District 75 STEM Connect

STEM Is Not Weak

Last week several District 75 schools celebrated STEM Week. Several schools gathered to participate in various STEM related challenges including the. It doesn't have to remain confined to one week though. Below is information on how you can bring it to your classroom.

EGG DROP

Kids use regular classroom tools like boxes and straws to create a vehicle that will safely transport a raw egg as it falls more than 30 feet to the pavement. Find related lesson plans and handouts.

MINI SOAP-BOX RACERS

For the first time students were able to create soap box mini-cars and race their cars on an official track. Check out the guide.

PENNY BOATS

Students use a small amount of foil to build boats that will need to hold as many pennies as possible without sinking. Check out a lesson and design ideas.

FERMI QUESTIONS

These are estimation and related questions meant to challenge students' critical thinking skills. Use the Fermi links or test your skill with an online quiz.

You can find these and 25 more challenges to explore STEM in the classroom. Contact us if you're interested in participating.

Virtual Voyages

If you want to dive into the what and why of augmented reality (AR) virtual reality (VR), and mixed reality (collectively XR or extended reality) as well as best practices in the classroom, you can look at Part I of this series. You can also find more complete instructions for creating these AR/VR experiences.

AR BOOK REVIEW

Book reviews have been happening in classrooms before *Reading Rainbow* made them cool, this is a fun way to make it more engaging. Using an animation app along with AR creation you can have the books themselves tell students what they are about.

1. **Take Book Photo(s)**
2. **Import and Edit:** Use ChatterPix, Blabberize, or Fotobabble.
3. **Export the Video**
4. **Create an AR Object:** Use HP Reveal to create an aura.
5. **View the Book in AR:** You can again use HP Reveal.

AR DIGITAL STORYTELLING

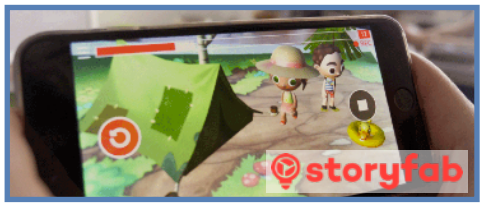
We have shared previously how digital storytelling a powerful way to make literacy engaging and accessible. Here is a way to incorporate AR.

Similar to Toontastic, Storyfab lets you create characters and object animations as well. Not only that, it lets you bring it to life on your desk through AR. Simply shoot one scene, pause, and then shoot the next. Then share your videos out.

> "Why shouldn't people be able to teleport wherever they want?"
> - Palmer Luckey, *Founder of Oculus VR*

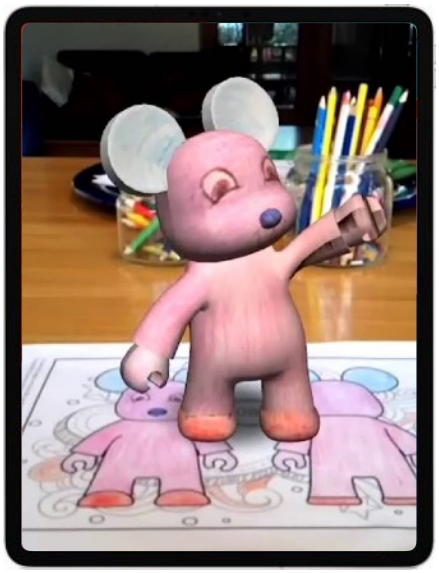
CREATING TOURS

Google Expeditions is most teachers first foray into AR/ VR in the classroom. Not only is it fairly easy to use and reliable, but there are now 900+ VR experiences and 100+ AR experiences that run the gamut of subject areas. There are also a variety of related lesson plans on Tes. Now that Google has Tour Creator you can create your own. Check out teacher full walkthrough for more details



CREATING WORLDS

CoSpaces Edu has made it easy for creators to actualize their ideas. You can explore their series of lessons across subject areas as well. Check out their official guide for full details as well as their getting started video. There is a great deal of complexity you can add including camera movement, coded actions, and the ability to view in AR or VR. For complete instructions for this and all these options explore the online overview or Jaime Donally's ARVRinEdu.

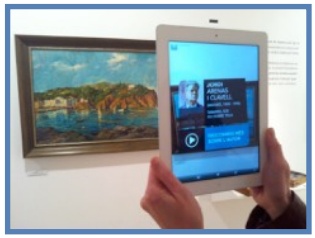


Apps of the Month

AR Museum Walk

The ultimate goal is to have students engaging in their own creations, but you can't always start there. One great way to get accustomed to using AR in the classroom is to set up a museum walk with artifacts around the room. This can include translations for Google Translate/Word Lens, historical photos for HP Reveal, paintings for Blippar, drawings from Quiver, or AR flashcards posted around the room. Then students can use their smartphones or tablets to explore those elements.

As an example, We turned the District 75 building lobby into an augmented reality experience that explores the history of disability advocacy.



Building A PLN

A Personalized Learning Network (PLN) is a tool that uses social media and technology to collect, communicate, collaborate and create with connected colleagues anywhere at any time. It offers benefits traditional PD cannot. First, a PLN allows an educator to personalize their training. They can adapt their network to provide exactly the information that's needed, and, after sufficiently learning, they can adapt to different needs.

Also, the "network" portion of a PLN indicates the high degree of symbiotic relationships that such personal development depends on. An educator is not merely absorbing information from others: they are sharing, not with some distant, impersonal source, but through global relationships. Here are some of our recommendations.

DISTRICT 75 STEM PLNS

District 75 STEM curates its own PLN groups. This includes the Math Think Tank, Science Think Tank, UDL Team, and Tech Liaisons group who meet regularly. These meetings include training from staff and vendors, sharing best practices, and hands-on exercises. These are supplemented through things like this newsletter, the STEM site, and the Teams app. Next year expect a new math PLN opportunity.

NYCDOE PLNS

Even if you're not inclined towards social media, the #NYCSchoolsTech Facebook group (and others) offers tech support, instructional tips, and event updates. Speaking of events, there are also regular SPOC meetings, monthly GEG (Google) and Apple meetups, and the occasional per-session opportunities. They also hold a #NYCSchoolsTech Twitter chat on the first Tuesday of every month.

PROFESSIONAL GROUPS

There are also a number of professional organizations that offer a wide range of PLN opportunities. Statewide for technology there is NYSCATE and nationally there is ISTE. Along with online PLNs, they offer tools like online courses and certification.

BUILDING A PLN

Try to spend 20 minutes a day interacting and collaborating.

- Use Twitter, follow educators, and engage in education chats. (D75 STEM staff on Twitter: Leslie, Sean, Liz, Greg, Sarai)
- Follow education blogs like the Innovative Educator or Brave In the Attempt.
- Listen to education podcasts.
- Participate in education groups on Facebook and LinkedIn.

District 75 STEM Calendar

May 22nd
SMARTBoard Refresher

May 23rd
Digital Access & Inclusion Summit

May 29th - 30th
MS & HS Debate Finals

May 31st
New Visions Innovation Throwdown

June 1st
Brooklyn Hackathon

June 1st
Bronx Bytes

June 6th
EdXEd Conference

June 6th
iZone Symposium

June 6th
CS4All PreCourse Day

June 12th
Garden Day Celebration

June 18th
D75 STEM Fair

June 19th
NYCDOE GEG Meetup

June 20th
3D World Picnic

June 21st - 26th
ISTE Conference

July 31st
#NYCSchoolsTech Summit

Tools For Social & Emotional Learning

May is Mental Health Awareness Month. There are many organizations that provide resources and even different activities for each day of the month and you can find more social-emotional learning (SEL) tools we've shared.

> "There are two educations. One should teach us how to make a living and the other how to live."
> - John Adams

As educators, we have a responsibility to our students and must actively seek new resources and strategies related to mental health and wellness. A recent estimate is that one in five people suffer with some form of mental illness, With the average age of the onset being 14 years old. Students on their own may not advocate for themselves and seek out the help that they need, which is why it's very important for us as educators to know our students, to recognize and be knowledgeable about the common signs.

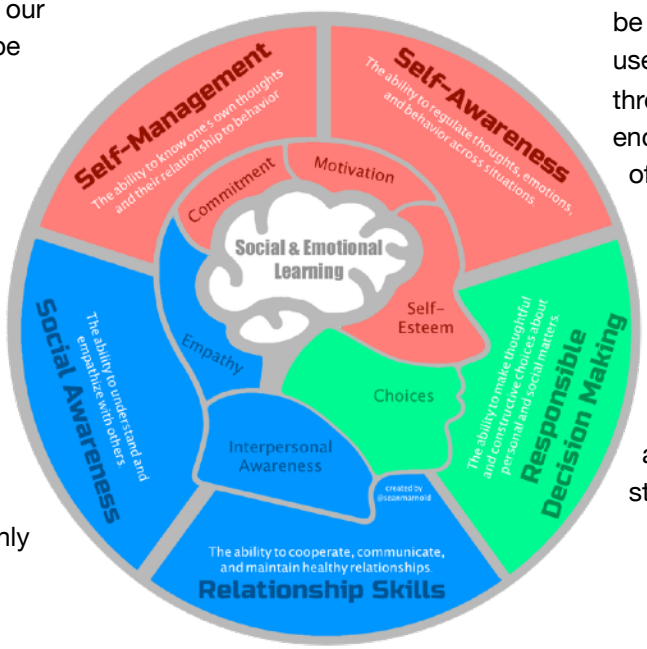
TEACHER TOOLS

There are technologies we rely on for assistance to help manage health and anxiety. Here are a few.

- Fitbit/Apple Watch: Along with health trackers they have built-in breathing/relaxation apps.
- Organizers: Email is certainly not new and maybe even increases stress, but improvements to tools like Gmail's inbox that links Google Calendar and a "Tasks" feature for to-do lists helps people track their work flow more easily. There are also full workflow apps like Basecamp to do the job and reduce anxiety.
- Headspace for Educators: An app teaching meditation and mindfulness through actual course materials and sessions.

MINDFULNESS TOOLS

Today's educators recognize that they are not just teaching subjects, they are teaching life skills to students so they can successfully navigate the academic, career, and social-emotional challenges as they arise. Integrating developmentally appropriate mental health and wellness strategies into all content area subjects can be done with free, engaging tech tools.



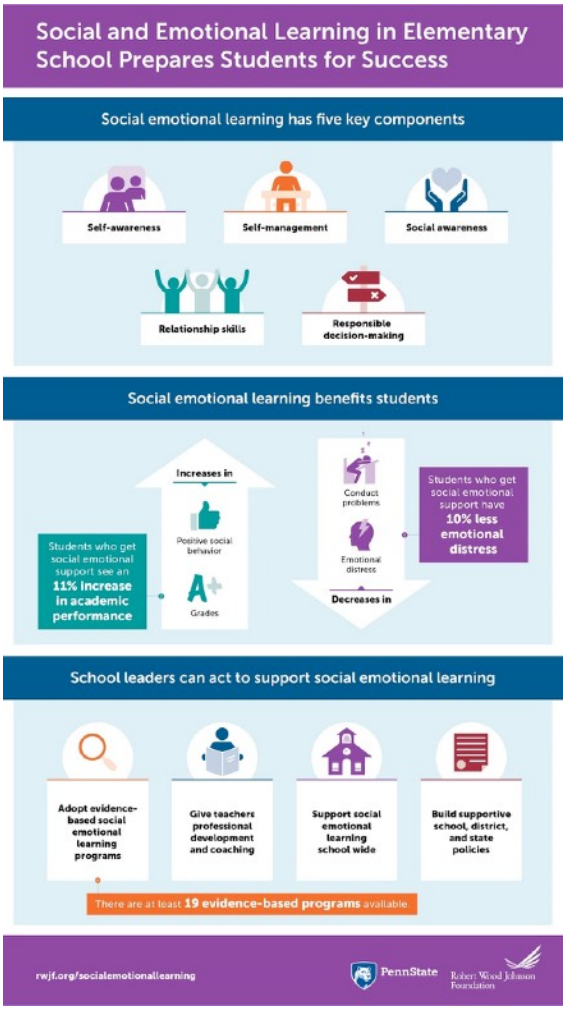
- **GoNoodle:** The website with a compilation of interactive videos encouraging movement and mindfulness for kids and adults. Try the melting video to start.
- **Stop, Breathe, Think:** This app provides a guide to meditation and mindfulness training used to shift attention and develop focus, kindness, gratitude, and compassion. With guided meditation, self-assessment, measurement tools, and reminders, Stop, Breathe, Think (SBT) is useful, helping users develop and support a mindfulness routine.
- **Google Forms:** Google Forms can be a great tool to support students in checking in/ checking out either daily or weekly. In Forms, the data can be stored, sorted and then used to guide students through self- reflection, thus encouraging the development of self- awareness.
- Flipgrid: Empower student voices using this quick and easy tool to get kids reflecting and sharing. It can be as easy as posing a question such as, "Describe a calming strategy that you learned

today that you could apply in class tomorrow."

EXTRA RESOURCES

If you're looking for more places to access SEL resources, here are a few we think are worthwhile.

- **CASEL** – As I said they have become the hub for all things SEL. Their resource guide is filled with tons of helpful information.
- **Edutopia** – The site has a number of helpful articles about SEL including a guide to the 5 Keys to SEL, why it's essential, and SEL activities.
- **Centervention** – They share a large set of SEL activities that are geared mostly towards younger learners.
- **Flocabulary** – They have over 20 educational videos on social and emotional learning topics.
- **Nearpod** – They have a whole series of pre-made life skills lessons.



District 75 STEM Next Issue

APP/SKILL OF THE MONTH

We'll give an overview of an app and teach you about a basic tech skill.

•

STEM FAIR & SUMMER

See all the excitement from the STEM Fair and to expect in the summer.

District 75 STEM Awards

SUSTAINABILITY AWARDS

The NYC DOE's Sustainability Department held its 3rd Annual Sustainability Showcase at the Brooklyn Expo Center on May 22nd. Students from across the city shared about their sustainability efforts. The day was full of great energy, thoughtful students, and shared learning.

District 75 was well represented with 11 of the 88 presenting schools at the showcase. Schools included: 141K, 370K, 721K, 753K, 94M, 721M, 751M, 176X, 811X, 721Q, and 752Q.

In addition, District 75 educators won multiple Sustainability Awards including Principal Barbara Tremblay (721K) for the school's recycling, gardening, and sustainability culture of the school including a recycling fashion show. Margaret Negrelli, agriculture/gardening teacher at 370K, also won and was NY State Agriculture's Teacher of the Year last year. Two STEM Department members, Cara Coffina (Coordinator of Applied Learning) and Gregory Heath (Coordinator of Mathematics) also won for the Plant-Learn-Grow program which helps D75 schools create indoor and outdoor edible gardens, and for their work in sustainability. **Join us in celebrating the amazing efforts of our wonderful students and educators!**