HOW TO
















STEAM INTO AGRICULTURE:

A GUIDE TO DESIGNING A SCHOOL WIDE STEAM EVENT

A PUBLICATION OF THE ARIZONA FARM BUREAU

Arizona Farm Bureau

The Steam into Agriculture Program was a partnership between the Arizona Farm Bureau Ag in the Classroom Program and Gateway Polytechnic Academy (a Queen Creek Public School).

The school-wide curriculum focus included lessons, classroom presentations, pen-pal programs with local farmers and other Ag industry professionals, Skype Sessions, field trips, a school garden, and a student showcase event. Every student in the school experienced agriculture through a variety of mediums during this 6-week long event. Over 800 people attended the Steam into Agriculture Parent Night and were served a BBQ Dinner. This guide was put together to help other schools replicate this successful program.

Community Partners

Bee Man- Dave Peterson

Tractor Man- Jason Perry

Tire Man- Justin Perry

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THE GPA STORY

Gateway Polytechnic Academy (GPA) is a Pre-K through 8th Grade Public School located in the Queen Creek Unified School District in Queen Creek, Arizona. Due to growth in the area, the school will move to a Pre-K through 5th Grade Campus by the 2018-2019 School Year. GPA is the district STEAM school. STEAM stands for Science, Technology, Engineering, Art, and Mathematics. Construction began in March of 2015 and the first Tower was completed July 2015 for the first day of school. (On a side note: this was the fastest brick and mortar school building constructed in Arizona's history.) The school year began without computers, copiers or an Internet connection! Teachers went "old school" and survived without much technology until October. Construction was finally complete December 2015. As the buildings were growing so were the student enrollment numbers. A school that began with 300 students quickly rose to 650 enrolled students. The 2017-2018 School Year had 1,006 Pre-K – 8th Grade students enrolled.

GPA teachers pride themselves on integrating STEAM into the core curriculum. As part of the STEAM program, the school takes on a new focus each semester. This technique allows students to gain experience and exposure to a variety of topics and careers. GPA's first STEAM Event focused on astronomy. Each grade level studied a different aspect of space. Sarahbeth Belvado, a Kindergarten Teacher at GPA, had her students compare how food is grown around the world to how it is grown at the Space Station. "I tied in the farm land surrounding our school and spoke about all the hats a farmer must wear (skills) to run a successful operation," said Belvado. "The interest my students showed in this project and the excitement they showed for learning, encouraged me to present the idea to our Principal about doing a STEAM project on agriculture the following semester." The Principal agreed. Belvado's past experience working with Arizona Farm Bureau's Ag in the Classroom (AITC) Program encouraged her to contact Katie Aikins with the Arizona Farm Bureau Agriculture in the Classroom (AITC) Program to help make this idea a reality.

Belvado's idea of classroom pen pals and a school garden quickly expanded to something bigger as teacher's caught wind of the idea. With the contacts and resources the Farm Bureau had, Belvado and Aikins were able to outline a semester long plan that would encompass all learning subjects, technologies and even field trips! This semester project would also be completed with a family night component.

Step 1 was organizing a Professional Development. To make the project a success, there would need to be teacher buy-in and support. If the project was made easy for teachers they would be more likely to follow through with it. The professional development (PD) was led by the Farm Bureau AITC Program, Aikins, and the Lead Teacher on the project, Belvado. The PD covered the full spectrum of ideas that had been generated and a streamline process. It was here that grade level teams selected commodities and an area of focus for their grade level project. A timeline for the project was also set at this time to identify start times, deadlines and completion dates.

STEAM into Agriculture at *GPA*

Grade level Topics

Pre-School	Parts of a Plant (the parts we eat)
Kindergarten	Pollination and Pollinators (Life Cycles and Function)
1st Grade	Decomposers (millipedes, pill bugs and worms/ habitats and life cycles)
2nd Grade	Greenhouses (structure, function, etc)
3rd Grade	Pigs (Literature Review with Charlotte's Web , compare fictional farm to real life farm)
4th Grade	Drones and Ag Technology (Now and Then)
5th Grade	Poultry (anatomy as it relates to humans, embryology, life cycle, etc.)
6th Grade	Hydroponics (different systems, plant growth, etc.)

Timeline

January 15th	Producer Pen Pals confirmed by AITC
January 22nd	1st set of letters written to Producer Pen Pal and delivered to Lead Teacher
February 3rd	1st letter from Producer Pen Pal is received via email to classroom teachers
February 10th	2nd set of letters written to Producer Pen Pal and delivered to Lead Teacher
February 19th	SKYPE with Producer Pen Pal for any follow-up questions
February 28th	STEAM into Agriculture Event

Step 2 was starting the process for the School Garden. The Farm Bureau directed Belvado on where to find grants and Belvado went to work filling out forms and writing the paperwork. Prior to starting the school garden, a plan had to be submitted to the District's Facilities Manager to ensure the garden would not interfere with expansion plans or current plumbing and electric lines. Belvado also began soliciting parents for material donations. In the meantime, Aikins was able to secure old tractor tires from a local farmer. The tires were delivered to the school and set in place by the farmer with the help of a teacher. Farm dirt was donated by another local farmer. The local A & P Nursery donated the planting mulch and seeds for the garden. A local lumber yard donated wood and the local High School FFA Program constructed garden boxes. Once the paint, containers, dirt, mulch and seeds were donated it was time for the manual labor. All the pieces needed to be put together. This is where the students came in. Two students from each grade level prek-6th grade were selected to come help paint and fill the boxes/tires with dirt and mulch. Once the containers were dried and filled, each grade level was responsible for planting their own space. The students had to determine the area of the planting container as well as depth of seed placement for planting. As the lead teacher on the project, Belvado, oversaw the planting and kept grade levels on track for planting and harvesting. Belvado also took on the daily watering and maintenance of the garden selecting groups of students to assist. Shortly after the completion of the garden, the school received word that it was selected as a grant recipient. The money received from the grant will be used to add additional garden beds, a watering system, a fence, gardening tools, and a compost bin.

6 Tractor Tires were donated by a local Farmer to be used as the planting beds.

Farm dirt was donated by another local farmer from his field. He delivered the dirt to the school.

Students painted the garden tires

Students filled and planted the containers

Some class sessions were held outside at the garden

Step 3 With the garden up and running, it was time to turn the attention to the Pen Pal Program to be sure that we met the deadlines. Emails were sent to teachers to remind them of the nearing pen pal letter deadline. Once all the letters were received, Belvado scanned them in and emailed them to Aikins who then forwarded them via email to the producer pals. The emailing of letters helped eliminate any district mail issues or the delay from sending them across the state. Aikins kept track of the producer pals and made sure the return letter deadline was met. The letters and pictures were then forwarded via email to Belvado, who passed them along to the grade level teachers.

As the project progressed, it was revealed just how important it was to have a lead teacher on the project. Belvado was always sure to send out gentle reminders of approaching deadlines and reminders that the Farm Bureau was there to help. This approach was used for each of the pen pal letter deadlines.

Step 4 Arrangements were made for the Skype Event that would be held at the end of the semester once classes had 2 correspondences with their producer pals. The school did not have webcams or Skype on the school computers so Belvado worked with the District Tech Department and made arrangements for 2 equipped computers to be set up in empty classrooms. Aikins and Belvado worked together to schedule the teachers and producer pals for their Skype time. The schedule that was created allowed each grade level to skype for a 30-minute block of time. On the day of the skype session Belvado had to run between the rooms to start each skype session and check in to ensure the session was staying within the given time frame. The younger grades skype sessions typically ran 20 minutes as they had a harder time sitting still and focusing on the speaker. The older grades ran the full 30 minutes as they asked great follow up questions and dove deeper into the subject they were studying.

Tour of the green house

Live feed from Drones

Step 5 As the RSVPs for the Steam Event began nearing 600, the idea was brought up that the event should be publicized so that the community could see the great things the school was doing. The Queen Creek School District PR Director wrote a Press Release and story and sent it to the local papers and posted it on the school and district Facebook pages. The Farm Bureau also had their PR Director compose a Press Release that was sent to all area news outlets. The hope was to have some news coverage at the event, but at the last minute a higher priority news story pulled the News Crew from the event.

Step 6 Throughout the 6-week curriculum event, Belvado and Aikins worked to get donations for food, supplies, and solicit other vendors to attend the Family Night. Something to keep in mind when you are planning your event, some companies such as Costco, WinCo, Bashas, Target, Walmart, and Fry's all needed 6-8 weeks' notice prior to donations being given through either straight donation of product or a gift card. The event fell short of this time frame and so the school's PTO was asked to donate $330 to cover hamburgers and buns. The Arizona Pork Producers donated the hotdogs, another local meat shop (The Pork Shop) donated 100 bratwurst, Farm Bureau Financial Services donated the water, chips, pickles, grill and people to run the grill, and a local construction company donated the tower lights. Plates, napkins and utensils were donated by individual donors. Arrangements were also made to have the local FFA Chapter serve the food.

Aikins worked with industry groups and local farmers to secure booths for the Steam Family Night. The Arizona Beef Council attended with an interactive booth, Danzeisen Dairy attended and gave out samples of their flavored milk, Scooptacular Ice Cream attended and handed out ice cream samples, a local farmer brought one of his tractors and interacted with individuals throughout the evening, the local 4-H Club came and taught kids how to rope and taught students all about dairy goats, and a Farm Bureau Insurance Agent also attended with an interactive booth. Sharman Hickman of Hickman's Family Farms also attended the event with their mascot Funky.

Teachers were asked to attend the event and received professional development hours for their participation in passing out food tickets, set up, take down, and help as needed throughout the event.

Step 7 To set-up on the afternoon of the Family Event arrangements were made to have the afterschool care program kids set up tables (from the cafeteria) and place trash cans. The grill and volulnteers arrived 2 hours prior to the event to started cooking brauts, hotdogs, and hamburgers. The food was then wrapped in foil and kept in a warmer so that the food line did not get too backed up. Other communitiy businesses and producers arrived and started setting up booths and activities. Teachers worked quickly to set up their classroom displays to showcase to parents the projects their students ahd been working on the past 6-weeks. Displays included reports of how technolgy has improved agriculture production throughout history, model green houses, functioning hydroponic units, plant experiment using tyipcal potting soil versus soil from decomposers, art projects involving parts of a plant and pollunators, pig pen models, and the chicks hatched by our 5th grade classes. Familes started arriving at 5pm and the event was off and running!

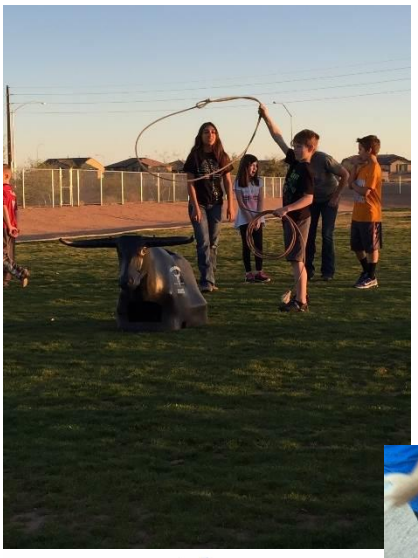
With help from Arizona Farm Bureau Ag in the Classroom program, local producers, community partners, teachers, and students our STEAM into Agriculture event was a hit! Over 800 meals were served and fun was had by all. Families were amazed by the community support and loved that we brought the farm land surrounding the school into the classroom.

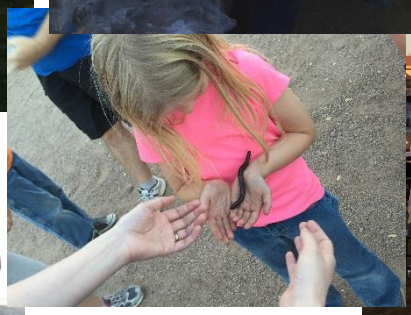




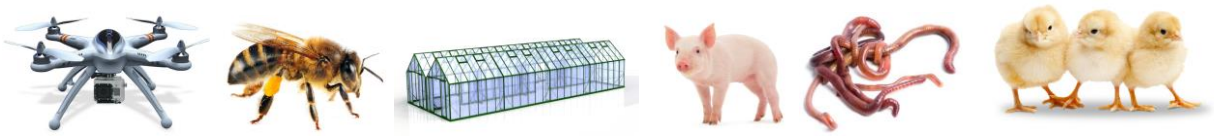







STEAM into Agriculture!



Please join us as we highlight the wonderful world of agriculture through our school-wide **STEAM EVENT**! Students at each grade level have spent the last quarter learning about agriculture and are excited to share what they have learned through their classroom lessons, pen pal letters and Skype sessions with Arizona farmers!

Tour our new SCHOOL GARDEN and see how community donations and our work with the Arizona Farm Bureau will continue our students learning experiences long into the future. **Sit inside real FARM EQUIPMENT** and experience the technology that is being used in agriculture today. Meet with **Hickman's Chicken, FUNKY,** for some fun photo opportunities. Lots of other educational activities will be available!

WHEN: Thursday, February 25, 2016

TIME: 5:30pm-7:00pm

WHERE: Gateway Polytechnic Academy's School Garden

Join us for a FREE BBQ Dinner

Student Name: _____

Teacher Name: _____

Names of others attending: _____

# of Hot Dog Meals: _____ **# of Hamburger Meals**:_____

Please return to your student's classroom teacher February 5th

The BBQ Diner will be cooked and served by

FARM BUREAU FINANCIAL SERVICES

Contact Julie Murphree

AZFB Communication Director

(480) 635-3607

(480) 276-7444 (cell)

juliemurphree@azfb.org

FOR IMMEDIATE RELEASE

STEAM into Agriculture a Huge Success

MESA, February 26, 2016 --- An estimated 800 parents, children, and educators came out for Gateway Polytechnic Academy's first-ever *STEAM into Agriculture Night* Thursday evening, celebrating a quarter-long curriculum that had students focusing on agriculture in their classrooms. Arizona Farm Bureau's Ag in the Classroom (AITC) helped spearhead the educational curriculum and event.

Designed for a family night out with a free meal, Gateway Polytechnic Academy's students demonstrated their achievements during the three-hour event. For the past three months, students used agriculture, from pigs to flowers to drones, as the foundation to meet their state learning standard requirements. Each grade level selected an area within agriculture that interested them. From there, they were provided lessons and materials by Arizona Farm Bureau's AITC and paired with a local Arizona farmers or businesses to Pen Pal and Skype with students. Classes also attended field trips to local nurseries and the Phoenix Zoo and received classroom presentations and instruction from AITC and their producer pals.

"Queen Creek Unified School District is incredibly fortunate to have such a diversity of resources at Gateway Polytechnic Academy," said QCUSD Superintendent Dr. Perry Berry. "The STEAM into Agriculture event is an engaging way for the community to learn about our partnership with Arizona Farm Bureau and the wealth of opportunities offered at GPA for their children."

Arizona Farm Bureau AITC also worked with local producers to construct a school garden. Local grower Jason Perry donated the planting dirt and Justin Perry donated the tractor tires for planting. A&P Nursery donated the mulch for the growing medium. Students participated in painting the tires, filling the tires and planting in the tires.

The STEAM into Agriculture Night allowed students to show off their projects and what they learned to family and other community members. Hot dogs were provided by the Pork Council, the Pork Shop donated bratwurst and Farm Bureau Financial Services donated water, chips, and pickles and cooked the meals on the Farm Bureau grill. There were 816 meals served at the event.

Local Bee Man and Producer Pen Pal, Dave Petersen, attended the event and talked bees with participants. Jason Perry brought his newest tractor for attendees to see the technology that is used every day on the farm. Also, in attendance were Danzeisen Dairy handing out samples of their now-famous flavored milk. Additionally, Nindi Wadhwa of Scooptacular ice cream provided attendees with ice cream samples. Beef Council was in attendance teaching about the different cuts of meat. Queen Creek 4-H provided a goat petting zoo and roping station. Hickman's Family Farms attended with Funky!

Attendees included teachers, students, parent and school district staff.

The Arizona Farm Bureau is a non-profit organization that represents the interests of the state's $17.1 billion agriculture industry.

About Arizona Farm Bureau

The Arizona Farm Bureau is a grassroots organization dedicated to preserving and improving the Arizona agriculture industry through member involvement in education, political activities, programs and services. As a member services organization, individuals can become a member by contacting the Farm Bureau. Go to www.azfb.org to learn more.

Special Note: Additional photos available upon request.

Farm Bureau Partners with local school to STEAM into Ag

By Katie Aikins, *Arizona Farm Bureau Ag Education Associate Director*

Arizona Farm Bureau's Ag in the classroom Program (AITC) recently partnered with Gateway Polytechnic Academy (GPA), a Queen Creek Public Elementary School, to teach students about agriculture. A project that started with a simple conversation between a teacher and AITC about a school garden, turned into a multi-month project that brought agriculture to not only every classroom but a community.

Each semester, GPA teachers and students focus their studies on a specific topic; something that will bring STEAM (science, technology, engineering, arts and math) into their classroom. Last semester it was space. This semester is agriculture.

Preschool through 6th grade at GPA selected an area within agriculture to focus their studies. Farm Bureau AITC directed teachers and provided the classrooms with lessons, resources and materials. In addition, AITC also coordinated a pen pal for each grade level to correspond with over the 6-week-long project. At the end of the project, classes were able to Skype and have visits from their pen pals. Some classes even got to take a field trip to see their pen pal. To keep the students' love of agriculture growing, Farm Bureau coordinated with local donors Justin Perry, Jason Perry and A&P Nursery (Queen Creek) to provide the school with materials for a school tire garden. Part of the student activities included painting, filling, planting, watering and maintaining the garden. Students continue to work in the garden each day and become more and more excited with every inch their crops grow.

Participating Pen Pals

- Lindsay Statler (Flowers/parts of a plant)
- Dave Petersen (bees and pollination)
- Mark Loghry (greenhouses)
- Marguerite Tan (Swine)
- Kurt Knolte (Precision Ag/Drones)
- Sharman Hickman (Poultry and Eggs)
- Nature Sweet (hydroponics)

In-Kind Sponsors

- A&P Nursery – Queen Creek
- Arizona Farm Bureau AITC
- Arizona Beef Council
- Arizona Pork Council
- Blucorp Construction
- Danzeisen Dairy
- Farm Bureau Financial Services
- Jason Perry
- Justin Perry
- The Pork Shop
- Scooptacular Ice Cream Shop
- Queen Creek 4-H

This curriculum project was celebrated last month with a school-wide event that invited parents to see what their students had been learning. In addition to student projects, parents and students were also able to learn even more about agriculture from activities provide by AITC, Arizona Beef Council, Farm Bureau Financial Services and Queen Creek 4-H. Local farmer, Jason Perry was also in attendance to interact with attendees. Over 800 BBQ meals were served up by Farm Bureau Financial Services and Highland FFA Members on the Farm Bureau Grill. Attendees then sampled dessert from Scooptacular Ice Cream Shop and delicious flavored milk from Danzeisen Dairy.

"Queen Creek Unified School District is incredibly fortunate to have such a diversity of resources at Gateway Polytechnic Academy," said QCUSD Superintendent Dr. Perry Berry. "The STEAM into Agriculture event is an engaging way for the community to learn about our partnership with Arizona Farm Bureau and the wealth of opportunities offered at GPA for their children."

Turns out pigs, poultry, pollinators, hydroponics, greenhouses, decomposers, and plant parts have a way of getting people involved.

GPA Teacher Sarahbeth Belvado and GPA Principal Mr. Shultz are all smiles with AITC's Katie Aikins at the STEAM Event that drew an estimated 800 students and parents from the school and community. Hickman's very own Funky was even in attendance.

Arizona Farm Bureau Member and local producer, Jason Perry brought out one of his tractors to show students and parents about the technology being used in agriculture today.

Farm Bureau Financial services grilled up 300 hotdogs, 400 hamburgers and 100 bratwursts for families to enjoy.

A student from GPA paints one of the tires for the school garden.

Speed Bumps and Set Backs There were plenty of setbacks and speedbumps that had to be overcome for the event to be a success. As one might imagine, not every teacher was 100% on board with the project. Teacher follow-through was sometimes a problem. There were the usual technology glitches. The donation deadlines for stores caused some heartache. However, having a lead teacher and the support of the Farm Bureau the event came together and was a huge success. In fact, it was attended by the Superintendent and Board Members and Belvado and Aikins were recognized at the School Board Meeting for their work.

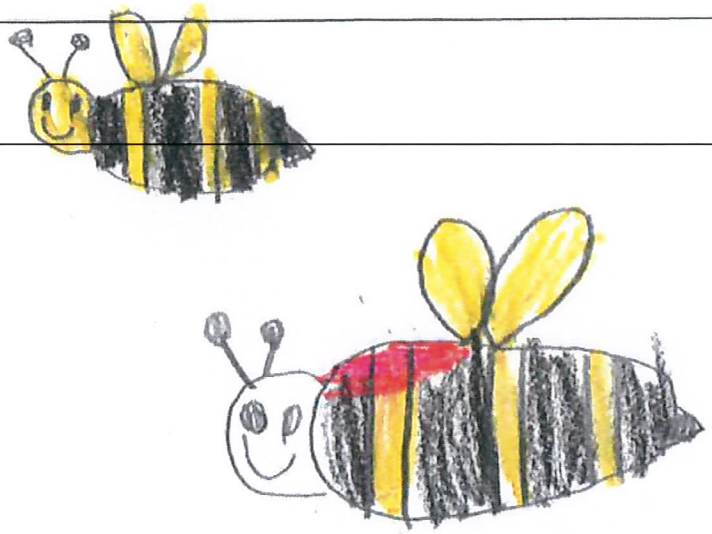
1-22-16

Dear ms. Tan,

Our third grade class is starting a unit on pigs. We are so excited to learn about pigs and the farm. can you please answe these questions?

1. How Long can a pig live
2. what color are pigs when thier born
3. where is your farm?

Thank you,
Ella Ainsworth



Dear Mr. Dave Peterson! Wh are bees so fuzzy?

Thank you

Talon

Mrs VorMillers class

Dear Hickman's Egg Farm

Hello my name is Bryson. I am 11 years old. I am attending Gateway Polytechnic Academy School in Mesa AZ. I am in 5th grade there. We are learning about poultry and will be doing a project involving baby chicks. We are currently learning about the egg.

We have learned there are four production types to house chickens. We learned there is a "battery" system, a "Barn" system and a "Free-range" system. What kind of production does Hickman's have? About how many eggs does your farm produce in a year? What color of eggs do your chickens lay?

Do you have farms all over the Nation? How many eggs does one chicken lay a year? Where did you get the name Hickman for your farm? Do you have any animals besides chickens?

Thanks for taking time to read my letter and to answer my questions.

Sincerely,
Bryson

Dear Hickman's Egg Farm,

Hello, my name is Brianne Rust. I am ten years old. I am attending Gateway Polytecnic Academy School in Mesa, AZ. I am in 5th grade there. We are learning about Poultry and will be doing a project involving baby chicks. We are currently learning about the egg.

We have learned there are four production types to house chickens. We learned there is a "battery" system a "barn" system, an "aviary" system and a "free-range" system. What kind of production does Hickman's have? About how many eggs does your farm produce in a year? What color of eggs do your chickens lay?

How many chickens are in each farm? Where do you have farms? Have your eggs ever had a chicken in it?

Thanks for taking time to read my letter and to answer my questions.

Sincerly,

Brianne Rust

Dear Teacher, students and composters,

My name is Hassena Kassim aka the Worm Whisperer. I work at the Phoenix Zoo and own Vermi~Love Worm Farm. I love plants, composting and our connections with nature. The circle of life is a very fascinating place to be.

My schedule has some wiggle room. I am off on Fridays and could stop by with worms to meet and greet. Or stop by the zoo Sunday-Thursday to meet our worms there. ☺

You had a lot of great questions and I am excited to provide you with some answers!

1. *How much and how fast do worms eat*? A worm will eat half it's weight daily. If a worm weighed 10lbs it would eat 5 lbs daily.
2. *How big can a worm get?* Depends on the kind of worms. Worms out here don't get bigger than 6 inches. Worms in South Africa can be 22ft long!
3. *How do they dig*? *Worms don't have hands. How deep can they dig?* Worms have a drill-bit type mouth that they use for eating and digging. They leave a slime-type layer on the tunnels to they keep them open. Also, worms are covered with tiny hairs that help move and hold onto the soil. Ever try to pull a worm out of the ground? It is hard because they hold on with these tiny hairs.
4. *How many babies can they have, and how do they have babies*? (Eggs or live birth?) Worms lay cocoons that contain 2-3 baby worms that hatch in about 30-75 days.
5. *How fast can they travel?* Depends on the type worm although most worms are slow. Some worms are faster like the Giant Gippsland Australian worm that makes a gurgling sound as it goes back underground.
6. *How many species of worms are there?* There are about 2,700 species of worms.
7. *Why is worm pee so important?* Worms don't pee, their value is in their poop. Sometimes the liquid draining from a compost bin is just because the bin was over watered.
8. *Why is composting important?* So many reasons! Composting reduces the amount of *good stuff* going to the landfill. The produce that is dumped in the landfill can create yucky greenhouse gases. Food scraps make compost, so you can turn a waste into a resource! Instead of throwing away food scraps and buying fertilizer for your gardens you can use those food scraps to compost and give your plants the nutrients they need. Composting is a great way to thank the earth for the abundance provided.

Happy Composting,
Hassena

January 25th, 2016

Pen Pals
Katie Aikins
Ag In The Classroom
325 South Higley Road
Suite 210
Gilbert AZ 85296

Dear Pen Pals:

Thank you all so much for sending me questions about our Fourth Generation Arizona Egg Farm. It was so fun to read about what you all are learning for your poultry project!

My name is Sharman Hickman. I am a third generation Arizona Egg Farmer. My children are the fourth generation. After high school, I attended and graduated from Arizona State University with a Bachelor of Science in Marketing. I wanted to help build our Hickman brand eggs for our children, just like my grandparents and parents had hoped. I love my job and what I do every day! Below are the answers to your questions.

What type of production system do your farms use?
We keep the majority of our laying hens in a barn with enriched nesting systems (cages). We find that the nesting systems help keep our birds calm, safe, and healthy. It also allows us to use technology to gather our eggs so that we can deliver them as fresh as possible to the consumer.

How many eggs per year do your hens lay?
The hens currently lay 1 billion eggs per year. That number will change based on the amount of hens that are laying. We are expanding our laying environment size and going cage-free at our Hudson, Colorado farm, so we will have less eggs with more laying hens.

What color eggs do your hens lay?
All of our hens in Arizona are the breed-White Leghorns. They lay white eggs. Our laying hens in California and Colorado lay brown eggs. They are a combination/hybrid of a White Leghorn and a Rhode Island Red.

How many farms do you have?
In Arizona, we have four farms. In Arlington, there are two farms side by side. In Maricopa, we have a farm on the Ak Chin Indian Community, and we have one farm in Tonopah. In California, we have six smaller farms. In Colorado, we have two farms.

What type of chickens do you have?
We have only hens, female chickens. Depending on the farm they are either White-Leghorns or Rhode Island Reds.

Do you have any animals besides chickens?
Due to disease control, known as bio-security, and regulation requirements by the state and federal government, we are not allowed to have any other animals on our farms or near our laying hens.

I know Mrs. Aikins wanted me to answer all of the questions in one big letter-but I couldn't help pick at least a "1/2 a dozen" of some that I have never been asked in 48 years of being on this planet!

1) **Nathan** *asked how old I was when I received my first chicken*. There were laying hens at my house before I was 'hatched!'

2) **Nathan** *also asked if chickens are hard to control*. Every hen has their own personality, just like your friends. There is always someone trying to be the boss in the free range system. She is referred to as the "ALPHA HEN." If you ever knew of a bully, she is the ALPHA HEN. In the cages/battery system/enriched nesting environment, they become like a family. They do bug each other, but there is no aggression. Our scientists that breed the hens make sure that they only breed the hens with minimal aggression. They study ancestry and can assure egg farmers of this quality.

3) **Alina** *asked what production system produces the most eggs.*
   The cage system yields the most eggs. The hens have no stress, a perfect little home and her friends to do what nature designed her to do, which is to lay an egg every 26-34 hours, depending on her age.

4) **Brianne** *asked if our chickens' eggs hatch.* We only have female chickens. Laying hens by nature lay an egg without the need of a rooster. These eggs are unfertilized eggs and will not produce chicks.

5) **Charity** *asked who invented the egg farm.* Our Grandparents, Guy and Nell Hickman, started selling eggs to friends and neighbors in 1944. It was common for people to trade items before grocery stores and fast food places.

6) **Gabriela** *asked who started and why did they start the egg farm?* This might be my most favorite! Our Granddad had to stop working in the mines because he was getting sick, so he built damns to earn money for his family. All the bridges were built and his son, our Dad, wanted to stop working for an oil company and start a business to have something for his family. Since my Grandparents already sold eggs from their backyard, my parents decided to add more hens. Our Mom started selling eggs door to door and to restaurants. She sold so many eggs, they had to keep buying more laying hens. My Mom started having all of us kids, five in total,

and knew she had to make more money for all of us. She was selling so many eggs, my Grandma would have to hide her big eggs for her favorite customers at our little store in Glendale.

From having 25-50 laying hens in 1944, to today's 7.1 million laying hens, one thing remains from our Grandma: Be sure to donate eggs to families that don't have anything to eat. We are happy to announce that my brothers have made sure our Grandma Nell's mission is maintained. During a nationwide shortage of eggs, we were able to donate millions of fresh eggs throughout five states, including Hawaii so families in need would have eggs from Thanksgiving through Christmas this year.

Thank you all very much for the very intelligent questions. Please remember that when you remove the animal's ability to protect and forage for itself, you must make sure that you provide their security, food, clean water, and shelter from the environment so that they can do what comes naturally to their species.

Respectfully,

Sharman Hickman
Your Pen Pal

Hello boys and girls,

I was very excited to get your letters! What wonderful questions you all asked! I will do my very best to answer them for you.

My name is Mark Loghry (pronounced "Lowry"), and I own Sunset Nursery with my Dad. I have been responsible for growing citrus fruit trees by myself for about 15 years, but I helped both my Dad and my Grandpa for many years before that. I started helping around the nursery when I was about 10 years old. I now have 3 little boys who are 9 and 12, and they like to help me and their Grandpa at the nursery just like I used to help my Dad and Grandpa.

At Sunset Nursery, we only grow citrus trees. We grow a few different sizes of citrus, though. We grow 5 gallon, 15 gallon and 24 inch boxed trees. Depending on the type of tree and what size we want it to be, we can have one tree for about 5 years before it gets big enough to sell it. In total, we have over 85,000 citrus trees inside our greenhouses at one time.

We have a number of different greenhouses that are of different sizes. The smallest on is 144 feet long by 36 feet wide. The largest is about 475 feet long by 390 feet wide. Some are made out of a metal frame, and some are made out of wood. They all have screen, like that on your windows at home, as the walls. In the winter, we can also layer a plastic tarp over the screen to help keep the trees warm. There is electricity to each of our greenhouses. We have automatic doors that open on some of them that use electricity, and others have fans and heaters that need electricity.

Our trees are grown in greenhouses for a few different reasons. The greenhouses can protect them from insects outside that could harm them. The greenhouses also help us to keep the trees warmer in the winter months by using heaters to keep them from freezing. We can also put shade over the trees in the summer so they don't sunburn. All of this helps us to grow the trees faster. We also water our trees a couple of different ways. Some have sprinklers up above them that water down through the tops of the trees to the soil. Others have tiny sprinklers plugged into the soil in the pot that the tree is growing in so that the water goes directly to the roots of the tree.

Even with us working hard every day to help the trees grow, sometimes a tree will still grow slower than others, or it just won't grow at all. There are many, many different reasons that this can happen. Maybe that tree got shaded out by another tree, so it didn't get enough sunlight. Perhaps its sprinkler was broken and it didn't get watered. Maybe the seed that we started with was no properly cared for before we planted it. There could have been an air pocket around the roots that kept the tree from growing well. All we can do is try our best to get as many trees to grow as possible.

I hope that I have answered most of your questions. It was really great to hear from you, and I appreciate you taking the time to write your questions so neatly. Please write to me again if you have any other questions.

Thank you,

Mark Loghry

Dear Class,

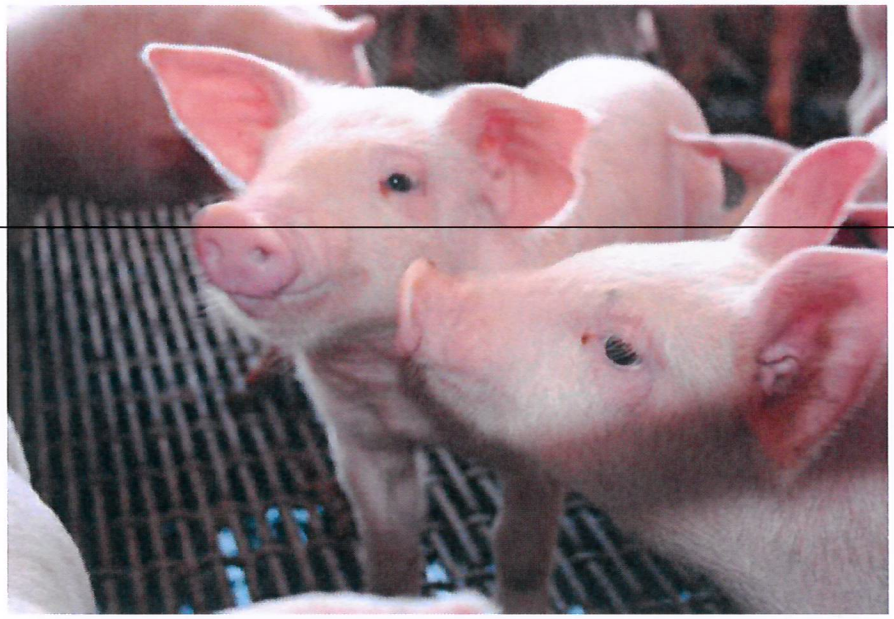
My name is Marguerite Tan. I live in Snowflake, Arizona, and I work for a farm which raises pigs. I have raised pigs for eight years. I am originally from a farm in Illinois which grows corn, soybeans, alfalfa, wheat, and cattle. I have horses, mules, and bunnies as pets.

My three favorite foods are kale, bacon, and eggs. My favorite drink is milk. What are your favorite foods? What is your favorite drink?

Here is some cool information about pigs that you asked about in your letters:

- A sow (mother pig) has an average litter size of 10 piglets…all born at the same time (within a few hours of each other)! How many brothers and sisters do you have?

- We do not have runts; if we see a small piglet, we make sure it gets extra food so it gains weight—typically, we do this by giving it a new mom who has a small litter so it does not have to compete with as many sisters and brothers to get milk.
- Piglets weighs about 2.5 pounds at birth (about the weight of a pineapple). They drink their mother's milk for the first 14 days of their life, then start to eat solid food. They live with their mom until they are weaned at about 22 days of age. They weigh about 14 pounds when they are weaned.
- Sows (mom pigs) weigh 300-500 pounds (about the weight of a blue shark); they live about six years.
- Boars (dad pigs) can get over 1200 pounds in weight (the weight of a big motorcycle), and are about the length of your living room couch! They live for about five years.
- Market pigs are sold when they are six months of age, at about 280 pounds (the weight of your refrigerator at home)! They go from 2.5 pounds to 280 pounds in six months—how many pounds per day do they gain? How does that compare to a human?
- Pigs come in many colors, including pink, grey, black, brown, and red. All of my pigs are pink, with an occasional grey spot..



- My pigs do not eat scraps or slop. In the wild, pigs are omnivores (like humans); at my farm, the pigs are vegetarians, eating a diet that consists primarily of grains, like corn and soybeans, and vitamins and minerals. The diets are developed by a professional nutritionist/dietician, who develops rations to meet the nutritional needs of each pig based on its age and sex.
- Pigs drink between 4-6 gallons of water per day and eat between 6 to 8 pounds of feed per day! How many pounds of food do you eat per day? How much do you drink?
- We raise about 250,000 pigs per year. Each pig is given a unique identifying number, such as Q201, which is that pig's name. With its identifier, we can keep track of everything about that animal—its birth date, if it ever got sick, who its parents are, if that pig is good about eating its food, etc.
- Pigs do not hibernate—our pigs are kept in temperature-regulated building all year long. The building remain 70 degrees all year long—cooled in the summer time, and heated in the winter. Pigs cannot add or take off clothing like humans can. Could you imagine living outside without any clothing on when it is really cold out? Or having to live outside in the middle of summer without being able to go into the air conditioning? You would get very hot. That is why our pigs live in the comfort of the indoors—they don't like to be too cold or too hot. And when the weather is nice out, the barns walls drop, allowing fresh air into the barns, just like you opening a window in your house when the weather is nice.

(The barn wall is open to let fresh air in)

- Pigs are very clean – they do not like to be muddy.
- Pigs can run up to 11 miles per hour, but they don't like to run. They can also climb, but not very well.
- Pigs do get sick – they can get the cold and flu, just like a human. They can also get infections like humans. When they get sick, they are examined by a vet and moved into a special area where they are given medication and doctored, just like when you are sick.
- Pig manure is a great fertilizer for gardens and other crops.
- Pigs are not the same as Javalinas-- they look very similar, but are not related – they are different species. Javalina come from the genus Peccary; Pigs come from the genus Sus.
- Pigs can be used for much more than just food. Here are some of the other products made from pigs: insulin, valves for human hearts, leather for shoes and clothing, insulation (to keep your house warm), rubber (vehicle tires, shoe soles), antifreeze, crayons, chalk, adhesives, shaving cream, soaps, and plastics just to name a few. Have you ever played with a pigskin football? Could you go through an entire day without these products?

Sincerely,
Marguerite Tan

EVERY PIG MATTERS

Agriculture in the Classroom State Contacts

Alabama
Ms. Kim Ramsey
Alabama Agriculture in the Classroom
P.O. Box 11000
Montgomery, AL 36191-0001
P: 334.612.5370
E: kearwood@alfafarmers.org

Alaska
Ms. Melissa Sikes
Alaska Agriculture in the Classroom
590 University Ave Suite 2
Fairbanks, AK 99709
P: 907-479-1213 x105
E: alaska.agintheclassroom@gmail.com

Arizona
Ms. Monica Pastor
University of AZ College of Ag & Life Sciences
Cooperative Extension
4341 E. Broadway Rd.
Phoenix, AZ 85040
P: 602.827.8217
E: mpastor@email.arizona.edu

Arkansas
Mr. Andy Guffey
Arkansas Farm Bureau Federation
P.O. Box 31
Little Rock, AR 72203-0031
P: 501.228.1219
E: andrew.guffey@arfb.com

California
Ms. Judy Culbertson
CA Foundation for Agriculture in the Classroom
2300 River Plaza Drive
Sacramento, CA 95833-3293
P: 916.561.5625
E: judy@learnaboutag.org

Colorado
Ms. Jennifer Scharpe
Colorado Foundation for Agriculture
10343 Federal Blvd Unit J Box 224
Westminster, CO 80260
P: 970.818.3308
E: Jennifer@GrowingYourFuture.com

Connecticut
Ms. Martha Johnson
Connecticut Agricultural Education Foundation
P.O. Box 3473
Enfield, CT 06083
P: 802.349.7339
E: Martha@ctaef.org

Delaware
Ms. Laura Simpson
Delaware Farm Bureau Foundation
3457 S. DuPont Highway
Camden, DE 19934
P: 302.697.3183
E: laura.simpson@defb.org

District of Columbia
Ms. Joan Smith
DC-AITC
1616 H St. NW, Suite 300
Washington, DC 20006
P: 202.997.0900
E: jcsmith3631@gmail.com

Florida
Ms. Becky Sponholtz
Florida Agriculture in the Classroom
P.O. Box 110015
Gainesville, FL 32611-0015
P: 352.846.1391
E: sponholtz@agtag.org

Georgia
Ms. Donna Rocker
Georgia Farm Bureau Federation
P.O. Box 7068
Macon, GA 31209-7068
P: 478.474.0679
E: dhrocker@gfb.org

Hawaii
Ms. Naomi Kanehiro
Cooperative Extension, University of Hawaii at Manoa
1955 East-West Road, Room 306
Honolulu, HI 96822
P: 808.956.4124
E: nkanehir@hawaii.edu

Idaho
Mr. Rick Waitley
Idaho Agriculture in the Classroom
55 SW 5th Ave, Suite 100
Meridian, ID 83642-8638
P: 208.888.0988
E: rick@amgidaho.com

Illinois
Mr. Kevin Daugherty
Illinois Agriculture in the Classroom
1701 Towanda Avenue
Bloomington, IL 61702
P: 309.557.3334
E: kdaugherty@ilfb.org

Indiana
Ms. Julie Taylor
Indiana Farm Bureau, Inc.
P.O. Box 1290
Indianapolis, IN 46206
P: 317.692.7870
E: jtaylor@infb.org, inaitc@infb.org

Iowa
Mr. Will Fett
Iowa Agriculture Literacy Foundation
P.O. Box 14458
Des Moines, IA 50306-3458
P: 515.331.4182
E: wfett@iowaagliteracy.org

Kansas
Ms. Cathy Musick
Kansas Foundation for Agriculture in the Classroom
1990 Kimball Avenue
Manhattan, KS 66502
P: 785-320-4350
E: Ksfac@ksu.edu

Kentucky
Mr. Scott Christmas
Kentucky Farm Bureau Federation
P.O. Box 20700
Louisville, KY 40250-0700
P: 502.495.5000
E: Scott.Christmas@kyfb.com

Louisiana
Ms. Lynda Danos
Louisiana Farm Bureau
P.O. Box 95004
Baton Rouge, LA 70895-9004
P: 225.922.6503
E: lyndad@lfbf.org

Maine
Ms. Willie Grenier
Maine Agriculture in the Classroom
28 State House Station
Augusta, ME 04333-0028
P: 207.287.5522
E: maitc@maine.gov

Maryland
Mr. George Mayo
Maryland Agricultural Education Foundation, Inc.
P.O. Box 536
Havre de Grace, MD 21078
P: 410.939.9030
E: gmayo@maefonline.com

Massachusetts
Mr. Christopher Szkutak
Massachusetts Agriculture in the Classroom
56 Rumonoski Drive
Northbridge, MA 01534
P: 15082070370
E: crszku10@gmail.com

Michigan
Ms. Tonia Ritter
Michigan Farm Bureau
7373 W. Saginaw Hwy.
Lansing, MI 48909
P: 517.679.5345
E: tritter@michfb.com

Minnesota
Ms. Sue Knott
Minnesota Agriculture in the Classroom
625 Robert Street North
St. Paul , MN 55155
P: 651.201.6486
E: sue.knott@state.mn.us

Mississippi
Ms. Clara Bilbo
Mississippi Farm Bureau Federation
P.O. Box 1972
Jackson, MS 39215-1972
P: 601.977.4245
E: cbilbo@msfb.org

Missouri
Ms. Diane Olson
Missouri Farm Bureau Federation
P.O. Box 658
Jefferson City, MO 65102
P: 573.893.1414
E: dolson@mofb.com

Montana
Ms. Steph Hystad
Montana Department of Agriculture
302 N Roberts
Helena, MT 59601
P: 406.444.5425
E: shystad@mt.gov

Nebraska
Ms. Courtney Schaardt
Nebraska Farm Bureau Foundation

5225 South 16th Street
Lincoln, NE 68501
P: 402.421.4461
E: courtneys@nefb.org

Nevada
Ms. Amber Smyer
Nevada Department of Agriculture
405 S. 21st St.
Sparks, NV 89431
P: 775.353.3769
E: asmyer@agri.nv.gov

New Hampshire
Ms. Debbi Cox
New Hampshire Agriculture in the Classroom
295 Sheep Davis Road
Concord, NH 03301
P: 603.224.1934
E: nhaitc@nhfarmbureau.org

New Jersey
Ms. Caroline Etsch
New Jersey Farm Bureau
101 Hoffman Road
Monroe Township, NJ 08831
P: 732.794.6785
E: etschfarms@comcast.net

New Mexico
Ms. Traci Curry
New Mexico Agriculture in the Classroom
2220 N Telshor
Las Cruces, NM 88011
P: 505.238.2425
E: agclass@nmflb.org

Ms. Brenda Logan
P: 575.799.1373
E: agclass1@nmflb.org

New York
Ms. Katie Carpenter
New York Agriculture in the Classroom
Cornell University
3rd Floor Kennedy Hall
Ithaca, NY 14853
P: 518.480.1978
E: kse45@cornell.edu

North Carolina
Ms. Michele Reedy
North Carolina Farm Bureau AITC
P.O. Box 27766
Raleigh, NC 27611
P: 919.719.7282
E: Michele.reedy@ncfb.org

North Dakota
Mr. Dustin Monke
North Dakota Department of Agriculture
600 East Boulevard Ave. Dept. 602
Bismarck, ND 58505-0020
P: 701.328.4763
E: dmonke@nd.gov

Ohio
Mr. David Rule
Ohio Farm Bureau Federation
280 North High Street
Columbus, OH 43218
P: 614.246.8210
E: drule@ofbf.org

Oklahoma
Ms. Audrey Harmon
Oklahoma Department of Agriculture, Food and Forestry
2800 N. Lincoln Blvd.
Oklahoma City, OK 73105
P: 405.740.0160
E: Audrey.harmon@ag.ok.gov

Oregon
Ms. Jessica Jansen
Oregon Agriculture in the Classroom Foundation
200 Strand Agriculture Hall
Oregon State University
Corvallis, OR 97331
P: 541.737.8629
E: jessica.jansen@oregonstate.edu

Pennsylvania
Ms. Tonya Wible
PA Friends of Ag Foundation
510 South 31st Street
Camp Hill, PA 17011
P: 717.731.3545
E: tdwible@pfb.com

Rhode Island
Ms. Heidi Quinn
Rhode Island Farm Bureau
16B Nooseneck Hill Road
West Greenwich, RI 02817
P: 401.385.3339
E: haquinn@rifb.org

South Carolina
Ms. Stephanie Sox
SC Farm Bureau Agriculture in the Classroom
P.O. Box 754
Columbia, SC 29202
P: 803.936.4504
E: ssox@scfb.org

South Dakota
Ms. Marsha Kucker
196 E 6th St.,Ste 200
196
Sioux Falls, SD 57104
P: 6052759159
E: marsha.kucker@teachwell.org
E: sdaitc@groundworksmidwest.org

Tennessee
Mr. Chris Fleming
Tennessee Farm Bureau Federation
P.O. Box 313
Columbia, TN 38402-0313
P: 931.388.7872
E: cfleming@tfbf.com

Texas
Mr. Jett Mason
Texas Farm Bureau
P.O. Box 2689
Waco, TX 76702
P: 254.751.2569
E: jmason@txfb.org

Utah
Ms. Denise Stewardson
Utah Agriculture in the Classroom
2315 Old Main Hill
Logan, UT 84322
P: 435.797.1592
E: denise.stewardson@usu.edu

Vermont
VACANT

Virginia
Ms. Tammy Maxey
Virginia Foundation for Agriculture in the Classroom
P.O. Box 27552
Richmond, VA 23261
P: 804.290.1143
E: tammy.maxey@vafb.com

Washington
Ms. Kristen VanValkenburg
Washington Agriculture In the Classroom
975 Carpenter Road NE
Lacey, WA 98516
P: 360.770.3383
E: info@waic.net

West Virginia
Mr. Mark Riggleman
West Virginia Farm Bureau
62 Farm Bureau Road
Buchannon, WV 26201
P: 304.472.2080 ext. 313
E: markr@wvfarm.org

Ms. Mary Beth Bennett
West Virginia University Extension
400 W. Stephen St. Ste 302
Martinsburg, WV 25401
P: 304.264.1936
E: MBBennett@mail.wvu.edu

Wisconsin
Ms. Darlene Arneson
Wisconsin Farm Bureau Federation
P.O. Box 5550
1241 John Q Hammons Drive
Madison, WI 53705-0550
P: 608.828.5644
E: darneson@wfbf.com

Wyoming
Ms. Jessie Dafoe
Wyoming Agriculture in the Classroom
P.O. Box 347
Cheyenne, WY 82003
P: 307.369.1749
E: jdafoe@wyaitc.org

U.S. Territories

American Samoa
Mr. Aufa'i Ropeti Areta
American Samoa Community College
P.O. Box 5319
Pago Pago, AS 96799
P: 684.699.1394 / 20

Guam
Res. Instruction Coord.
College of Ag & Life Sci.
Univ. of Guam - UOG Sta.
Mangilao, Guam 96923
P: 671.735.2009

Micronesia
Mr. Jackson A. Phillip
Coop. Extension Service
College of Micronesia
P.O. Box 1866
Kolonia Pohnpei, FM 96941
P: 691.320.5731
E: jphillip@mail.fm

Northern Marianas
Ms. Diana R. Greenough
Coordinator, Natural Resources Management Program
Northern Marianas College
P.O. Box 501250
Saipan, MP 96950
P: 670.234.5498 ext.1202
E: DianaG@nmcnet.edu

Puerto Rico
Ms. Priscilla Hernandez
P.O. Box 9029
Mayaguez, PR 00681
P: 787.834.3165
E: p_hernandez@rumac.upr.clu.edu

Virgin Islands
Rev. Eddie Williams
Virgin Islands FFA
C/OP Box 331 Kingshill
St. Croix, VI 00851
P: 340.778.2274
E: eddiejedc@yahoo.com

National AITC Contacts

Lisa Gaskalla, NAITCO Executive Director
National Agriculture in the Classroom Organization
19 River Oaks Way,
Palm Coast, FL 32137
P: 352.745.0246
E: lisa.gaskalla@naitco.org

Debra Spielmaker, Ph.D.
National Center for Agricultural Literacy, Team Leader
Administrator of agclassroom.org
Utah State University
School of Applied Sciences, Technology & Education
2300 Old Main Hill
Logan, UT 84322
P: 435.213.5562
E: debra.spielmaker@usu.edu

HOW TO SCHEDULE AND RUN A PROFESSIONAL DEVELOPMENT

1) Meet with your State AITC Contact to discuss partnership and resources available for a Professional Development.

2) Develop an agenda for the meeting. What will be discussed? How long will the meeting take? What supplies/handouts will you need?

3) Present the idea and agenda to your building administrator and schedule a staff meeting with the building secretary.

4) Set up the room the day of the professional development to display resources and have copies of timeline and other handouts for each teacher as they walk in.

5) Talk about the end result and discuss the steps to get there in the form of a timeline. Discuss all the resources briefly to showcase how easy the process is and assure the teachers they don't need to reinvent the wheel. Have the AITC State Contact available to discuss resources and answer questions.

6) Have staff members select their topic of study at the meeting so you can begin collecting resources with the state AITC contact.

AGRICULTURE CURRICULUM IDEAS

It is important to provide teachers with ideas for classroom projects. Work with the local Farm Bureau or AITC contact to see what resources are available to teachers. It makes an easier time for the teacher if there are already resources (books, posters, lesson plans, and materils) available. No teacher wants to recreate the wheel or have to develop projects/curriculum regarding something they themselves might not be familiar with. Be sure to refer teachers to the internet. Visit the National Ag in the Calssroom Curriculum Matrix http://www.agclassroom.org/teacher/matrix/ and other State Ag in the Classroom Websites. Many programs offer free resources to teachers! Google will be your friend! Here are some examples of ideas for areas of study and materils available. Again, check out the AITC webpages for additional topics and resources.

- Soil
  - Decomposers
    - Habitats
    - Life cycles
    - Experiment with plant growth in different soils
  - Soil Layers
  - Soil Nutrients
  - FREE resources from Nutrients for Life https://www.nutrientsforlife.org/
  - Soil Ag Magazine http://www.agintheclassroom.org/TeacherResources/AgMags/Interactive_soil_agmag.pdf
- Plants
  - Parts of a plant
  - Pollination
  - Life Cycles
  - Photosynthesis
  - Specialty Crops
  - Hydroponics / Greenhouses
  - Aquaponics
  - Breeding techniques
    - Self Fertilizing

        - Cross polloinations
        - Marker Assisted Breeding
        - Biotechnology
    - Ag Mags: Apple, Pumpkin, Corn, Specialty Crops, Pumpkin, Soybean, Horticulture, Careers, Soil, Water, and Tree available at http://www.agintheclassroom.org/TeacherResources/AgMags.shtml
    - Arizona Fruit and Veggies Ag Mag, Arizona Five Cs, Energy and Ag, Beef Ag Mag, http://qaaz.insidefb.com/f/14a840c6-aba3-4506-bda5-9f60ef5cb16d/ag-mag-2015-web
    - http://www.agfoundation.org/
- Ag Technologies
    - Biotechnology
        - http://www.agfoundation.org/bringing-biotech-to-life/
        - www.gmoanswers.com
        - https://monsanto.com/company/outreach/education-outreach/research-resources/
    - Precision Agriculture
        - Drones
        - GPS
        - Field Mapping
    - How technologies have impacted farming/consumers
        - Tractors
        - Packaging
        - Robots
- Animals (poultry, pigs, fish, beef cattle, dairy cattle, sheep and goats
    - Embryology/ life cycles
    - Housing Structures
    - Nutrition
- Ag Careers

Finding Community Partners

There are people within your own community that will be your best resource! Get the word about what you are doing and there will be people jumping at the opportunity to help you. Be sure to reach out to your local Farm Bureau or University Cooperative Extension Office. These two places are full of resources pertaining to agriculture. They will be able to help you get in contact with local agribusinesses, farmers, and ranchers. Many times, these two organizations can also provide you with presentations or trainings. When working on an agricultural curriculum or project be sure to reach out to:

- State Ag in the Classroom Program
- County or State Farm Bureau
- Local Cooperative Extension Office
- State Dairy Council
- State Beef Coucnil
- State Pork producers
- Farm Bureau Insurance Company and Agents
- Local banks
- Local grocers
- Local meat shops
- Local agritourism locations
- Local construction companies
- Local dentists
- Local farms or other ag operations
- Local Nursery
- Parents (Mnay are specialists in their areas)
- Hardware Stores
- Water and Electric Companies (grants or curriculum)
- Local Resteraunts and Shops
- Tractor Supply Sotre

Finding Pen Pals and Managing the Program

There are many individuals that can serve as a Pen Pal for your students. Be sure to check with your local or State Farm Bureau. This organization will be instrumental in setting you up with farmers, ranchers and other agribusiness members. You can also reach out to your local Cooperative Extension Office for help and ideas. Here are some suggestions for great pen pals:

- Bee Keepers
- Dairy Farmer
- Rancher
- Farmer
    - Vegetable
    - Cotton
    - Citrus
    - Grains
    - Pistachios/Pecans/Almonds/Peanuts/Beans
    - Soybeans
    - Fish
    - Grapes (Wine or table)
    - Fruit Grower
    - Algea Farmer
- Drone Pilot
- Aerial Applicator
- Local Greenhouse Company or Producer
- Entomologist
- Veterinarian
- Animal Nutritionist
- Feed Lot / Feed Yard
- Vineyard
- Local Plant Nursery

Once you have your Pen Pals lined up you will need to answer a few questions to make sure the program is successful.

- Be sure that you have a timeline in place
    - When will the program begin?
    - When will letters be sent by the class?
    - When will letters be sent by the producer?
    - How many correspondences will their be?
- How will your letters be written?
    - Will the students hand write letters?
    - Will students type letters in a word document?
    - Will the class brainstorm 10 questions and then each student picks 4-5?
    - Will the students come up with their own questions?
- How will your letter be sent?
    - Will they be mailed via snail mail?
    - Will they be typed and then emailed?
    - Will they be hand written and scanned in so they can be emailed?
- Do you have someone designated to scan letters or email letters? Or will each teacher be responsible for their own class?

If you work with your local Farm Bureau, they might be willing to be the point person to get letters to and from the producers. Then you would just need 1 teacher to be the campus lead to assure that teachers are getting letters finsihed and out with the deadlines. If this portion of the Pen Pal Program is not managed well, you might have classes and producers that never send or receive letters.

WHERE IS THE MONEY?

It might seem a bit overwelling when you first take on the project of developing a Steam into Agriculture Event. There are so many things that must be outlined, organized, and put inot place. After all the ideas are put on paper the real work begins. Where are you going to get the money to pay for this project? Take a deep breath, there is more money and resources out there than you will even know what to do with!

The best place to look for funding is through organizations and businesses that you do business with. The second place is the local businesses in your community. The third place to look if you are doing an agricultural event/curriculum is the agricultural community:

- Farm Bureau
- Farm Bureau Insurance Company
- Beef Council
- Dairy Council
- Pork Council
- Ag Chemical Companies
- Ag Seed Companies
- Tractor Supply Stores

The first 3 options typically will not require a lengthy grant process, but rather a short letter and/or a personal visit requesting funds. Another option that might reuire a little more work on your part is securing funding through local, state and national grants. Be sure to jump on the Internet and search for any funding opportunites that are out there. Many organizations have regular grant cycles that you can take advantage of. Some examples include:

- American Farm Bureau White Reinhardt Grants ($500 mini grants. 2 cylces each year. Fall and Spring. http://www.agfoundation.org/projects/mini-grants-home
- Western Growers http://www.csgn.org/grants ($500 mini grants)
- Whole Kids Foundation https://www.wholekidsfoundation.org/health-kids-innovation Due October.
- Home Depot and Kids Gardening http://grants.kidsgardening.org/
- Fuel up to Play 60 https://www.fueluptoplay60.com/funding/general-information
- Jamba Juice http://grants.kidsgardening.org/spring-2015-jamba-juice-its-all-about-fruit-and-veggies-garden-grant

HOW TO WRITE A GRANT

Agree on The Problem

To receive funding for a proposal or grant, the reader must be convinced that funding your program or project will have a positive and measurable affect on your students/community.

Start by identifying the need. What problem or issue in your community can be improved or changed with the grant money and a great effort on the part of the grant recipient? Some examples for a STEAM into Agriculture Event might be:

- Only 2% of our population today is involved in production agriculture.
- The population today is 3-4 generations removed from the farm and ranch. We do not have first hand knowledge or experience with how our food is being produced and where it is coming from.
- It is predicted that we will have over 10 billion people on our planet by the year 2050. The average age of our producers is 57 years old. We need to get young people interested and experience in agriculture.

Describe What You Hope To Acheive

You have described a problem and identified likely causes. Now it is time to focus on a solution or a desired outcome for your proposed project/activity. What will occur as a result of your project? How will your project influence the problem? If your project is to teach people about where the food comes from or interest them in agriculture as a career, will your students make educated decisions about food? Will they try different fruits and vegetables if they participated in growing and harvesting them?

Outputs are measures of a programs' activities. Outcomes are changes that result from your activities. Be sure not to confuse the two of these. Outputs matter because they lead to outcomes. Be sure to identify your key outcomes. Some projects will have a long list of outcomes. Here are some outcomes that might result from a STEAM into Agriculture Event:

- Students become aware of the multitutde of careers in agricultre.
- Students will increase their knowledge about where their food comes from.
- Students will eat more fruits and vegetables in the cafeteria.

Be sure to set realistic outcomes. There will always be more information to learn about where your food comes from. There will always be students who will not eat fruits and vegetables. It is better to promise less and deliver more than to overpromise and underperform. Be sure to not underpromise too much as the project may not appear cost-effective.

Set a timeline. What are your outcomes and when do you hope to achieve them? Be sure to identify specific measurable outcomes. What is the number you are reaching for? How will you measure it?

- Pre-test / post-test to identify food production knowledge
- Number of vegetables requested in the cafeteria
- Amount of vegetables not thrown away during lunch

Design Your Program

Now that you know where you are and where you want to go, the next step is figuring out how you are going to get there. How do you know what the best step is for you? Get opinons from adminsitration, teachers and AITC staff. Research what other have done. You can use the Arizona AITC and GPA Event as a guide. Be sure you get "buy in" from key players. This will include adminsitration, teachers, AITC Staff, school custodian, school PTO/PTSO, District Board Members, etc.

Locate Funding Sources

Now that you know why and how you are doing the program, it is time to find the resources! This includes, the people, the curriculum resources, the equipment and the money to get your project done. Locating funding takes time and smarts. Start with the organizations and the people you know:

- PTO/PTSO
- Parent Population (send out specific requests via school facebook page)

Then look to local businesses for materilas, supplies or funding:

- Local grocery stores (most need 6 months advance to donate product)
- Bank
- Feed Store
- Insurance Agents
- Resteraunts
- Home Improvement Stores

Be sure to reach out to your State and Local Farm Organizations if you are doing an agricutlural theme:

- Farm Bureau

- Farm Bureau Insurance Company
- Beef Council
- Dairy Council
- Pork Council
- Ag Chemical Companies
- Ag Seed Companies
- Tractor Supply Stores

Write Your Proposal

Some grants and funding sources require that you follow a particualr set of rules, guidelines or application. Be certatin to follow the format and provide all the information that is being asked. Study the criteria and make an application checklist for the grant if one is not provided for you. Always have someone else proof your work for spelling, grammatical errors, fluency and to double-check that you have included all necessary informatin and documents. Lastly, be sure to adhere strictly to the deadlines that you have been provided.

HOW TO START A SCHOOL GARDEN

Step 1 Identify the purpose or theme of your garden. Example: History garden, butterfly garden, ecosystem garden, heritage garden, nutrition garden, etc.

Step 2 Who will be responsible for the garden? The garden leader may be a school Principal, an experienced teacher, or an experienced person from the community (even parent). Who will be responsible for constructing and maintaining the garden once students start planting?

Step 3 How big will your garden be? Your garden can be anything from a tractor tire, to a 6ft planting box, to large flower pots. The size will depend upon the space you have available. Size also depends on the purpose of your garden. If your main objective is education, it will not matter how much space you have. A single garden be will produce token amounts of food. Do you want a box for each grade level to use along with their curriculum? Do you want the garden to be for beautification?

Step 4 There are lots of things to consider when selecting the location for your school garden.

- *Sunlight*- most flowers need a minimum of 6 hours of full sun. Be sure to check your potential garden site at different times of the day in the different seasons to be sure adequate sun and shade are provided.
- *Water*- Watering the garden is very important. The garden should be close to a water source. How will you get water to your garden? A drip system, hand water, irrigation, ect?
- *Drainage*- How is water drainage in the area? Both soil type and slopes affect water drainage. Don't plan to put a garden in places where puddles form.
- *Accessibility*- How accessible is your garden? Is it a long walk from the classes? Does it require keys to get through gates?

Step 5 What type of garden bed will you use? Examples include tractor tires, raised beds, in the ground, hydroponic units, vertical gardens, greenhouses, etc.

Step 6 What tools are you going to need? Examples: hoses, trowels, shovels, pruning shears, gloves, compost bin, wheel barrows, harvest baskets, tool shed, clip boards, rain gauge, soil, seeds, fencing, etc. How are you going to purchase these? Parent donations, grant dollars, PTO, etc.

Step 5 Obtain permission from your building administrator.

- Show them your plan and discuss possible placement of the garden

Step 6 Seek out funding for your garden and purchase supplies

- Ask local businesses for donations. Nurseries, lumber companies, local farmers, garden clubs, and individuals who are experts in their area such as weather man, bee keeper, etc. who can work on special projects with students.
- Federal funds through U.S department of Education such as Nutrition Education, Waste Reduction, and Watershed education.
- Organizations providing grants for school gardens. The National Gardening Association (http://grants.kidsgardening.org/) or Visit http://www.gardenabcs.com/grants.html for a list of over 50 grant opportunities.

Step 7 Prepare the garden site.

- Stake out the bed placement. If planting directly in the ground you will need to cultivate the land to work in mulch.
- Place garden beds and add soil.
- Establish a compost pile/bin

Step 8 Determine what plants are ready for planting depending upon the growing season you are in for your region.

- Plant your seeds or plants.

Step 9 Maintain your garden

- Water plants as needed
- Protect from pests and harsh weather
- Maintain compost pile/bin
- Prune plants
- Harvest crops

Step 10 Manage the garden

- Schedule classes to us the outdoor classroom (buddy classes, team teaching, cooperative learning)
- Develop a work schedule for volunteers
- Plan holiday and summer maintenance schedule
- Create a supply ordering system to replenish items as needed
- Create and post garden rules (Examples: always walk in the garden, stay on the path, ask before using tools or harvesting crops, respect the plants, animals, and each other, proper way to use tools, ect.)

How to Design a STEAM Family Night

The first question you want to ask yourself is, how big do you want this event to be? Do you want to serve food? Do you want activities outside of the class projects for attendees to see and do? Once you know this information you can get started.

Step 1 Set a date for the event. Be sure the date does not conflict with any other School, District or Community Events. Also look at the week surrounding your selected date. Are there other things planned at the school (reading night, fun runs, etc) that week that will make your parents have to choose which event they are going to attend?

Step 2 Set a time for the event. An ideal time is 1 ½ to 2 hours. This allows parents some flexibility for arrival time but gives the kids enough ime to play. If you are serving an evening meal be sure to consider what time it gets dark. This may require that you provide lighting!

Step 3 Where are you going to hold the event? Will it be inside the cafeteria? Will all of the booths and classroom projects be together or will the class projects be set up in the hallways? Or maybe you will hold the event outside in a breezeway, open area or ball fields? If you have the event outside near the playground it will provide another activity to entertain the kids.

Step 4 Contact outside organizations and invite them to have a booth at your event. Think of organizations that will relate to your topic. If you have done an agriculture theme think of inviting:

- State or local AITC Contact
- Local or State Farm Bureau
- State Pork Producers
- State Beef Producers
- Local Cow Bells
- State Dairy Council
- State Nursery Association
- Local FFA Chapter
- Local 4-H Club (petting zoo)
- Local retail stores that provide niche or direct market ag products
    - Dairy with flavored milk
    - Local Ice Cream Shop (milk comes from cows☺)
    - Cheese Samples

Even if the organization cannot attend the event, they may be willing to donate giveaways for students.

Step 4 If you are serving food, where is it going to come from? What will you be serving? Who is going to do the cooking? Serving?

- If you are serving food you will want get an RSVP from parents with the number of people that will be in their party. You do not want to run out of food but you also don't want to have a ton of food left!
- Keep the food choices simple and too a minimum.
- Lign up a group to do the cooking (experience with food handling and cooking temps).
- Have office staff (they typically know a lot of the parents and students) run the check-in table at the event. Compile a list of those who have submitted an RSVP for the event. Have tickets for them to get their food. This will eliminate any walk-ins taking food and have a situtation where you run out of food for those who have submitted an RSVP.
- Ask the grade level teachers to work their project booths with students.

Step 5 If you are serving food, where are people going to eat? Be sure to arrange for tables/chairs. You can get a rental company to donate them, but that will usually require pick-up and delivery from someone. Eliminate the extra work and use the tables from the cafeteria!

Step 6 Decide how many volunteers you are going to need. Assign them jobs:

- Chairs
- Garbage can (set-up and monitoring during the event)
- Cooking food
- Serving food
- Check-in (if serving food)
- Students and teachers to showcase curriculum projects

Step 7 Be sure to publicize your event to the parents. If you are trying to create a large outside event where food is being served and outside organizations are coming in, be sure to advertise within your district and local community.

HOW TO PUBLICIZE YOUR EVENT

It is important to publicize your event and the work that your students are doing. The Steam Events are a positive activity that should be showcased to the community to allow parents and businesses to see the educational opportunities that students are receiveing from your school. There are two different times to publicize your event: before and after.

Before: Be sure to include your upcomming event in your school newsletter, parent newsletters, and school and district social media outlets. You will want to include the *Who, What, Where, Why* and *When* of the event. If you would like to try and get media attention at your event, be sure to send to your local media outlets. You can always ask your Distirct PR person for help!

After After you have done all of the work of this curriculum venture, don't be afraid to toot your own horn. Be sure you gather pictures throughout the course of the project and the event. Get quotes from key players and students to include in any release you might create.

STEAM into Agriculture at *<insert school>*

Grade level Topics

Pre-School _____

Kindergarten _____

1st Grade _____

2nd Grade _____

3rd Grade _____

4th Grade _____

5th Grade _____

6th Grade _____

Timeline

Producer Pen Pals confirmed by AITC

1st set of letters written to Producer Pen Pal and delivered to Lead Teacher

1st letter from Producer Pen Pal is received via email to classroom teachers

2nd set of letters written to Producer Pen Pal and delivered to Lead Teacher

SKYPE with Producer Pen Pal for any follow-up questions

STEAM into Agriculture Event

<Insert Partner organization logo>

CONTACT INFORMATION

Contact Julie Murphree

AZFB Communication Director

(480) 635-3607

(480) 276-7444 (cell)

juliemurphree@azfb.org

FOR IMMEDIATE RELEASE

HEADLINE

STEAM into Agriculture a Huge Success

LEAD

MESA, February 26, 2016 --- An estimated 800 parents, children, and educators came out for Gateway Polytechnic Academy's first-ever *STEAM into Agriculture Night* Thursday evening, celebrating a quarter-long curriculum that had students focusing on agriculture in their classrooms. Arizona Farm Bureau's Ag in the Classroom (AITC) helped spearhead the educational curriculum and event.

BODY

Designed for a family night out with a free meal, Gateway Polytechnic Academy's students demonstrated their achievements during the three-hour event. For the past three months, students used agriculture, from pigs to flowers to drones, as the foundation to meet their state learning standard requirements. Each grade level selected an area within agriculture that interested them. From there, they were provided lessons and materials by Arizona Farm Bureau's AITC and paired with a local Arizona farmers or businesses to Pen Pal and Skype with students. Classes also attended field trips to local nurseries and the Phoenix Zoo and received classroom presentations and instruction from AITC and their producer pals.

"Queen Creek Unified School District is incredibly fortunate to have such a diversity of resources at Gateway Polytechnic Academy," said QCUSD Superintendent Dr. Perry Berry. "The STEAM into Agriculture event is an engaging way for the community to learn about our partnership with Arizona Farm Bureau and the wealth of opportunities offered at GPA for their children."

Arizona Farm Bureau AITC also worked with local producers to construct a school garden. Local grower Jason Perry donated the planting dirt and Justin Perry donated the tractor tires for planting. A&P Nursery donated the mulch for the growing medium. Students participated in painting the tires, filling the tires and planting in the tires.

The STEAM into Agriculture Night allowed students to show off their projects and what they learned to family and other community members. Hot dogs were provided by the Pork Council, the Pork Shop donated bratwurst and Farm Bureau Financial Services donated water, chips, and pickles and cooked the meals on the Farm Bureau grill. There were 816 meals served at the event.

Local Bee Man and Producer Pen Pal, Dave Petersen, attended the event and talked bees with participants. Jason Perry brought his newest tractor for attendees to see the technology that is used every day on the farm. Also, in attendance were Danzeisen Dairy handing out samples of their now-famous flavored milk. Additionally, Nindi Wadhwa of Scooptacular ice cream provided attendees with ice cream samples. Beef Council was in attendance teaching about the different cuts of meat. Queen Creek 4-H provided a goat petting zoo and roping station. Hickman's Family Farms attended with Funky!

Attendees included teachers, students, parent and school district staff.

The Arizona Farm Bureau is a non-profit organization that represents the interests of the state's $17.1 billion agriculture industry.

About Arizona Farm Bureau Arizona Farm Bureau®

BOILERPOINT

The Arizona Farm Bureau is a grassroots organization dedicated to preserving and improving the Arizona agriculture industry through member involvement in education, political activities, programs and services. As a member services organization, individuals can become a member by contacting the Farm Bureau. Go to www.azfb.org to learn more.

Special Note: Additional photos available upon request.