



Inspiration Station!

Choosing a Community-Based Problem for your eCYBERMISSION Project

Whether this is your first time taking part in eCYBERMISSION or your fourth, one of the biggest obstacles to overcome is choosing a community-based problem to explore (with science) or try to solve (with engineering). This tool will help you help you identify and avoid some common mistakes made by teams when selecting a topic and identify a community-based problem for your project.

PITFALLS - Let's start by looking at some common mistakes teams make when selecting a topic for their project:

1. Choosing a science experiment that already exists
 - a. The problem with this choice is that you're not doing anything new and you're not developing the process on your own. If you find yourself searching the Internet for science experiments that already have a procedure written out, stop and start over. Avoid sites like ScienceBuddies.com unless you're just looking for inspiration. Never copy something that's already been done.
2. Choosing a problem that's too big to tackle
 - a. If you decide you want to cure cancer, we applaud you! And we certainly hope that someday you do! But this is a project that will last, at most months. Something like that would take years of work and research and there's just not enough time or resources available to you right now. That certainly doesn't mean you couldn't help cancer patients in some other way now and start down your path to one day accomplishing that lofty goal. But for now think about how much time you have and the resources available to you when you select a problem.
3. Choosing a problem that doesn't help your community
 - a. At eCYBERMISSION we define "community" rather loosely, meaning you could work on a project that helps your classroom, your school, your house, your street, your town and all the way up to the global community! But you need to make sure you can find a connection to YOU through all of that AND that it will help someone. We recommend you try to keep it more local (with the chance of expanding it to other local areas that may have the same problem) and that it will truly help your community. Stop to think about how what you learn can be used to really HELP those around you. If it can't, maybe try to come up with another problem to explore or solve.

POSSIBILITIES – Now let's look at ways to help you find a community-based problem to explore or solve:

1. Explore the world around you
 - a. Looking around at your school or your town (or even where you live) can sometime inspire you. Many times we ignore the problems around us that we see every day, so take a minute to really look. Try talking to other about what they see as problems around them and work hard to empathize, or feel what they feel. Once you start to see



things from other people's perspectives you may start to see why there are problems you never noticed. Talk to those adults and peers closest to you and see what they have to say. Try watching the local news or reading local newspapers and identify what's happening around you.

2. Ask questions you want the answer to
 - a. One of the most important aspects of choosing a topic is finding something you are really interested in. If you can find the answer to a question that YOU want to know about it's far more exciting and worth your time.
3. Start looking in places you never looked before
 - a. If you need a good jumping off point for ideas you can check out the [National Academy of Engineering Grand Challenges](#). These will help give you some ideas, even if you don't want to do an engineering project. They might feel more global, but you'd be surprised how many of these same issues might affect your community. They basically focus on some of these categories:
 - i. Economical solar energy – generating it and storing it.
 - ii. Access to clean water
 - iii. Health and medicines
 - iv. Environmental problems - problems like oil spills, water pollution, air quality, endangered species, food shortages, and so on.
 - v. Urban Infrastructure – problems related to transportation systems, power grids, water and sewer systems, rail networks, and municipal structures.

WHAT IS EVERYONE ELSE DOING? – Interested in seeing what kinds of problems eCYBERMISSION teams have explored or tried to solve before you? Check out this list!

- | | |
|---|---|
| • Climate Change | • Mitigating algae blooms |
| • Health risks to firefighters | • Combating neurodegenerative diseases |
| • Wasting water at home | • Improve local composting programs |
| • Diagnosing depression | • Mitigating harmful pesticides |
| • Children being left in cars | • Fixing soil depleted of nutrients |
| • Cars hitting deer | • Minimize phantom-limb sensation and pain |
| • Dealing with non-recyclable waste | • Mitigating the effect of dust on people with asthma |
| • Eliminating bacteria in water sources | • Finding a way to heal wounds |
| • Phosphorous runoff in waterways | |
| • Generating clean energy | |

Hopefully these ideas will help INSPIRE you and you'll find a community-based problem that you can enjoy exploring or trying to solve. I bet you never knew you had to be creative in science class before! Now use the [Inspiration Station Checklist](#)!