

Kids Need Enrichment

Putting the amazing, fun, and powerful world of STEM in the hands of kids

"The art and science of asking questions is the source of all knowledge."

- Thomas Berger

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Weird But True

Every year
New Yorkers bite
10x more people
than sharks do
worldwide

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The Importance of Asking Questions

We all know it's important to ask questions, but how, exactly, do we get our kids to do it? And why is STEM a great venue for asking questions?

The first step is realizing that people generally love talking about themselves and topics about which they are passionate. And no where is this more true than the world of STEM. Even the "rock stars" of STEM are happy to answer people's questions. In fact, they appear to encourage it, especially with kids.

Perhaps they remember being curious kids needing to know the answer to questions that drove them to become scientists, engineers, and mathematicians. Maybe someone answered their questions when they were kids. Whatever the reason, STEM is a great place to get your kids to ask more questions.

For those of us with shy kids, getting them to ask a stranger a question might seem like a daunting task, but it's not impossible. Kids are resilient and up to the challenge! It's still a work in progress, but when our family goes out, we encourage our daughters to ask questions and be active participants even though they are naturally quiet and reserved in large group settings.

Here is a simple recipe to make it happen:

1. Go to a museum, zoo, or science center that interests your child. (For those in the NY area, The American Museum of Natural History is our family's favorite for many reasons including their educator-run Discovery Room for kids, docent (trained volunteer) tours, docent stations, high school student-run stations, and meet the scientist events.)
2. Find a docent, volunteer, or educator. They're usually by hands-on displays waiting for you.
3. Encourage your child to ask a question. If your child is hesitant, you can start the conversation. Here are some guaranteed winners:
 - What's your favorite spot/exhibit in the museum? (This is a great question for finding hidden treasures.)
 - What got you interested in this field?
 - What was the weirdest/coolest/most amazing thing you've learned about this field?
 - If you're talking to a scientist: What was the most fascinating thing you've discovered?

At first, you might need to use a little bribery to get your kids started, but getting them to ask more questions really can be that simple. Most of the time, they just don't know how to begin.

It has been incredible to see our daughters' growth with these simple exercises. They've even asked questions to a panel of turtle experts under the blue whale at the American Museum of Natural History!

So the next time you take your kids somewhere, try one of these questions and let us know how it goes!

What to watch: SciShow

by Erika (age 12, [@KNEstemGirls](#))

How much energy does the internet use? Why do we have baby teeth? Ever wondered why things fade in the sun? If so, then SciShow is for you because hosts Hank Green and Michael Aranda have answered all of these questions and many others.

Quick STEM: SciShow Favorites

[5 of The World's Most Dangerous Chemicals](#)

[The Science of Sugar Addiction & The Fifth Taste](#)

[The Science of That Dress](#)

[How Do Pandas Exist?](#)

[Xenotransplantation: When People Get Animal Parts](#)

SciShow is a YouTube channel entirely dedicated to spreading science. It was created in 2011 by Hank Green and has expanded into nine different branches since then. And a whole new channel, SciShow Space, was created this year! You can also find answers to the

world's most asked questions like 'What is love?' on SciShow. SciShow finds the questions on Google and then gives the answers on the show.

Hank Green and Michael Aranda are also really funny as they explain the topics in a way that everyone can understand. "Experiments with Substance N were discontinued because even the Nazis thought it was too dangerous!" certainly gives you a good mental image of why you shouldn't play with one of the World's Most Dangerous Chemicals.

SciShow is awesome because it answers questions you've probably had and some that you've never thought of before. It also tells you the latest science news, so be sure to check out some of our favorites!

In praise of leeches?

by Alexa (age 9, [@KNEstemGirls](#))

Have you seen a leech before? They're super cool! Leeches are worm-like animals. Their nearest relatives are earthworms. Most people think that leeches are like monsters because they suck blood, but they are very useful to humans. For example, the nervous system of a leech is very similar to the human nervous system so it is an enormous benefit to researchers in their quest for the answers to human problems. Also, the original surgeons were barbers and they used leeches to cure anything from headaches to gout.

Leeches can have 2 to 10 eyes depending on the species, breath through their skin, and have up to 32 brains. The largest leech discovered measured 18 inches.



Malagobdella vagans. Source [AMNH](#)

If you do see a leech, you shouldn't be scared. Not all leeches suck blood. The ones that do sometimes use different methods. The Amazon leech inserts a long proboscis into the victim, as opposed to biting. The Hirudo leech injects an anti-coagulant serum into the victim's blood to prevent blood clotting.

Once a leech has bitten you, it will gorge itself until it has had its fill and then just fall off. It will eat up to 5 times its body weight. When the leech has finished feeding it might not eat again for months. Leeches are super cool!

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