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Local educators created videos and printable activities to help caregivers get their kids engaged in STEM this summer.



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Rebekah and Ben Newman (left and back) with their sons Miles, 12 (center), and Ethan, 18 (right), photographed at their home on Tuesday, June 16, 2020, in Dallas. (Smiley N. Pool/The Dallas Morning News) (Smiley N. Pool / Staff Photographer)

By [Gina Mantica](#)

2:00 PM on Jun 23, 2020 — Updated at 2:20 PM on Jun 23, 2020



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Ben and Rebekah Newman struggled to adapt to online learning for their two kids, who are in the sixth and 12th grades, after the Greenhill School closed due to COVID-19.

The Addison couple couldn't find Starburst candies to melt together for an at-home geology experiment. So they replaced the candies with crayons.

The family quickly learned that the texture of melted crayons is entirely different from that of sticky candies — and the experiment didn't work at all.

“We needed to be better organized,” said Ben Newman, “and help [our kids] be better organized as well.”

The Newmans are among many North Texas parents and caregivers looking for ways to support their kids' interests in science, technology, engineering and mathematics, or STEM, in the time of COVID-19. That's a challenge, now that school is out and summer camps have been shortened or canceled.

Local researchers and educators are creating new digital tools for getting children engaged in STEM. These resources can be more effective if youngsters work with someone to process their experiences.

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But technology is not accessible to everyone. So STEM educators recommend incorporating science and math into everyday activities.



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Videos

These resources include videos that children can sit down to watch while parents get work done around the house.

For example, the Perot Museum of Nature and Science created a video series for children called "Amaze Your Brain at Home." One of their most popular videos in the series is Snacking in Space, which not only explains why astronauts eat dehydrated foods, but also shows how real-life astronaut Christina Koch makes macaroni and cheese in space.

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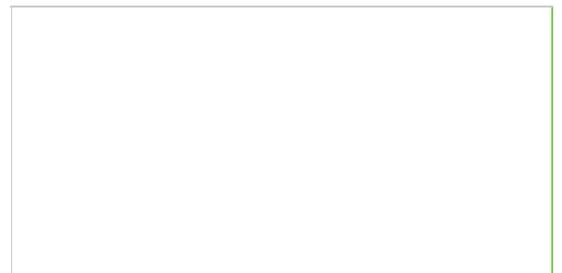
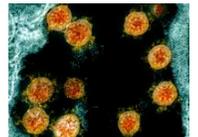
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The Newmans have tried a few different online programs, including The Smithsonian Learning Lab, a huge collection of searchable videos, pictures, activities and experiments.

Though such resources are helpful for growing kids' intellectual curiosity, "I think it's far inferior to a classroom setting, where you are explaining that kind of thing" — the concepts behind the experiments, said Rebekah Newman.



Simmons Teaching and Learning faculty member Candace Walkington taught a class in November 2018 at Harold Clark Simmons Hall on the SMU campus. (Guy Rogers III / Southern Methodist University)

Videos are great for busy parents who want to expose their children to STEM. But these resources can be even more effective if parents have time to help their children process their online experiences.

Youngsters learn best when they can actively process ideas

by answering questions, summarizing key points and giving explanations, said Dr. Candace Walkington, an education professor at SMU.

Dr. Julia Gouvea, a science education expert at Tufts University, agrees. “All of teaching involves a contextual relationship — having someone helping you process a tool or experience,” she said.

One way to ensure this engagement happens is through activities that parents can do with their kids. Walkington wanted to make videos for parents to help them get their children excited about learning.

When Dallas went on lockdown this spring, she found herself frantically picking up toys that littered her floor so that the background of her Barbie Bungee Jump video wasn't distracting.

In the video, Walkington explains how to calculate the number of rubber bands needed to give Barbie the biggest bungee jump without hitting the floor. Parents can use the video to have meaningful conversations with their kids about math.



Koshi Dhingra held a model during a presentation at Klyde Warren Park in Dallas in February 2016. (Scott Peeks / Koshi Dhingra)

‘STEM is a mindset’

“STEM is a mindset that can be grown as the product of positive, validating experiences,” said Koshi Dhingra, science education expert and founder of local nonprofit talkSTEM. And that approach can include getting the kids outdoors. Dhingra’s walkSTEM Academy includes a series of educational walking tours of different Dallas-area locations.

For example, there’s a video series for youngsters in grades 5-12 on the math hidden in Fair Park. In the first video, teachers help students learn geometry by having them test whether the reflecting pool contains similar triangles.

One of the benefits of walkSTEM videos and activity guides is that they meet some of the Texas Essential Knowledge and Skills education standards. Parents need to connect what the kids are learning online with what their schools expect at their age level, said Dhingra.



Jennifer Stimpson, a middle school earth science teacher at The Hockaday School, posed for a photograph after a special screening of the movie "Hidden Figures" at the Alamo Drafthouse in Dallas in February 2017. (Special Contributor)

Caregivers,
educators and
other adults who
may be influential
in youngsters'
lives help support
their learning and
development, said
Jennifer

Stimpson, a
middle school earth science teacher at The Hockaday
School. And online resources are great places to start.

But many caregivers struggle with access to technology.
"We spent maybe an extra \$200 in order to get our
internet where it needed to be functional," said Lisa Tran
of Dallas, whose daughters attend Personalized Learning
Preparatory at Sam Houston Elementary School.

If technology is an issue, Walkington recommends incorporating STEM into daily routines. For example, the Newmans have their kids cook new recipes with friends over Zoom to flex their math skills. Tran gives impromptu lessons on nature to her children during road trips.



Lisa and Jimmy Tran with their children Lila (center), 8, Livia (right), 6, and Jordan, 4, at their home in Dallas on April 12, 2020. (Lily Panchasarp / Lisa Tran)

Learning science requires these interactive moments, like mixing ingredients or observing different birds as they pass by.

“All of your senses are required to fully grasp whatever the context or the content is,” said Stimpson. “To become a scientist, you must be a doer.”

Local resources

[Amaze Your Brain at Home](#), Perot Museum of Nature and Science

[walkSTEM Academy](#), talkSTEM

[Math Activity Videos](#), Dr. Candace Walkington of Southern Methodist University

[Texas Wildlife Management Area Coloring Book](#), Texas Parks & Wildlife

[Discovery Lab Online](#), Fort Worth Museum of Science and History



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Gina Mantica. Gina is a graduate student in Biology at Tufts University and reports on science for The Dallas Morning News as part of a fellowship with the American Association for the Advancement of Science.

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