

These activities and questions have been designed for you to have engaging discussions with your student about the STEM jobs they are encountering in their Learning Blade schoolwork. Here is an overview of what is included.



Table Talk: These are questions you can ask your student without having any background knowledge in STEM. These will be easy conversation starters.



Dig Deeper: These are questions with suggested links to learn more about different STEM careers to explore with your student.



Home Lab: This is an easy, hands-on activity to do with your STEM student.

What Has Your Student Been Learning?

In this mission, your student is tasked to determine the best way for the community to grow local produce. Along the journey students will need to determine what STEM tools (**crop yield, hydroponics, organic farming, livestock, and farming equipment**) and STEM careers (**agricultural engineers, agronomist, veterinarians, food assurance technician, and microbiologist**) are needed to assist in generating an organized and informative report/proposal. It is up to the student to determine what help is required based on the clues provided.

TABLE TALK

Starter Question:

Do you ever stop and think about where your food comes from? Stop to think how far the tomato has traveled to make it to your plate? How many different careers were involved in you having a fresh tomato? Discuss with your STEM student the process from seed to your plate.

Now take it a step further. How is it that supermarkets always have fresh fruit even when they are not in season? How do they do that? Do some fruits travel farther to get to your plate in different seasons?

Can you think of a non-fresh food you could replace with a fresh food you in your pantry?



DIG DEEPER

Resources for More Information:

In this section, we provide a series of links and associated questions to DIG DEEPER on individual careers addressed in the Fresh Food Mission. Feel free to explore these with your STEM student as you model curiosity and lifelong learning.

Did you know that when you read the ingredients list of any product, they are listed in order of quantity? The first ingredient listed is always the most abundant. But that doesn't always tell the whole story. For example, if a jar of salsa lists tomatoes first, you know there are more tomatoes in the product than anything else. Some ingredients go by names other than what we expect. For example, there are many terms used for sugar such as as high-fructose corn syrup, corn syrup, agave nectar, just to name a few. Perhaps trickiest of all is trans fats. These are often listed as partially hydrogenated oil and hydrogenated oil. Take out a few of your favorite products and read the labels together. If you come across something you haven't heard of google it to learn more.

Watch this TED Talk on how unhealthy our food is. https://www.ted.com/talks/jamie_oliver

Agronomist are involved in efforts to increase global supply of high-quality food, feed, fiber, fuel and pharmaceutical all while protecting and preserving the environment. They use their natural curiosity and enthusiasm for science to help solve some of the toughest problems facing humanity - safe and abundant food production. Explore the many different responsibilities and necessary education to become an Agronomist at <http://www.agcareers.com/career-profiles/agronomist.cfm>

Food Assurance Technicians assure that the food on your table is of a certain quality. Read this to get a better understanding of their job. Discuss if working with food interests you. Why or why not?

<http://hiring.monster.com/hr/hr-best-practices/recruiting-hiring-advice/job-descriptions/quality-assurance-technician-job-description-sample.aspx>

Microbiologists track down the culprits behind mysterious new illnesses and harness microbes' abilities to make medicines, industrial enzymes, food ingredients, and many other useful products. Learn more by watching some excellent videos from the American Society for Microbiology.

<https://www.asm.org/index.php/scientists-in-k-12-outreach/careers-in-microbiology>

In the Fresh Food Mission, students learn about a variety of careers in the agriculture and livestock industry. Try gardening for yourself to see if you like growing food.

Method:

Buy cherry tomato seeds at local garden or hardware supply store. Plant seeds in different paper cups with potting soil/dirt.

Water and place crops in location that receives lots of sunlight.

Record growth rate weekly.

After your seed sprouts and has 4-10 leaves, replant in a large pot.

Make sure it does have enough water.

* Consider using Miracle Grow fertilizer.



Engagement & Extension Mission Suggestion:

To engage your students prior to starting their Home Lab you can play short video clips about different types of farming. Prior to allowing the students to start their Home Lab have them record what they think might be the best solution for the community. Students can write their predictions in a journal or blog. Have students reflect on their findings after they complete the mission to see if/how their predictions changed.

Resource Videos:

Earth Day 2011: A Kid's Introduction to Hydroponic Gardening-
<https://www.youtube.com/watch?v=KPLQFkiMips>

Organic Sustainable Farming - Learn How this Family Farm does it Right -
<https://www.youtube.com/watch?v=b6HKGnP9OIk>