduction to Central American Indigenous history. Language of instruction – audio, video, and text – is controlled on every screen, enabling users to flip between English and Spanish to support in-context English-language acquisition for ELLs. Developed by 7 Generation Games with USDA SBIR awards. Contact: Maria Ortiz Burns (maria@7generationgames.com)

67. BrainQuake (video trailer) provides experiential, game-based learning and assessment in mathematics targeted at the middle-school grades with a focus on developing and measuring number sense, mathematical thinking ability, and creative problem solving skills. Developed with ED/IES SBIR awards in 2015 and 2016. Contact: Dr Keith Devlin (keith@brainquake.com) (content) or Randy Weiner (randy@brainquake.com) (business)

68. In Cyberchase Fractions Quest (video demo), third and fourth-grade students practice and improve their fractions knowledge by playing mini-games based on PBS KIDS' award-winning, popular series Cyberchase. Developed by FableVision Studios, THIRTEEN/WNET, and Education Development Center through ED/IES SBIR awards in 2016 and 2017. Contact: info@fablevisionlearning.com

69. In Decimal Point (video trailer), middle school students practice decimal number operations through a series of theme park minigames designed to address decimal misconceptions. Developed at Carnegie Mellon University through an NSF award in 2012. Contact: Bruce McLaren (bmclaren@andrew.cmu.edu)

70. In Dream2B (video trailer), third through sixth grade students master fraction concepts in a puzzle-based learning environment. In development and coming soon by TJEEI Game Studio through an NSF ITEST award in 2020. Contact: Jessica Hunt (jhunt5@ncsu.edu)

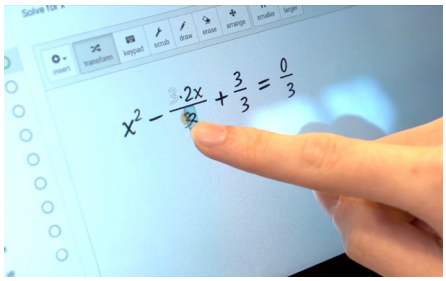
71. EMPIRES (video trailer) is a multiplayer game aligned to the Common Core Standards for seventh grade math, set in ancient Mesopotamia and built around an epic story-based narrative that allows math to be coherently used within context. Developed by MidSchoolMath with an ED/IES SBIR award in 2013. Contact: Scott Laidlaw (scott@midschoolmath.com)

72. Fate & Fortune (video trailer) is a multi-player game-based intervention for grade eight algebra I classes set in the spice trade of the 1600s. In the game students design ships while managing their own Renaissance-era shipping company where they travel around the world to purchase and sell spices. Developed by MidSchoolMath with an ED/IES SBIR award in 2018. Contact: Scott Laidlaw (scott@midschoolmath.com)

73. Fish Lake (video trailer) is a 3D virtual world game for students in grades four through six that teaches fractions and the history of the Ojibwe. Developed by 7 Generation Games with a USDA SBIR award. Contact: Maria Ortiz Burns (maria@7generationgames.com)

74. Forgotten Trail (video trailer) is an adventure game for students in grades five through seven that teaches fractions, decimals, measurement, and multi-step problem solving, along with Native American history. Developed by 7 Generation Games through USDA SBIR. Contact: Maria Ortiz Burns (maria@7generationgames.com)

75. Graspable Math Activities (video demo) allows math teachers to assign interactive algebra tasks and turns equations into tangible objects that middle school and high school students can manipulate to practice and explore. Teachers can follow live, step-by-step, student work. Developed by researchers at Indiana University and Worcester Polytechnic Institute through an IES/NCER award in 2011 and from ED/IES SBIR in 2019. Contact: Erik Weitnauer (contact@graspablemath.com)



76. Gwynnette (video trailer) is an Intelligent tutoring system for early middle school algebra that supports learning and engagement through deliberate practice and many gamified features. Developed by Human-Computer Interaction Institute at Carnegie Mellon University through an IES/NCER award in 2018, an NSF/DRL award in 2017, and an NSF/DRL award in 2015. Contact: Vincent Aleven (aleven@cs.cmu.edu)

77. Market Bay (video trailer), is a 3D game-based world where elementary students are immersed in doing math everywhere they go! They can buy and sell objects at the marketplace, visit local shops to purchase or craft new items, and customize their character and home. Developed by Teachley through an NIH SBIR award in 2018. Contact: Dana Pagar (dana@teachley.com).

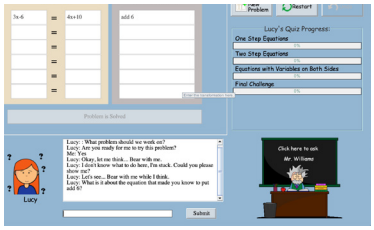
78. Making Camp Bilingual (video trailer) is an English/Spanish game for students in grades three through five to review multiplication, division, and math problem-solving strategies while learning about the history and culture of the Ojibwe. Language of instruction (audio, video, and text) is controlled on every screen, enabling users to flip between English and Spanish to support language acquisition. Developed by 7 Generation Games through USDA SBIR. Contact: Maria Ortiz Burns (maria@7generationgames.com)

79. Math Snacks (video trailer) is a suite of games for middle school students: Agrinautica on expression building, Curse Reverse on variables, Creature Caverns on coordinate points, Ratio Rumble on ratios, Gate on place value, Monster School Bus on 10-frames and fractions, and Pearl Diver on number sense. Developed by New Mexico State University with NSF Discovery Research pre-k to 12 (DRK12) awards in 2009 and 2015. Contact: Barbara Chamberlin (bchamber@nmsu.edu)

80. Muzology (video demo) is a digital algebra-readiness platform that uses instructional math music videos and associated in-platform formative assessments. Developed by Muzology with NSF SBIR awards in 2018 and 2019 and an ED/IES SBIR award in 2020. Contact: Allison Holder (allison@muzology.com)

81. The Nomads (video demo) is an AR mathematics board game that trains students' adaptive expertise in rational number arithmetic and pre-algebra skills. Developed by TurtleShell Education LLC through an NSF/ICP award in 2019. Contact: Jiaqi Yu (turtleshelleducationllc@gmail.com)

82. ProblemScape (video trailer) is a 3D adventure game for introductory algebra for middle school where students teach characters in a virtual world to solve problems. The game integrates social emotional learning with math to increase students' motivation and self-direction and decrease math anxiety. Developed by RoundEd Learning with an NSF SBIR award in 2018. Contact: Vidya Raman (vidya.raman@roundedlearning.com)



83. SimStudent (video trailer) is an application for middle school students to solve linear algebraic equations by teaching an artificial intelligent agent, named SimStudent, and quizzing it from time to time. Developed by Innovative Educational Computing Lab through an IES/NCER award in 2015. Contact: Noboru Matsuda (Noboru.Matsuda@ncsu.edu)

84. Spirit Lake: The Game (video trailer) is a 3D virtual world game for students in grades three through five that teaches multiplication and division and the history of the Dakota. Developed by 7 Generation Games through USDA SBIR. Contact: Maria Ortiz Burns (maria@7generationgames.com)

85. In Stories of Algebra for the Workplace (video trailer), middle school, high school, and college students can explore how algebra is used in the STEM-related careers they are interested in, by watching videos, solving problems, and posing their own algebra-career problems. Developed by Southern Methodist University, Worcester Polytechnic Institute, University of North Carolina-Chapel Hill, and ASSISTments through an NSF ITEST award in 2018. Contact: Candace Walkington (cwalkington@smu.edu)

READING, WRITING, SPEAKING

Note: Several learning games and technologies listed in the Early Learning section are focused on Reading, Writing, and Speaking. If so, they are marked as such.

86. AlphaBear2 (video trailer) a vocabulary learning game for grades four through seven students. Players spell words by selecting letters on a grid. When letters are adjacent to each other, bears appear! The more letters used, the bigger the bear gets, and the more points are earned! Developed by Spry Fox with an ED/IES SBIR award in 2017. Contact: David Edery (david@spryfox.com)

87. AutoTutor for Adult Reading Comprehension (video demo) is a tool guiding adults learning to read that uses two intelligent avatars to guide the learner through questions and simulate learning through conversation. AutoTutor-ARC has 30 lessons total covering words and sentences, computers and the internet, and stories and texts. Developed by the Institute of Intelligent Services at the University of Memphis through an IES/NCER award in 2020. Contact: E. Halle Smith (esmith42@memphis.edu)

88. Capti Assess (video demo) is a screening and diagnostic program of reading skills to identify students at risk, capture student growth, and inform the educator's instructional practice. Developed by Charmtech Labs LLC with an ED/IES SBIR award in 2019. Contact: Brian Ash (info@captivoice.com)

89. CGScholar (video trailer), or Common Ground Scholar, is a next generation writing and learning management system to harness the affordances of digital media to meet pedagogical goals and realize human aspirations in teaching, learning, and assessment. Developed by Common Ground Publishing with ED/IES SBIR awards in 2010 and 2013 and IES/NCER award in 2009. Contact: Bill Cope (billcope@illinois.edu)

90. eBravo Boulder Reading Intervention (video trailer) is a self-paced personalized reading comprehension curriculum that teaches secondary students the problem-solving skills good readers use to learn from challenging texts, in this case in the science discipline of ecology. Reading strategies and exercises are guided by well-researched models of reading comprehension, helping students build deep, durable, and reusable knowledge from text. Supported by an IES/NCER award in 2017. Contact: Donna Caccamise (donna.caccamise@colorado.edu)

91. In iSTART and Writing Pal (video trailer), middle school students, high school students, and young adults play games to practice reading comprehension strategies and writing strategies in two intelligent tutoring systems. Developed by SoLET Lab at Arizona State University through IES/NCER awards. Contact: Danielle McNamara (dsmcnamara1@gmail.com)

92. Moby.Read (video demo) is an engaging, voice-interactive, digital, oral reading fluency assessment for students in kindergarten through grade five. Students use their own voices to read passages aloud, retell key details, and answer short-answer questions for real-time practice and assessment. Developed by Analytic Measures Inc. through a 2017 ED/IES SBIR award, with initial support from IES/NCES. Main contact: Masa Suzuki (masanori.suzuki@analyticmeasures.com)

93. MOCCA® (video demo) is an online, diagnostic assessment of reading comprehension where intermediate students read up to 40 short stories that are missing the next-to-last sentence and choose the best sentence to fill in the blank. Developed by at the University of Oregon, University of Minnesota, California State University Chico, and Georgia State University with IES/NCER grants in 2014 and 2019. Contact (mocca@uoregon.edu)

94. MOCCA-College (video trailer) is a diagnostic, reading comprehension assessment designed for students who are planning to attend college, entering college, or already enrolled in a postsecondary institution. Developed at the University of Oregon through an IES/NCER award in 2018. Contact (mocca@uoregon.edu)

95. Opus App (video trailer) automates the mass collaboration of music and literature to automate reading and writing lessons for classroom instruction in middle and high school English language arts, history, and social studies courses. In four steps any teacher, parent, or student can create a set of lesson plans to integrate into their reading and writing curriculum. Developed by Words Liive with support from the US Department of State. Contact: Sage Salvo (sage.salvo@wordsliive.org)

96. Reading Between the Lions (video trailer) is an online intervention where students in grade one practice reading while being guided by popular Between the Lion characters Cleo and Theo. Developed by Sirius Thinking and Success For All Foundation with an ED/IES SBIR award in 2019. Contact: Sharon Fox (sfox@successforall.org)

97. Readorium (video trailer) is an intervention for students in grades three through eight, where they read nonfiction scientific texts through games, humor, choice, music, challenges, and awards. Teachers receive real-time, actionable progress. Developed by Readorium with an IES/SBIR award in 2010, 2011, and 2013. Contact: Harriet Isecke (harriet.isecke@readorium.com)

98. Tutoring with the Lightning Squad (video trailer) supports struggling readers in grades one through three to be proficient in fluency, phonics, word blending, spelling, vocabulary, and reading comprehension through a series of game-like cooperative activities facilitated by a paraprofessional tutor. Developed by Sirius Thinking and Success For All Foundation with an ED/IES SBIR award in2015 and evaluated by an ED/IES grant in 2019. Contact: Sharon Fox (sfox@successforall.org)

99. WordFlight (video trailer) is game-based diagnostic reading fluency assessment to identify elementary and middle school students struggling to build word recognition automaticity. A dashboard presents data-driven insights to educators to inform instruction. Developed by Foundations in Learning through ED/IES SBIR awards in 2014 and 2015. Contact: Jason Smith (jsmith@foundations-learning.com)

100. In the Word Knowledge E-Books (WKe-Books) (video trailer), elementary school students read interactive e-books aimed at improving word knowledge and reading comprehension skills. The WKe-Books follow a choose-your-own adventure format and teach targeted comprehension strategies. Developed by researchers at the University of California, Irvine and Arizona State University with support from a 2017 IES/NCER grant. Contact: Stephanie Day (isiresearchlab@gmail.com)

101. STELLAR Online - Integrating Visual Arts & Writing Overview (video trailer) is a professional development project that helps teachers learn to use visual thinking strategies to teach argument writing. Developed by researchers at the University of Oregon's Educational and Community Supports and museum educators at the Jordan Schnitzer Museum of Art through a 2017 IES/NCER award in 2017. Contact: Erin Chaparro (echaparr@uoregon.edu)

SCIENCE

102. BioDive (video demo) is a game where middle school and high school students are marine biologists using virtual reality to investigate the delicate ecosystems of venomous marine snails. Throughout their expedition, students observe, discover, and hypothesize about abiotic and biotic factors that impact marine biodiversity. Developed by Killer Snails with support of an NSF SBIR in 2017. Contact: Jessica Ochoa Hendrix: (jessica@killersnails.com)

103. Building the Universe (video trailer) is a science learning video game for fourth through ninth grade students. In part 1, single players start with quarks and electrons produced in the Big Bang and assemble protons and neutrons, and then add electrons and the electromagnetic force to create hydrogen and helium atoms. Developed by TheBeamer LLC through NSF SBIR awards in 2016 and 2017. Contact: Peter Solomon (PRSolomon@TheBeamer.com)

104. ChemVLab+ (video demo) provides eight chemistry activities that help high school students develop science practice skills and knowledge through scenario-based activities that use virtual lab simulations and provide immediate feedback. Developed and evaluated by WestED with IES/NCER awards in 2010 and 2017. Contact: Jodi Davenport (jdavenp@wested.org)

105. Crystal Island: Lost Investigation (video demo) is a game-based intervention where middle school students engage in scientific problem-solving (microbiology) and reading comprehension (complex informational texts) to play the role of an infectious disease investigator deployed to a tropical island to solve a mystery. Developed by the Center for Educational Informatics at North Carolina State University with awards from NSF and USDA over several years as well as other philanthropic sources. Contact: Robert Taylor (rgtaylor@ncsu.edu)

106. In EcoXPT, (video trailer) middle schoolers explore an immersive simulation of a pond ecosystem traveling between different days and locations to learn about it. They discover an environmental puzzle and seek to explain it by observing organisms in the world, collecting, and graphing data, using measurement and experimental tools, and talking to virtual scientists. Developed at the Harvard Graduate School of Education with an NSF award in 2014 and based upon an earlier IES/NCER award in 2008. Contact: Tina Grotzer (Tina_Grotzer@harvard.edu)

107. The Halo AR app (video trailer) enables teachers and students to easily add AR overlays to their lessons, textbooks, and course material, and create video-enhanced flashcards, interactive 3D science labs, and more. Download it today to make your teaching more engaging and contextual! Developed by LightUp through an ED/IES SBIR award in 2020. Contact: Josh Chan (josh@lightup.io)

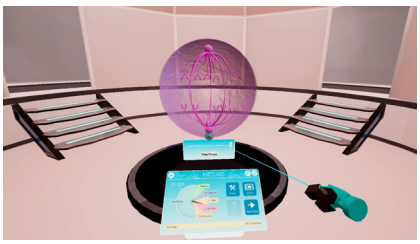
108. In HoloLab Champions (video trailer), middle school and high school students perform experiments to learn chemistry in an immersive virtual reality game environment. Developed by Schell Games through an ED/IES SBIR award in 2016. Contact: Brooke Morrill (bmorrill@schellgames.com)

109. Infini-D Lab (video trailer) is a game where elementary and middle school students engage in collaborative math and science missions that measure the knowledge, skills, and dispositions of each participant during play. Developed by Infini-D Learning through NSF SBIR awards in 2018 and 2019. Contact: Skyler Carr (skyler@infinidlearning.com)

110. Inq-ITS (video demo) is an online artificial intelligence-based interactive science lab for students in grades five through ten that scores work in real time to support science inquiry practices. A teacher dashboard presents reports to track growth and offers real-time alerts on which students are struggling and why. Developed by Apprendis, Worcester Polytechnic Institute, and Rutgers Graduate School of Education with NSF awards in 2007, 2008, 2010, 2013, 2016a, and 2016b, IES/NCER awards in 2009 and 2012, and ED/IES SBIR awards in 2015, 2016, 2018 and 2019. Contact: Mike Sao Pedro (mikesp@apprendis.com)

111. Listening to Waves (video trailer) engages middle school and high school students in science through the connection between music and the physics of waves. Developed at the University of California at San Diego through an NSF/DRL award in 2017. Contact: Victor Hugo Minces (vminces@ucsd.edu)

112. Looking Inside (video demo) is a set of collaborative mixed reality simulations to learn about middle school cell biology. In one simulation, players use cards with markers to add organelles to a simulation and then assemble a plant cell or animal cell. Developed by New York University's CREATE Lab and Future Reality Lab with partial support from an NSF award in 2016. Contact: Jan Plass (jan.plass@nyu.edu)



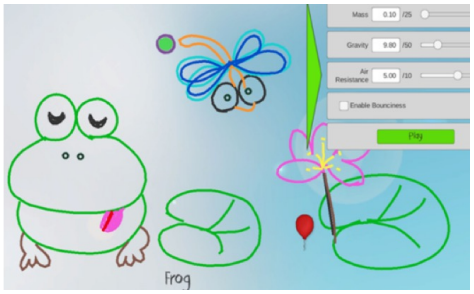
113. In Martha Madison (video demo) middle school students join meerkat scientist Martha Madison on quests to help her community while learning physical science and 21st-century skills. Jump, fly, slide, and bang through game levels built on a side-scrolling platform that plays like a video game. Developed by Second Avenue Learning with an NSF SBIR award in 2012. Contact: Tory VanVoorhis (Tory@SecondAvenueLearning.com)

114. MissionKT (video trailer) is a multi-player game where four students in grades four through eight collaborate using virtual scientific instruments to investigate objects in a virtual world populated by dinosaurs from which they have inherited their own carbon and other atoms. Developed by TheBeamer LLC with NSF SBIR awards in 2016 and 2017. Contact: Peter Solomon (PRSolomon@TheBeamer.com)

115. NIH Scientist Launch Game® App (video trailer) is a game where students ages 10 and up learn about science, getting a grant, and overcoming challenges researchers often face. Along the way, players learn about diseases, experimental

design, and the life and career of being a successful scientist. Developed by NIH. Contact: Kristin Kramer at rocket@csr.nih.gov

116. In ONPAR (video trailer), middle school students take accessibly designed Next Generation Science-based formative assessments. Developed at the University of Wisconsin-Madison, Wisconsin Center for Education Research in collaboration with the Michigan Education Agency through an ED/OESE award in 2015. Contact: Laura Wright (laura.wright@wisc.edu)



117. Physics Playground (video trailer) is a two-dimensional computer game which significantly improves middle school and high school students' understanding of Newtonian physics. Gameplay consists of mastering increasingly difficult levels via sketching (drawing objects on the screen) and manipulation interfaces (changing sliders of physics parameters). Developed by Florida State University with an IES/NCER award in 2017. Contact Valerie Shute (vshute@fsu.edu)

118. PocketLab (video trailer) includes hardware, apps, and software for middle school and high school students to conduct investigations in physical science, chemistry, and earth science. PocketLab sensors collect data like motion, temperature, and light and then connect to the software for lab notebook features. Developed by Myriad Sensors with an NSF SBIR in 2015 and an ED/IES SBIR award in 2018. Contact: Clifton Roozeboom (clifton@thepocketlab.com)

119. Polyhedron Physics (video demo) is a comprehensive set of virtual physics labs for secondary and postsecondary levels, available as web-based simulations and iPad apps, for use as replacements and as supplements to hands-on learning. Developed by Polyhedron Learning Media, Inc. through ED/IES SBIR awards in 2007 and 2011. Contact: Jeanne Finstein (jfinstein@polyhedronlearning.com)

120. The Race to the Big Bang (video trailer) is an illustrated science adventure book for middle grade readers in which seven young characters find happiness during the COVID-19 pandemic as they use a virtual world to travel in time, space, and size scale. Students explore the formation of our universe and the history of planet Earth, and they also investigate how their grandpa was infected by the coronavirus and how the vaccine will work to save them. Developed by TheBeamer LLC through 2016 and 2017 NSF SBIR awards. Contact: Peter Solomon (PRSolomon@TheBeamer.com)

121. Space Odyssey (video trailer) invites guests of all ages to use all of their senses, step into worlds within their imaginations, and bravely explore the great beyond through interactive games, immersive environments, rover missions, and more. This permanent exhibit is now open at the Denver Museum of Nature and Science. Developed by the Colorado Museum of National History with an award from the IMLS in 2019. Contact: Julia Spalding-Beegles (julia.spalding-beegles@dmns.org)

122. STEMadium (Video Demo) is a game that teaches STEM concepts using the science of baseball to middle school students. Players completes a series of challenges to save the baseball team, like the best launch angle for a homerun, using experiential approaches, while they explore and customize their stadium and help their teammates become better players. Developed by dfusion with an NIH/OD award in 2016, and an NIH/NIGMS 2019 SBIR awards. Contact Tamara Kuhn (tamara.kuhn@dfusioninc.com)

123. Tyto Online (video trailer) is a game where middle school students engage in authentic science problems and phenomena. For example, students learn about genetics through solving a food shortage by working with a botanist to engage in selective breeding and running experiments on levels of water and light to increase crop yield. Developed by Immersed Games through NSF SBIR awards in 2017 and 2019 and an ED/IES SBIR award in 2018. Contact: Lindsey Tropf (lindsey@tytoonline.com)

124. Verdant (video trailer) an immersive virtual reality game for high school biology students, focusing on Mendel's investigation into the heredity of pea plants and the basis of genetics. Developed by Lighthaus with an ED/IES SBIR award in 2020. Contact: David Sarno (david@lighthaus.us)

125. XplorStem Academy (video demo) is a 360° hands-on web-guided journey through the scientific method created by scientists for the next generation of scientists. Students observe phenomenon, engage in a hands-on laboratory to reproduce a historic scientific discovery, learn NGSS core ideas, and make hypotheses. Developed by XplorStem with an NSF SBIR award in 2019. Contact Vicki Nienaber-Meadows (info@xplorstem.com)

SOCIAL STUDIES

Note: Many learning games and technologies listed in other sections in this guide may also be appropriate for social studies. If so, they are marked as such.

126. A Strong Fire (video trailer) is an interactive short story for elementary students, sharing the Oneida Sky Woman story and eight words in Oneida. Developed by Wendi Sierra and Second Avenue Learning through the National Endowment for the Humanities (NEH). Contact Wendi Sierra (astrongfiregame@gmail.com).

127. Civics! An American Musical (video trailer) is a game for middle school students to analyze primary sources to accurately adapt true events from U.S. history into a new Broadway hit musical. Developed by FableVision Studios with Maryland Television, Maryland Humanities, and Tufts' CIRCLE through a Library of Congress (LOC) grant in 2018. Contact: (info@fablevisionlearning.com)

128. DBQuest (video trailer) introduces middle school and high school students to major questions in civics and history. A big question acts as a guiding light for a deep examination of three selected primary resources, challenging students to dig deep into the texts themselves through document-based supporting questions. Developed by iCivics with a LOC award in 2018. Contact: (support@iCivics.org)

129. Election Edge (video trailer) is a data-informed interactive map for students of any age to examine, analyze and understand the United States' presidential election process. Developed by Second Avenue Learning through a LOC award in 2018. Contact: Tory VanVhoorhis (Tory@SecondAvenueLearning.com)

130. GlobalEd 2 (video trailer) is a simulation game for middle school social studies students played between multiple classrooms simultaneously in a virtual environment. Students take on the role of countries at an international negotiations summit to develop solutions to real-world, global challenges. Developed by the University of Illinois at Chicago and University of Connecticut through IES/NCER awards in 2008 and 2013. Contact: Jeremy Riel (info@ludemicgames.com)

131. History Maker VR (video demo) is a playful virtual reality content-creation tool that allows students to embody historical characters in immersive settings, record performances featuring those characters, and share their performance files to demonstrate material mastery. Developed by Schell Games with an ED/IES SBIR award in 2019. Contact: Brooke Morrill (brooke@schellgames.com)

132. Immersive Americana Experience (IEA): We the People (video trailer) is a virtual reality experience to immerse students in dynamic historical and pivotal moments in US history. Developed by Blimey for the US Department of State's American Center Jerusalem (ACJ). Contact: Felicity Aziz (azizfr@state.gov) and Nimrod Shanit (nimrod@blimey.tv)

133. KidCitizen (video trailer) provides a growing set of interactive episodes where students in kindergarten through fifth grade work with primary source photographs to explore civic engagement and the U.S. Congress. Developed by Snow & Co, University of Southern Florida, and Muzzy Lane with a grant from the LOC in 2015. Contact: Bert Snow (snow.bert@gmail.com)

134. Learn.civiced.org (video trailer) is a free professional development platform for middle school and high school social studies, history, civics, and government teachers. Developed by the Center for Civic Education with a grant from ED/Office of Innovation and Improvement in 2015. Contact: Maria Gallo (gallo@civiced.org)

135. Mission US (video trailer) is a multimedia game that immerses students in grades five and above in U.S. history, in topics such as the Revolutionary War, the Great Depression, and immigration. Developed by Electric Funstuff with an ED/IES SBIR award in 2013 and multiple awards from NEH. Contact: David Langendoen (david@electricfunstuff.com)

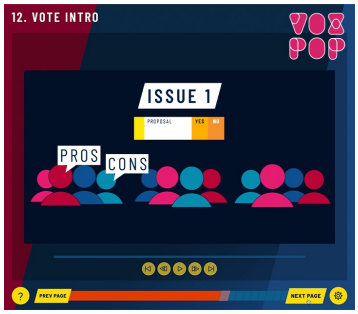
136. Outbreak Squad (video demo) is a social studies games for middle school and high school students to explore how to prevent, mitigate, and treat foodborne illness outbreaks. Developed by the Learning Games Lab at New Mexico State University, in collaboration with the University of Tennessee Knoxville, through a USDA SPECA award in 2015. Contact: Barbara Chamberlin (bchamber@nmsu.edu)

137. Persuasion Invasion (video trailer) is an artificial intelligence-based game for high school students to practice the skills that support productive civil discourse. In the game students are challenged to examine the values that underpin their beliefs, the beliefs of others, and how our values can create bias. Developed by Colgate University through an IES/NCER award in 2015. Contact: Nick Diana (ndiana@colgate.edu)

138. Project Arch-ae-o (video trailer) is a collaborative game where five teens lead an exploration to a 1000 year-old Mississippian site, engaging with archaeologists who are uncovering what the ancient people left behind. Students develop historical thinking skills through reading, discussing, weighing evidence, and examining actual artifacts from museums across the country in augmented reality. Developed by Sacreative with an award from NEH. Contact: Bettie Schwartz, bettie@sacreative.com

139. TimeSnap (video trailer) is a game-based virtual reality experience to immerse high school students in U.S. history. Developed by Electric Funstuff with support of a 2018 ED/IES SBIR award. Contact: David Langendoen (david@electricfunstuff.com)

140. Voices for Suffrage (video trailer) is a game for middle school and high school students to step into the shoes of various American citizens as they fight for equal representation in the 19th century. Join up with a suffragist group and decide how to best spread the message of suffrage using primary sources from the LOC. Developed by Second Avenue Learning with a grant from the LOC in 2018. Contact: Tory Van Voorhis (Tory@SecondAvenueLearning.com)



141. VOXPOP (video demo) is a role-playing game where classes of high school students collaborate and negotiate to navigate major events in U.S. history, such as the Shays Rebellion and the Pullman Strike, as did people living during that time. Developed by Gigantic Mechanic with an ED/IES SBIR award in 2019. Contact Jenny Lim (jenny@voxpop.io)

142. Walden, a Game (video demo) is a first-person exploratory game about the life of American philosopher Henry David Thoreau during his experiment in self-reliant living at Walden Pond in 1845. The game allows players of all ages to walk in Thoreau's virtual footsteps, discover his ideas and writings, engage with historical characters, such as Ralph Waldo Emerson, and experience the changing seasons of Walden Woods. Developed by Tracy Fullerton and the Game Innovation Lab, with support from NEH and NEA. Contact: (uscgameinnovationlab@gmail.com)

143. W-Question System (video trailer) is an interactive and adaptive video app where middle school and high school students become proficient in differentiating fact from fiction in social studies and English language arts. Developed by Thinking Habitats through a USDA SBIR award in 2019. Contact: Florian Feucht (Hello@ThinkingHabitats.com)

SPECIAL EDUCATION

Note: Many learning games and technologies listed in other sections in this guide may also be appropriate for some students with or at risk for disabilities. If so, they are marked as such.

144. EdMod is a special education platform to support the implementation of IEPs and 504s in the classroom; providing K–12 educators with instant access to their student's learning needs classification information, research based instructional strategies, and progress monitoring workflow tools. Developed by Education Modified with 2018 and 2019 ED/IES SBIR awards. Contact: Melissa Corto (melissa@educationmodified.com)

145. In Access Language Arts (video trailer) secondary special education students have access to adapted literature and language arts instruction grade-aligned to middle school. Developed by the Attainment Company through an ED/IES SBIR award in 2014. Contact: Carol Stanger (cstanger@attainmentcompany.com)

146. Clusive (video demo) is a free, customizable flexible and adaptive digital learning environment to support middle school students in building and expanding their reading skills. The tool adapts over time, making recommendations and adjustments based on the activity and choices learners make. Developed by CAST, SRI International, and International Development Research Center through an ED/OSEP award in 2018. Contact: Mia Gross (mgross@cast.org)

147. The Cognitopia Platform for Self-Determination (Video Trailer) is a suite of web-based self-management tools including MyLife for IEP Self-Direction, Routines for multimedia task analysis, and GoalGuide. The tools are for use in kindergarten to grade twelve special education, postsecondary programs, and for independent living, employment, and health self-management curricula. Developed with awards from HHS/NIDILRR and IES/NCSER in 2016. Contact: Tom Keating (tkeating@cognitopia.com)

148. CORGI (video trailer) is an app to support higher order thinking for all learners, but especially students with disabilities. Developed by CAST with an ED/OSEP award. Contact: Jose Blackorby (jblackorby@cast.org)

149. In Early Reading Skills Builder (video trailer) students in special education learn to read at a second grade level through phonics instruction. Developed by the Attainment Company through an ED/IES SBIR award in 2011. Contact: Carol Stanger (cstanger@attainmentcompany.com)

150. Echo Explorers (video trailer) is an adventure game for elementary students with and without disabilities to learn math with the characters from the PBS KIDS series "Cyberchase." The game uses in-game learning supports, such as caption controls, audio descriptions, captioning, and switch accessibility. Developed by Bridge Multimedia and WNET Thirteen with support from ED/OSEP. Contact: Wendy Sapp (wsapp@bridgemultimedia.com)

151. ESCOLAR (Effective Scholastic Curriculum for Online Learning and Academic Results) (video demo) supports middle school and elementary school students, including those with learning disabilities, in learning science in an engaging environment. Developed at the University of Oregon with an award from ED/OSEP in 2013. Contact: Fatima Terrazas-Arellanes (fatima@uoregon.edu)

152. I-Connect (video demo) is self-monitoring app so that high school students with or at risk for disabilities can track their own behavior and stay on-task. Data is automatically available for students, teachers, and parents to access. Developed by a team at the University of Kansas with awards from ED/OSEP in 2010 and 2017. Contact Kajsa Mullenix-Mohammed (kmullenix@ku.edu)

153. Kasi (video trailer) is an inclusive, multi-sensory learning experience, where blind and visually impaired students work side-by-side with their sighted peers to solve structural puzzles in high school chemistry. Developed by Alchemie with an ED/IES SBIR award in 2020. Contact: Julia Winter (julia@alchem.ie)

154. KinderTEK (video demo) is a personalized iPad math app to engage prekindergarteners through third graders (including children identified with learning disabilities) in math with vividly illustrated animals all over the world. A dashboard provides educators individualized instruction, feedback, and assessment. Developed by the University of Oregon's Center on Teaching and Learning with a 2011 IES/NCER award and an OSEP award in 2014, and evaluated by a 2017 IES/National Center for Special Education Research (NCSER) award. Contact: Mari Strand Cary (mscary@uoregon.edu)

155. NumberShire (video trailer) is a story-based personalized game with a narrative arc for children in kindergarten through second grade, especially those at risk for mathematical difficulties, to learn whole number concepts and skills. A dashboard provides educators individualized instruction, feedback, and assessment. Developed by ThoughtCycle and the University of Oregon with ED/IES SBIR awards in 2011, 2012, and 2013; IES/NCSER awards in 2012 and 2016; and an ED/OSEP award in 2016 . Contact: Nancy Nelson (nnelson3@uoregon.edu)

156. In VOISS (video trailer), middle school students learn and practice social skills in an immersive virtual reality environment. Developed by the University of Kansas with an ED/OSEP award in 2019. Contact: Sean Smith (seanj@ku.edu)

157. We Are Friends (video trailer) is an app that teaches social-emotional skills, self-esteem, sensory integration, and social interactions and relationships to children who are developmentally 3 to 10 years old, with a special focus for children with autism. This 10-minute a day program integrates people the child knows and teaches skills through music, video modeling, and interactive practice. Developed by Teaching It Right with NSF SBIR awards in 2017 and 2019. Contact Andrea Johnson (andrea@teachingitright.com)

158. (WEGO-RIITE) (video trailer) is a graphic organizer with embedded self-regulated learning strategies, video models, and Universal Design for Learning supports. The tool provides data-driven decision insights to teachers to support essay writing for students in grades three through 12 with and without high-incidence disabilities (e.g., learning disabilities, emotional disturbance). Developed at George Mason University with awards from ED/OSEP in 2012 and 2018. Main contact: Anna Evmenova (aevmenov@gmu.edu)

159. The TIPS Mapp (video trailer) is an online meeting minutes application for data-based intervention assistance teams who are implementing behavioral interventions for students. TIPS, (Team-Initiated Problem Solving) was developed by researchers at the University of Oregon's Educational and Community Supports with IES/NCER awards in 2014 and 2017. Contact: Erin Chaparro (echaparr@uoregon.edu)

THINKING AND CREATIVITY

160. All You Can Eat (video demo) is a game to train shifting – an essential cognitive skill where the brain adapts behaviors and thoughts to new, changing, or unexpected event. Developed by New York University's CREATE Lab in part with an IES/NCER award in 2016. Contact: Jan Plass (jan.plass@nyu.edu)

161. CrushStations (video trailer) is a game to train working memory – an essential cognitive skill. Developed by New York University's CREATE Lab in part with an IES/NCER award in 2016. Contact: Jan Plass (jan.plass@nyu.edu)

162. Gwakkamole (video trailer) is a game to train inhibitory control – an essential cognitive skill. Developed by New York University's CREATE Lab in part with an IES/NCER award. Contact: Jan Plass (jan.plass@nyu.edu)

163. MusiQuest (Video Demo) turns music education into an adventure through a vibrant world of songs. Students make songs, take interactive lessons, and learn to love and understand how music works! Developed by Edify with the support of NSF SBIR awards in 2016, 2017, and 2018. Contact: Jacob Zax (jacob@musiquest.com)

164. Sero! (video trailer) is a concept mapping tool where students at any level, for any topic, can take a map-based assessment to show what they know. Developed by Perigean Technologies through multiple awards from DOD/ADLI in 2016. Contact: Brian Moon (brian@serolearn.com)

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